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REAL ESTATE INFORMATION SYSTEM (REIS)

MANUAL

VOLUME I: WHAT IS REIS AND WHY ESTABLISH IT

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Preface

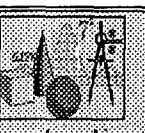
i. Overview of the Manual

This preface outlines why the Manual was developed and the scope and goal of each of the volumes. Although each volume may be read separately, they will furnish the most advantage if viewed and mastered consecutively. Although technical personnel may not find, for example, Volume II: Institutional Arrangements of profound interest or relevance to their particular concerns, it is important, nevertheless, for the technical and systems specialists to grasp what the local administration is trying to achieve.

ii. Why the Manual was Developed

This Manual is designed to be used by a variety of administrators and specialists to assist in the coordination of efforts to create a Real Estate Information System with all the attributes which will support a title registry.

As a planning tool, the Manual helps to identify the issues that must be addressed. The accumulated knowledge acquired in the development and implementation of Real Estate Information Systems (REIS) in nine cities of the Russian Federation is utilized to establish the common, primary problems that require attention during the planning process.



Planning Tools

Just as is required when constructing a building, factory or city, plans must be prepared and finalized prior to any work beginning or money spent. The purpose of this Manual is to provide a BASIS FOR PLANNING. It is not an instruction book on every detail involved in building a REIS. It does explain methods of planning in order to develop the system. It is a tool for planning. It is not a substitute for planning.

Following identification of these issues, it is then possible to suggest alternatives that, individually or collectively, establish the foundation for a REIS. These alternatives can be used as guidelines to develop a REIS taking into consideration local requirements, budget available to establish and maintain a functioning office, and level of effort to be expended by local administrative agencies.

The Manual is not a Cookbook!

Because different cities have different needs, budget capacities and institutional situations, it is not possible to design a manual with a set of instructions which city administrators can simply follow to establish a REIS. For the same reason it is not advisable for a city to simply copy the REIS installed in another city. Rather, the Manual gives municipal decision-makers and professionals a framework to understand the issues involved in setting up a REIS, know the alternatives open to them, make informed decisions regarding the kind of REIS they want to establish, and know where to go for additional help in setting up their REIS.

Finally, the Manual provides Resource Lists. It is understood that the development, implementation and maintenance of a REIS cannot be accomplished in a vacuum. The purpose of the Resource Lists will be to provide administrators and technical specialists with a method of obtaining further information and advice as development and implementation continues. It includes titles of relevant publications; names, addresses and phone numbers of

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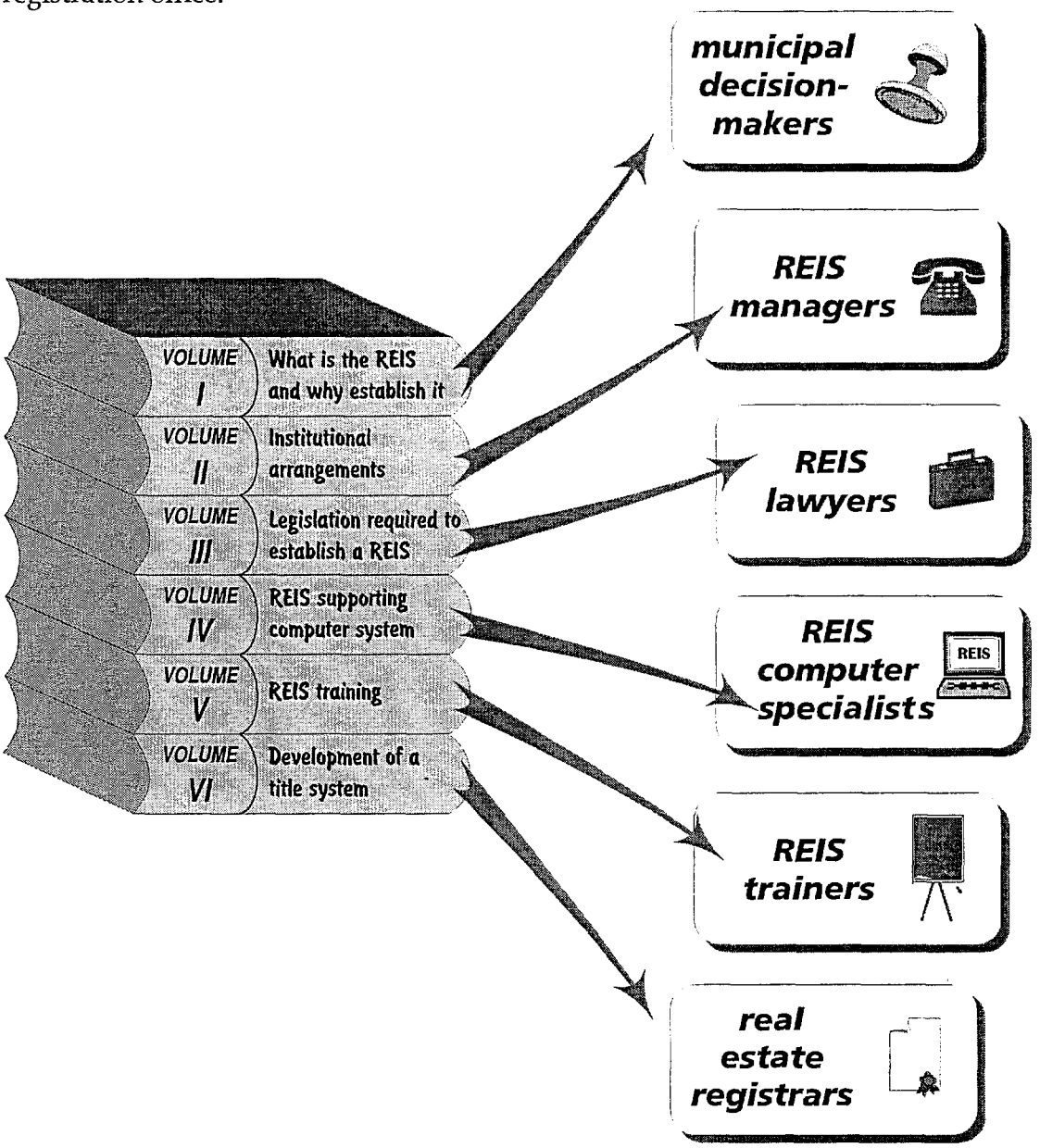
governmental and non-governmental professionals who have taken part in one or more phases of a REIS implementation; and, cities that have instituted a REIS or registration office.



! Note: Professionals at every levels should also read the manuals for the levels above it.

FIGURE I.1: OVERVIEW OF THE REIS MANUAL

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iii. Scope and Goal of Each Volume

The Manual consists of six volumes, as shown in Figure I.1 - Overview of the REIS Manual. The volumes cover the following subjects:

Volume I -- What is REIS and Why Establish It

This volume introduces the topic of the establishment of a Real Estate Information System. Its primary purpose is to set forth the broad benefits to the government and the public of easy access to the necessary information regarding all real estate. Primary decision makers will find in this Volume a general review of the main factors that make the REIS important to the economic future of a city, oblast or krai. Most critically, it will detail the necessary pre-requisites before proceeding with a development plan to implement a REIS. Finally, this Volume is important since it will provide the basis for a determination of whether to commence with the entire process.

Volume II -- Institutional Arrangements

The information detailed in this volume is designed for the managers and administrators who are responsible for implementation of the REIS, after a decision has been made on the basis of Volume I to implement it. This volume includes the steps necessary to institutionalize the concepts that are integral to the efficient functioning of the REIS or registration office.

Volume III -- Legislation Required to Establish a REIS

Legislation is required for the establishment of a REIS or registry. This volume reviews some alternative concepts of legislation under current Russian law (including the proposed Federal Law "On State Registration of Real Estate and Real Estate Transactions) that would be necessary to authorize the operation of the office. An Annex listing current legislation affecting land and property in Russia and the text of the proposed Federal registration law are supplemented by actual local legislation and by a resource list of experts and systems in other locations of Russia.

Volume IV -- The Supporting Computer System

Technical specialists will read this volume for the information needed to design a computerized system around the proposed functions of the office. A detailed analysis of the components of the REIS, including the User Needs Assessment, conceptual design, system architecture, and hardware and software specifications are designated. The Volume includes an Appendix of Resources for REIS computer specialists.

Volume V -- REIS Training

As part of the development and implementation of any new system, training is an essential part of the REIS. Types of training as well as

personnel to be trained are clearly identified. Training will be necessary not only for the administrators, managers and other REIS personnel, but also for the general public and other users who can be trained through public education and roundtable discussions of the benefits of the system. An Annex will profile various course outlines and review training activities in cities that have implemented a REIS or registry. The Annex will provide a list of resources including names of trainers experienced in REIS from other locations.

Volume VI -- Development of a Title Registration System
The final volume is a complete analysis of the background and steps required to establish a title registration office. This volume describes the concepts and practicable implementation of registration systems, the establishment of which is subject to enactment of appropriate legislation.

iv. Origin of the Manual

In the Russian Federation, land reform and privatization have made much progress since the radical transition to free market economics started about 1991. In support of this reform, the United States Agency for International Development (USAID) has implemented several assistance programs to introduce market-oriented mechanisms to permit individuals and companies to gain access to land, achieve security of tenure, and be able to sell or mortgage land.

One of these programs was the Real Estate Information System (REIS) pilot project, which was initiated in April 1994 to facilitate the development of a private real estate market by facilitating the access of interested parties to the real estate information which they need. The REIS pilot project, implemented by Arthur Andersen LLP in three cities and by Chemonics International Inc. in six cities, worked on the installation of integrated, publicly accessible real estate information systems and development of the necessary legal and institutional support.

An important objective of this REIS Roll-Out project was to produce an implementation manual which could assist Russian cities in the task of installing a modern, unified, accessible real estate information system without the need for foreign technical assistance. The Manual is based on the "best practices" of the nine Russian cities in introducing real estate information systems. It contains the results, conclusions and recommendations gathered from lessons experienced in the nine pilot cities.

The project team wishes to express its thanks to the many Russian officials at all levels without whose cooperation this Manual could not have been produced, and in particular to Ms. Olga V. Grigorieva and Igor A. Rumyantsev of the Russian Privatization Center for their tireless work in providing advice and assistance to this project, to Communications Task Order of Chemonics International for its assistance in editing the Manual, and to the mayors, deputy mayors and other officials of the pilot cities.

1. Introduction

Real estate is one of the most important resources of any community. Real estate has value and represents an important element of wealth for a country, its cities and individuals. In order to effectively utilize real estate as a resource, the administrative and legal aspects of real estate information management must be efficiently designed, orderly, transparent and easily accessible to all potential users.

This Manual is a planning guide, providing alternatives and suggestions that can be used by administrators and those responsible for the management of real estate resources. It has been compiled to assist in the following areas:

- improve the administration of real estate for the benefit of the community;
- increase investment; and,
- accelerate the growth of the real estate market.

The Manual is not a template for the wholesale introduction of a new system of real estate management. This would assume that no system currently exists and would be, in any case, presumptuous. The guidelines developed in this Manual take into consideration current procedures and rules in the Russian Federation, while at the same time they identify new methods of unifying and streamlining information collection and dissemination that are required to develop an active real estate market. [1]

Although the approach of the Manual is flexible, it is of crucial importance for all decision-makers and specialists to understand that the implementation of a REIS will necessitate compliance with certain basic requirements. If the political will to meet these requirements is not present, the creation of the REIS cannot succeed. These issues are discussed in Chapter 2 of this Volume.

It is hoped that this Manual will contribute to the establishment of a REIS in a variety of environments, both urban and rural, with large populations and small. This will stimulate growth of the real estate market, which will lead to greater wealth for the citizens of the Russian Federation and for the local administrations.

1.1 The REIS and its Components

A Real Estate Information System represents a source of data assembled from a group of components that together make available reliable, transparent and integrated information regarding real estate and the associated rights. [2] A REIS is designed to contain all the information necessary to support a unified office for registration of title to real estate, which can be easily accessed by the public as well as by governmental agencies, banks, appraisers, investors and other real estate professionals.

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[1] These guidelines were developed after distilling the actions and experiences in the development of a REIS in nine cities of the Russian Federation during a period of over one year and taking into account local laws, acts, regulations and decrees.

[2] For example, rights associated with real estate could be ownership, right of use, right of inheritable possession, servitudes, mortgages and liens.

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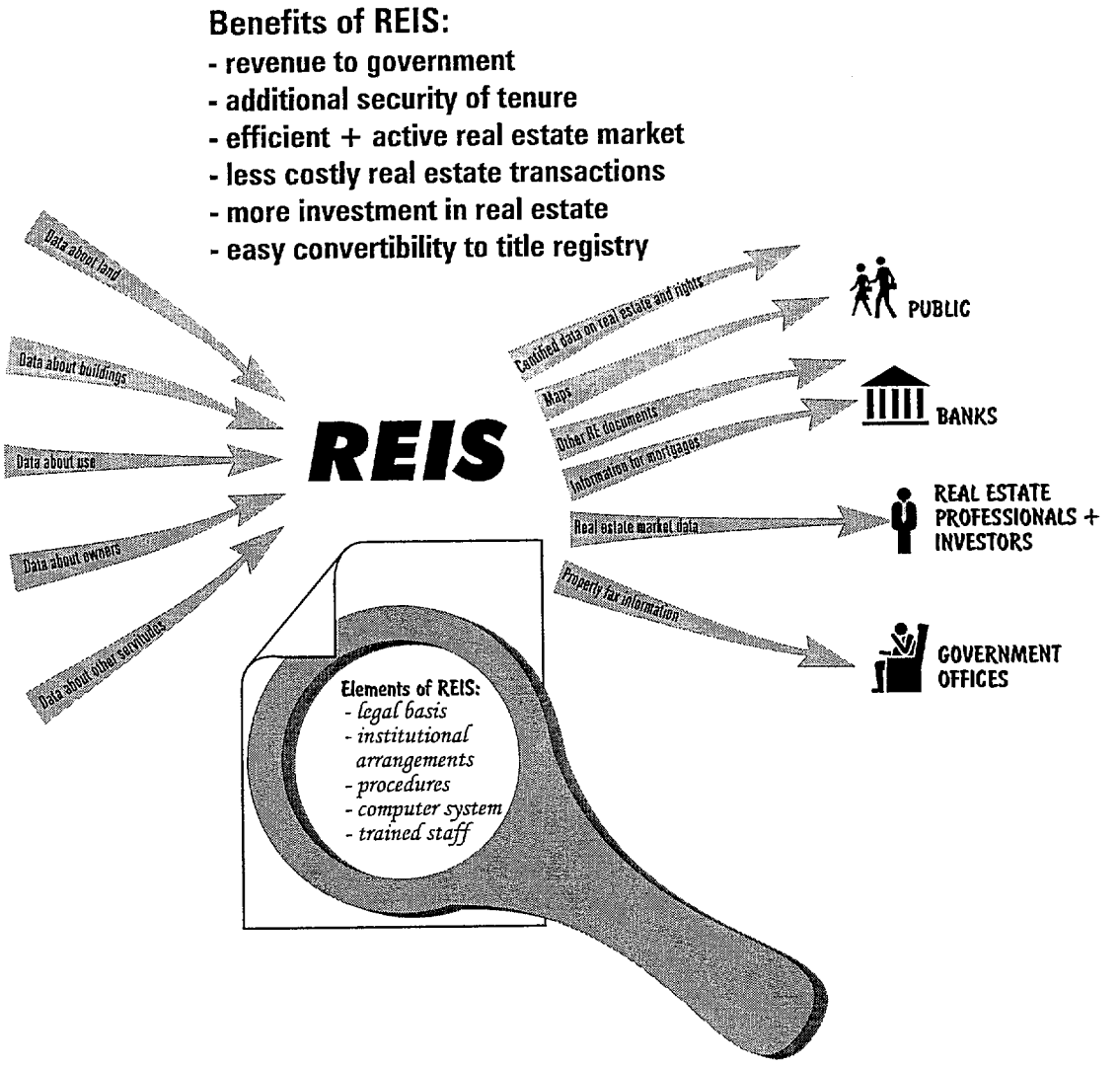

FIGURE I.2: INPUTS, OUTPUTS, COMPONENTS AND BENEFITS OF A REIS

The REIS is a system which records data on ownership and other rights associated with land and structures, collectively referred to as "real estate" [3]. A principal objective is the accurate recording of all individuals and legal entities holding rights to a particular real estate object, as well as recording the type of right held. In addition, a REIS must accurately identify the real estate object. This basic information, referred to later in the Manual as the "Core" data, provides the necessary information for establishment of a registration system and permits future expansion of the REIS through connection to other databases.

Finally, to be effective and generate revenues, a Real Estate Information System should be situated at one location that is easily accessible and open to the public. A single information office where accurate, integrated information can be obtained

[3] The term "real estate" will be used throughout the Manual according to its market meaning, which is contained in the Glossary. This is crucial and constitutes a fundamental concept in every market economy. Real estate means the land and any structures built upon it. Structures and land are an integral whole and, for the purposes of the REIS or future registration of rights in real estate, are never treated separately except under very limited circumstances of divided ownership.

eliminates the present necessity of visiting or contacting various offices to procure the necessary information. This saves time and money and will stimulate activity in the real estate market which, in turn, increases municipal revenues.

Figure I.2 gives an overview of the components, inputs, outputs and benefits of a REIS.

In order to clearly illustrate the procedures necessary for successful implementation of a REIS, its components have been divided into four primary segments:

- The legal basis for the establishment of the REIS.
- Institutional changes and modifications necessary.
- Clear procedures for the establishment and maintenance of the REIS office and public awareness of those procedures.
- The computer system itself, including the personnel and personnel training, data, software and hardware of which the system is composed.[4]

These components have been listed in order of importance and development as integral parts of the REIS. As will be shown in this Manual, it is critical to carefully design the REIS objectives, implement the necessary legal and institutional aspects and establish procedures prior to purchasing hardware or developing software. All the components are ultimately combined to constitute the "system".

1.2 Why Establish a REIS?

As previously mentioned, it is not the intention of this Manual to superimpose a new system over the existing procedures for recording information regarding real estate, the rights associated with such real estate and the individuals or legal entities holding those rights. Rather, the guidelines explain the advantages of centralization of such information to permit accurate collection, processing, storage and retrieval. Furthermore, data centralization will permit government administrators, owners and real estate professionals to locate reliable information in less time than is currently possible.

1.3 What is the Importance of a REIS?

Development of a REIS involves a cost. Therefore, the issue of its size and time necessary for implementation is important to local administrations. *By confining the initial stage of the REIS implementation to function with a restrained data base, both time and money are saved without affecting the accumulation of the accurate critical data required to promote an active real estate market.* For the purposes of this Manual, this circumscribed data base will be referred to as the REIS Core. Simultaneously, the Core data can be put to immediate use to generate revenues which can create a self-sustaining office and contribute excess proceeds to the city budget with which expansion plans can be implemented.

Nevertheless, reduced costs and revenue generation are not the sole benefits of starting with a Core REIS. Other advantages include the following:

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[4] It is very important to note that the REIS can also be based on a paper system. This is particularly significant when taking into consideration factors of cost, size of the population in the implementation area, and phasing the REIS development.

- The Core REIS provides individuals and legal entities with security of their rights in real estate, based on highly accurate and up-to-date records.

- A Core REIS can easily be converted to a registration system when the appropriate laws are adopted, since it contains all the information required for a registry in a market economy.[5]

- A Core REIS forms the basis of a fiscal cadastre.

- The Core REIS can be used as the basis for a multi-purpose cadastre.

CAUTION

A REIS is not necessarily a registration system!

Registration of title is a procedure which applies to a variety of systems providing for the recordation of all real estate transactions at a central office which, so long as the documents comply with the requirements of law, furnishes a right holder with a guarantee of ownership or other rights. A "Certificate of Title" that is conclusive of such ownership or other right is issued by the Registration Office. The government or a private entity insure the title and will compensate the Certificate holder should the Certificate prove to be incorrect.

The REIS does not insure or register title. It supports and may be easily converted to a title registry upon the passage of the necessary laws because it contains all the information necessary for a registration function. The Core REIS contains this information and may be linked to other data modules not directly related to registration, but which are linked to the real estate object in the Core REIS.

Although the REIS is not a registration system, it does in fact provide security to the holder of a real estate interest. It is able to fulfill this role because all real estate interests must be included in the REIS and kept up to date in order for it to function properly. A REIS office which accurately maintains data will provide a high level of comfort to those utilizing the information because they can rely on the reports issued by the office. Thus, with the enactment of appropriate local legislation, the REIS can be utilized as a source of definitive information that is certified as accurate by the REIS office. Therefore owners, other interest holders, buyers, real estate professionals and the government are assured that information contained in the REIS is reliable, even though it may not be operating as a registry.

Nevertheless, by founding a REIS, one direct benefit is the establishment of a basis for a registration system. Consequently, a local administration will be prepared to immediately and easily convert the REIS to a registration function compatible with the proposed Federal registration law at a small cost and with little or no modifications. The REIS database will contain all pertinent information for the responsible agency to issue certificates which are conclusive evidence of the holder's rights in connection with any real estate.

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[5] The draft Federal "Law on State Registration of Rights in Real Estate and Real Estate Transactions" has been approved by the Duma on July 19, 1996 (see Annex F to Volume III). Although the draft law recommends to the President that a special commission work with the Ministry of Justice to formulate the implementation of registration, detailed regulations have not been established. Nevertheless, the "Core" REIS referred to in this Manual has been designed to include the functions of a registry as contemplated in the Federal law and provide the same information normally found in a variety of registration systems world-wide. Therefore, by establishing a "core system", a city or other local entity of the Federation will be able to create a registry which will be compatible with the Federal law as currently drafted.

In addition, the REIS office represents a potential source of revenues for the government. Assuming that legislation is enacted which requires the lodgment of all real estate transactions at the REIS office, then revenues can be generated from lodgment fees. Information on real estate can be sold to those seeking data, generating further revenues for the local administration. As the system expands, additional receipts can be generated by introducing new products, such as preparing and marketing accurate town plans, street indexes and real estate market data.

Fee-based revenues will not be the sole source of increased income for local governments. An established REIS represents the first stage in the development of a fiscal cadastre. The accurate identification of ownership, users, buildings, land and value is vital to the efficient assessment and collection of taxes. The information contained in a REIS is of the type that is normally required to support a modern property tax system. Furthermore, with future accurate reporting of sale prices, the REIS can provide local administrations with the ability to determine the market values of property for both real estate and income tax purposes, track areas of high market activity, and efficiently collect taxes based on sale profits.

WARNING

A REIS is not an inventory system!

The Core REIS should only contain data required in a registry. Other data modules, such as an inventory of structures, may be developed separately and linked to the Core REIS. For example, much of the data maintained by the Bureau of Technical Inventory (BTI), although important information concerning the structure of an apartment, is not part of a Core REIS and should be located in a separate database.

Finally, implementation of the Core REIS forms the basis for the multi-purpose cadastre, eventually linking the attribute data to maps. As accurate surveys are completed and made part of the local records, maps can be updated and real estate accurately identified to create a valuable information and planning base.

Ultimately, as incremental improvements are made to expand the legal cadastre, local administrations will be able to develop a comprehensive Land Information System to register property ownership, document the guaranty of property rights, effectively manage real estate taxation and support land resource management. Local administrations will be able to develop long range real estate use plans, provide for future services and economic development, and raise revenues from the private real estate sector.

1.4 The Benefits of Accurate Real Estate Information

It is clear that the collection of data does not serve any important purpose if that data is not put to some use that justifies the cost, storage and management of the information. This chapter briefly describes the economic and social benefits that can arise from the establishment of a system which efficiently utilizes the information collected to promote economic growth and provide security of ownership. At the same time, it is critical to understand that a gradual development of the system, as has been done in Nizhny Novgorod, will produce more success than an attempt to create all changes at once.

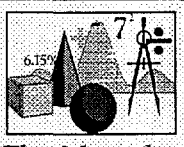
1.4.1 Macroeconomic Benefits

What are the economic benefits resulting from the implementation and maintenance of a REIS? Is there an economic justification for modifying current practices and institutions? Why embark on this course at all?

These questions arise within all government administrations which are contemplating a modification of methods and practices which have been practiced for generations and which work to an extent.

It is axiomatic that efficient real estate management is important to the economic health of any municipality, since real estate constitutes a finite resource and ultimate source of wealth. Therefore, improving real estate management techniques is certain to benefit a community, both financially and socially.

Perhaps the most obvious area of economic impact arising from establishment of modern real estate management techniques involves property taxation. Real estate provides local administrations with a logical target for raising revenues. It is important to consider, however, that taxation of real estate should not be viewed with the sole purpose of revenue enhancement. It is possible to be easily seduced by this perception because of the immovable nature of land, which makes it an easy target for raising funds. The result of taking this narrow view is ultimately disruptive to effective real estate management. It distracts attention from the accessory application of tax measures as planning tools for real estate use through accurate land valuation. Ultimately, accurate real estate market appraisal is determined to a large extent by the reporting of true market prices.



REIS Development - Turn-Key or Steady Growth

The Manual supplies flexible, alternative development methods requisite to establish a REIS. Diverse strategies entail variable time periods and costs. Gradual growth of a full scale REIS from a Core system supplies the following minimum advantages:

(1) establishment of an operative system at lower cost;

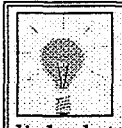
(2) income creation sooner than other approaches;

(3) steady accommodation to change; and,

(4) control of future expansion, allowing options of additional features (GIS, fiscal cadastre and inventory control) on the basis of need and appropriateness. An alternative approach is the direct establishment of an integral real estate information system, including a legal, physical and fiscal cadastre. Called a "turn-key" implementation, it is quickly installed following finalization of all essential legal and institutional modifications. A "turn-key" approach involves a large capital expenditure in a short period of time for facility preparation and equipment purchase. Since it is not gradual, this approach will not take advantage of evolutionary, cost effective adaptation of the system. It may result in premature acquisition of facilities and equipment.

The long-term benefits from a fiscal standpoint include the reporting of true transaction prices, which reflect the opportunity cost of real estate. Under-reporting of market prices is to a large extent a result of prohibitive taxes imposed on transfers. Implementation of a Core REIS will need to address this issue, since information regarding accurate market prices is critical to the functioning of a market-oriented real estate industry. Currently, since under-reporting is common, tax impositions are very high to make up the difference. Implementation of a Core REIS can lead to the development of a

fair real estate tax system which will produce increased revenues, not through heavy taxes that are not paid, but through fair taxes which are collectable.



The Fiscal Cadastre Connection

A future fiscal cadastre can be linked to the Core REIS. Lower taxes based on true values established by real estate transactions will increase revenues. Transfers of rights would be automatically reported to the tax authorities. In the future, a city must be able to establish its own tax rate and keep the majority of revenues to improve infrastructure and direct growth. Some ways to produce higher tax revenues and encourage accurate reporting of market prices are:

- If the transaction price is obviously understated, the municipality could have first right to buy the property at that price and sell it at an auction.
- Require notaries to verify the reported price and impose heavy fines or even forfeiture of the property for failure to report the price accurately.
- Lower the transfer tax (on the whole transaction) and impose a capital gains tax (on the profit only).

An additional area of macroeconomic benefits occurs with the establishment of a Core REIS. Once the basic data is gathered and available for use and sale, additional information can be connected by building supplementary data bases, such as the information required by a fiscal cadastre. For example, the information regarding who currently owns what rights to which parcel of land can accelerate the consolidation of land plots and directly benefit the growth of local revenues. Administration and revenue collection from leased land will be improved as "modules" of data are linked to the Core REIS. All the foregoing leads to greater efficiency and lower costs for the local government as it increases its knowledge and improves access to information regarding existing real estate rights. Better real estate administration benefits the entire community.

As previously mentioned, a local government can attempt to establish all the modules for a real estate management system at once, which is a costly and probably inefficient alternative;it is more expedient to create a Core REIS as a basis of efficient, cost effective system.

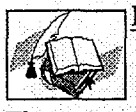
1.4.2 Microeconomic Benefits

Besides the above broad macroeconomic benefits to the community as a whole, promotion of an active real estate market by implementation of a Core REIS also gives direct (microeconomic) benefits to individuals who are involved in real estate transactions. Experience in economies with active real estate markets reveals that when accurate real estate information becomes transparent and accessible to the participants (buyers, sellers, investors and other professionals), there is less fear of becoming involved in transactions with an ambiguous title, and consequently the real estate market accelerates and the cost of transactions decreases.

The establishment of a REIS provides the necessary information, through easy public access, to identify rights to real estate. If the proper legislation is enacted, this information also provides certainty as to rights affecting the real estate. It can then be considered that, for all practical purposes, these rights are "registered".

Registration to protect rights to property is, of course, the most important aspect of

market-oriented economies. Security of real estate titles leads to increased individual productivity, care of the land and buildings and higher capital investments. By establishing a REIS, the local government sets a keystone in the construction of a system which provides, from its very beginning, security in the knowledge that the information provided by the REIS is correct.



Protecting Rights in Real Estate

There is no economic benefit to either the general public or the government if the data provided is not accurate and totally up to date. Protecting rights in real estate requires the enactment of laws and acts that, prior to or concurrent with enactment of a State Registration Law, require that the basic information on real estate and the associated rights be recorded, maintained and open to public access. The options for legislation are found in Volume III of this Manual.

What economic benefits can the general public expect from accurate real estate information?

It is beyond the scope of this Manual to provide a detailed economic analysis of the impact which results from establishing a REIS or registration system. In general, individual real estate owners and other real estate users benefit from improvements in local infrastructure, such as better roads, lighting, services, etc. Despite the dislike for paying taxes, the expenditure of tax revenues for local infrastructure improvement provides a return to the individual real estate owners and users by making real estate in that community more valuable.

In addition, implementation of a Core REIS provides immediate benefits to owners by reducing costs and delays in transferring real estate rights. This would occur even before the establishment of a registration system, as long as the information maintained by the local government is certifiably accurate and up-to-date. The security provided in knowing not only who owns the real estate but also what other rights exist permits greater use of real estate as collateral for credit. Enactment of a registration law would greatly accelerate the process; but, even before such a law is enacted at either the oblast or the Federal level, the credibility of the information provided in the Core REIS would generate increased activity in the real estate market.

Finally, the security provided by accurate Core REIS data, and ultimately by registration, provides a strong incentive for owners or buyers to invest capital in their real estate, thereby increasing its sale or rental value, which in turn provides the local government with increased tax revenues. As market values are established, the concept of "highest and best" use of the real estate begins to take effect. This concept is critical for planning and development purposes. A broad overall result is the increase in disposable incomes, which results in sustainable economic and social development of the community.

In summary, the benefits of establishing a Real Estate Information System apply to the entire community. Information on the location of real estate, who holds ownership, user or other rights to the real estate, the types of rights involved and transactions affecting their real estate, is a basic requirement for an active real estate market and effective real estate management. The REIS also provides the basic pre-requisites for a property tax system. Consequently, by establishing the REIS, a local government benefits itself and citizens living and doing business in the community. This, however, involves careful planning. This Manual is designed to assist local governments in its planning process to establish the REIS, beginning with a Core system or its alternatives.

Market Value and the Highest & Best Use

This is not a real estate economics Manual. However, it is impractical to discuss the economic benefits to the government and the public without mentioning the concept of the "highest and best" use of real estate. Almost every aspect of the real estate market is affected by this concept. The market value of a particular piece of real estate is essentially determined by its best alternative use. The following areas of real estate management are impacted by this concept:

- Real estate tax assessment.
- Real estate planning and zoning.
- Environmental management.

The stimulation in real estate market activity resulting from access to accurate REIS information will help to establish market values approaching the value under the highest and best use.

2. Criteria for Establishing a REIS

Assuming local governments are convinced that the establishment and operation of a REIS will benefit their community and the real estate market, the next step is to create the pre-requisite conditions without which it is inappropriate to attempt establishment of a REIS at all. *The most important and difficult conditions to establish are the institutional and legal pre-requisites underpinning the REIS implementation.* Yet, *without the necessary institutional arrangements supported by a firm legal basis through enactment of legislation, any attempt to establish a REIS will be largely futile.*

2.1 Assumptions Underlying Development of a REIS

It has been previously noted that a REIS should be thoroughly planned before any funds are expended on software and hardware. Certain broad assumptions must be made following a decision to begin the planning process. These assumptions include the following:

- The local (oblast and/or city) administration has determined that it will implement a REIS and will drive the political effort to fulfill its decision.
- The plan must define a clear concept of the overall objective, with software and hardware systems development occurring over a specified period of time.
- The legal process and rules must be formulated to comply with the conceptual objective set forth in the initial planning. [6]

[6] Emphasis should be placed on the involvement of legal professionals experienced in legislative drafting from the beginning of the planning process. This will help avoid misunderstandings which could occur if those drafting the legal basis for the establishment of the REIS are not fully aware of the purpose underlying the system.

2.2 Minimum Sequential Development for Establishing a REIS

These basic requirements should be considered as minimum criteria which must be addressed and resolved during the initial stage of development.

- Local governmental agencies, such as the BTI, Land Committee, City Architect and others involved with recording information on real estate should be involved in a discussion of the purpose and scope of the REIS from the beginning of the process. Barnaul, Pskov and other pilot cities, for example, created "working committees" composed of representatives from each of the agencies involved.
- The administration must develop a plan to develop a REIS over a specified period of time. This "business plan" should contain all the information needed to guide the development of the REIS office, from initial planning all the way to operation.
- The local administration should issue the necessary orders specifying the obligations of the various agencies in the development of the REIS.
- An agreement must be signed by all the involved agencies which commits each of them to share information among themselves and the newly established REIS office. The agreement should be sufficiently detailed to specify the method and management of information sharing.
- The legislation necessary to establish a REIS office must be enacted, setting forth its functions and responsibilities.

CONFIDENTIAL ?

Information Sharing -- A Necessary Benefit!

It is absolutely critical that data held in government agencies which is applicable to operation of the REIS be shared among the agencies and particularly with the REIS office. This is a basic minimum requisite. To fulfill it, the necessary legislation at the municipal level must be enacted *before* any other substantive work is commenced. Basic registry information must also be available to the public, investors, bankers, etc. **None of the information contained in the minimum data set (Figure II.5) is subject to the Federal law controlling information.**[7] It can be further protected, as has been done in Tver.[8]

Adequate, secure and publicly accessible space should be designated and, if necessary, prepared for occupancy by the REIS staff.

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[7] Article 11 of the Federal "Law on Information, Automation and Security of Information" should not be violated if "generic" information is disseminated to applicants interested in a specific real estate object. For example, if a mortgage is held affecting the real estate, the *fact* of a mortgage can be reported without disclosure of the holder or the amount. Of course, if the person or entity holding ownership of the real estate provides written permission to disclose information, then the problem is solved.

[8] In Tver, any third party requesting information is required to submit identification including an address and telephone number together with the purpose of the request.

2.3 The Legal Basis -- Oblast and Krai Legislation

Reorganization of city agencies in connection with their cooperation, roles and responsibilities would not require the involvement of the oblast or krai administration except under certain circumstances, for example when the BTI is a federal entity rather than a city agency. Although a city does not have the legal attributions to enact laws, it is permitted to implement acts which are sufficient to establish the legal authority of a REIS office and assure the cooperation of the various agencies.[9] Moreover, each administration may determine whether it is appropriate to involve the oblast or krai to enact legislation assisting in establishment of the REIS office. The legal basis for the establishment of a REIS office is discussed in more detail in Volume III.

3. Basic REIS Components

The following represent the basic components of a REIS:

- **Institutional**

  The functions concerned with institutional adjustments are closely linked to the legal component. Nevertheless, the institutional component is discussed separately in order to show the necessity of properly allocating functions among agencies so that the REIS office can function efficiently and quickly generate revenues for the administration. The necessary institutional adjustments essentially involve reallocation of roles and responsibilities from the agencies currently mandated with the collection of data regarding real estate and associated rights, to the REIS office which can disseminate real estate information and record data on transactions *as they occur*. It is important to emphasize, however, that this reallocation should not involve the elimination of any agency, but will permit the current agencies, such as the BTI and Land Committee, to concentrate on roles other than dealing with the public and access to real estate information.

- **Procedural**

  The development of new procedures is a straightforward consequence of the reallocation of institutional roles and responsibilities. Once the conceptual plan emerges and the roles and responsibilities of the REIS office and other agencies are clarified, the rules and procedures necessary to implement and sustain the REIS office can be developed. It is essential that the procedural changes take into consideration access by the public and real estate professionals to information necessary for the functioning of an active real estate market.

- **Legal Basis**

  The legal component of the REIS must be established prior to any adjustments in the roles and responsibilities of the various agencies currently involved in

[9] The City Administration of Pskov has suggested that appropriate legal agreements between the agencies and the REIS office should be sufficient, rather than adopting legislative acts. This alternative, of course, can apply only in select circumstances where all agencies are convinced of the necessity and appropriateness of an independent REIS office, as was the case in Pskov.

recording and disseminating information concerning real estate and associated rights. *Without the establishment of a legal basis for a functioning REIS, very little will be accomplished other than the creation of a new agency which duplicates the activities of existing agencies.* Consequently, it is important to establish the necessary *conceptual* basis for the REIS and its functions, followed by the drafting and enactment of those acts which will permit the functioning of the office as conceptually intended.

- **Staff**

  The suitable assignment and training of staff for the efficient operation of the REIS office is also a critical component which must be determined in advance of implementation. The number, functions, qualifications and cost of staff should be considered from the standpoint of both immediate and future needs. The source of suitable personnel should be considered in connection with their roles and responsibilities.

- **Data Plan**

  Following establishment of the institutional, procedural and legal bases for implementation of the REIS, a plan as to the quantity and quality of data which will be included in the REIS and available to the public, professionals and other entities taking part in the real estate market should be established early in the implementation process. In order to develop an efficient operation, *the Manual strongly recommends the establishment of a Core REIS model which will provide only the type of information which investors, buyers and sellers need to make decisions.* The elimination of data which may be important only for administrative purposes but not for public users, will economize start-up costs and permit the REIS office to begin immediately generating funds which can be used for later expansion of the system.

- **Information Flow**

  As part of the determination of the type of data which will form the basis for the REIS, *a clear outline of the current and future flow of information should be developed.* This component is an integral part of the institutional modifications that will occur in the planning process. Smooth and functional information flow is vital to the success of the REIS and is valuable for establishing public trust that the data maintained by the REIS office is accurate and up-to-date.

- **Software**

  Only after determining the purpose and functions of the REIS, as decided by all the foregoing plans, should consideration be given to the type of software which would permit the functioning of the REIS. *This technical area should not be established first, but only when all other considerations have been determined.*

- **Hardware**

  The determination of the type and amount of computer hardware required is a direct function of the institutional, legal and procedural setup of the REIS. As previously emphasized, *it is not recommended to address the determination of*

hardware or software components until all other issues regarding the implementation and operation of the REIS has been decided. Although the temptation to start by determining the hardware and software components is strong, any development of hardware and software prior to the establishment of other components risks incurring expenses to purchase equipment which will not be required immediately and maybe not at all. The business plan should project expansion of the system and include a strategy for the acquisition of additional hardware and software, utilizing revenues generated from the operation of a Core REIS.

Each of these components is described in detail throughout the Manual. The foregoing, however, may be useful to focus the attention of municipal decision-makers on the steps and components required to implement a Core REIS and to show that the initial REIS office can be expanded to include other revenue-generating functions as proceeds are generated.

4. Institutional Structure for the REIS

4.1 Introduction

The Real Estate Information System (REIS) must be incorporated into the existing institutional structure of the city. This may be done in a variety of ways. There is no "right" answer as to how the REIS should be structured. *The only "right" answer is to find the institutional structure and combination of functions which works best for the REIS office in any given city.* A number of options in this regard will be presented in this chapter of the Manual.

The REIS should increase the capacity of the city to process real estate data and support the development of a land and real estate market. The REIS should expand the use of real estate data, and provide increased opportunities to generate fees from the lodging of documents and the sale of information-based products and services. The object of creating the REIS is to provide a system which increases the value of the separate groups of real estate data by combining them. The resultant combination will be greater than the sum of its parts.

This section of the Manual discusses the major issues facing city and regional administrators as they consider the organizational and institutional changes required to implement the REIS.

4.2 Need for Political Support to Implement the Changes

The most important lesson learned in the implementation of the REIS in the nine pilot cities was that *without the proper political support from the head of the city administration, the project cannot succeed.* The most significant problems in the implementation of the REIS in the nine original REIS cities were institutional, not technical. Technical problems can be solved relatively easily by employing the right technical specialists. On the other hand, *institutional problems can only be solved by firm decision-making at the highest levels of the city administration with cooperation of the oblast administration,* followed by understanding of the necessity of the process at all levels and proper implementation of those decisions.

The required decision-making may take many forms. Agencies will be required to share their data resources in ways which they have never done before. In some cases

it may be necessary to transfer functions from one agency to another. It may even be necessary to create new agencies. Personnel may need to be reassigned from one agency to another. New rules and procedures will have to be developed. The head of the city administration must make the correct decisions in these cases and then enforce the decision so that the proper result occurs. If the mayor is unwilling or unable to do this, implementation of the system cannot succeed.

4.3 Factors to Consider when Evaluating Institutional Alternatives for the REIS Office

The REIS will not operate in a vacuum. It must be introduced into the ongoing operation of city functions. It must be organized and defined so that it makes a positive contribution to the overall functioning of city agencies. It must create no additional work or burden on citizens and real estate professionals who are the primary users of the system. In order to meet these goals, the organization, placement, definition of functions and definition of paper flow must be carefully thought out before the system is implemented. Review of proposed organizational structures with city officials, technical persons in existing offices, and clerical personnel who bear the brunt of processing paperwork is absolutely essential to defining the proper institutional structure. Meetings should also be held with members of the real estate community to receive their input into how paper flow and procedures should be defined.

In this section, various alternatives related to the issues faced in trying to determine the institutional structure of the REIS will be presented. A fuller treatment of institutional issues will be found in Volume II.

4.4 Functions which the REIS Office Should Perform

The range of functions which the REIS office may perform can be thought of as a continuum. The REIS office may perform relatively few functions or it may perform many, depending on local conditions. Regardless of the number of specific functions which the REIS office will perform, the REIS office should be a resource for other city agencies which deal with land and real estate information. Experts in the REIS office should understand data flows, methods for collecting and processing data, and procedures for processing documents. These experts should be available to assist other agencies such as the BTI, Land Committee and the City Property Committee.

If only minimal functions are relegated to the REIS office, it may function as an information office only. In this capacity, the REIS office would process data which is collected by other agencies. The REIS office would then serve essentially an information function. It would collect, process, store and disseminate data obtained from the other agencies. All registration and other functions would be performed in the offices in which those functions now take place. This institutional arrangement is illustrated in Alternative II of. Figure I.3.

At the other end of the continuum, the REIS office could function as a registry as well as the information center. Unless and until there is legislative authority for the REIS office to function as an official registry, representatives from the BTI, the Land Committee and the City Property Committee could be assigned to work in the REIS office and perform their registration functions there. This arrangement would

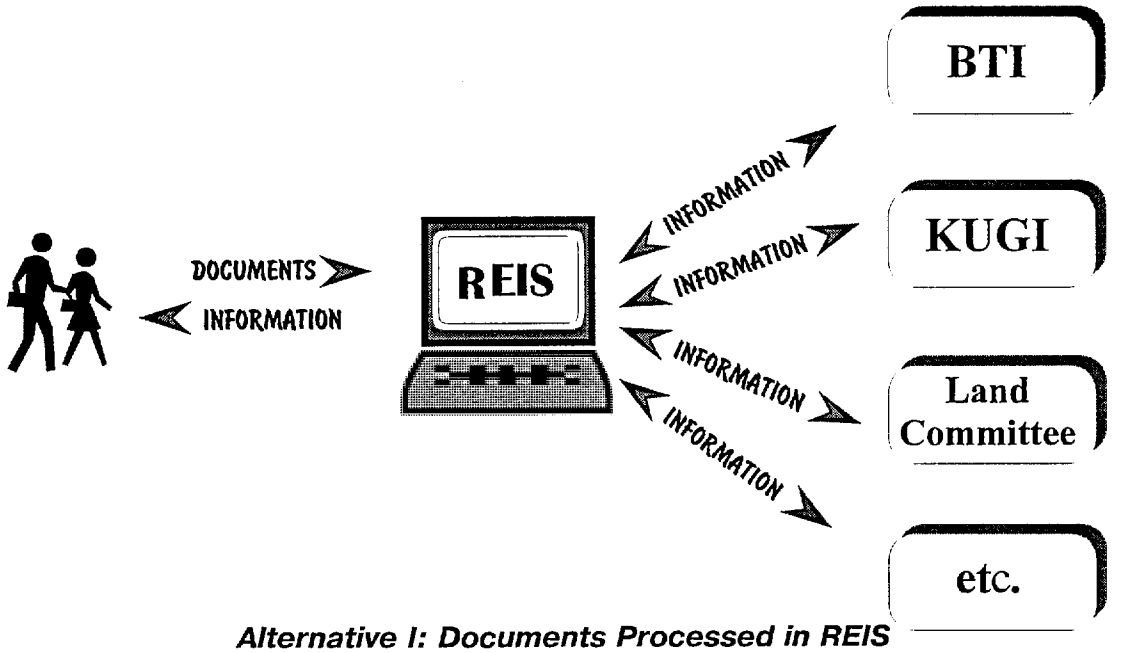
provide the convenience of one location for both information and registration. This option is illustrated in Alternative I of Figure I.3.[10]

In more specific terms, it is possible to identify a number of functions which the REIS office could perform along the continuum from a simple information office to a complete registry. Among the possible functions which may be performed in the REIS office are the following:

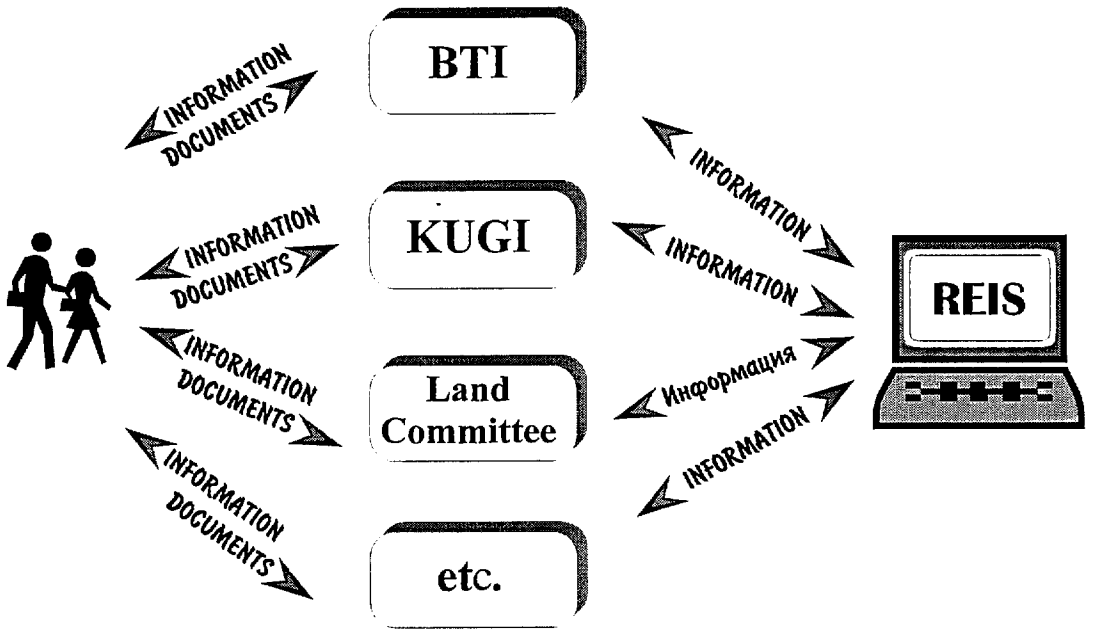
- lodgment and initial processing of documents required to effect changes in the ownership of rights in real estate objects;
- initiation and coordination of data entry;
- archiving of documents;
- serving as the main point of access to real estate-related data;
- developing a comprehensive, multi-purpose cadastre for the city;
- developing new or revised software to support registration;
- providing a unified office to perform the registration function.

The decision to give to the REIS office any or all of these functions depends on how the collection, storage, processing and maintenance of land-related data will be allocated among the various agencies. The shape of the institutional structure and the distribution of functions within that structure will, to a large degree, determine the configuration of the supporting computer system. Consequently, *the institutional decisions must be made first. The computer system should support the organizational structure, not determine it.*

[10] Enactment of the Federal "Law on Registration of Rights in Real Estate and Real Estate Transactions" would permit the conversion of the REIS to a registry.



Alternative I: Documents Processed in REIS
(THE RECOMENDED ALTERNATIVE)



Alternative II: Documents Processed in Various Agencies

FIGURE I.3 : ALTERNATIVE REIS INSTITUTIONAL ARRANGEMENTS

4.4.1 Lodgment and Initial Processing of Documents Required to Effect Changes in the Ownership of Rights in Real Estate Objects

The REIS office could function as the place for lodging documents which effect changes in the ownership of rights in real estate objects. This is not necessary for the successful operation of the REIS, but there are two reasons why it should be considered. One reason is that a central place for lodging may be more economical for the city, and if properly located will be more convenient for the public as well. A

second reason is that it would provide a first step for eventual consolidation of land-related offices into one office which will collect, process, store and manage all land-related data.

Initial processing of the documents after lodging includes such steps as verifying that the documents are in proper form, collecting the required fees, and completing any abstraction forms which may be used in preparation for data entry. Initial processing may also include copying the documents for archival purposes or for returning by mail to the person who filed the documents.

Of course, documents could be filed in the usual offices such as the BTI or Land Committee, with either copies of the documents sent to the REIS office for entry, or with data being entered in those offices and sent to the REIS office for updating its database. The REIS office can perform its information system functions without being the initial point of lodging documents, but it may be more efficient that it do so.

4.4.2 Initiating and Coordinating Data Entry

As suggested in the foregoing section, a central place for lodging land-related documents is preferable for a number of reasons. Filing such documents centrally will make the data entry process more efficient. The REIS office can and should function as the initial office for data input, and its data entry staff should coordinate other aspects of data entry for the REIS. This would also provide for easy conversion to a registry.

If documents are filed in the REIS office and if the data from those documents are then entered into the database in the REIS office, the REIS office could send that data to the appropriate office (either by manual transfer of disks or tapes, or electronically by modem or fiber optic connection). Alternatively, the REIS database could be accessed by either modem or fiber optic communication from the other offices, and the data flow could be in the other direction. Either way is possible, and the choice is really up to the individual cities, depending on what is best for the city.

4.4.3 Archiving of Documents Evidencing Changes in Ownership of Rights in Real Estate Objects

Currently, documents evidencing changes in ownership of rights in real estate objects are usually archived in the BTI office and in the Land Committee office. Some documents may be archived in the Property Committee or various other offices concerned with privatization or housing matters. Introduction of the REIS need not change the location of the archiving function. However, it may be decided that in order to reduce clerical effort and streamline paper flow, documents should be archived in the REIS center. This can be done by assigning the personnel who currently do the archiving for those offices to archive their documents in the REIS office. In this way the archiving function would remain with the BTI or Land Committee as it does now; only the physical location would change.

As an alternative to archiving paper documents, the REIS office could archive microfilm or laser disk images of the documents. This alternative may be more advantageous than simply archiving paper documents, because it would provide a backup in case the original documents were damaged or destroyed. The REIS office

may be a proper place to provide this secure backup archival function. Archiving of paper documents could then be performed as is currently.

4.4.4 Serving as the Exclusive Point of Public Access to Real Estate Related Data

As will be discussed in Chapter 2 of Volume II below, access to the data contained in the REIS must be made available to those who need that data. That Chapter also discusses the rules under which access can be made available The present section discusses *where* in the city will access be provided.

Providing access to data is not free. There are costs associated with that service. One cost involves the physical facilities dedicated to receiving members of the public. The rent, repair and maintenance costs of this space must be paid for. Personnel costs are another component. Sufficient staff resources must be allocated to provide satisfactory service to the public. In addition to the physical facilities and staff costs are the costs of computers, monitors, printers, paper, printer cartridges, communications lines and other supplies needed to access the computer databases in which most of the data will be stored. There is also a cost to the public. The time required to travel to the access point and the waiting time required to receive the data must also be considered. Having only one access point in a large city may be convenient for the city but inconvenient for some of those who require access.

The city must balance the need for efficiency and centralization of access services in order to minimize its costs with the needs of the citizens to have easy and convenient access to the data. Access points could be established in the Property Committee office, in the Land Committee office, in the REIS office and in the BTI office or offices. Alternatively, only one access point could be established, presumably in the REIS office. There is no right or wrong answer to this question. Each jurisdiction will have to determine the number of access points which are required to adequately serve its citizens.

4.4.5 Developing a Comprehensive Multi-Purpose Cadastre for the City

The Real Estate Information System Project is being undertaken in the context of significant worldwide change in the management and use of land information by local and regional governments. Traditionally, data regarding land, the buildings erected thereon and all the attributes thereof have been collected and maintained by separate agencies and were not integrated except when certain data had to be assembled to meet the needs of a specific project or report. As governments the world over are now forced to manage their resources more efficiently, they have found that this disparate treatment of land information has lead to poor decision-making and less-than-optimal resource management.

The advent of new technology such as relational databases and automated mapping capabilities have enabled local governments to consolidate their land information resources into powerful databases. These databases are sometimes called *geographic information systems* or *multi-purpose cadastres.* With these systems, tabular data can be assembled, coded, and displayed on maps to give decision-makers more complete information regarding the location and relationships of spatial phenomena. These powerful tools permit better management of municipal resources and lead to better planning and management decisions.

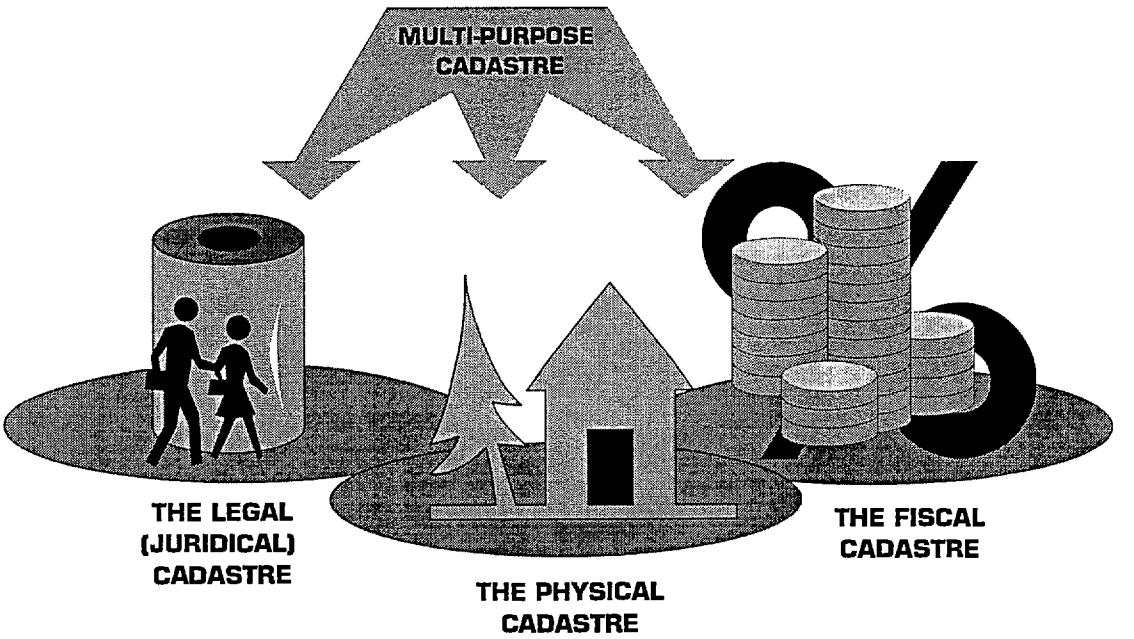


FIGURE I.4 : THE MULTI-PURPOSE CADASTRE

The multi-purpose cadastre (Figure I.4) is composed of three separate cadastres:

- The first is the *juridical or legal cadastre,* which contains data regarding the *description* of real estate objects and their *ownership and other rights* in them. This cadastre, of course, is basically the REIS database.

- The second component of the multi-purpose cadastre is the *fiscal* cadastre. This cadastre contains data on the valuation of real estate objects and is used to support *property taxation.* The fiscal cadastre must be linked to the juridical cadastre.

- The final component of the multi-purpose cadastre is the *physical* cadastre. The physical cadastre contains data on the physical aspects of the land such as soil type, vegetation, minerals, land use, and so forth.

Of the three cadastres, the juridical cadastre should be built first because it is the basis on which the others are built.

The REIS office, using the REIS database, could take the lead in developing the multi-purpose cadastre. Data regarding individual real estate objects form the basis of the development of such a cadastre, and the REIS will contain that data. The multi-purpose cadastre should be built on this foundation.

The REIS office is not the only office which could be given responsibility to build the multi-purpose cadastre. Other choices include the Chief Architect's Office or the Land Committee. Indeed, several agencies could be charged with the responsibility to build the cadastre. The agency responsible for land taxation could build the *fiscal* cadastre containing taxing information, and the Land Committee together with Chief Architect's Office could build the *physical* cadastre. Ultimately, however, one agency

must have the responsibility for creation and management of the *multi-purpose* cadastre. The REIS office may be the proper office to assume this responsibility. If the city creates the Land Information Board, as discussed in Section 6, below, that Board rather than the REIS office could assume responsibility for developing the multi-purpose cadastre.

4.5 Role of the REIS Office vis-à-vis Other Agencies in the City

Discussion of the functions of the REIS office raises the issue of relationship of the REIS office to the other offices in the city. Creation of the REIS office will not take place in a vacuum. City officials must take into consideration the way in which the roles assigned to the REIS office will impact the roles of other offices in the city.

Assigning certain roles to the REIS office may under some circumstances lead to changes in the roles of other agencies. This, of course, can lead to administrative and political difficulties as agencies resist changes in their powers. It cannot be stressed too much that *either all agencies must agree to the new assignment of functions, or the head of the administration must have sufficient political strength and will to force implementation of these changes.*

In addition to considering the political ramifications of changed roles among agencies, one must address practical considerations such as payment of fees, duplication of document lodging and other redundancies which may be inadvertently created by establishing the REIS office. Such redundancies will give users a negative image of the REIS office, and thus will limit its effectiveness. These issues are treated in more depth in Chapter 3 of Volume II.

4.6 Powers which the REIS Needs to Operate

Certain powers must be granted to the REIS office in order for it to perform the required functions. At a minimum, the office should have the power to hire necessary staff and acquire the essential equipment. The REIS management should also have a significant role in determining where its offices will be located.

The REIS office should also have, subject to the authority of the Head of the City Administration or the Land Information Board (see section 5 below), the power to make rules and regulations governing the flow of documents or data to the REIS office. The REIS office needs this power to assure that it receives all the documents (or data available in digital form) which it needs in order to properly carry out its functions. This includes powers to enact the rules and regulations required to eliminate duplication of data collection and other procedures.

4.7 Staffing requirements

The staff required by the REIS office will be largely dependent on the functions which the office performs. Clearly, persons with experience in processing documents pertaining to real estate objects are required. These persons must know how to read the documents, understand them and extract from them the appropriate information for the computer system.

Systems specialists will also be required. These specialists must know how to design and implement the systems containing pertinent real estate data. Some of the

specialists must be programmers; others must have experience creating Local Area Networks and possibly Wide Area Networks. Data entry operators will also be required.

As the REIS office becomes a registration office following enactment of appropriate legislation, additional specialists will be required, particularly attorneys who can function as registration experts. Thus the staff of the REIS office will comprise a high percentage of professional and technical employees.

4.8 Equipment Requirements

The amount of equipment required by the REIS office will be determined by the degree to which the office is computerized. It will also be determined by the number of public access terminals required to serve the people who will visit the office to request information.

If the REIS is computerized, terminals for data entry and public access will be needed. Depending on the processing power required and the software used, 486 DX2/66 computers are the minimum required. Pentium processors or even RISC (Reduce Instruction Set Computing) machines will be necessary for some applications. Printers, copiers, and equipment for processing graphic data will also be required. Volume 4 analyzes these requirements in detail.

4.9 Physical Facilities Required

The REIS office must have sufficient space to allow its employees to work efficiently and to accommodate the needs of the public. One room should be allocated to the public which will come to request information and any certificates which the REIS office might issue. Other rooms must be provided for data entry and other processing of the papers which are filed in the REIS office. If the REIS serves as an archive, space must be allocated for that function as well. The archive room should be especially secure and equipped with sprinklers or other devices to minimize the damage which could be caused by fire. If programmers and other computer specialists are part of the REIS organization, they must also have sufficient space to work efficiently. Rooms containing only one or two persons would be preferable; if that is not possible, partitions should be placed in the room to give the programmers as much privacy as possible.

The REIS office should have an ample supply of electricity on several separate circuits. This is necessary to support the large amount of computer equipment the REIS office may contain, especially if maps and plans are converted to digital format. Carpeting, appropriate lighting and furniture such as chairs, small tables, etc. should also be provided to accommodate the public.

5. Specific Institutional Alternatives

Once the decision is made to establish a REIS, the next decision must be where to locate the REIS in the city organizational structure. There is no "right" answer as to where the REIS office should be located. The REIS should be located where, from an administrative and political viewpoint, it works best for the city. Following is a

discussion of four different alternatives which may be considered, along with the advantages and disadvantages of each.

5.1 Mayor's Office

One alternative is to locate the REIS in the office of the head of the city administration. This alternative gives the Head of Administration direct control of the REIS office, and would also permit the mayor to provide direct administrative and political support to the REIS. This would permit easier enactment and enforcement of the rules and regulations which the REIS office will need to make, and would enhance the stature and prestige of the office.

The difficulties with this alternative are that the REIS office requires specific expertise regarding land records and computer systems. Most of the expertise in these fields in the city will be found in other offices, such as the Land Committee, the City Property Committee, the Chief Architect's office or the BTI. Putting the REIS office in the Mayor's office gives political support, but moves it away from the offices which have the required technical expertise.

5.2 Informatics Department

A second alternative is to place the REIS office in the existing city information systems department, if one exists. This would give the REIS office the skills it needs in computer programming, systems analysis and network administration. However, the informatics department would not necessarily have skills in land records management, a critical need for the REIS office. If the informatics office has the authority to promulgate and enforce rules and regulations regarding systems operation, placing the REIS in that office would give it authority to define the rules and regulations necessary for REIS operation.

5.3 Property Committee (KUGI)

A third alternative is to place the REIS office inside the Property Committee office. This has been successfully done in a number of REIS cities. This alternative is especially attractive if, in addition to managing the REIS office, the KUGI is given the responsibility to manage the BTI offices as well.

The City Property Committee is responsible for managing city-owned real estate and is thus familiar with records pertaining to real estate objects. Several city property committees have functioning computer departments Thus from the technical viewpoint the Property Committee is a good candidate for managing the REIS office.

Drawbacks of using the Property Committee include the fact that it has no jurisdiction over land and buildings. However, as noted above, several cities have given the Property Committee jurisdiction over the BTI, which diminishes this drawback.

5.4 Bureau of Technical Inventory (BTI)

The BTI offices, which have a long history of registration of interests in buildings and apartments, may be suitable for location of the REIS. Many BTI offices are

computerized, which is an additional reason to consider BTI as an institutional home for the REIS. This option was implemented by the city administration in Barnaul.

The obvious drawback to using the BTI as a home for the REIS is its lack of experience with land parcels, the responsibility for which has been in the Land Committee. Giving responsibility for a presumably unified real estate information system to the BTI may also be politically difficult.

5.5 The Land Committee

Land Committee staff has expertise in cadastral mapping and registration of documents. It understands how interests in land are transferred. Many Land Committee offices have significant computer resources as well, including software to produce maps in digital format. Some even have Geographic Information System capability. Thus in many cases the Land Committees have the technical expertise to support a REIS.

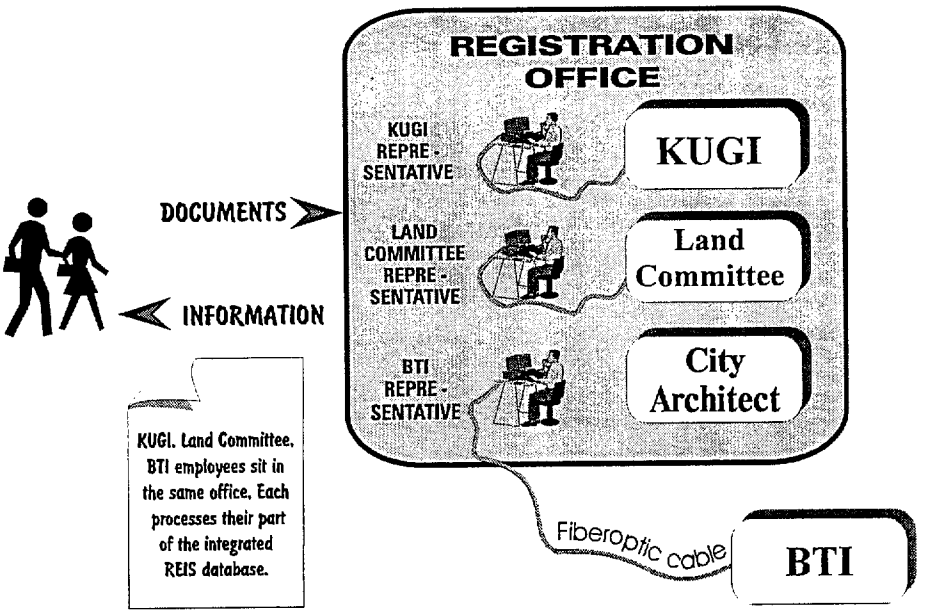
Like the BTI offices, however, the Land Committees are not experienced with aspects of real estate with which they do not deal. Thus they have no experience in working with buildings and apartments. Also, for political reasons, use of the Land Committee as the institutional home of the REIS may not be appropriate because it does not provide a neutral home for what is to be a unified, comprehensive system.

5.6 Other Alternatives

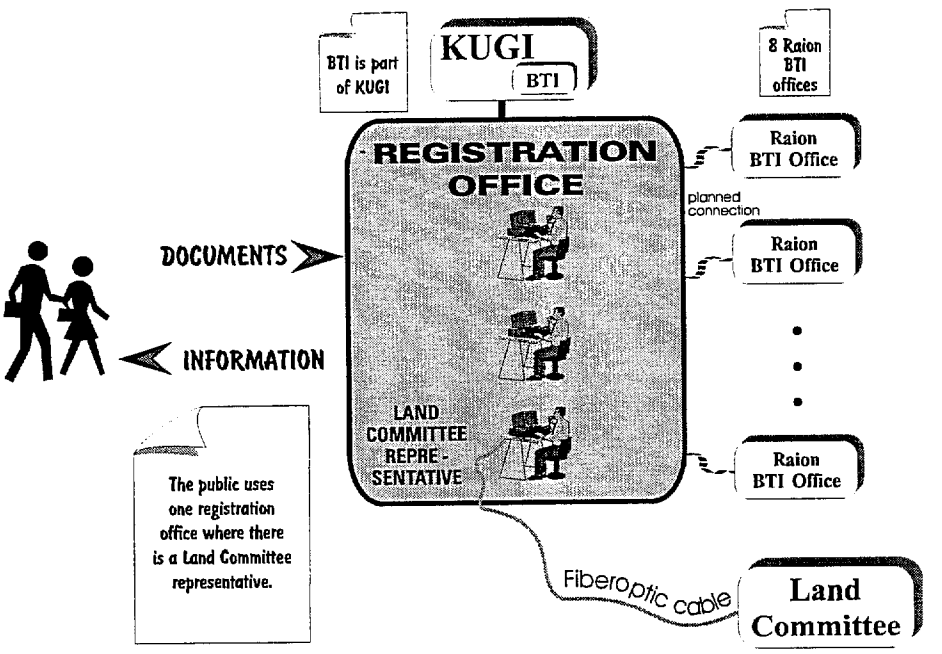
The foregoing examples are merely suggested for illustrative purposes. As was stated earlier, the political and administrative situations in the cities are different and the solution adopted in one city may not be workable in another. Many cities are likely to devise institutional arrangements different from the ones presented here. The ultimate criteria for location of the institutional home of the REIS is not adherence to one model or another, but what works best in the city which undertakes the system. Figure I.5 shows the REIS institutional arrangements which have actually been adopted in Pskov and in Nizhni Novgorod. Table 1.1 compares the institutional location of the REIS in then REIS cities.

6. Need for Oversight -- The Land Information Board

One of the biggest institutional changes which the management of land information brings to a city or regional government is cooperation. Agencies which have ignored each other or perhaps have even been at odds with each other find that the proper management of land data requires a degree of cooperation not previously thought possible. As the use of land-related data increases, this cooperation may become more formal and institutionalized. Thus the need for a formal body to monitor and manage the cooperation arises. A Land Information Board could be created to do this.



The Pskov Registration Office



Nizhny Novgorod Registration Office

FIGURE I.5: ACTUAL REIS SETUPS IN PSKOV AND NIZHNI NOVGOROD

The Land Information Board should be a policy-level body charged with the responsibility to set city-wide policy for the creation and use of land information. The Board should be composed of the heads of the agencies in the city which have primary jurisdiction over the creation of land information. This would include, at a minimum, the heads of the BTI, the Land Committee, the Municipal Property

Committee, the Chief Architect's office and the REIS office. The heads of the Housing Committee, the Privatization office and the Computer Systems Department may also be members of the Board.

The head of the Board may be the mayor, a deputy mayor, or one of the members of the Board designated by the mayor to act as chairperson. Ideally the mayor or a deputy mayor should be the chairperson. That might reduce the possibility of institutional bias in the work of the Board.

The first task of the Board is to formulate a written policy document governing the management and use of land-related information held in city offices or otherwise generated or controlled by city agencies. The policy document should address questions of ownership of the data; agencies responsible for collecting, maintaining, storing, and processing the various categories of land-related data; which data may be available for public access and under what conditions; the extent to which the city will engage in the creation of information-based products and services, and the prices to be set for those products and services; and any other policy-related issues which may arise with respect to the creation, maintenance, use and dissemination of land-related data. Following preparation and adoption of the policy document, the Board should meet on a regular basis, not less than monthly, to consider the issues which arise in application of the policy to specific situations.

As the REIS develops and matures, and as the city gains experience with the management and use of land-related data, it may become necessary to create other coordinating bodies. One such body may be a Technical Committee, composed of technicians from the various offices represented on the Land Information Board. This Technical Committee would be responsible for identifying and resolving the technical issues which may impede data sharing and dissemination of land-related information to the public and to the agencies which need to share data. The technical specialists on this committee would develop recommendations and plans for action which would be submitted to the Land Information Board for approval. Another coordinating body which may be required in future years is a Management Committee. The Management Committee should be composed of senior managers (not policy-makers) from the various agencies represented on the Land Information Board. The Management Committee would concern itself with the coordination of administrative and management affairs, and make recommendations to the Land Information Board.

As the REIS matures into a fully developed multi-purpose cadastre, the issues facing these committees will become increasingly important. As the various databases making up the cadastre become larger they will become more valuable to a variety of users, including federal, oblast, and city agencies; real estate developers; real estate brokers; and citizens. As demands on the cadastre increase, the policy, management and technical issues faced by it will become more numerous and complex. *It is important to have the necessary coordinating bodies in place at the early stages of REIS development so that they can learn to work together when the issues are fewer and simpler.*

City	REIS or Registry Organization
St. Petersburg	An information system was established in each city raion to store data from agencies having land- and real-estate-related data. Data is passed upward to a centralized city-wide information system. Ultimate responsibility for this system rests with the Mayor's office. Registration is performed as has been done historically.
Pskov	A registry was established in which representatives from the BTI, Komzem and KUMI will perform the registration function. The registry will implement and maintain a computer system to support the registration process.
Tver	A centralized registration office was established to handle all registration currently performed by BTI, Komzem, etc. The city informatics department will maintain the computer system for the registry.
Orenburg	Each agency will perform registration as has been done historically. The city informatics department will create and maintain a real estate information system containing data regarding real estate objects and the registry process.
Nizhny Novgorod	By mayoral decree, the BTI offices were placed under jurisdiction of the KUMI. Within KUMI, a Registration and Technical Inventory Department was created to manage the registration process. A computer section within the Registration and Technical Inventory Department is developing the necessary computer programs to support registration. To provide a single place for all registration in the city, a Komzem representative within the registration office handles land registration matters.
Barnaul	Registration will be performed by the agencies which have historically done so. The BTI is charged with the responsibility to operate and maintain the REIS Center, which will house the computer system and store all registration data.
Yaroslavl	A REIS Center which is responsible for the collection of land- and real-estate object related data was established under the mayor's office. The REIS Center will share its data with the other agencies. Registration is being done by the agencies which have historically done so.
Vladimir	The registration process is performed by BTI, Komzem and KUMI as has been done historically. A REIS Center was established as part of the mayor's office for maintaining an information system to support it.
Krasnodar	An Information Agency was established in KUMI to store land- and real estate-related data from Komzem and BTI. Registration will be performed by those agencies as has been done historically.
Pechory	A registration office was established to coordinate the registration process and to maintain the information system to support registration. Registration will be performed by the BTI, Komzem and KUMI as has been done historically.

Table 1.1: Institutional Arrangements in the REIS Cities

7. Enact Institutional Changes into Law

When the basic decisions regarding the institutional and organizational changes have been made, they should be formalized in a proper ordinance to be promulgated by the head of the city administration. The ordinance should clearly define the organizational structure to be implemented with the creation of the REIS, the functions of the REIS office, the powers of the office, any changes in functions of the other offices due to formation of the REIS. It should also provide for appropriate staffing and funding.

8. Developing the Business Plan

This chapter concerns a material element in the development, implementation, operation and expansion of the REIS: the "business plan".

A business plan can take a variety of forms which are not simply devoted to the private sector of the economy. It does not merely include objectives. The business plan contains the *strategy* for reaching the REIS objectives and thus is essential to the success of the REIS.

8.1 Why Develop a Business Plan?

Any "business enterprise", and government can be considered a type of business, in order to determine a strategy for development, must clearly outline its current status and define the goals which it hopes to achieve. After defining the strategic goals, the appropriate operational methods for reaching them can be analyzed. During this process the issues, problems, costs and competing interests will surface through engagement among various agencies responsible for developing and implementing the REIS. Formulating the business plan will give a clear understanding of the time necessary for each stage of development. The true costs can be balanced against the expected revenues. Directions for modifying institutional roles and responsibilities will become apparent, and inefficiencies which resulted in unrealized income for the administration can be corrected.

Once the business plan is completed, the city administration and collaborating agencies will have a road map showing the direction and timing of implementation stages. Developing such a plan also provides the administration with *alternative* strategies for reaching the defined goals. This flexibility is important because it permits avoiding non-productive avenues of approach as implementation proceeds. Development of interchangeable routes to accommodate shifting situations allows a level of flexibility which assists in maintaining a smooth implementation process. Simultaneously, by involving all relevant agencies in the development and implementation of the plan, a consensus approach may be implemented. This will avoid the necessity of imposing a plan from above or suffering surprising deviations from the plan.

The ultimate objective is to supply a document which takes into consideration all the aspects of development and operation, producing a steady, incremental implementation of the plan.

8.2 Short-term and Long-term Goals

Producing a strategic document that targets achievable goals prior to instituting institutional and budgetary changes is also important when considering short-term operational benchmarks. For example, a long-term strategic goal might be the development of a Land Information System ("LIS"), including legal, fiscal and physical cadastres. As previously discussed, the immediate "turn-key" approach is one option which can be taken by an administration in an attempt to achieve its long-term goal in a short period of time. Clearly, this is a very expensive approach and may involve the acquisition of hardware, software, office space and personnel which are not immediately necessary but which will constitute a drain on administration funds with no commensurate return.

A different approach to reach the long-term goal of an operational LIS is to implement the REIS Core. Building from the Core while generating revenues will then permit the administration to add "modules" when required. This incremental development approach (Figure I.6) allows the system to be self financing to a large extent and can take advantage, when implementing each new module, of the most recent technology. The speed of expansion can vary depending on the level of revenue generation and the needs. Consequently, although long-term planning is useful for setting forth the strategic goal, short-term operational targets constituting benchmarks are the true building blocks which permit the ultimate objective to be reached.

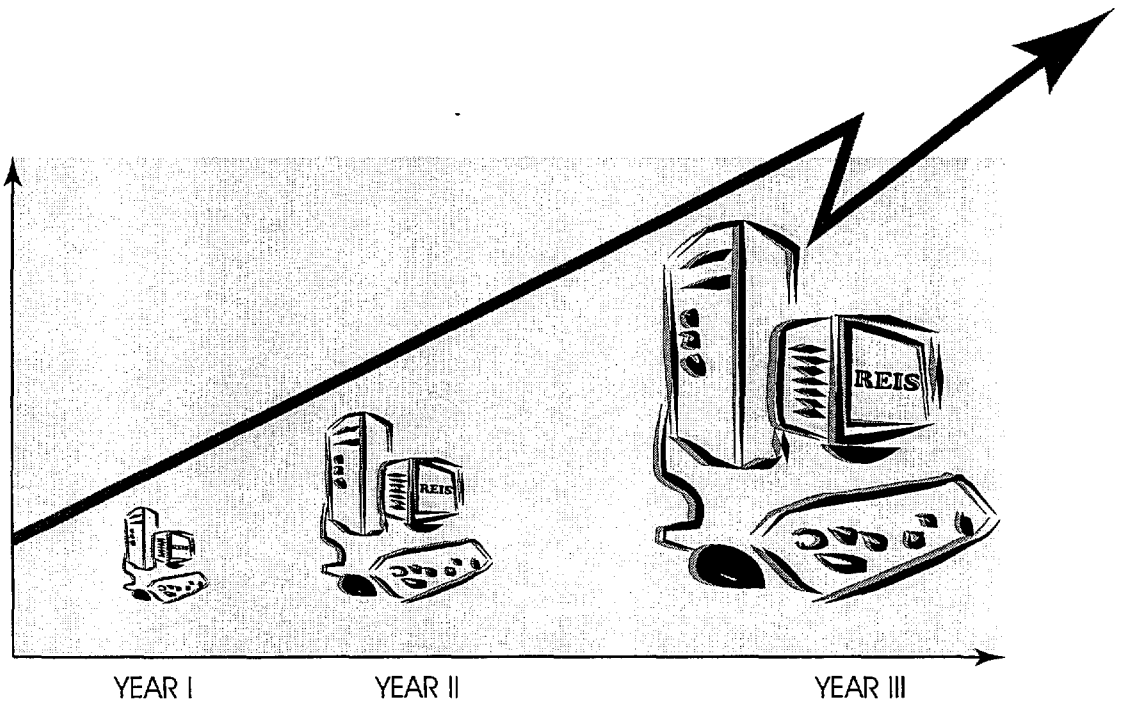


FIGURE I.6: INCREMENTAL DEVELOPMENT OF THE REIS

Although many books have been written regarding strategic planning, particularly in reference to private corporations, there are many reasons to be cautious when attempting to apply the insights contained in corporate planning manuals to governmental operations. Indeed, it is now commonly perceived that long-range strategic planning is the least efficient method, due to situational adjustments that may be required or which are imposed by outside factors. For example, minor changes in events may alter outcomes to an extent not anticipated by the planners, much as a seemingly small change in weather patterns can severely affect crop yields in the future, which in turn affects availability and in turn affects prices. Therefore, it is prudent to develop a long-term strategy based on short-term operational goals which can be modified to meet changing conditions. The ability to make appropriate modifications in short-term plans in order to reach the chosen goal is cost efficient and conserves time.

The Butterfly Effect

Slight, barely noticeable events can produce profound changes. An oriental proverb states that a butterfly in China, flying from flower to flower, will produce a breeze that can grow to a hurricane in the United States.

By building in stages that can be modified as situations and needs change, administrations will be able to achieve their strategic goals. Adherence to a rigid long-range plan may not result in the anticipated objectives.

The business plan should contain the ultimate strategic objective, whether that involves the full scale LIS or is limited to the REIS Core. Regardless of the final objective, each stage of development will contain the short-term operational goal which must be reached prior to engaging in activities that apply to the subsequent stage. Of course, elements such as training and inter-agency communication overlap stages and are necessarily a constant. However, for the most part, discrete stages of development produce benchmarks from which subsequent development is evolved. If we define failure as ending up with a non-integrated, inefficient and costly system, the risk of failure increases dramatically if there is no business plan. Thus the business plan is a prerequisite to development of the REIS Core.

Annex I.A to this Volume contains a sample business plan. Like this Manual, it is intended to be used as a tool for the designing of the strategy which the administration will follow to implement, operate and expand the REIS. The example is an outline showing the major components of a business plan. It may serve as a template for a city administration to devise its own form. *Perhaps the most important areas of concern for any governmental organization are the cost and revenue sections of the plan.* It is crucial that these sections accurately reflect true costs and potential revenues. If costs are under-estimated or unrealistic revenues are projected, the entire purpose of the business plan will be undermined.

Finally, a number of different business plans may be created to take into consideration various development scenarios; or, one business plan can be modified to show differing implementation strategies. This is very useful for comparison purposes and will assist in determining what the administration can realistically afford and expect to receive. Again, scrupulous presentation of alternatives, costs and expected revenues must be included.

Annex I.A

BUSINESS PLAN FORMAT

1. Strategic Statement

This section should contain a simple, two or three sentence statement stating the ultimate goal of the administration. For example:

" The objective of the Administration of the City of _____ is to design, implement, maintain and operate an automated, unified Real Estate Information System which contains all the information found in a real estate registry. The information contained in Real Estate Information System will be easily accessible to the general public, the Administration of the City of _____ and all agencies and departments of the Administration. In addition, the Real Estate Information System will be open to other governmental agencies, such as the Oblast Administration, the agencies of the Russian Federation and all other physical and juridical entities requiring information on real estate and rights associated with such real estate."

2. Current Status of Real Estate Information Collection, Maintenance and Distribution

This section should contain an outline of the organizations, procedures and operation of the current system. It should not be as extensive as the User Analysis, but must, nevertheless, contain the information which forms the basis of the current system, its data flow and the manner in which it serves its customers.

The operations of the agencies which control recording of documents and act as repositories of information, such as the Bureau of Technical Inventory, Land Committee, City Property Committee and Office of the City Architect, should be clearly spelled out in this section.

In addition, as a complete analysis of the operating structure that presently exists, reference should be made to the section covering financial matters as a basis of comparison between current expenditures and income and the expected expenditures and income of the new office.

3. Purpose and Aims of the REIS

This section is intended to provide a review of the proposed system which expands, in detail, the objectives contained in Section I. The objective of this section is to clearly state the purpose of the REIS and provide the foundation of justification.

For example, if the strategic objective stated in Section I is to create a Core REIS, then its purpose will be defined and expanded here. If the strategic objective is to create an LIS (Land Information System combining a fiscal, physical and legal cadastre) then the reasoning behind the decision must be explained and justified.

The Purpose section should list the major functional objectives of the new office. These objectives may be broken down into the following categories:

- Primary functions, such as the recording of all interests in real estate and the real estate affected and provision for access to all data.

- Supplementary functions, such as the distribution of information concerning the operation and functions of the office.

- Secondary functions, such as sale of maps created by the office and compilation of real estate market information which can be sold to developers and investors.

Furthermore, a sub-section should develop the strategy for marketing the services and "products" of the office. A list should be developed of the potential users of information and how these users will be made aware of the services provided. This sub-section will assist the Administration in focusing on the areas which will produce revenue for the city and will be linked to the financial portion of the business plan.

4. Legal Requirements

Section IV should cover the existing legislation which supports the establishment of the office and outline the additional legislation (Orders or other acts) which must be enacted prior to the implementation and operation of the office. If the strategic objective involves a staging of development and establishing targets at the completion of each stage, then an analysis must be performed and set forth in this section as to the additional legal basis, if any, which must be established prior to the implementation of each phase of development.

5. Operating Strategy

Whether the strategic objective involves one phase or several, it is critical to itemize the elements of the plan which will be instituted to achieve the goal. Each operating stage should similarly detail the steps to be taken to reach the implementation of the phase involved and set the stage to implement the subsequent stage. This section essentially represents a "mini-business plan".

Example of entries for single stage plan:

- Objective
- Product and services to be rendered
- legislation required
- expenditures and projected revenues

Example of Multi-stage plan:

Stage One:

- Stage One Objective
- Product and services to be rendered
- legislation required
- expenditures and projected revenues
- goal assumptions and linkage to Stage Two

Stage Two:

- Stage Two Objective
- Operating assumptions and pre-requisites (stage one anticipated operational goals pre-requisite criteria to implement Stage Two).
- Product and services to be rendered
- legislation required
- expenditures and projected revenues
- goals and linkage to Stage Three

Stage Three (final phase):

- Stage Three Objective
- Operating assumptions and pre-requisites (as in Stage Two)
- Product and services to be rendered
- legislation required
- expenditures and projected revenues

The staging of an implementation of a LIS permits modifications in each stage in the event assumptions or financial projections prove to be different than expected. In the above format, the single staged development of a Core REIS, for example, would provide immediate measurable achievements from which revenues can be generated and future expansion planned. The multi-staged implementation of a large LIS system will be a useful planning tool, providing the Administration with flexibility to react to changed circumstances.

6. Financial Plan

This is the most important section of any business plan. It represent the master budget for operations. Because of the lack of historical financial data on which to base projections, the financial plan must accurately state all currently known costs. It is recommended that the financial plan reflect the first year of actual operations and show all significant expense and revenue items. The assets that are needed to operate the office must be listed and sources identified.

Areas to be covered include the following:

1. <u>Start up costs</u>

    - salaries
    - equipment
    - office furniture and supplies
    - training of staff

2. <u>Direct costs</u>

    - staff salaries
    - office supplies
    - rental payments
    - equipment purchases
    - training on new technology

3. Pricing for services

    - fees for recording information

- fees for providing information
- fees for providing ancillary information (maps, information books etc.)

4. Projected revenues/target revenues

5. Revenue and loss statement

6. Sources of funding

   - city budget
   - fees and charges for services
   - other

The financial section should be reviewed from time to time in order to make adjustments to reflect changed conditions or incorrect assumptions. Even in a one year plan, and particularly in a longer plan, the assumptions and factors which governed the structure of the business plan may have changed and the plan should be changed accordingly.

The business plan is a process, not an immutable document.

Annex I.B

SAMPLE FORMAT

USER ANALYSIS REPORT

NOTE: THIS IS A THROW-AWAY PAGE SO THAT THE FIRST PAGE WILL START WITH NUMBER I.B.1

Annex I.B

SAMPLE FORMAT

USER ANALYSIS REPORT
REAL ESTATE INFORMATION SYSTEM
(REIS)

(city name) , RUSSIA

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A3. Project Components
A4. Inputs and Outputs

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  B1b. Profiles of Secondary Data Providers
  B1c. Identification and Availability of Local Vendors

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  B2a. Requirements Analysis
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D1. Administrative Plan
D2. Personnel Requirements

E. ECONOMIC DESIGN

E1. Operational Costs
E2. Data Acquisition Costs
E3. Economic Benefits
E4. Maintenance Costs

F. ISSUES & PROBLEMS

A. PROJECT DEFINITION

A1. GOAL AND PURPOSE

This section should include an overall statement of the goal andpurpose of the program. This is similar to what will be stated in the Business Plan and again in the Implementation Plan.

For example:

"The goal of the Real Estate Information System in _____is to stimulate and promote the development of an active real estate market by presenting an accessible system of information for privatization and the transfer of real estate. This system will include the procedures for registration of real estate, information regarding property ownership, owner rights, lease arrangements, easements and encumbrances. By creating the arena for furthering development, the goal includes economic gains at the local level in terms of new construction projects, new housing and employment."

"The purpose of the Real Estate Information System is to initiate and assist the City of _____and its various departments in establishing a unified information system that can be made accessible to the public. The REIS will consolidate information from the different agencies dealing with property ownership and related transactions to produce a more efficient functioning system that will aid in the development of real estate markets."

"The purpose of this User Analysis is to assess the current situation in terms of the procedures of registration, level of computerization and identification of the network of players involved in the real estate process. In this analysis, the City Administration will make recommendations in the form of improvements to the existing system. "

A2. INPUTS AND OUTPUTS

This section is intend to outline the information concerning real estate object, rights and right holders into the system and a description of what the system will produce. While the information which will constitute the inputs varies, the outputs should follow the primary goal.
For example, an "output" section could be written as follows:

"The REIS project in _____will provide the basis for legally sanctioned organizational structures and inter-institutional relationships which will stimulate real estate development. The REIS will provide the database, registration and information management system, and suggest organizational structures required to

provide broadly based access to market-accepted evidence of ownership claims and encumbrances on real estate."

"Outputs include:

- A more efficient information process for the City's departments;
- A unified REIS at one location designed for the total city;
- An updated and more accessible real estate information source;
- Establishment of the REIS Center providing public access to real estate information and transaction processing;
- Installation and testing of computer hardware and software;
- Preparation of text files with data related to building and apartment ownership, land ownership, current claims and encumbrances affecting the title to real property units, land use, building passport information, values of buildings and land, taxes and other liens;
- Training of personnel; and
- A registration system."

B. DETAILED TECHNICAL DESIGN

The following sections deal with the current technical basis and plans for future development.

B1. SITUATION ANALYSIS

B1a. Main Data Providers

The format which follows should be utilized in the description of each agency which will provide information to the REIS.

For example:

'The following outline is used as a basis for data collection for the main data - providers:

<u>Name of Agency</u>

1. Responsibilities.
2. Administrative and Technical Authorities.
3. Purpose of Data.
4. Sample Data.
5. Format of Data.
6. Update Procedures and Frequency.
7. Data Volume and Data Subsets.
8. Inventory of Existing Hardware and Software.
9. Employee Technical Capabilities.
10. Future Plans.
11. Inter-Agency Relationships.
12. Comments/Problems/Issues."

Each of the above should be described for the following agencies

B1a.1. The Bureau of Technical Inventory

B1b.2. Land Committee

B1a.3. City Property Committee - KUMI

B1a.4. The City Architect's Office

B1b. Profiles of Secondary Data Providers

The following section contains the profiles of the secondary data providers. This is not merely a listing of the peripheral players, but is viewed in terms of the interconnected relationships. As part of the analysis to determine the vital links and missing gaps in the process of registration.

This section follows a similar format as the previous but not to the same technical level.

B1b.1. Central Raion Administration Office for Privatization

B1b.2. The City Housing Committee

B1b.3. The Federal Tax Service for the City of _____"Tax Office"

B1b.4. The Notary Office and the Notary Chamber

B1b.5. Legal Department of the City

B1b.6. Committee for Economic Development

B1b 8. GKI - State Property Committee

B1c. Identification and Availability of Local Vendors

The following vendors have been identified in the city.

NAME OF COMPANY	TELEPHONE	ADDRESS

B2. REQUIREMENTS ANALYSIS

B2a. Requirements Analysis

What are the current needs and requirement for real estate information in the city?

B2b. Functions of the REIS Center

Example:

"The main function of the REIS Center will be to provide a more efficient access to information and the registration of real estate. The agencies and the public users will benefit. The function of providing information as well as registration will be unified

in a more simplified procedure than currently exists. The REIS information will include rights of ownership, rights of use and the clarification of title. The system will maintain the data necessary for the complete function of the transfer of property and the storage of the data involved.

It should be made clear that the new established function of the REIS Center will not eliminate the existing functions of the administrative agencies, but will enhance and streamline their functions. The REIS Center and will act as a recordation and unification system of those processes.

B2c. Content and Format of Database Input

B2d. Format of Database Output

B2e. System Capacity Requirements

Based on the intended information input, describe the capacity needs of the system in detail. Conclude with the total number of Mb needed for efficient REIS operation.

B2f. System Design

B2g. Effort to Capture and Enter Data into REIS

This section is a review of how the information will be collected and entered into the system.

B2h. System Requirements - Software and Hardware

B2h1. Database Software

B2h2. Hardware

Hardware Type	Total Units
Software	
Office equipment	

B2i. Communications and Data Sharing and Storage

Describe how this will be accomplished and by which agencies.

C. CONCEPTUAL DESIGN of SYSTEM

C1. INFORMATION FLOW DIAGRAM

Describe how the flow of real estate information presently exists among the agencies. Then discuss variations to improve the flow:

VARIANT #1.

VARIANT #2.

VARIANT #3.

C2. STRUCTURAL DESIGN OF THE SYSTEM

Discuss where the REIS office will be located and how the system will be structured under some of the variants described above.

3. WORK PLAN FOR PROJECT IMPLEMENTATION

Draft Workplan Schedule

Phase One - Organizational:

Phase Two - Organizational and Technical:

Phase Three - Pilot Area:

Phase Four - Creation of the REIS Center:

Phase Five - Implementation of REIS:

D. ORGANIZATIONAL DESIGN

D1. ADMINISTRATIVE PLAN

How will the REIS office be administered?

D2. PERSONNEL REQUIREMENT

Discuss staffing needs, training and agency roles.

E. ECONOMIC DESIGN

E1. OPERATIONAL COSTS

E2. DATA ACQUISITION

E3. ECONOMIC BENEFITS

E4. MAINTENANCE COSTS

F. ISSUES

F2. LEGAL BASIS FOR REGISTRATION OF REAL ESTATE

F3. MAIN TECHNICAL PROBLEMS

REAL ESTATE INFORMATION SYSTEM (REIS)

MANUAL

VOLUME II: INSTITUTIONAL ARRANGEMENTS

Moscow, 1996

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Preface

The purpose of this Volume is to explore the institutional arrangements required for development of the REIS. This Volume is primarily written for REIS managers and administrators. This Volume identifies the issues which REIS administrators and managers will face as they develop the REIS. While Volume I showed alternatives for organization and institutional placement of the REIS, this Volume shows REIS managers what they need to do and, to some extent, how they need to do it in order to create successful REIS offices in their cities.

For Glossary of the terms used in this Volume, see Volume I.

1. Define and Communicate the Goals of the REIS Office

One of the problems noted in the original REIS cities was a lack of clearly defined goals for the REIS. Many agency representatives expressed frustration over the fact that the goals of the REIS were not defined clearly at the start of the project. This was a significant failing of the original project, and may be due to the fact that the systems were to be created in a brief time according to a schedule developed by an outside funding source. Because there was some pressure to start the city REIS projects quickly, the goals were not clearly articulated, thus causing confusion as to what the REIS was to accomplish.

This section contains a number of suggested goals which a city may adopt as its own, if it chooses to do so, for its REIS project. While it is not necessary for a city to adopt any or all of these goals, they are submitted for consideration as goals which, if achieved, will help the REIS to be successful.

1.1 Achieve Full Cooperation of All City Agencies

Without question, ***the first goal of the REIS should be to achieve the full cooperation of all city agencies which will provide input to, or which will otherwise be affected by, the installation and operation of the REIS.*** Each participating agency must understand that there is much to be gained by participating in the REIS. It is crucial that department managers understand the benefits sufficiently well to support the REIS for the benefits it will provide, even though the REIS may bring significant changes.

There are two types of benefits which will be generated by the REIS. One type of benefit was discussed in Section 1.4 of Volume I. That benefit concerned the economic impact of the REIS on the city. The data in the REIS, because it will support the conveyancing process and will stimulate the land market, will be a direct contributor to the economic well-being of the city. Developing and supporting the REIS will bring economic advantages to the city as the real estate market develops.

In addition to the economic benefit which the city will gain by creation of the REIS, a second benefit is the beginning of a solid land information base for the city. Worldwide, as much as 80% of the data used in municipal governments is related to geographic location. Organizing data by spatial or geographic identifiers is the most efficient way for a city to organize the majority of its information resources. The REIS is the foundation of a comprehensive land information system for the city

because it contains data regarding real estate objects, which are the basic building blocks of such a system. The REIS should be the core upon which the comprehensive system is *gradually* built. As that system is developed, city planners and managers will be able to better analyze patterns and trends and otherwise make better decisions regarding the use of city resources.

While there will always be resistance to change, and there may be some resistance to the creation of the REIS, these two benefits -- improved economic strength from support of the real estate market *and* development of a necessary comprehensive land information system -- should be emphasized and explained so that senior administrators in all the affected departments understand and accept that the aggregate benefits to the city from the development of the REIS far exceed any difficulties which may be encountered. It is especially important that the head of the city administration take the lead in articulating the city's objectives for its REIS and convincing other officials to accept them. For example, the head of the administration in Pechory was very successful in defining and articulating a vision for development of the REIS in Pechory, and this contributed greatly to the success of the project there.

The experiences of different pilot REIS cities in achieving cooperation among the participating agencies are compared in Part 1 of Table II.2.

1.2 Define the Overall Policy Regarding REIS Data and Land Information Generally

Many local governments throughout the world are beginning to view their databases as resources to be managed for the financial benefit of the local government. This means that local governments are capturing the economic value of these databases for their own use, rather than letting individuals and companies from the private sector reap the economic benefit for themselves. This has significant implications for the way in which data from these publicly created databases are made available to the public. Governments are becoming more aggressive, not only in charging for outputs from these systems, but also in developing for users custom applications for which they charge fees.

In Section 6 of Volume I it was suggested that a Land Information Board be established. The purpose of this Board is to set policy regarding the use of all city-wide land data resources. The REIS manager must take a direct role in creating this Board and insuring that it performs its proper functions. One of the most important functions the Board has is to develop a clear information policy. This policy statement should contain rules regarding public access to land data created and maintained by city agencies, including perhaps most importantly the REIS office.

The approaches of various REIS pilot cities to providing public access to information are compared in Part 2 of Table II.2.

The REIS manager can help the Board formulate the city's policy for land information. In developing the policy, the following steps should be taken:

- Identify the policy options which are available
- Evaluate the policy options to determine which are the most suitable

- Adopt the preferred policy options in a formal Information Policy document
- Enforce the Information Policy in a consistent manner
- Evaluate the Information Policy on a periodic basis to determine whether it is in fact meeting the city's goals
- Modify the Information Policy as necessary in accordance with the city's goals.

As can be seen from the foregoing steps, the policy development process is evolutionary. The policy currently in force may be altered, perhaps even significantly, over time as conditions change and as new needs or situations arise. The REIS manager will need to monitor the implementation of the policy to insure that it is an effective tool for the management of the city's information resources.

1.3 Create a Database to Support both Existing Registration and Registration under the New Registration Law

A major purpose of the REIS is to support registration of title to real estate objects. The REIS computer systems designed by Arthur Andersen and by Chemonics International can store the data necessary for registration. Registration currently takes place in a number of separate agencies, including the BTI (for buildings, apartments and rooms in communal apartments); the land committee (for land parcels) and the city property committee for interests in units used for commercial purposes). While a unified registry may be more efficient in some ways, registration of title can and does take place under the existing system.

The real estate information systems implemented in the existing pilot cities can support registration as it currently takes place in those cities. Those real estate information systems can support registration as it will exist under the new registration law, because the data elements contained in the database are basic to any registration system.

Thus, *perhaps the most fundamental goal of the REIS office is the creation of a computer system with a database to support registration,* either that which currently exists or a more unified system which may be authorized by subsequent federal legislation. The benefits of having such a system have been presented earlier in this *Manual.* The reasons for having such a system should be clearly articulated to all city officials and employees so they understand the fundamental purpose for which the REIS office is being created and why resources should be allocated to support it.

1.4 Create a Database which will Support the Creation of a Comprehensive Multi-Purpose Cadastre

As noted previously in the discussion of the benefits of the system, the REIS will contain the basic data upon which a comprehensive land information system can be built. These systems, sometimes called "multi-purpose cadastres," are composed of both graphic and tabular data and have powerful analytic software which allows data to be analyzed in many ways and displayed in both report (tabular) and graphic (map) form. These systems are very complex and expensive to build and maintain. No city should consider building such a system without a thorough analysis of the functions such a system is to support and a detailed plan outlining the steps by which such a system will be developed.

A multi-purpose cadastre (Figure II.1) is composed of essentially three levels of information:

- The legal or juridical cadastre, which contains information relative to land parcels (or other real estate objects) and their ownership.
- The fiscal cadastre, which contains data required for land or real estate object taxation. This includes data items such as property valuation, detailed data regarding the improvements on the land, and tax rates. The fiscal cadastre is linked to the legal or juridical cadastre so that data in them can be shared.[1]
- The physical attributes, or data regarding the land itself -- characteristics such as soil type, slope, type of vegetation, use of land, land-use restrictions, and other physical characteristics.

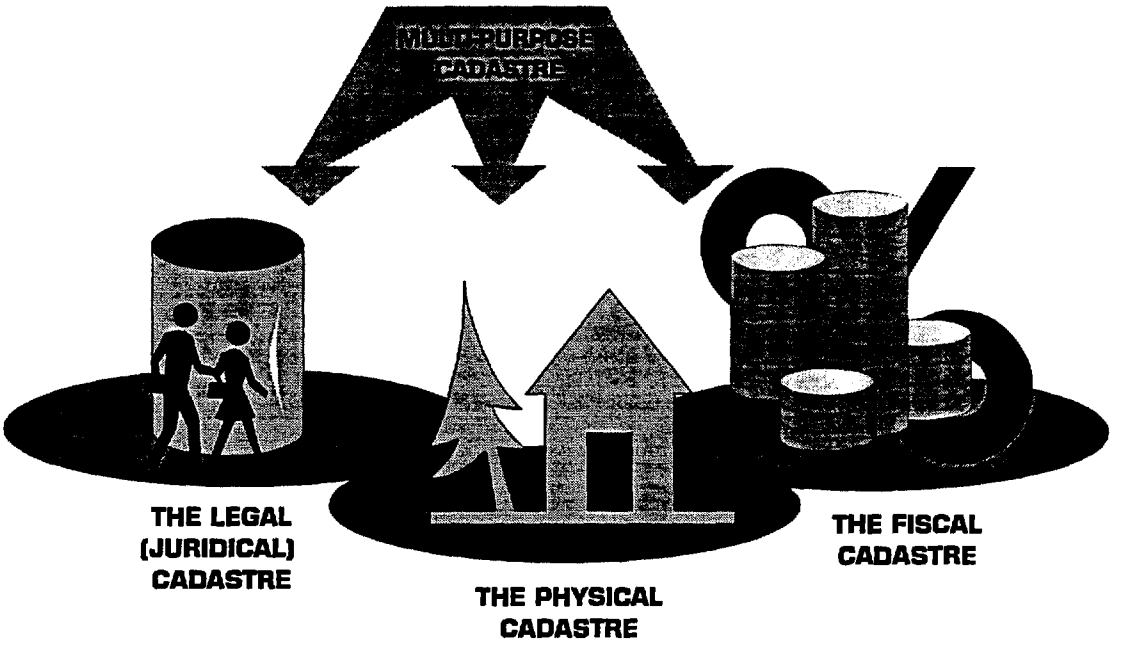

FIGURE II.1 : THE MULTI-PURPOSE CADASTRE

Obviously, not every jurisdiction will develop all three types of data. In particular, the physical attributes may be more suited for rural areas where soil, vegetation and mineral characteristics are more important than they are in urban areas. However, the particular data items included in the cadastres are not as important as the development of a multi-purpose cadastre for each municipality with the data items it requires to meet its particular needs.

[1] The taxation system currently under development in Tver is one example of such a fiscal cadastre.

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TYPES OF DATA IN THE MULTI-PURPOSE CADASTRE

GRAPHIC DATA are data taken from maps, site plans, floor plans or other cartographic sources. Graphic data are generally converted to digital form by either one of two means. One is *digitizing*, which consists of tracing along the lines on a map with a digitizing puck mounted on a large electronic device called a *digitizing table*. As the puck moves over the lines the electronic signals are stored in the computer with coordinates to show the location of the lines in relation to each other. *Scanning* is an alternate method for digitizing cartographic data. Maps can be read by a *scanner*, an electronic device which senses the lines and other markings on a map and converts them to digital form.

Data converted by digitizing are generally in vector format, which means that the lines "know" where they are in relation to each other. This "intelligence" in graphic data is known as *topology*. Data which have topology can have attribute data linked to them. Thus parcels can have attribute data such as owner's name, value, use, land area, etc. attached to them. Lines representing roads can have data such as route number, width, number of lanes, type of construction and date of last maintenance. Vector data permits the creation of powerful *geographic information systems*.

Graphic data converted to electronic format by scanning are not intelligent; they have no topology. Scanning creates a *raster image*. A raster image is composed of pixels, microscopic dots which have varying degrees of color. Together, the pixels form the image, the same as the picture on a conventional television screen. Raster images are not intelligent. However, in many cases raster images can be useful, either for the data they contain on their own or as backdrops for vector maps. For example, building floor plans can be scanned and stored electronically for use in determining the exact location of units in buildings. Aerial photographs or satellite images can be stored in raster format and used as a backdrop to vector maps of a city or oblast.

ATTRIBUTE DATA are data which describe graphic features with alphanumeric characters. The owner's name is an attribute, as is the street address of a parcel or building. Land use, soil type, construction type, building materials and building restrictions are all examples of attribute data. Graphic and alphanumeric data are required for a complete multi-purpose cadastre.

Development of the "Core" REIS, which will support the registration function, is the logical starting point for development of the multi-purpose cadastre. The multi-purpose cadastre cannot be built without the basic data on real estate objects. The basic tabular data which the REIS will contain describing the real estate objects, the documents creating and conveying rights in those objects, and the owners of those rights, are essential for development of the juridical cadastre and ultimately the multi-purpose cadastre. The REIS manager should understand the process by which the REIS can lead to development of the multi-purpose cadastre (Figure II.2), and communicate that vision effectively to other members of the city administration so they can share that vision and understand this crucial purpose of the REIS.

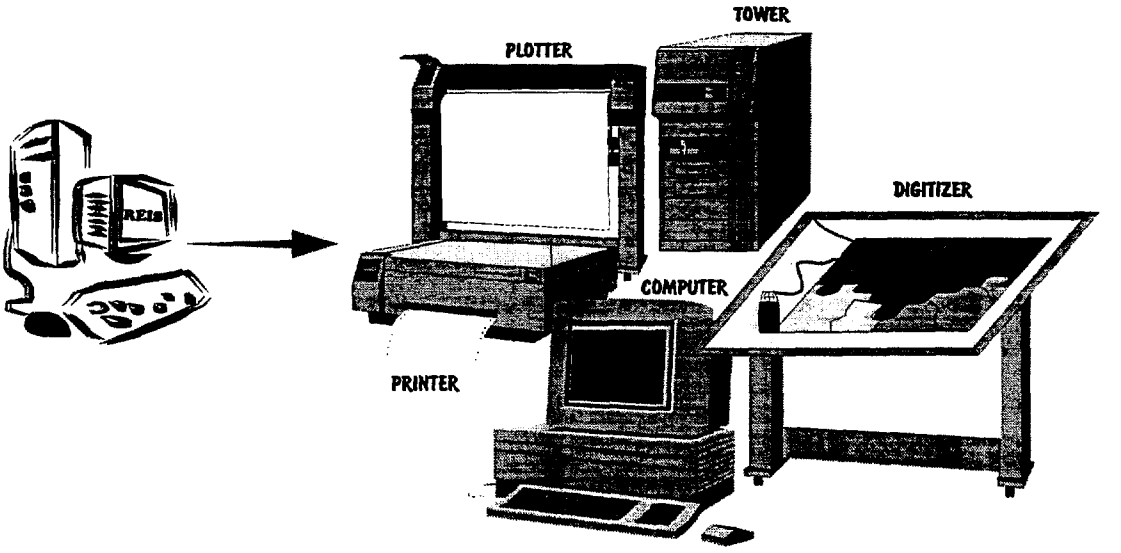


FIGURE II.2: DEVELOPMENT OF THE REIS INTO A MULTI-PURPOSE CADASTRE

1.5 Create a Database which Supports Creation of Products and Services that Can Generate Revenues in the Marketplace

As has been noted previously in this *Manual*, the REIS database can be used as a resource to generate a revenue stream for the city. The REIS manager must creatively and professionally develop products and services which will be needed and used by the clients of the system. Identifying needs of system clients is described in Chapter 2 of this Volume II, below. The purpose of this section is to identify in a generic fashion the kinds of products and services which may be developed from the REIS database.

Before discussing products and services, it should be remembered that the REIS office may generate revenues from fees imposed for lodgment of papers. If the REIS office is the office which accepts documents to be registered, lodgment fees should be imposed and at least a portion of those fees should be kept by the REIS office to sustain its operations and to provide for its future growth. If the REIS is not the office at which documents are lodged, then lodgment fees at the other offices should be shared with the REIS office because the computer system administered by the REIS office will support the operations of those other offices. It is only proper that a portion of the fees collected by other offices be shared with the office which provides their computer services. If need be, those fees should be raised to help support the REIS.

In addition to lodgment fees, revenues may be generated by creating products and services needed by clients of the system of the system. The REIS manager should distinguish between *products* and *services*. Products are generally standard, off-the-shelf items which have been pre-prepared in quantity or which can be produced quickly and easily by standard programs with a simple command to the system. Products generally have a low, standardized price and may be subject to quantity

discounts. Examples of such products are the reports which the REIS software installed in Pskov can produce in response to queries submitted by users.

Services are provided to clients for a fee, generally based on the length of time required to produce the service for the client. Some services may have fixed fees which reflect either the time generally required to for the service or the value of the service, or both. If the service has significant value, the price charged for the service may be set at a premium, giving the opportunity to generate significant revenues over and above the cost of producing the service.

If geographic information system (GIS) software is included as part of the REIS, significant opportunities may arise to provide GIS services to paying clients. GIS specialists are extremely valuable and relatively rare, and any city with a staff of GIS technicians and a relatively good graphic database can offer services to clients such as architects, engineers and developers. The GIS software can be used to identify proposed building sites, show patterns of development, locate areas which should be avoided for certain kinds of development, and otherwise provide detailed analyses of spatial phenomena. The demand for this type of service will not come as soon as the REIS is installed, but as the database matures and people are educated in the benefits of GIS, demand for this service will increase.

PRODUCTS:	
Reports:	Maps:
• Title reports	• Small-scale city maps
• Property descriptions	• Large-scale area maps
• Lists of properties	• Site Plans
• Lists of owners	• Building floor plans
• Address lists	

SERVICES:
• Customized reports
• Customized property listings
• Maps analyzing selected criteria
• Write programs
• Prepare copies of all or selected portions of the REIS database
• Provide training classes

1.6 Other City-Defined Goals that may be Developed

In addition to goals described in the foregoing sections, the city may define other goals for its REIS office. It is impossible to foresee at this time what such goals might be, but given the diverse nature of the cities of Russia, it is highly likely that the administrations of various cities will determine other goals for their REIS offices. So long as these other goals do not conflict with the major goals of the REIS office as set forth above, and as long as sufficient resources are made available to the REIS office for accomplishing its goals, city administrations should be able to delegate additional responsibilities to the REIS office.

2. Identify and Serve REIS Clients

The REIS should be developed to meet the needs of users of REIS data. The most important thing which REIS managers can do is to identify the needs of the users of the system and to work toward meeting them. If the needs of the users are met, they will support the system. That support can lead to the political support required for maintenance and expansion of the system.

REIS "CLIENTS"

The use of the word "client" in the heading of this Chapter 2 was chosen deliberately. Users will come to the REIS office to receive information which they will use to make significant business and personal decisions. Their needs must be considered by the REIS office as carefully as a professional such as a lawyer or accountant would consider the needs of legal or accounting clients. The information provided must be as accurate and timely as the office can provide. Personal service must be extended to those seeking information. If requests for information are not made clearly, the staff of the REIS office must help the clients put the requests in proper form so that the correct information may be provided. As clients of the REIS office gain confidence in the information they receive, the number of clients will increase and the level of revenues will rise. Thus, the REIS office will become a valuable resource both for the city and the individuals and juridical persons who use data from the system.

To a large degree, this requires an entrepreneurial attitude. REIS managers must "sell" the idea of the REIS to those who have the resources to create and sustain it. This includes both political leaders who must create it and support it initially through general revenues until it becomes self-sustaining, as well as those in the public at large who will purchase the information-based products and services the REIS will produce. REIS managers must show potential users how products and services generated by the REIS can benefit them.

This section of Volume II will discuss the needs of three types of REIS clients, and how the REIS might be used to meet those needs. Those clients are city government, the real estate community and citizens of the city.

CONDUCTING THE NEEDS ASSESSMENT

Conducting an accurate user needs assessment is a complicated task to be done by professionals who understand thoroughly the way to question personnel about their functions and their use of data in those functions. In order to properly serve the REIS clients, the REIS manager will need to assess their needs for REIS products and services. While not all of the following steps may be needed to assess the needs of each different type of client, each needs assessment should contain most of the following basic elements:

Step 1: Identify the Client

- Name of client
- Description of client
- Description of major functions performed

Step 2: Data Analysis

- What data is used by this client
- How is that data collected, stored, processed, retrieved and disseminated
- What data items are provided to others by this client
- What data items are needed by this client from the REIS, and for what purposes

Step 3: Analyze Software Requirements

- What software does the client currently use
- What functions are performed with that software
- What functions should be performed by software which are not now performed by software, such as:

⇒attribute data capture and storage
⇒on-line inquiry
⇒hard-copy reporting
⇒statistical and other data analysis
⇒graphic data capture and storage
⇒graphic data query
⇒plotting
⇒graphic data analysis and manipulation
⇒etc.

Step 4: Analyze Hardware Requirements

- CPU requirements
- Monitor requirements
- Printer/plotter requirements
- Scanner/digitizer requirements

Step 5: Analyze Communication Requirements

- Network operating system requirements
- Server requirements
- Client requirements
- Line speed (modem/phone line, T1, fiber optic)

Step 6: Analyze Legal/Institutional Requirements

- Identify institutional changes required
- Identify new laws/ordinances required to implement changes

2.1 City Government

The local government of the city in which the REIS is established should be the REIS office's most important client. There are several ways in which the REIS office can serve the city. Because this *Manual* is being written to give city officials, including the REIS manager, guidance in how to develop and implement the REIS, the specific ways in which the REIS will serve the city are discussed throughout the *Manual*. The services which the REIS can offer the city are as follows:

- build the core real estate information system to support real estate activity, thus strengthening the market economy in the city (discussed in detail in Volume 4);
- develop procedures to make the flow of real estate data among the various real-estate-related offices in the city more efficient (see Chapter 3 in this Volume, below);
- expand the REIS over time to become a true multi-purpose cadastre and fully functional land information system (see Section 1.4 of this Volume II and the discussion in this Section 2.1 of Volume II); and
- take the lead role in formulating policies for access to land information developed and stored by the city (see Section 4.5 in Volume I and Sections 1.2 and 1.5 in this Volume II).

Meeting the City's Needs

As the city administration will most probably fund the REIS development, at least initially, the REIS should give high priority to providing the services required by the city administration - both those mentioned here and any others which the city may require.

The REIS office should prepare an implementation plan to guide the development of the multi-purpose cadastre. The implementation plan should emphasize two important considerations in system development. One of those concerns is *incremental development (Figure II.3)*; the other is *getting usable output from the system as quickly as possible*. Development of a comprehensive land information is expensive and takes time. Decision-makers do not want to commit funds to a project if they are told that they can expect nothing from the systems for a year or more. To obtain funds, tangible outputs should be produced as quickly as possible to generate return on the investment. Thus the two components, incremental development and generating output as quickly as possible, work together and reinforce each other.

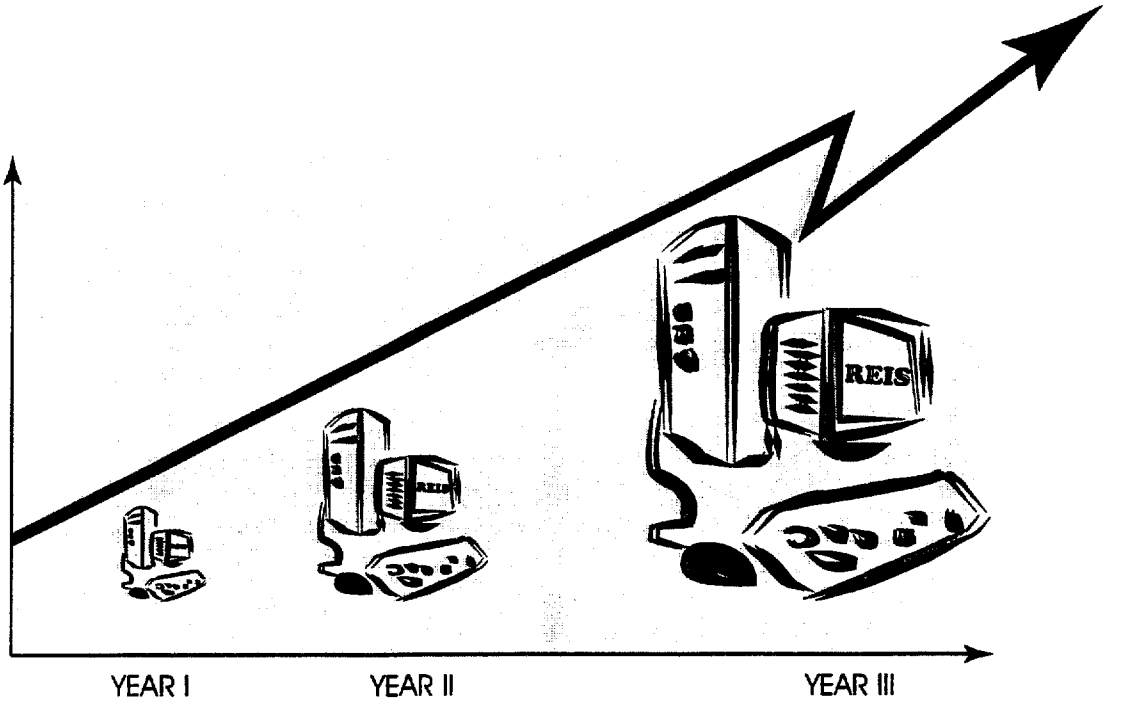


FIGURE II.3: INCREMENTAL DEVELOPMENT OF THE REIS

There are essentially two ways to approach the incremental development of the land information system or multi-purpose cadastre. One is to build the system by data type; the other is to build all components of the system for specific areas of the city. The two approaches may be illustrated as follows:

Assume that the city has determined that it needs a comprehensive raster database of the existing maps of the city. Assume further that those maps are available in paper form and that scanning technology is available to the city, so that the maps may be scanned and converted to digital format. The city would then order the appropriate office to scan the maps and create the database. This would involve not only scanning the maps but also registering them to a geodetic grid, cleaning the scanned maps and otherwise preparing them to be usable. Assume further that the city's resources are limited so that it cannot undertake other work for the development of the multi-purpose cadastre when this scanning is taking place. When the scanning of the maps is complete, then the city will select another kind of data to convert to digital form and build the database in that fashion. This is an example of building the database by layer.

The other way to build the database is by section of the city. Assume for example that a certain area of the city is the subject of intense interest. It may have vacant land which is awaiting development. There may be a section of the city which requires substantial investment in its infrastructure because of age and deterioration. Perhaps an agency such as the World Bank plans to make a substantial investment in a certain area of the city. For any number of reasons, this area has been targeted for special attention. In order to meet the needs which have been identified, new mapping and information resources are needed for this area.

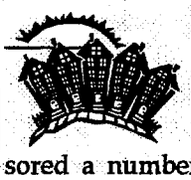
In this case, then all the data required for the land information system will need to be entered for this limited section of the city. Maps should be scanned or digitized, building floor plans scanned, and attribute data from BTI and Land Committee files entered and attached to the appropriate graphic features. The attribute data should not only contain the data in the REIS but also data regarding taxation, soil conditions, infrastructure and land use. By converting all this data to digital form and storing it in the multi-purpose cadastre, a powerful tool for planning and resource management can be created to assist in the development of this section of the city. When this work is done, data for another section of the city can be entered, and so on until the database is created for the entire city.

If the city is committed to use the REIS as basis for developing a multi-purpose cadastre or comprehensive land information system, the REIS manager will need to determine, in consultation with other city officials, the optimal way to develop the system. Preparing the implementation plan will be a significant part of the work of the REIS manager.

2.2 The Real Estate Community

The real estate community should be a key supporter of the REIS office. The members of the real estate community have much to gain from the successful operation of the REIS. The REIS manager will need to consider the needs of this community, treat real estate professionals as clients of the system, and do for them as much as possible, subject to the overriding needs of the city administration.

There are two types of outputs which the real estate community should expect from the REIS. The first is accurate data. There are many types of accurate data which the real estate community needs. One is data regarding potential building sites. If the REIS graphic and attribute databases are properly designed and have the correct data and software, the REIS can identify potential building sites, based on criteria supplied for any given query.



Dialog between the City and the Real Estate Community

At the end of the REIS project, Chemonics International sponsored a number of round-table conferences at which real estate professionals and city officials discussed the REIS implementation and the needs of the real estate community for data from the system. These round tables enabled the participants to communicate in ways not done before, and were found by them to be extremely valuable. Holding such round tables is one way to begin the needs assessment process.

The second need for accurate data is in the conveyancing process. The REIS office should be the focal point for public access to land and real estate data in the city. Real estate brokers will use the data in the REIS database to assist them in identifying owners and others who have interests in properties to be sold or otherwise transferred. This information will make it easier to prepare the correct documents, execute the actual conveyances and resolve issues regarding the rights of third parties who have claims against the property being conveyed.

The data given to realtors should be provided in the form of products and services designed to meet their needs. Reports and maps can be prepared from standard programs written to produce these reports and maps on demand. This will make the

work of the REIS office more professional and reduce the work which its staff must do in order to meet these requests.

These products and services are valuable and should not be given away free of charge. For members of the real estate community, obtaining these products and services is a legitimate cost of doing business which can be passed on to their customers. The prices for these products and services should be set pursuant to the comprehensive land information access policy which the Land Information Board should set with the assistance of the REIS manager.

The second kind of support the real estate community should expect from the REIS is the development of procedures which will meet the needs of both real estate professionals and their clients for speedy, efficient service. An example of this is found in the case of owners of interests in real estate objects who live in distant cities. Often when they come to the city in which their real estate is located to transact business, they have at most one day to complete the transaction. This means that procedures should be developed to insure that transactions can be completed in one day. This kind of responsiveness to user needs will result in a more smoothly functioning real estate market and a resulting improvement in economic activity in the city.

2.3 Citizens

To a large degree the needs of the citizens are co-extensive with the needs of the real estate community because the real estate community should ultimately benefit the citizens, who are its customers. However, individual citizens may have needs for data which distinct from those of real estate professionals. Two possible needs may arise:

- First, citizens may need public access terminals with easy-to-use menus so they can readily access data regarding their own properties or properties in which they may be interested. Sufficient terminals should be made available so that waiting times for the terminals are minimized. If a city has BTI offices in different raions, as some of the larger cities do, then perhaps public access terminals could be placed in each of the raion BTI offices.

- Second, some citizens will need assistance in obtaining more data than they can receive through public access terminals alone. For this reason there should be a *reference desk* where knowledgeable staff can provide answers and assist with processing requests for information. If citizens have queries which cannot be answered through the standardized access screens, then the "help" staff can use more sophisticated search tools to obtain the answers. Staff could also perform queries using geographic information system software, which is beyond the ability of most citizens to use without substantial training.

Thus, at a minimum, citizens' needs for data should be met by public access terminals and by a trained staff of experts who can assist them in obtaining data not available through standardized queries of tabular data on the public access terminals. As the REIS matures, other means may be established to meet citizens' needs for data.

The approaches taken by different REIS pilot cities in educating the public regarding the information available from the REIS are compared in Part 3 of Table II.2.

3. Coordinate Work with Other Land Information Agencies

One of the difficulties noted by some of the participants in the REIS projects in the pilot cities was that the REIS did not shorten procedures and make the work of obtaining real estate information easier. Indeed, sometimes the introduction of the REIS meant not only additional work for the supposed beneficiaries, but also increased fees for the same documents and information.

In order to increase user acceptance of the REIS, it is important that implementation of the REIS not cause additional work for the users of the system. This will require the analysis of all procedures regarding the lodging and processing of papers for the privatization of real estate objects as well as their sale in the secondary market. Existing procedures may need to be changed or even eliminated to prevent duplication with the REIS. While the procedures in each city may be different, making the prescription of standard procedures in this manual difficult or impossible, the following principles should guide the development of any new procedures, rules and regulations for paper flow and data collection among the REIS office, the BTI, the Land Committee and the City Property Committee:

- ***Treat collection, storing, processing and dissemination of land information as an integrated system.*** At the present time, due to historical circumstances, land and real estate information is collected, stored, processed and disseminated by several different agencies. This causes managers of those offices to view the land information for which they have responsibility in narrow terms, defined by the boundaries of their own offices. This narrow, agency-bound view must be discarded so that the collection and maintenance of land information can be viewed as an organic whole. Only by viewing land information in this way can more efficient procedures for managing land information be developed.

- ***The system exists to serve people; people do not exist to serve the system.*** Procedures need to be developed from the perspective of the customer or the client of the system. The persons charged with the responsibility for drafting the rules must think of the rules from the perspective of the people who will use the system, lodging papers and requesting information. What will make sense from their point of view? How can the procedures be designed to make the process easier and simpler for them? How can duplication of effort be eliminated?

- ***Centralize the filing and data capture processes.*** One way in which the system can be made easier for the users is to centralize the lodging of documents, assuming this can be done without imposing burdensome travel requirements on people who were used to local filing offices in large cities. By centralizing the lodging and inquiry functions, users of the system can satisfy all requirements associated with privatization or conveyancing by visiting just *one* office and transacting all their business there. This kind of convenience makes the system much more acceptable to the users and generates the kind of support which elected officials need.

- *Use computing resources and technology to do the work.* Creation of the REIS office will not eliminate the functions of the other land-related agencies such as the BTI and the Land Committee. It is not intended to. Consequently, some or all of the data collected and processed at the REIS office must be sent to those offices so they can use that data for their own purposes. Clients of the system should not be expected to take their applications or other documents to those offices so that they can receive the data they require. Clients of the system should be required to visit only one office to lodge their documents. With the data entered into the system once, at the REIS office, the data can be transmitted to the other offices, either over a communications network or by manually carrying disks or tapes with the data to the other offices. With the computing resources that are available, it is not necessary for people to walk from one office to another to make sure that data gets where it needs to be. The system should be able to do that automatically.

- *Break down barriers to data sharing.* Relational data base technology, cartographic drawing software and powerful spatial analysis tools have combined to create powerful analytic systems for land information. When all real estate databases are combined using these software tools, the whole is much, much greater than the sum of the individual data items. This benefit of a database which has more utility and value than the individual data items or even individual databases maintained by separate agencies can only be created if barriers to data sharing are broken down and the data flows freely among all agencies. This is the only way disparate data items can be combined and the power of the combined data can be realized. Data flows among land-related agencies must permit enhanced data sharing. Hoarding of data cannot be permitted.

If these principles are followed, redundant procedures can be eliminated, work flows can be streamlined, users will find interaction with the system more efficient, and greater data sharing will result. Everyone will be a winner.

4. Integrate Existing Computer Systems with the REIS

Many, but not all, cities in Russia have existing digital databases containing data from the BTI, Land Committee and other land-related offices. When the REIS is developed in these cities, decisions will need to be made regarding integration of the data in those systems into the REIS and development of procedures which will smoothly integrate the operation of the REIS with the operation of those offices (Figure II.4). Those coordination issues were discussed in the preceding section. This section discusses the issues of computer system integration.

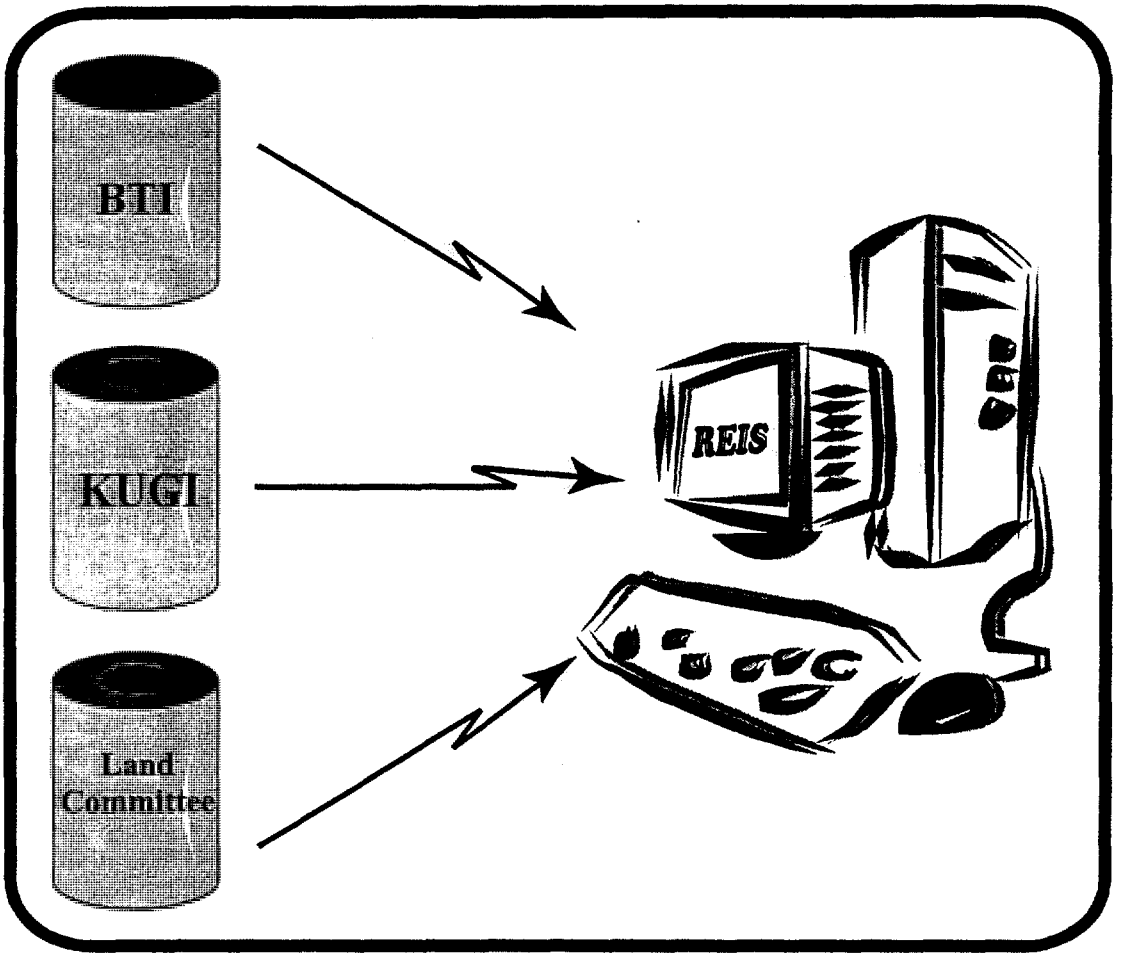


FIGURE II.4 : INTEGRATING EXISTING COMPUTER SYSTEMS WITH THE REIS

Three topics arise when considering how to integrate the REIS with existing digital databases:

- Identify databases which can be merged into the REIS database
- Define and implement quality control/quality assurance procedures
- Prepare data migration plan.

Each of these topics is discussed in turn in the following.

4.1 Identify databases which can be merged into the REIS database

The REIS is designed as a separate system, intended to act independently in storing and processing data from transactions regarding real estate objects and the rights which are created in them. It is not designed to serve other purposes, such as to contain all inventory of real estate objects or to support real estate taxation. However, as databases to support those functions are developed, the REIS can be linked to them so that data in one database can be related to the data in the other databases.

Because the databases can be linked together using relational database technology, *it is strongly recommended that a comprehensive, all-encompassing database* ***not*** *be created for*

all land information in the city. Huge, multi-purpose databases are often unwieldy and very slow when processing data or responding to queries. Maintenance of the database will also be more difficult. Figure II.5 shows the essential data elements of which, in most cases, the REIS database should initially consist.

Nevertheless, there may be some valid reasons for combining at least some of the smaller databases into a larger database, if that database is carefully designed and data input and verification issues are properly addressed. It is suggested that the city develop a policy regarding the merger of land-related databases so that these *databases are only merged when there is a clear need to do so* and strict rules regarding file size and number of data items in the database are followed. This will prevent the database from growing too large and unwieldy.

The policies of various REIS cities regarding the data which should be included in their REIS databases are contrasted in Part 4 of Table II.2.

4.2 Define and Implement Quality Control/Quality Assurance Procedures

This discussion pertains both to transferring data from other sources into the REIS database, and to entering data directly from source documents into the REIS database.

Quality control procedures must insure that the data are entered into the database in an accurate and timely fashion. Quality assurance procedures concern the sampling procedures used to verify that the data has in fact been entered in such a way that errors are kept to an acceptable level, whatever that might be determined to be.

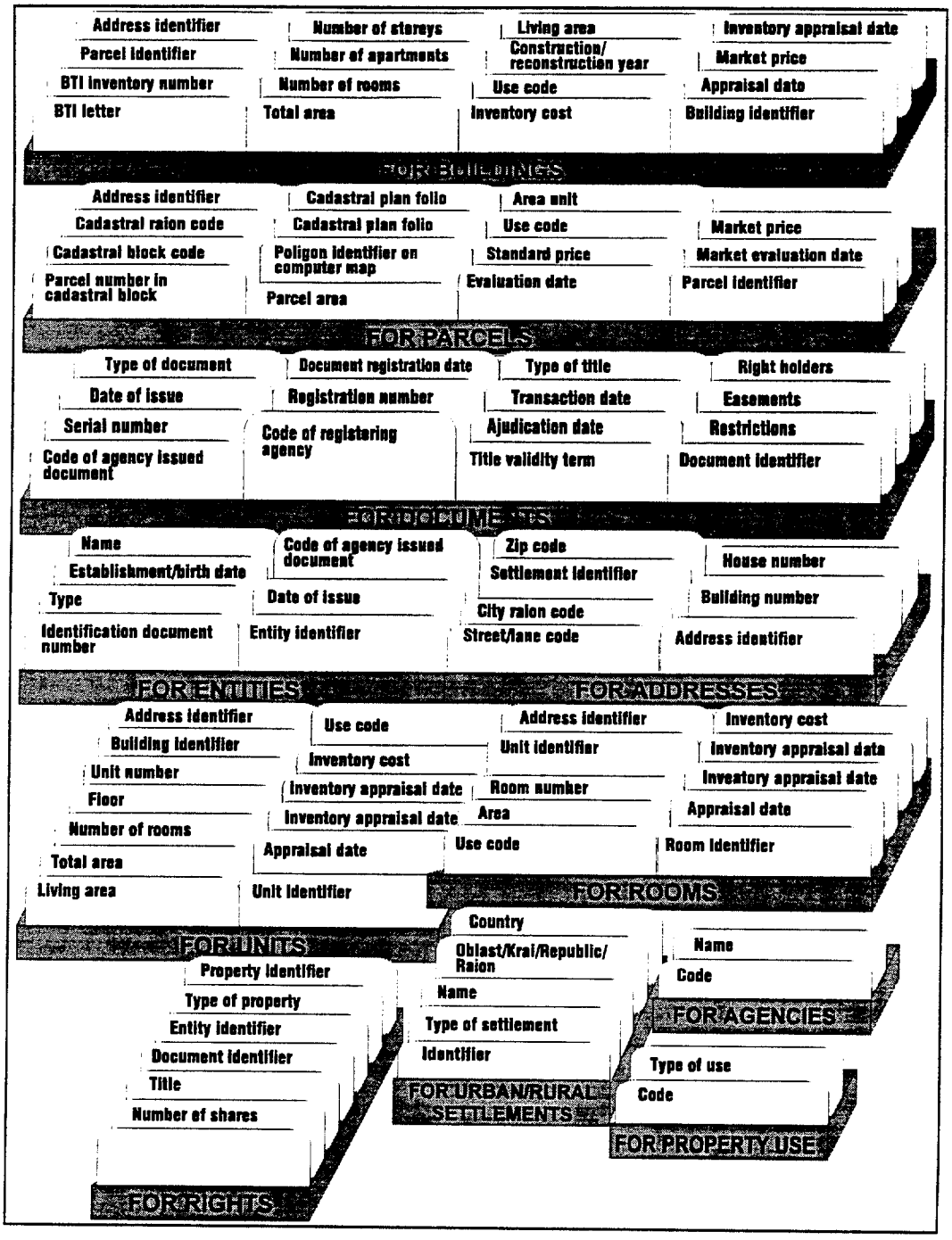


FIGURE II.5: SUGGESTED REIS DATA ITEMS

The quality control procedures must include methods to insure that each document from which data must be taken is sent to the proper work area for data entry and that no documents are lost in this process. Once at the data entry site, the procedures must insure that the data is entered correctly. One way to insure this is through a "dual-entry" procedure, whereby the same data are entered into the system twice. The first time the data are stored in a temporary file; when the data are entered the second time a comparison is made to insure that they are identical. If not, the system will force the operator to make a choice between the data in the temporary file and the data which were entered the second time. After all data items have been entered the second time and the operator has indicated which data are valid, the correct data are posted to the file. This is the easiest, most fool-proof method for insuring the integrity of the data.

If the dual entry method is not used, a second operator will need to manually verify from the source documents that the original data were entered correctly. This verification can either be done on the screen or from a printed copy of the items in the database. Verification on the screen would probably be more efficient because it would permit data correction as soon as errors are detected.

Data quality assurance procedures involve, first of all, determining the acceptable number of errors in the database, and second, checking the database periodically by sampling to determine the types and sources of errors. If the number of errors found is at or below the acceptable level, then data entry procedures are apparently effective. If the number of errors is higher, then a review of the data input procedures must be undertaken to determine the cause of the high level of errors.

One of the problems of incorporating data from other databases into the REIS is the problem of data quality. It is possible to develop quality control/quality assurance procedures for the REIS because it is a new system and those controls can be built into the procedures of the system. However, there is no guarantee that data in the other systems were entered with the same level of accuracy and care, and therefore combining those databases with the REIS database may lower the standards of data quality found in the REIS database.

4.3 Prepare Data Migration Plan

The data migration plan is the document which guides the merger of other databases into the REIS database. The data migration plan should contain, at a minimum, the following elements:

- a description of the databases which are to be moved into the REIS database;
- a timeline showing the sequence by which those databases will be transferred into the REIS database;
- the technical considerations involved in moving one database to another, including questions of format, file structure and data encoding;
- data validation/quality control considerations; and
  a description of any institutional/procedural changes which may need to be made because of the merger of the other databases into the REIS database.

5. Identify Financial Sources

Funding of the REIS office is a matter of obvious concern. A considerable initial expense will be involved in establishing the REIS office. Offices must be found and repaired, furniture selected and purchased, computer equipment procured, staff hired and trained, data converted to digital format, forms printed and supplies acquired. All this will be expensive. Finding the resources to pay for this will not be easy.

Reference was made in Volume I to the business plan. One component of the business plan is the financial plan which indicates the sources of the funds for operation of the REIS office. There are probably three main sources of funds for the REIS office. One source is to use monies currently spent on certain functions to fund the same functions if they are transferred to the REIS office. For example, if persons from BTI and the Land Committee work in the REIS office to process documents there, those persons can be funded by their agencies and not by the REIS office. If agencies donate equipment or furniture to the REIS office, or if employees assigned to the REIS office from other agencies bring their desks and other office furniture with them, this also constitutes support of the REIS office from existing budgets. Thus, monies spent on existing personnel or equipment can be used for the REIS office, at no additional cost to the city.

A second source of funds is additional appropriations from the city budget. These funds may be required to acquire the office space for the REIS, provide for equipment and supplies, and to cover the cost of hiring new personnel. While expensive, it may be necessary in order to start operation of the office.

The third source of funds for the operation of the office is the fees generated from the work which the office performs. There are two principal sources of fees. One is from the fees paid for lodging documents in the office. Throughout the world, in many offices similar to the REIS office, lodging fees generate revenues which not only cover the costs of the operation of the office, but also return funds to the general treasury. If the volume of lodgings in the REIS office is sufficiently high, and if the fees are set at an appropriate level, the REIS office could produce the same result.

The second source of funds from fees is the selling of products and services. The REIS database will be a rich source of data on all types of real estate objects. In addition to fees generated from the issuance of *spravki*, fees can be generated from the sale of reports, data lists, and copies of portions of the database. If GIS capabilities are included as part of the REIS, maps and graphic analyses of the data could be produced as well. While privacy considerations must be respected, the data can be processed so that good analyses can be performed while maintaining the privacy of individuals. The sale of products and services cannot start as soon as the REIS opens, but as the database grows in size and complexity the sale of products and services can become a source of funds if managed properly.

The approaches taken by different pilot cities to obtaining REIS funding are compared in Part 5 of Table II.2.

6. Provide Appropriate Staffing

Staffing of the REIS office will be dependent on the functions which the REIS office is to perform. Because there will undoubtedly be variations among the cities in the functions the REIS office performs, no one staffing plan can be prescribed for the REIS office. However, the generic pattern observed in the REIS pilot cities is that the REIS office or Registry has a director and a staff divided between two units - the registration unit and the technical unit. The registration unit is responsible for the procedures and operations of registration, while the technical unit is responsible for the computer system. The following descriptions show the kinds of positions which may be included in the REIS office, and the skills, education and experience required to fill them. The way different pilot cities provided REIS training are compared in Part 6 of Table II.2.

6.1 REIS Office Director

6.1.1 Responsibilities

- Manage all REIS implementation activities, including system and database design, system acquisition, implementation, system maintenance, and database development
- Manage all system contracts
- Manage system operation and maintenance
- Develop annual REIS budgets
- Report on progress of REIS operations to the Head of the Registration and Technical Inventory Unit
- Assign and supervise all REIS personnel
- Develop and implement a training program for REIS personnel
- Establish and maintain liaison with REIS users and data providers throughout the City

6.1.2 Skills

- Project management
- Personnel management
- Contract management
- Information system management
- Database and GIS concepts and technical issues
- System development and implementation methodology
- Data communication network concepts

6.1.3 Experience

- Three to five years of information systems management, including database management and applications, system development and implementation methods, project management and personnel supervision
- Familiarity with GIS concepts and technology
- Management experience as a project manager or senior manager in a large-scale system development and implementation project

6.1.4 Training

- University degree in information technology or computer science
- Supplemental training in GIS, project management, database applications and programming, and data communications

6.2 Attorney/Registrar

6.2.1 Responsibilities

- Define procedures for paper flow and document evaluation
- Review documents submitted for compliance with legal requirements and REIS office rules and procedures
- Discuss problems in documents with REIS office clients

6.2.2 Skills

- Ability to define procedures for proper document processing
- Knowledge of real estate conveyancing and substantive law
- Excellent oral and written communication skills

6.2.3 Experience

- Five years experience as a practicing real estate attorney or notary

6.2.4 Training

- University or institute diploma in law
- Post-graduate training or continuing legal education in real estate law and procedures

6.3 Systems Administrator

6.3.1 Responsibilities

- Develop and manage system management procedures
- Specify and maintain system access privileges and security levels
- Manage mass storage disk allocation
- Maintain file systems and directories
- Perform backups of applications and databases
- Manage communications network
- Troubleshoot system problems
- Maintain system hardware and software
- Maintain liaison with system hardware and software component vendors
- Manage system maintenance contracts
- Manage application development tasks
- Provide system consulting services

6.3.2 Skills

- Thorough knowledge of personal computers and their operating systems
- Thorough knowledge of database systems development and programming, database management, system utilities, and data communications
- Thorough knowledge of system management procedures
- Thorough knowledge of system documentation manuals
- Application programming
- System maintenance

6.3.3 Experience

- Two to four years as a programmer/analyst, with emphasis in database programming on a distributed system
- One to two years as a systems or database administrator

6.3.4 Training

- University degree in information systems or computer science
- Additional training in GIS, system maintenance, system management, data communications, and database applications development and system design

6.4 Database Administrator

6.4.1 Responsibilities

- Design and manage database administration procedures
- Develop database documentation procedures
- Maintain database documentation
- Prepare and maintain physical database design
- Manage database design change procedures
- Coordinate and oversee database development
- Establish database quality control procedures and techniques
- Manage database quality control
- Produce database entry forms, table definitions, and documentation
- Structure linkages between graphic and non-graphic data

6.4.2 Skills

- Database management software, structures, and programming
- Documentation preparation
- Database quality control procedures, concepts, and techniques
- Database administration procedures
- Familiarity with graphic database structures, both raster and vector

6.4.3 Experience

- Two to four years experience as a database administrator; at least one year of which was in a database environment
- Prior experience in database development and support, preferably in a database environment

6.4.4 Training

- University degree in information systems or computer science
- Additional training in GIS, system maintenance, system management, data communications, and database applications development, system design, and database administration

6.5 Programmer/Analyst

6.5.1 Responsibilities

- Analyze REIS user requirements
- Design REIS application programs
- Develop, test, refine and document REIS application programs and procedures

6.5.2 Skills

- System analysis methods
- Application program design and development methods
- In-depth knowledge of database application development techniques
- Knowledge of REIS functions and applications

6.5.3 Experience

- Two to four years of database application development

6.5.4 Training

- University degree in information systems or computer science
- Additional training in database application development

6.6 GIS Specialist

6.6.1 Responsibilities

- Obtain all graphic data required to support REIS operations
- Convert all required graphic data to raster or vector format, as appropriate
- Establish linkages between graphic and non-graphic databases
- Analyze GIS user requirements
- Design, develop, test, and document GIS application programs and procedures
- Develop GIS macros for use by non-technical personnel

6.6.2 Skills

- Systems analysis methods
- Employment of application program design and development methods
- Ability to effectively use GIS software
- Knowledge of GIS database concepts and structures
- Knowledge of REIS functions and applications

6.6.3 Experience

- Two to four years GIS application development

6.6.4 Training

- University degree in information systems, computer science, geography, or surveying
- Vendor-provided instruction in GIS software programming and database design
- Courses in manual and digital cartography

6.7 Data Control Coordinator

6.7.1 Responsibilities

- Supervise and monitor the work of the data entry staff
- Perform database quality control
- Assist in the development of quality control procedures
- Train new members of the data entry staff
- Maintain good working relations with all REIS data providers

6.7.2 Skills

- Understanding of the titling and registration process
- Understanding of the use of personal computers for data entry
- Ability to teach data entry and abstraction clerks how to perform their functions
- Ability to develop and enforce data quality control procedures

6.7.3 Experience

- Teaching experience preferred, preferably in a subject related to the use of computers for data entry
- Use of personal computers for data entry, word processing, and spreadsheets
- Personnel management and supervision experience

6.7.4 Training

- University degree, preferably in information or computer science
- Training in the use of personal computers and database software

6.8 Data Input Clerk

6.8.1 Responsibilities

- Copy, abstract, and prepare data for entry
- Enter data into the REIS database

6.8.2 Skills

- Understanding of the titling and registration process
- Understanding of the use of personal computers for data entry

6.8.3 Experience

- Use of personal computers for data entry, word processing, and spreadsheets
- Prior work experience in city government offices preferred

6.8.4 Training

- Graduation from school; university education preferred
- Training in the use of personal computers and database software

7. Provide Physical Facilities and Equipment

The REIS office must be provided with sufficient space to allow its employees to work efficiently and to accommodate the needs of the public. The office must also have sufficient equipment and furnishings. The following is a detailed list of the type of office space, equipment, utilities and furnishings which the REIS office will probably require for successful operation:

Furnishings	• Draperies/blinds for windows • Chairs and small tables for public waiting areas • Booth or counter for each registrar or intake clerk who will receive the applications and other documents presented by REIS clients; chairs and other amenities for REIS clients for use as they meet with the registrar or intake clerk • Desk, chair and small filing cabinet for each technical specialist and clerk • Desk, chair, filing cabinet, bookshelves for the REIS manager • Conference table and chairs for the work room • Steel shelving for the archive room • Filing cabinets for storage of internal papers for the REIS office • Book shelves and work tables as needed
Equipment	• 1 high speed, high volume copy machine • Computers, printers and communications equipment as per system design specifications (see Volume IV) • Digitizers, scanners and plotters for GIS applications as per system design (see Volume IV) • Optical disk or microfilm equipment for scanning documents for backup (if the REIS office is to perform this function)
Utilities	• Electrical circuits in sufficient number to support all equipment • Potable water for employees and clients of the REIS • Heating/air conditioning for central computer units (see Volume IV) • Bathroom facilities

Table II.1 : Facilities and Equipment Necessary for a REIS Office

8. Comparison of the Experiences of REIS Pilot Cities

The approaches taken by different REIS pilot cities are compared in Table II.2. This table is intended to identify some of the issues in several of the REIS pilot cities during the time frame of the project. The table indicates solutions to issues or results from actions taken in response to the circumstances. This is not an exhaustive list but a representative sample. Solutions are not necessarily those recommended in the Manual since the Manual was developed in a "best practices" methodology utilizing information from the pilot cities as well as from policies and practices effective in mature market economies with active real estate markets. It must be kept in mind that the Manual and this table do not purport to be a step-by- step procedure for establishment of a REIS or registry. It is necessary for readers to review the Manual and apply its concepts to the existing situation in their location.

ISSUE CITY	SOLUTION OR RESULT
1. COOPERATION AMONG AGENCIES Real estate information and registration are fragmented among many agencies. These agencies must cooperate, share information among themselves and with a REIS office. Initial steps involve political and legislation issues which must be resolved.	**GENERAL APPROACH** In general, each city administration issued a decree by the Head of Administration creating a project to implement a REIS and establishing a "Working Committee" responsible for the project. Representatives from each agency involved were appointed to the Working Committee and agreements were signed among the agencies. The level of political will determined the level of success in the pilot cities. A strong City Administration, willing to make and enforce the decisions involved in both commencement and implementation of a REIS, had more success than those cities in which the political will at the top was less able to require compliance with its decisions.
Yaroslavl	By decree of the Head of Administration, the relationship among the agencies was established and a Working Committee formed. Each agency signed a cooperation agreement with the others detailing the type of information which must be shared.
Barnaul	This pilot project took place over a four-month period. Decrees of the Head of Administration confirmed the REIS project and formed a Working Committee within five days of project inception.
Krasnodar	Although a letter by the Deputy Head of Administration established a Working Committee to implement a REIS, the issue was not clarified until nine months into the project because of difficulties scheduling the delivery of equipment to support the REIS office and the cooperating agencies. At that time, the Decree of the City Administration to establish the REIS was issued and agreements signed among the city agencies.

2. PUBLIC ACCESS TO INFORMATION Public access to information held by the REIS office is critical. Various city administrations were reluctant to develop a system permitting such access. This issue needed positive resolution since it was a pre-requisite to continuing the project.	**GENERAL APPROACH** Since public access to real estate information held in registration offices is the norm in virtually every market economy in the world, it was necessary to make the acceptance of this principal a pre-requisite to the project in each city. Several methods to provide access while protecting privacy were developed in each city. The so-called "ownership" issue of information maintained in the REIS office was generally resolved through the "transfer" of information ownership to the REIS office or the city administration. Fees will be charged in all cases for providing the information.
Nizhny Novgorod	The legislation creating the registration office follows the proposed federal law in that real estate information in the registration office is available to any person, subject to applicable rules and regulations.
Tver	Information held in the registration office is available to the public. As a precautionary measure, any person or entity requesting information must provide, as part of the application, its name, purpose of the request, address and phone number, together with other identification.
Yaroslavl	The city administration has taken the position that since the REIS office is a government agency, information contained in it is not "owned" by the city but rather by all the citizens. Therefore, public access will be provided to applicants and safeguards will be established to prevent misuse of the information.
Krasnodar	Information held by the REIS Center on specific real estate will be provided to any one who makes an application. The REIS Center will obtain the data from the agencies responsible for such data - such as the BTI or City Architect - and will provide the information to the applicant.
3. EDUCATING THE PUBLIC ABOUT BENEFITS OF THE REIS The success of a REIS involves educating the public and other users regarding the benefits resulting from its operation.	**GENERAL APPROACH** **Note: The approach used to make the public and other users aware of the REIS and to permit the administration to discuss the issues, benefits and plans was the same way in all of the cities in listed below. How to do this without incurring major costs was also resolved in the same way in all of the cities.**
Nizhny Novgorod; Vladimir; Krasnodar; Yaroslavl; Barnaul	Each city held a "round-table" meeting at which brokers, bankers, real estate specialists and others would be informed about the plans of the local administration, the purpose and benefits of the REIS Center, and the access they would have to it. These users were able to pose questions to city and agency administrators. This provided for very informative

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	interaction. The City Administration of Barnaul formed a special "Roundtable Committee" to continue the process.
4. INFORMATION IN REIS DATABASE The information contained in agencies like the BTI and Land Committee was vast. The REIS was required to be designed as a Registry. Since agencies providing information to a potential REIS office expected to use the office as well, the issue of what data was required in the electronic data base was disputed.	**GENERAL APPROACH** Each Working Committee was responsible to establish the parameters of the system's data composition. The information required to operate a registry is limited to approximately 25 items of information. This was eventually called "A" data. Additional data could be added under limited circumstances and would be called "B" Data. Data which was not even marginally pertinent to the use of the REIS as a registry was excluded.
Yaroslavl	The Working Committee, after long discussion and debate, agreed to utilize 25 items of type "A" data required to perform registry functions and approximately 27 items of type "B" data. The critical element which was emphasized was the determination of what would be necessary to quickly establish a working REIS office. The ultimate decision by the city was to greatly expand the data base. The result is that Yaroslavl is currently working to create a large, non-Core system prior to opening the REIS office.
Barnaul	The Working Committee accepted the concept of limiting data for the registry to essentially "A" data. Expanding the data using a modular approach, as described in the Manual, was also accepted. The key distinction is that Barnaul, like Nizhny Novgorod, Tver and Pskov, intended to establish a registration center and expand its responsibilities gradually.
5. REIS FUNDING The cost of developing and maintaining the REIS Office must be determined and funding sources established. Without adequate funding, the sustainability of the REIS is doubtful.	**GENERAL APPROACH** Each city prepared a budget with cost estimates for personnel, equipment maintenance, office space and supplies. The initial funding, except for equipment purchased by USAID, was segregated from the city budgets. Costs associated with equipment must be budgeted after the business plan is completed. Note: *The importance of an accurate business plan cannot be overemphasized*, particularly in light of the necessity to purchase equipment if it is decided to use a computer-based system.
Yaroslavl	The City Administration developed a budget for the first year of operation of the REIS office. This budget included estimated revenues from fees charged to users. The completed budget indicated that, if the assumptions were correct, the office will generate

	substantial net revenues which could be used for further expansion of the system.
Barnaul	Two budgets were developed which estimated costs and revenues under two scenarios: a large, multi-purpose office and a smaller, core operation. Based on the budgets, the city determined which form of registration and REIS office would be developed. Funds would be generated through fees charged to users.
Tver and Vladimir	The REIS Center is funded through the city budget.
6. TRAINING Training the experts and staff required to operate the REIS office and its computer equipment represents a cost and timing issue. The implementation of training in the pilot cities produced varying results.	GENERAL APPROACH Training on computer systems was scheduled and performed at local educational institutions. The training included basic to intermediate skills in Windows and Windows-based software. Limited GIS training was also provided. This initial training was considered useful; but subsequent, on the-job-training, utilizing the completed software in the operating REIS Center must be scheduled and the cost taken into consideration.
Nizhny Novgorod	Training in basic computer skills was carried out at the beginning of the project. Additional courses in more advanced skills and GIS took place as the project commenced. Timing and cost considerations permitted full training in REIS data entry only toward the end of the project.
Yaroslavl	A similar timing and cost situation arose as in Nizhny Novgorod. Basic, intermediate and GIS training took place early in the development of the REIS. Time and funds must be made available for end-of-project training on the equipment, software and office operations.
Vladimir	Over 90 persons were trained in basic and intermediate computer skills. GIS training was commenced toward the end of implementation of the project. On-the-job training was performed with select staff on data entry into the REIS.
Tver	Training was provided in stages. Initial training on basic computer skills was carried out early during the project. Management training of personnel was carried out during the implementation of the project. Training on the software applications, including GIS, was carried out following software development.

Table II.2: Sample Pilot City Issues, Solutions or Results

REAL ESTATE INFORMATION SYSTEM (REIS)

MANUAL

VOLUME III: LEGISLATION REQUIRED TO ESTABLISH A REIS

Moscow, 1996

This Manual was produced by
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Arthur Andersen/Chemonics/USAID/RPC

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Annex III.E: Federal Law on State Registration of Rights to Real Estate and Real Estate Transactions

Annex III.F: Legal and Legislative Resources

Preface

The legal and legislative environment in the Russian Federation is in a state of rapid evolution. The purpose of Volume III is to suggest an *adaptive* legislative approach, rather than the wholesale replacement of existing legal structures by new legislation. As has been briefly mentioned in Volume I, the establishment of a Real Estate Information System containing all the attributes of a future registry and the information required for it, is essentially a function of administrative change. Consequently, it is unlikely that a new 'law' will be necessary. Enacting a new law is essentially beyond the jurisdiction of a city administration. Fortunately, since establishment of a REIS is a function of adjusting current roles and responsibilities, this can be done by Directives, Orders or Acts, which the city administration does have the authority to issue.

Although this volume is intended to be read by lawyers and persons involved in legislative drafting, it is hoped that administrators and technical experts will read it as well, in order to gain an overall understanding of the organization and implementation of a REIS. To make this Volume accessible for non-lawyers, it contains information which the legal departments of any administration may find somewhat elementary. On the other hand, those not involved in legislative drafting and legal interpretation will benefit from some of the basic information provided below.

Finally, it is recognized because of the fluid nature of legislative and legal activity in the Russian Federation, some of the suggestions included in this Volume may become out-of-date.[1] For example, the enactment of a Federal "Law on State Registration of Rights to Real Estate and Real Estate Transactions" (attached as Annex III.E) will profoundly impact the implementation and operation of a REIS. Furthermore, conversion of a REIS to a registry must take into consideration the recently enacted Decree No. 475 of April 15, 1996 of the Government of the Russian Federation. Other laws and decrees may also affect the establishment and operation of a REIS office and may have to be addressed in the business plan [2]. Such events can be anticipated to a limited extent in the business plan by carefully monitoring pending and proposed legislation.

This evolutionary environment presents an opportunity for an administration to maintain a flexible approach. It represents a crucial reason why *the legal departments of city administration and those responsible for drafting local legislation should be firmly involved in the REIS planning from the beginning of the process.* In this way, they will be able to indicate potential legal issues that should be addressed in a timely manner, and will not be presented with a fully formulated plan which must be modified to reflect legal points which others may not have contemplated.

All technical terms used in this Volume have the meaning defined in the Glossary located at the end of Volume I.

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[1] This problem is unavoidable. To minimize the effect of rapid out-dating, the suggestions in this Volume are broad and the emphasis is placed on concepts. Nevertheless, Annexes III.B,C,D contain examples of actual legislation to provide a degree of specificity.

[2] See Volume I, Chapter 8.

1. Current Legal Basis Affecting Real Estate Ownership, Rights and Real Estate Administration in the Russian Federation.

The organization, implementation and establishment of a REIS office must take into consideration the realities of current legislation in the Russian Federation. The issues discussed in this Volume are based on two assumptions:

- First, that the absence of definitive Federal legislation relevant to land, mortgages and registration inhibits the resolution of many issues.

- Second, that the establishment of a REIS office and the regulations which govern its operation, including public access and cooperative information-sharing agreements among agencies, can largely be attained through administrative re-positioning of roles and responsibilities.

To recite the current law is not a useful exercise for the purposes of this Volume. Much attention has been given recently to the proposed laws on Registration, Mortgages and the Land Code. None of these laws have been enacted,[3] and current practices are governed by the Constitution and the Civil Code (Parts 1 and 2). In addition, several recent Presidential Decrees affect real estate transactions.[4] Annex III.A to this Volume contains a compendium of enacted legislation pertaining to real estate. Nevertheless, both enacted and potential Federal laws must be considered in the development and implementation of a REIS.

Ownership and possession of buildings have been permitted since the adoption of the Law on Ownership (1990). This was superseded by the Civil Code Part 1. The Bureau of Technical Inventory is responsible for recording information pertaining to ownership and possession of buildings and apartments. Ownership and use of land, on the other hand, are recorded by Land Committee. Other agencies record various data that may affect real estate in general, or rights associated with the real estate. [5]

Taking into consideration the above agency responsibilities, it is clear that there already exists an administrative system for recording information pertaining to land and buildings and for registering interests in both land and buildings. One result of establishment of a REIS is the creation of a unified method to *reliably identify* the real estate, the parties to real estate transactions, the real estate rights conveyed, the type of transaction and the accurate purchase price.

Most of the basic information for development of a REIS which is accessible to the public exists already. However, two important components have not yet been implemented. The first is reliable mapping [6] and the second is *a link between land and*

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[3] The draft Law on Registration has been approved by the Duma on July 19, 1996. The Mortgage law is under consideration.

[4] Particular reference is made to the Civil Code Part 1 (1994) and Section 7 of the Civil Code Part 2 (1996); Presidential Decree No. 198 "On the Right of Ownership of Individuals and Corporations to Land Plots under Real Estate Units in Rural Areas" (1996); and Presidential Decree No. 293 (February 28, 1996) "On Additional Measures for Development of Mortgage Lending".

[5] For example, information concerning servitudes or other easements can be normally obtained at the City Architect's Office.

[6] Implementation of a GIS is not a necessary part of the Core REIS, and will not be dealt with in this Volume. Its exclusion does not, however, detract from its ultimate importance to the operation of a reliable cadastre system.

structures. The primary legal issue in establishing a REIS is that of coalescing the tasks of registering and recording certain real estate information in one facility which efficiently administers such data to provide the government and the public access to accurate, up-to-date information.

The dominant concern of the REIS office is the administration and dissemination of such *selected* real estate information. This is an important distinction. *The purpose of the REIS is not to supersede any other agency, but rather to consolidate in a central office particular information and perform tasks critical to the functioning of an active real estate market.*

1.1 Merging Land and Building Information in the Core REIS.

Before proceeding to suggested legislative solutions, it is necessary to address the primary concept: what is the usefulness and purpose of a REIS office which possesses all the attributes of a registry.

In broad terms, the purpose of any legislation affecting real estate is to secure the best management of the real estate as a resource. Volume I discussed the economic advantages inherent in the establishment of a REIS office. To reap these economic rewards, certain legal and legislative initiatives must be undertaken. The legislation which affects the establishment of a REIS will to a large extent determine whether the REIS office will duplicate current practices and, therefore, merely become one additional agency; or whether its establishment will result in streamlined public access to real estate information and remove the inefficiencies inherent in the present fragmented system. The legal documentation must always keep in mind that real estate information should be treated as a resource that must be administered in the interest of all its users.

Merging Information on Land and Buildings in the Core REIS

The definition of real estate as "land and all structures attached to it" forms in market-oriented real estate systems the basis for accurate and cost-efficient identification of land, structures and all associated rights. For the purposes of the REIS office, the merging of information concerning land and structures is a critical component. It will enable the Core REIS to perform the functions of a registry, once appropriate legislation has been enacted on the Federal Level. At the same time, other agencies will retain their responsibilities to keep accurate data, but will not need to be involved with public access except as an auxiliary source of information if disputes arise from REIS-based data. The compiling of Core data which can be certified by the REIS office as accurate will provide to the city administration a quick source of income.

To promote increased activity of the real estate market, *the method of recording information that distinguishes and separates land from the structures on it must be eliminated.* The Civil Code Part 1 refers to real estate as "land and all structures attached to the land". This concept can be administratively implemented during the establishment of a REIS office. The installation of a *market-oriented* office responsible for the collection and dissemination of real estate information requires the elimination of the artificial separation of land from the structures located on it.[7] Buyers, sellers, investors and

[7] The draft Law on Registration defines "real estate" by referring to sections 130 and 131 of the Civil Code, Part I which, as previously mentioned, combines land and structures in one definitional concept.

other government agencies will save time and money if they can obtain the information necessary to establish the location, associated legal interests and physical descriptions of real estate in one central office.

The next Chapter reviews the issues of legal basis and legislative initiatives which must be considered and resolved to establish and operate a REIS.

2. Legislation: Establishment and Operation of the REIS

Following the decision to proceed with the implementation of the business plan and establish a REIS, the legal basis must be enacted for establishment and operation of the REIS in conformity with the strategic goals of the business plan.

Several methodologies for establishing legal basis for the REIS have been utilized to date in different jurisdictions. Examples from Nizhny Novgorod, Pskov and Krasnodar are shown in Annexes III.B, III.C and III.D. The methods chosen vary from the enactment of temporary laws on registration (case of Nizhny Novgorod),[8] to administrative acts that reorganize roles and responsibilities of existing agencies (case of Krasnodar). It must be emphasized that there is no "right" method to achieve the goal of a Core REIS and its future expansion. However, the legal basis should be established keeping in mind both pending Federal legislation and the ultimate purpose of the REIS.

How large a REIS should the legal framework aim to create?

On the one hand, the REIS should always supply at least the information which is provided by a registry. Without this minimum data, the REIS cannot be easily converted to a registry. The minimum data required is discussed in the Annexes to Volumes II and IV. Furthermore, the Core REIS data base should contain the information needed by buyers, sellers, investors, banks, the tax authorities and other administrative entities to make investment and valuation decisions. On the other hand, *the legal provisions should not establish a REIS which will collect all the information held by every other agency.* This will only create a complex and expensive data base which does not focus on the information of immediate interest to the real estate market. More importantly for an administration, *the time, effort and expense in creating the software and compiling the vast amount of non-REIS-relevant data held by other agencies will substantially delay revenue generation.*

If the foregoing caution is kept in mind, the legal initiative to create the REIS office:

- will establish an office which is accessible to the public and other users of the information;
- will quickly start generating income for the administration;
- will not conflict with current or pending Federal legislation; and

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Therefore recording land and its attached structure together, which is the method applied in practically all market economies, is not in contravention of current or proposed legislation of the Russian Federation.

[8] The Nizhny Novgorod solution resulted in the establishment of a registration office. This happened for two reasons. The first was the necessity to comply with conditions of the World Bank housing loan, which required the establishment of a registration system. The second reason was the prior enactment of enabling legislation by the oblast. However, the World Bank housing loan was less critical than the action taken by the oblast which, in turn, permitted similar legislation to be enacted in the city.

- will not be an unduly complex and time-consuming legislative undertaking.

The following sections of Chapter 2 review some basic legislative issues which must be addressed in order to establish and operate the REIS office. The business plan - which is developed *prior* to establishment of a legislative basis but *after* a complete analysis of the purpose and direction of the REIS implementation - must take into consideration the required legislative steps. Although the following sections focus on distinct legislative areas, it is important to note that *these legal initiatives are not necessarily sequential or exclusive*. Essentially, the administration will need to consider legislation covering the following areas:

- *Establishment* of the REIS office.
- *Funding* of the REIS office, its employees, equipment and any costs incurred by the cooperating agencies.
- *Support* of the REIS office by other relevant agencies, including provisions for data sharing and collection as well as data access by third parties.
- *Definition of the roles and responsibilities* of the REIS office and of other agencies in relation to the operation of the REIS office.

In addition, a brief section at the end of this chapter discusses the legislative initiative necessary for enabling the REIS to include *a registration function*.

2.1 Legislation Necessary for Establishment of the REIS Office

The objective of this legislation is to direct the *establishment* of the REIS office. It is not intended to provide for all the rules and regulations governing the *operation* of the office. However, it is important to note that the implementation plan of the REIS must be developed prior to the issuance of any such Decree or Order. Particular reference is made to the "business plan" discussed in Volume I, Chapter 6. This business plan, having been developed by representatives of the administration and the involved agencies, can be attached to the Decree or Order.

The Decree or Order for establishment of the REIS may be prepared by the local administration. It need not be a complex document. The legislation may choose one of the following alternatives for establishing the REIS:[9]

- as a separate agency;
- as a department to be created in an existing agency;
- as a part of the City Administration.[10]

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[9] These options are not exclusive. They represent some of the optimal choices previously made or considered by other administrations. Nothing prevents an administration from directing the establishment of the REIS office in an alternative manner. The key is the issuance of a Decree or Order that establishes the office and implements a plan.

[10] See the discussion of institutional alternatives in Volume I, Chapter 4.

The contents of the Decree or Order may be as simple as approving the "business plan" [11] and attaching it to the Decree or Order; assigning responsibility for the implementation of the Decree or Order; and the date by which such implementation must begin. This Decree or Order should be followed quickly by the remaining legislation necessary to the formal implementation of the REIS office, as outlined in the remaining sections.

2.2 Legislation Necessary for Mandating Support from all Participating Agencies

Legislation encompassing inter-agency cooperation and access to information is critical to the success of the REIS office. Development of the legal framework for this cooperation should already begin during the drafting of the business plan. The business plan will emphasize the concept that information shall be shared between the participating agencies, the REIS office and the public. Although the business plan may be attached to the Order or Decree establishing the REIS, it is prudent to *draft separate legislation that will clearly establish the principles of joint data collection, sharing and access.* [12] Assuming that the REIS model chosen for implementation is the Core data base, then the issue concerning data sharing among agencies is not difficult because the information is limited. The information contained in the REIS Core does not require, for example, absorption of all the data held in the Bureau of Technical Inventory. Much of the information retained by the BTI, although possibly important for other purposes, is unnecessary for implementation and operation of a Core REIS. The same holds true, although to a lesser extent, for the information base held by the Land Committee.

The Order or Decree establishing the REIS and assigning responsibility for its implementation and operation is the second legal step to constituting a legal basis for the functions of the REIS office. Again, the business plan will assist in the smooth flow of developing the legislative framework. The responsibilities of the participating agencies for providing and receiving data to and from each other and the REIS office should be clearly defined. To this end, the administration should consider issuing a single Decree regarding inter-agency collaboration, attaching to it covenants from each of the agencies which signal their consent to share data. The Decree should specify the types of data to be provided to the REIS Core and the

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[11] Although the Manual has refers to this plan as a "business plan", it may also be referred to as an "Implementation Plan". A sample Format Business Plan is contained in Annex I.A . Regardless of its name, the plan should be formally approved and enacted as part of the legislative framework.

[12] Volume I refers to the possibility of involving the oblast administration, in order to integrate all agencies into the process of REIS implementation. This issue may arise quickly in the context of sharing data with BTI, an agency frequently supervised by the oblast administration. In this case, agreement with the oblast administration should be addressed very early in the process.

agency responsible for providing each type of data. Likewise, the information contained in the REIS Core database should be made available to each of the participating agencies as and when needed.[13]

During the formulation of the Decree controlling data sharing and access, the agencies involved may raise the issue that they will be required to do extra work in segregating data required by the REIS office, but will not receive any commensurate benefits for doing so. The Decree could address this issue by *establishing the principle of revenue sharing*, i.e. providing that a part of the REIS revenues will be used to compensate the participating agencies for the costs they incur in collecting and sharing data.

Finally, *the Decree should clearly and unequivocally state that information maintained at the REIS office will be accessible to anyone.* The administration and participating agencies should be provided with free access to all information, while the buyers, sellers, investors, banks and other real estate professionals should be permitted access following payment of appropriate fees.

DATA SHARING and DATA ACCESS

The need for information sharing and access, which was emphasized in Volume I, is stressed again here. The only method known for creating and maintaining an efficient, active and revenue-producing real estate market for the benefit of the public and government is to give any interested party easy and open access to accurate real estate information. Anything less than that will weaken the real estate market, make transactions more expensive, and drive investors away. Furthermore, difficult access to information makes it harder for the government to raise revenues through taxes and fees, since few will either use the system or report accurate data. Nothing in the Core REIS database constitutes secret information. Moreover, it is possible to build safeguards into the system to prevent its misuse. *If the principle of open access is not acceptable, then continuing REIS implementation is not worth the time or expense.*

2.3 Access to Information and Security of Information

An ancillary issue which must be addressed is the apparent conflict between open and easy access to real estate information and the security of that information to prevent its misuse, as provided in the "Law on Information, Automation and Security of Information". Fortunately, a variety of methods which may be included in the rules and regulations for the operation of the REIS office can substantially mitigate the risks involved. Some of these methods are outlined in the following.

- **Identification:** The first level of protection that may be provided in the rules and regulations is a requirement that any person or entity requesting information must present identification and sign a request for information that records the identity of the person making the inquiry. If the information is misused, the

[13] The Pskov City Registry and City Administration suggested that it is not absolutely necessary to adopt legislative acts regulating the process of data sharing among REIS users. Pskov suggests that inter-agency agreements may be sufficient. Since each local administration has different needs and levels of cooperation, the method for achieving data sharing should be studied carefully.

REIS office will have a record of who made the request and where the person is located. This is the method utilized in Tver.

- **User fees:** A second level of control over the information contained in the REIS office is the fee structure that is enacted. Of course, the primary purpose of fees charged to users of the REIS is revenue enhancement for the administration - to cover the REIS operation and expansion costs and provide a surplus for the municipal treasury. However, realistic fees will also help prevent the wholesale delivery of large amounts of information at one time or to one user. For example, the Core REIS data can provide information to a potential buyer or investor regarding an owner's name, size of the real estate, encumbrances affecting it, etc. This basic information can be provided in a report issued by the REIS office for a fee. Alternatively, a buyer or investor may need the above information, together with a history of ownership of the real estate. This report, being more extensive, will require a higher fee. Similarly, any map or floor plan that is issued would require an additional fee. Apart from generating fees, the charges levied for each report will tend to dissuade a user, for example, from asking for all the information on all the real estate in a certain street or district. Consequently, the rules and regulations must include the complete structure of user fees, with provisions for periodic updates.

- **Type of data provided:** The third method which may be used to protect the use and security of information is to limit the *type* of data provided in a report. For example, in Great Britain an individual may apply for information regarding a particular piece of real estate without the permission of the owner of the real estate. However, in this case the information released will be generic rather than specific. For example, the report will give the owner's name, but not his address. The report may inform that a mortgage, lien or other encumbrance affects the real estate but will not state the amount of or the parties to the mortgage or other encumbrance. On the other hand, if the application includes the written consent of the owner to release the details of the information, the report will include the available information regarding value of the property, amount of any mortgage, names and addresses of all parties to any transaction or encumbrance affecting it, etc.

- **Penalties:** Finally, the rules and regulations should stipulate that any misuse of the information, whether by the public or the staff of the REIS or registry office, will result in severe penalties pursuant to Federation laws.

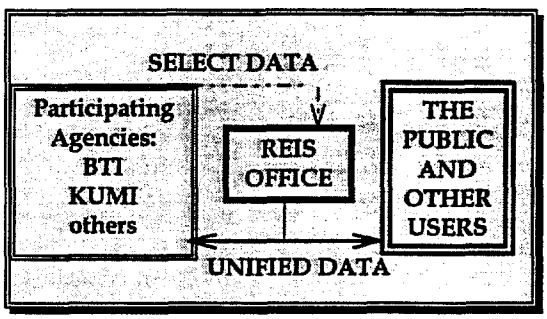
Other methods for safeguarding the information may be considered. The four items above are not exhaustive, but they show that the argument for limited or no public access to the information held in the Core REIS is erroneous. The entire purpose of establishing the REIS office will be undermined if its base legislation does not provide for open public access to the information.

2.4 Legislation for Defining and Allocating Roles and Responsibilities

Legislation that requires information cooperation among agencies as well as data sharing has been discussed in Section 2.2 above. A necessary corollary to such legislation is a detailed stipulation of the rights, duties and functions of each agency as they relate to the establishment and operation of the REIS offic

Areas which should be covered in the definition of roles and responsibilities include entry, generation and maintenance of the data. The responsibilities allocated to each agency would normally correspond to its current functions regarding real estate information. For example, it would be logical for all information pertaining to a land parcel to be generated and provided to the REIS office by the Land Committee. Although the REIS office would be responsible for maintaining the data, the Land Committee would be obliged to provide up-dated information to the REIS office on a timely basis.

Correspondingly, the Bureau of Technical Inventory would be responsible for supplying to the REIS office information on structures and rights associated with those structures. This information would be combined by the REIS office with any relevant data supplied by the Land Committee.



The responsibilities of each agency should include accountability for the *accuracy* of the information supplied. This will permit the REIS to issue specific real estate information which it may certify as being accurate and current.

The REIS office, in order to function effectively and produce revenues for itself and the administration, must take responsibility for maintaining the data, related to rights on real estate The REIS office must also be responsible for information entered pursuant to a secondary transaction. Since the REIS office will be the center for lodging secondary transactions, it must be responsible for the approval, accuracy and maintenance of this information. Certain updated information can then be certified and supplied to the participating agencies.

2.5 Legislation Regarding Staffing of the REIS Office

The business plan will define the anticipated staffing of the REIS office. If new employees are to be hired to perform various functions, then an Administrative Order should establish who is responsible for hiring the necessary personnel. The legislation could specify what skills and qualifications should be required to fill certain posts in the REIS office. In Volume II: Institutional Arrangements the number, qualifications and training requirements for personnel were discussed. The Administrative Order may similarly provide for the level of education and seniority necessary to fulfill specific job descriptions.

Certain positions may be filled by current employees of existing agencies. The Bureau of Technical Inventory, Land Committee and City Property Committee may be directed to assign one or more of their existing staff to perform duties directly related to the operation of the REIS office.

The Order may also provide that the performance of these duties does not require a change in the physical location of the personnel. For example, the staff assigned at BTI to provide required information to the REIS office may fulfill these functions at the BTI office. Other models suggest that, within the context of a unified REIS

which provides a "one-stop-shop", at least one representative from each agency maintain a presence in the REIS office to serve the public.

2.6 Legislation Regarding Funding of the REIS Office

Like the staffing of the REIS office, its proposed funding must also be projected in the business plan. Financing of the REIS can arise from several sources. First, the administration may provide financial resources through a budget appropriation. Including the REIS in the annual budget or in a budget amendment is a matter of settled procedure requiring no special legislation.

A second method involves an increase in fees charged to record real estate transactions or the establishment of new fees, as well as authorizing fees for real estate information reports. Special legislation is required to establish rates for providing various services. The legislation can consist of a general Order authorizing the charging of fees, accompanied by a fee schedule which can be periodically adjusted.

The costs involved in the development, implementation and operation of the REIS office may need to be recovered over a period of several years.[14] These costs will be incurred both by the REIS office and by participating agencies. Consequently, the legislation should allocate funds to the agencies incurring costs on behalf of the REIS office. Additionally, provision could be made for the allocation of any surplus funds generated by the REIS among the REIS office, the participating agencies and the municipal treasury. At least a part of the surplus funds should be allocated to the capital budgets of the REIS office and the collaborating agencies for modernizing equipment and expanding services.

Finally, legislation for utilization of REIS information to raise funds through indirect methods should be considered. For example, the REIS office may be permitted to supplement its revenues by developing and selling value added services, such as maps and guides. Similarly, the REIS office could provide information which would not normally be archived in the REIS data base by obtaining such information from the relevant agencies and charging a service fee in addition to the agency fee normally levied. This type of legislation requires careful wording so that commercial activities do not detract from the basic purpose of the REIS office.

2.7 Supplemental Legislation Concerning Registration

Registration is a highly complex area of legislation. The draft Registration Law has been approved by the Federal Duma on July 19, 1996.. A detailed review of the concepts and components of a sample Title Registry are covered in Volume VI: Development of a Title System. The actual enactment of registration procedures and their implementation will be subject to a review by the special commission proposed by the draft law and by the Ministry of Justice. Therefore this section examines only briefly some of the issues which might be considered by the administration and its legal department when the administration proposes setting up a registry as a future

[14] Operational costs will be determined in the business plan and can be applicable to one or more years. In any event, costs will become apparent at the initial planning stages. To a certain extent, operational costs will determine the introduction of new fees or increases required in current rates.

policy goal. Ultimately, implementation of an effective title registration system is a condition to creating an active real estate market.

- For the purposes of registration, *distinctions between structures and land, between agricultural and urban land and between residential and commercial real estate should be eliminated. Any registration of a right to real estate should include both the land and the structures located on it. All real estate must be subject to the same rules and procedures of registration.*

- *Responsibility for real estate registration should be unified in one agency,* with branch offices if necessary. Land use and land allocation responsibilities should be the responsibility of other agencies.

- A comprehensive description of rights and interests in real estate should be established. Registration should be mandatory for all transactions involving real estate. Non-registered interests should be unenforceable in any court, except under principles of contracts which are enforceable under the Civil Code, Part I or II.

- A definition of the legal effects of registration and of failure to register, including the establishment of priorities among competing interests in real estate.

2.7.1 REIS and a Registry

The basic principle underlying a system for recording rights in real estate is ensuring that those rights are identified, recorded in a suitable form, recognized, and protected by the government. The information necessary for the operation of the REIS Core represents essentially the basic data found in a registry (see Annexes to Volume II and IV). One of the key objectives of any legislation establishing a REIS office is the unification of land and structures so that they are considered jointly as "real estate" as provided by the Civil Code Part 1. The REIS office can accomplish this objective through the merging of information on structures and land in its data base.

However, the principle of the legal integration of land and buildings does not mean that the *rights* attached to land and to buildings must be merged. The "real estate" does not have any rights; it is the owners, users, tenants and other individuals or entities who have rights in real estate. These rights will still be reflected in the unified real estate information data base. The legislation establishing the REIS should reflect these principles. If this is done, only the final enactment of the registration law and possible minor changes will be required to convert the REIS office to a functioning Registry. The real estate information issued by the REIS will need only to be supplemented with a certificate to the right holder attesting that the rights held are established by law.

The following may be considered the minimum elements required in a registration law: [15]

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[15] Note that the minimum elements of the registration law, which have been italicized, would, in any case, be an essential part of the REIS and are furthermore elements of the Civil Code and of the proposed Federal Registration Law. Thus, they will not have to be considered again when converting

Generally, the registration function needs the support of a mapping element to operate effectively. The REIS office, to be optimally usable as a registry in the future, should have the ability to require that under certain circumstances boundary surveys must be carried out. The required legislation would apply only to boundary surveys and would consist of two components: (i) *who* may carry out surveys, and (ii) the *specifications* to which the surveys must comply.

In addition to the foregoing, additional legislation may be required to cover:

- Standardization of documents, including re-design of forms to streamline the process.
- Integration of an official physical cadastre and the legal effect of recording real estate ownership.
- Development of *integrated* policies governing cooperation and information sharing between agencies, including agencies responsible for management of real estate.
- Establishing standards and fee structures by which private companies can perform surveys or provide a guarantee of title, to reduce the cost and burden to the administration.
- Providing for a state guaranty through the establishment of a fund from which to support payment on any claims for compensation.
- Establishing standards and responsibilities of the Head of the Registry or REIS Office so as to clearly delineate roles and powers.

2.8 Summary

Establishment of a REIS Core remains the decisive point in structuring a solid framework which can be expanded to a full-scale real estate information system incorporating a registration function. The legislation to establish the legal basis for a REIS Core is not complex. It consists in most cases of the reallocation of existing resources within the city administration. Where the legislation impacts agencies under dual authority, such as the BTI office where it is under oblast administration but handles records for structures in the city, the level of complexity increases somewhat. To achieve the initial goal of establishing and operating a REIS Core in a centralized office, the following legislation should be enacted:

- An Administrative Order or Directive establishing the REIS office; appointing the agency and/or individual responsible for implementation; and directing that supplemental legislation be enacted to fulfill the intent of the Order. The REIS 'business plan' should be incorporated in the Order.

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proposed Federal Registration Law. Thus, they will not have to be considered again when converting to a registry. This will save time and money in the future. It also provides for a superior level of certainty when compiling information on real estate and issuing reports which may be certified as accurate.

- An Act directing that funds be allocated from the budget to establish, operate and maintain the REIS.

- An Act directing the relevant participating agencies to support the implementation and operation of the REIS; providing for complete data sharing, collection and access between the relevant agencies; and establishing the unobstructed access of the public to information contained in the REIS.

- Covenants signed by each participating agency consenting to the data sharing, collection and access provisions stated in the Administrative Act.

- Rules and Regulations governing the roles and responsibilities of each participating agency in the operation of the REIS and the REIS office; fee schedules; staffing classification; principles for allocation of revenues; and procedures for operation of the REIS office, including the acceptance and recording of documents.

Additional legislation should take into account the provisions of the Federal Law on Registration and would depend on local conditions or preferences. Annexes III.B, III.C and III.D contain some actual examples as illustrations.

REAL ESTATE INFORMATION SYSTEM (REIS)

MANUAL

VOLUME IV: SUPPORTING COMPUTER SYSTEM

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1. Introduction

The preceding volumes gave an overview of the REIS (Vol. I), its institutional aspects (Vol. II) and legal aspects (Vol. III). This volume deals with the computer systems to support the REIS. The approach of the volume is to cover the analysis, design, development and implementation of the computer system as it applies to REIS.

> **NOTE:** For the purpose of brevity and clarity, **in this volume the term "REIS" refers to the REIS computer information system only,** unless otherwise stated.

There is no single model for the REIS. Each city has different procedures for gathering and storing information, number and frequency of transactions, existing hardware and software conditions, expectations on what the REIS can and should do, and financial and technical backing to support the REIS. Consequently, many of the cities interested in creating a REIS will need to create a customized system. This Manual can help cities approach rationally the design of their own REIS, based on the lessons of experiences from the pilot cities that have implemented the REIS. It is hoped that the information in this volume will help cities approach rationally the design of their own REIS, based on the lessons of experiences from the pilot cities that have implemented the REIS.

2. Objective of the REIS Supporting Computer System

There are many difficulties in conducting transactions in land and real estate without an efficient system of documenting the rights. The objective of the REIS is to introduce a reliable and secure real estate information system which can maintain all information to support a real estate registry, prepare the foundation for a land tax system for local government, and furnish information for the real estate market.

3. Methodology

Before embarking on the creation of the REIS computer system it is important to understand the conceptual settings of its design. These conceptual settings lay the foundation for answering many of the questions encountered in the creation of the REIS.

In the creation of any system there are three main elements which are subject to analysis and design:

- the database,
- the business rules, and
- the applications themselves.

A diagram of how these three elements interact with each other is shown on Figure IV. 1.

3.1 The Database

The primary role of the database is to store in a logical manner information that is secure and easy to access. The database is also a model that represents an organization and how it works.

3.2 The Business Rules

Computers are mechanical devices, and rules and procedures are what computers work with best. The primary role of the REIS application is to implement business rules. The business rules are all the thousands of rules that define how a business (organization) runs. Procedures are collections of business rules.

The key to the successful implementation of the REIS is that it allows the computer to automate the mechanical parts of registration, taxation, etc., leaving only the truly empowering and creative part to people.

3.3 The Applications

The most common view of an application is just as the interface between the user and the computer system. However, in fact an application has a front end and a back end. At the front end, the application provides the interface to the user. At the back end, the application is responsible for implementing the business rules on the database and the system as a whole.

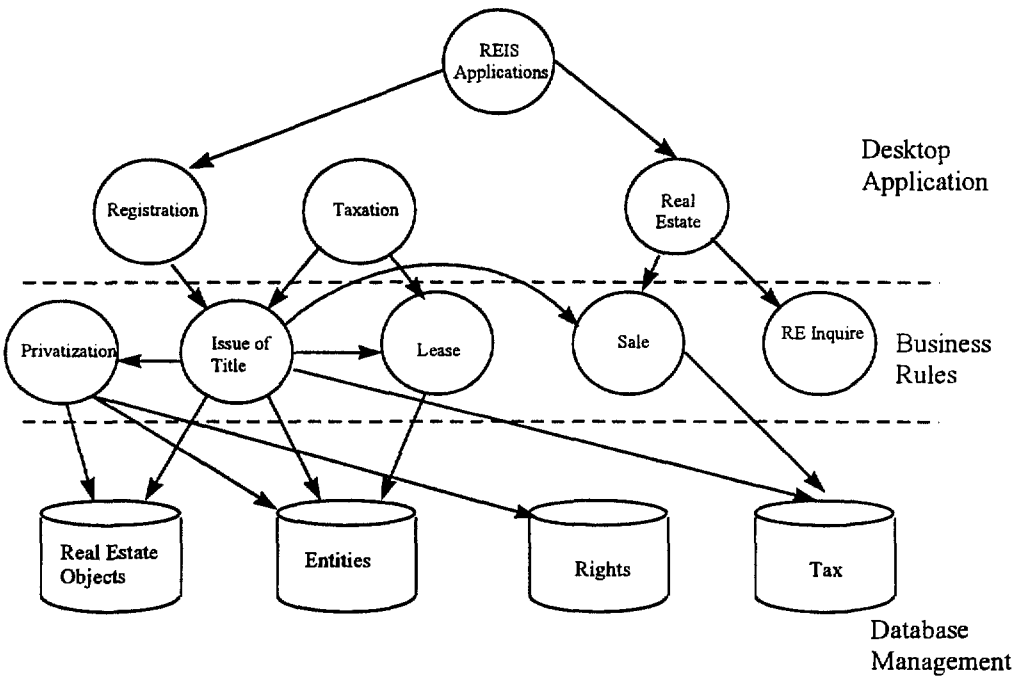

Figure IV. 1: Relation of the REIS Applications, Business Rules and Database

It is the aim of the REIS to analyze and design a database that is secure, easy to expand, and able to support applications that fit and match the business rules of the different organizations using the REIS and the public at large.

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4. Analysis

The purpose of the analysis phase of the REIS is to do user needs assessment, formulate the business rules and identify the database elements. The initial analysis phase will affect the project until its completion. It is very important to be thorough and accurate. This process is a long and difficult one, but of utmost importance.

The REIS requires the involvement and cooperation of many organizations within the city. The institutional and legal issues are analyzed in other volumes of this manual. In this volume the analysis concentrates on the REIS organizations, their data, data flows, hardware and communications.

4.1 User Needs Assessment

A critical need in system design of the REIS is to meet the true needs of the end users. If the REIS application fails to do this, the REIS will be not be utilized by the end users. Thus assessing the user needs is the first step in the analysis of the REIS.

The majority of the cities in the Russian Federation are in a similar position with regard to privatization and the secure registration of rights to real estate. Several agencies are responsible for recording rights to real estate. The jurisdictions of these agencies overlap. Their records and methodologies are complicated and lack security.

Most of the agencies concerned with real estate information consider their data to be their own. In many cases they maintain duplicate (and sometimes conflicting) records on the same data objects. Despite this, elements are available for the creation of the REIS once organizational, institutional and political hurdles are dealt with.

A typical data flow diagram of the different agencies and their users may look as shown in Figure IV. 2.

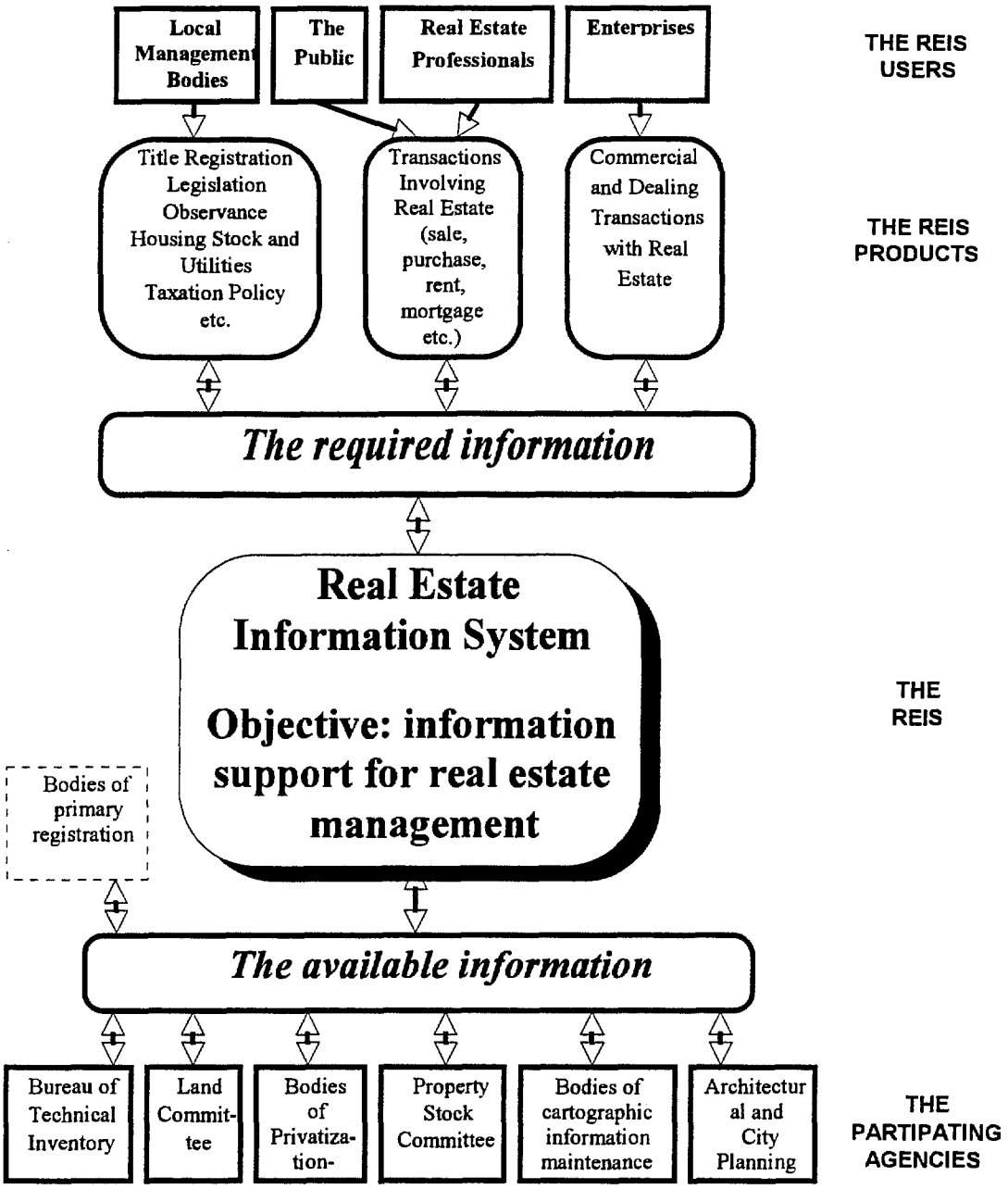

Figure IV. 2: ELEMENTS OF THE REIS INFORMATION SYSTEM

In assessing the user's needs, it is important to take into account not only the requirements of the present, but also to foresee the requirements of the nearest future. As known, economic reforms are currently going on in Russia, and the situation in real estate is being changed very quickly. It is important that the developed system would not appear suddenly hopelessly obsolete when a new legislative act, local or federal, would be approved. It means that it is necessary to put into the system some flexibility, capability to be adopted to new terms, even despite the fact that it may bring along some surplus.

Also it is necessary to take into account that the end users do not always clearly realize their needs, even at the present time. Several factors contribute to this, namely the fact that the matters of real estate and real estate rights registration are still new for clerks. Low computer literacy and fear of new technology also contribute to a lack of understanding of the user's needs.

4.2 Organizations Involved with the REIS

The next step in the analysis of the REIS is the identification of City institutions that store and maintain data relevant to the REIS. The majority of cities in Russia have the same key institutions and perform similar functions. Although the name and number of the institutions may change, the basic relevance to the REIS remains the same. Figure IV. 3 shows the sample graph with the description of the functions of each of the government organizations working with real estate in Orenburg and the their subordination to municipal, regional and federal levels. It is stressed that each city is different and a separate analysis has to be performed. Fox example, the GPTI in sample Figure IV. 3 is not a typical situation in most Russian cities.

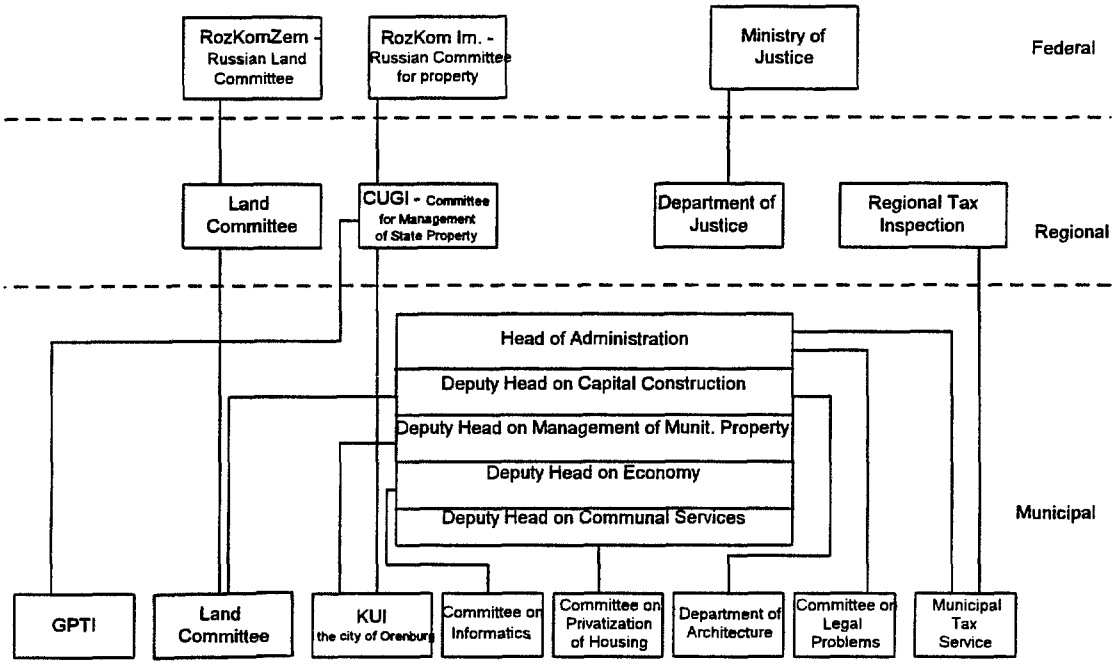

Figure IV. 3: COMMITTEES DEALING WITH REAL ESTATE AND THEIR SUBCORDINATION

The role of these institutions, their legal basis and their institutional structure is beyond the scope of this Volume IV. A more detailed analysis of the institutions themselves may be found in Volume II of this manual. The main interest in this volume is the actual data (in digital or paper form) that may be found at these institutions.

4.2.1 Identification of Institutions Relevant to the REIS

There is certain set of key parameters that may be used to identify the key institutions relevant to the REIS. The main criteria is whether the institution maintains data which are essential for the REIS. These data may be in paper or digital forms. The main information elements to look for are:

Land	Buildings Structures	Entities	Legal Documents
Location	Location	Individual Names	Ownership
Description	Description	Company Names	Lease
Cadastral ID	Apartment Units	Details of Identifying Documents	Mortgage
Survey Maps	Plans		Easements
Appraisal Report	Appraisal Reports		Encumbrances
Market Data	Market Data		Tax Reports
			Privatization
			Title Records
			Sale agreement
			Purchase agreement

Table IV. 1: MAIN REIS INFORMATION REPORTS

The institutions with this data tend to have a lot more information than is necessary for the REIS. It is important to understand that *to fulfill the objective of the REIS it is not necessary to have all these data.* The principal physical database elements are detailed in Section 5.1.2 below.

A matrix is a very useful tool to organize and analyze the data available for the REIS. The matrix should contain information on:

- Data Sources (by agency)
- What data do they have?
- How do they use the data?
- How do they store the data?
- With whom do they share the data?
- What do they get from other agencies?
- What do they need that they do not have?

4.2.2 Data Sources

The basic core data necessary for the creation of the REIS is supplied by different committees and agencies in the City. A matrix is very helpful to show the sources of the data. This matrix can later be used in the design of the system as well the creation of data sharing agreements. The distribution of the data sharing is different in every city. Table IV. 2 is a sample of the distribution of the Core Data (See Section 5.1.2 Core Data Elements) for the City of Orenburg.

REIS Core Data Element			Committee						
			Informat ics	BTI	LC	Housing	KUI	Notary	Others .....
REAL ESTATE OBJECTS									
	Real Estate Identification	Cadastral Identifier Address BTI file number Other Identifiers RE Identification Catalogues (Street Names, Rayon Names, etc.)	d p	d d d,p p	d p				
	Land Parcel	General Description (use, category, purpose) LP areas (general, developed, under utilities, etc.) LP survey data (LP survey agency, lease survey data, etc.) Appraisal data (normative and market values) Other related data (other data can be subsequently included, such as contour coordinate description, boundary description, etc.)	d	d	p,d				
	Primary Object (any building or construction)	General data (type, use, purpose, data built, number of floors, number of residential units, number of nonresidential units, number of entrances, etc.) Areas Floor Description Facilities Description Construction Description Appraisal Data		d					
	Secondary Object (any commercial or residential unit)	General Data (type, purpose, use, areas, number of rooms, etc.) Facilities Room Description (if necessary) Appraisal Date		d					
	Object Catalogues (type of use, type of construction, type of roof, walls type, etc.)			d					

REIS Core Data Element			Committee						
			Informat ics	BTI	LC	Housing	KUI	Notary	Others .....
ENTITIES									
	Physical Entities	Name Date and place of birth Id document Address	d						
	Juridical Entities	Name Registration data (number, data and place of registration) Juridical address Mail address						x	
	Entities Catalogs								
LEGAL INTERESTS									
	Application	Application Number Description (data, time, reason) Reference to RE object/s Reference to Applicant Reference to Documents Result of Application		d	d	d	d		
	Proxy	Identifier Trustier Trustee Reference to RE Description						d	
	Document	Identifier Description						d	
	Legal Interests (Ownership, Mortgage, Lease, Encumbrance, Easement)	Identifier Reference to RE object Reference to Entity Description (share, extension, etc.) Data registration Legal basis (Reference to document) for registration						d	

REIS Core Data Element			Committee						
			Informatics	BTI	LC	Housing	KUI	Notary	Others .....
		Data of termination Legal Basis (Reference to document) for termination							
	Certificates	Identifier Description Given to (reference to entity) Issued by (reference to operator) Data for Termination		d	d				
CONTRACTS									
	Reference to RE object Reference to RE object description Lessor Leasee - reference to Physical/Juridical Entity Terms of Lease Rent Payments Rent Review Penalties Rent Termination			d	d	d			
TAX Activities Bank accounts Founders									

d: Digital format. p: Paper format

Table IV. 2: REIS Core database Elements and Participants

4.2.3 Principal Real Estate Regulatory Institutions

The institutions with REIS data differ from city to city. The following are the main institutions with REIS data which are found in most cities. Their institutional setup - whether under the city administration, under the oblast administration, or autonomous - may also be different in different cities.

- **Bureau of Technical Inventory (BTI)** -- responsible for all transactions involving buildings (so-called "immovables").

- **Land Committee (KOMZEM)** -- responsible for all transactions involving land (including the land under buildings recorded at the BTI).

- **Property Committee (KI or KUGI)** -- responsible for municipal buildings. The KI is also a federal entity; and

- **City Architect's Department** -- responsible for city planning and the Geodesy Department which maintains the map data.

4.2.4 Organizations and REIS Data Flows

Data flow diagrams should be part of every development project. A data flow diagram shows what data passes, and the sources and destination of data. In the analysis of the REIS the data flow diagrams are very important process because of the number of organizations involved.

The mapping of the data flows needs to start with the creation of a matrix showing what data each agency gives to another agencies or other participants, and what the agency expects in return. A sample matrix used in the City of St. Petersburg REIS project is located in Annex IV. I. This matrix can later be used to create diagrams of the data flows. FIGURE IV. 4 shows a data flow of the BTI in the City of Orenburg.

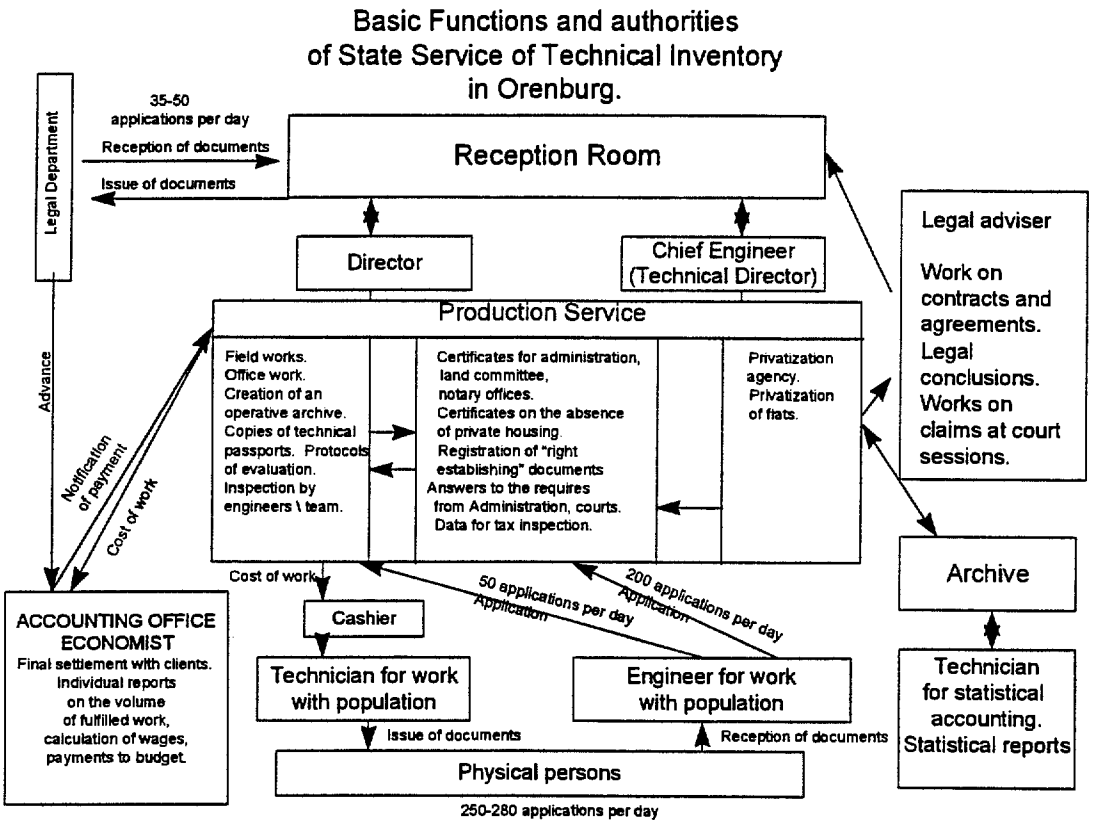

FIGURE IV. 4 : SAMPLE FLOW DIAGRAM OF STRUCTURE AND FUNCTIONS OF BTI

The principal REIS institutions and their data flows may vary from city to city. The principal institutions tend to have very similar relationships. These relationships are illustrated in the following Figure IV. 5.

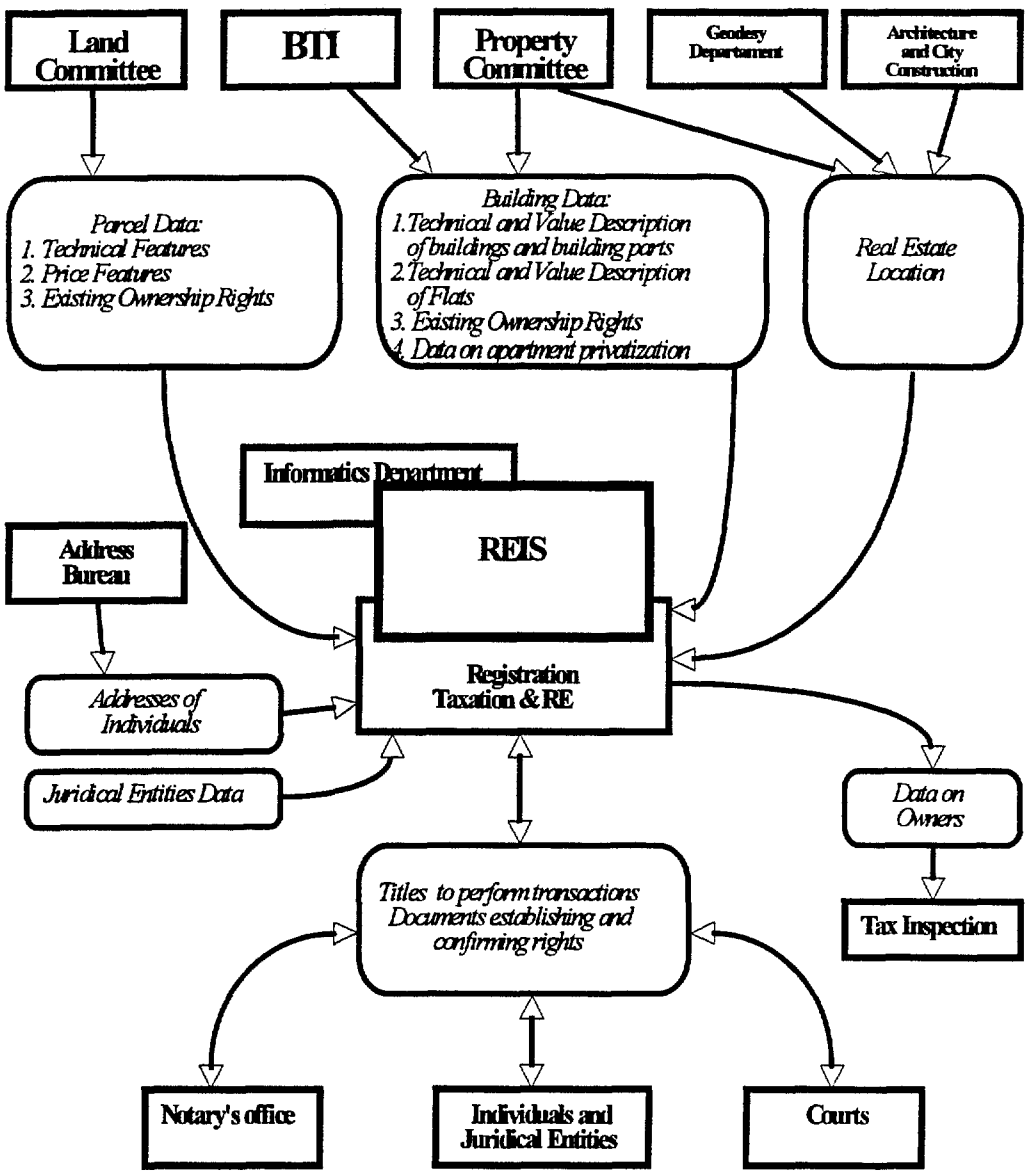

Figure IV. 5: REIS Institutional Relationships and Data flows

4.3 Analysis of the Business Rules

The primary role of the REIS application is to implement business rules. The business rules are all the thousands of rules that define how a business or an organization run. Procedures are a collection of business rules.

The analysis of the business covers local and federal laws, institutional relations, and procedures. There is no single model for the business rules use in every city. It is not the intention of this manual to cover the business rules, since local conditions will need to be studied thoroughly and without any preconceived ideas.

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Nevertheless, Vol. I, Vol. II and Vol. III provide a valuable reference on how some institutions implement their business rules.

4.3.1 Data Sharing

One the main problems in the creation of the REIS is the distribution of the REIS data in several agencies. In order for the REIS to succeed, the different agencies have to share their data.

It is important to identify at an early stage those data elements of each agency that must be shared and inform the management of this need. Legal agreements should be reached and signed by each participating agency before proceeding with implementation of the REIS.

4.4 Inventory of the Existing Computer System (by Agency)

The majority of the city agencies with real estate information have existing computer systems based on the IBM Personal Computer Architecture. DOS is the most common operating system, and information is stored in either flat files or dBase-type databases.

An inventory must be carried out to identify the existing office units, hardware, software and communications facilities. This survey will be used later in the design phase to estimate the additional hardware, software and communication facilities necessary to implement the REIS.

The inventory of the hardware must be performed in a methodological manner. One of the best ways to do is by having a prepared set of survey forms to fill out during the visit to an agency.

Sample survey forms are presented in Annex IV. B and Annex IV. E. The set of survey forms covers the identification of hardware and communications.

As a reference, the survey forms should be accompanied by a floor plan showing the office layout and identification number for each office.

4.5 Database and applications survey

It is important to identify all databases available in digital form. The City can save months of labor and costs by not duplicating information.

Table IV. 3 below is a sample form useful in identifying this information. Each agency should fill out this form (See Annex IV. C). The survey form includes a general description of the database, application and storage format of the data.

Although the REIS deals with real estate information, the database survey should include all applications available. Some completely unrelated databases may have a potential value in creating a REIS. For example, the City of Orenbourg has implemented an automated rent payment program. This database can be very useful in the creation of the REIS database since it is updated every month and therefore it has the most up-to-date information on addresses.

Computer Equipment Survey

Agency: Informatics _____ **Entry date: 06/17/96**

City Name: Orenburg_____ **Rayon** _____ **Surveyor Name:: John Doe**_____

Postal address: 18/1 Sovietskaya_____

Application Name	Number of records	Operating Systems					Databases Applications			Geographic Information System		Purpose
		DOS	Windows	OS/2	Unix	Novell	Clipper	FoxPro	Oracle	MapInfo	ArcInfo	
Rent Calculation	200000	x					x					Backing and development of the tasks on tenants, on calculation of insufficiencies of municipal services, documents on calculation of balance by the beginning of the month. .....

Table IV. 3: Sample database surveys

4.6 Communications Survey

The REIS requires that different agencies share their data with each other and the public. The communication of such information may be performed in several ways and each has an implication on costs. It is extremely necessary to make an accurate survey of the communications situation to make accurate decisions on the type of communications to be used. A networking survey has to be performed for each committee and this survey should be accompanied with a communication topology diagram. Table IV. 4 shows a sample networking survey from the Informatics department from the City of Orenburg.

Networking Survey	
City:	**City of Orenburg**
E-Mail	Relcom
LAN:	Novell 4.1
Network adapter, cable, hubs, etc.	BNC, (others...)
Communications	
Agency telephone exchange	Federal Telephone Network Telesot, Region Network
# of outside lines	100,
Dedicated digital/telephone lines	3
Office telephone exchange	Panasonic 366
Total capacity, internal/external, channels	40 Channels
# of free internal/external channels	150/40
Other	11 quantum, 2 scri-2 12 channel between the structures and branches
Telephone company used for communication support	The Municipal Telephone Company
Additional, Equipment Required	Hubs, Repeaters and concentrator
Telephone channels	
Dedicated Lines	No
Earthing	No
Sockets, European Standard	Socket and Plug

Table IV. 4: Sample Networking Survey

4.7 Technical Expertise Survey

The design of the REIS may call for the use of new hardware and software. It is important to identify the technical expertise available to the city in order to identify areas for additional training of the staff. A sample survey on the technical expertise is shown on Table IV. 5.

Department Names	Number of workers	Operating Systems					Databases Applications			Geographic Information System		Notes
		DOS	Windows	OS/2	Unix	Novell	Clipper	FoxPro	Oracle	MapInfo	ArcView	
ACS	11	11	11	-	-	1	11	1	-	1	1	
Hardware and Assistance Support	7	7	7	5	1	4	1	1	-	-	-	
Rent Calculation	6	2	2	1	-	-	1	1	-	-	-	
Total	24	20	20	6	1	5	13	3	-	1	1	

Table IV. 5: THE PERSONNEL EXPERTISE AT THE COMMITEE ON INFORMATION OF THE ADMINISTRATION OF THE CITY OF ORENBURG

4.8 Local Suppliers Survey

Purchasing hardware, software, and training locally offers many advantages. The products and services are comparable to those available nationally, but oftentimes a local vendor will offer more in the way of services and may provide personal touches that cannot be found with a company a great distance away. Local vendors depend upon repeat business from within its own community and therefore strive to develop strong relationships with their clients.

It is important to identify and evaluate local computing resources for future reference. Table IV. 6 is an example of the local hardware suppliers in the City of Orenbourg. A similar table should be made for any city undertaking a REIS.

No.	NAME	ADDRESS	NOTES
1	Center of modern technologies "UNICOM"	460000, The city of Orenburg, Volodarskogo,20, (4 floor) tel.: 72-59-19	Supply and warranty maintenance of hardware from COMPAQ, HP,APC,VIST
2	Engineering firm "Optim"	460000, The city of Orenburg, the street Leninskaya,28A tel.: 47-61-09,72-77-60	Supply and warranty maintenance of hardware
3	the firm "Constanta"	The city of Orenburg, the street Turkestanskaya,5, corp.2,tel.: 72-43-65,72-43-66	Supply and warranty maintenance of hardware
4	NPP "InEl"	The city of Orenburg, the street Volodarskogo,5,room 39 tel.: 47-29-96,47-58-71	Supply of equipment
...	...	...	...

Table IV. 6: LOCAL SUPPLIERS OF HARDWARE

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5. Design

There are two design components to the REIS - a physical design component and a logical design component. The physical design component concerns the REIS hardware and software. The logical design components concerns the concepts and specifications of what the REIS should perform and the overall system architecture.

It is tempting to start the design of the REIS from the physical component without first doing a throughout logical design. But by doing the physical design first, the solution is locked into a very narrow set of choices. This unfortunately can lead to serious mistakes in the implementation of the REIS and the alternative to fix the mistakes at that stage are extremely narrow or non-existent. By doing a logical design first, the broad elements of the REIS are captured while leaving open many of the choices to perform the physical design.

5.1 Conceptual Database Design

The range of real estate information is very broad and has many components. The large amount of data can make the creation of the database extremely complex and difficult to organize. In order to design and organize the database structure, a modular approach is necessary. This approach allows for easy expansion of the database, a logical linkage of different types of real estate objects, rapid development of applications and reuse of existing system components.

The conceptual model of the database design is divided into three major data groups: Objects, Entities and Rights. The Objects group represents land, buildings and units. The Entities group physical and juridical entities. Rights represent ownership, leases, mortgage, etc. This model is simple yet flexible enough to store data on:

- **Objects**
  - ⇒ Land
  - ⇒ Buildings
  - ⇒ Units
- **Entities**
  - ⇒ Physical Entities
  - ⇒ Juridical Entities
- **Legal Interests**
  - ⇒ Ownership
  - ⇒ Mortgage
  - ⇒ Lease
  - ⇒ Easement
  - ⇒ Encumbrance
  - ⇒ Proxy
  - ⇒ Applications
- **Contracts**
- **Tax**
- **References**
- **Other real estate information**

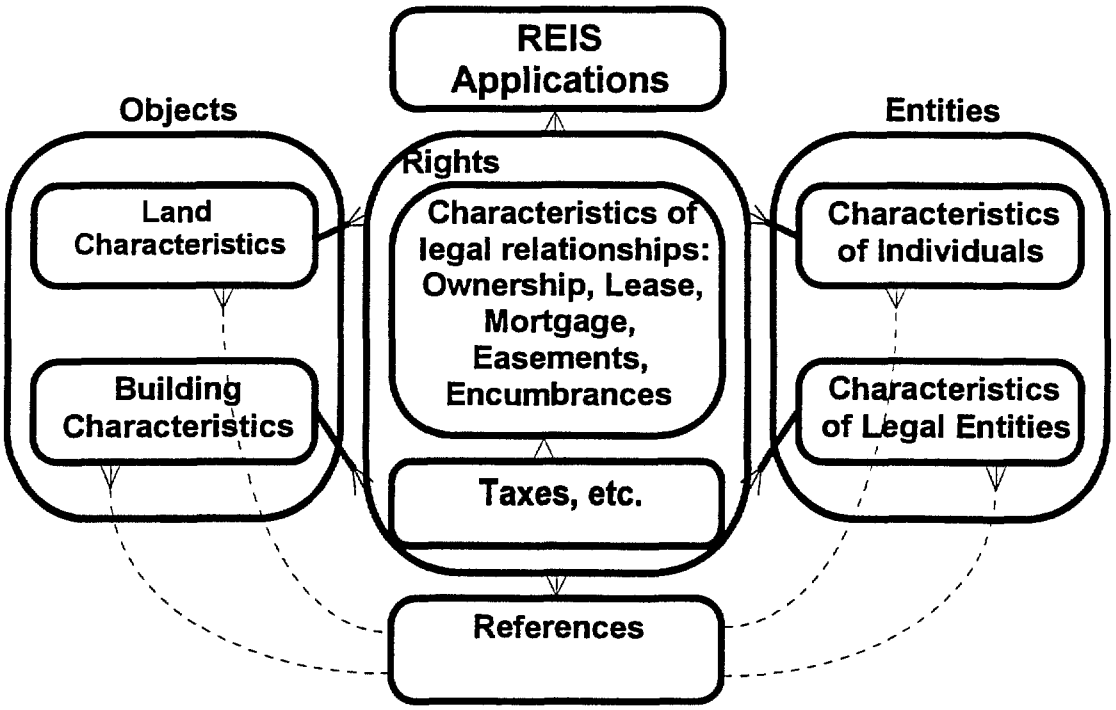


Figure IV. 6: Main Characteristics of A REIS Database

5.1.1 Elements of the REIS Database

5.1.1.1 The Objects Database Module

The Objects database module contains information needed for the identification and description of real estate objects. The main purpose of the Objects database is to create a real estate inventory. This information is important for privatization, first registration, secondary transactions, commercial lease agreements, commercial sales, and for a real estate taxation system. The Objects database is created as a separate module in order to allow flexibility in accessing it from all other parts of the system which require this information.

The Objects module contains information on the description of the real estate objects such as land, buildings, units, etc. The amount of data available for this is large and varied. It is necessary to be reasonable in the detail of the object description and *select only the most commonly used data items.*

A structured approach to the design of the Objects module is to create a main entity to describe each object type and have all additional/subordinate information linked to it. This allows for easy expansion of the system with minimal changes.

A key part of the Objects module is the creation of a system to identify real estate objects. Each object should be identified by a unique real estate object ID. This subject is further discussed in Section 5.1.3.

5.1.1.2 The Entities Database Module

The Entities database module is designed to load, query, update and generate reports about entities. There are two main kinds of entities: physical and juridical. A physical entity is usually synonymous with an individual. A juridical entity is any legally created artifact. The object of the REIS is not to create a catalogue of individuals or companies. The information about physical and juridical entities is used in the system only in the context of the real estate interests.

The information necessary for a physical entity may be limited to what is required to provide a unique identification. This may be done by description of physical documents that may provide at best a unique serial number. The information can be limited to name, date and place of birth, details of the passport or other identification document, and mailing address. This information is held in documents that are typically identified by a document serial number, document number and name of department that produced the document.

The information necessary for a juridical entity is similar to that for a physical entity. The structure of the information is based on one main entity containing identification information and some key characteristics, and a number of entities representing various aspects of the activities of the juridical entity, such as mail addresses and contact information; main activities; number of shares and their distribution between the state, local and foreign shareholders; a list of shareholders (physical and/or other juridical entities) and the number of their shares. The database should also provide historical data to track changes of names, etc.

The minimal information necessary for the unique identification of juridical entities may be provided by the company name, registration number, registration data and name of the registration authority. With this scheme is also possible to introduce a taxpayer number when these become available. There are a number of federal codes (OKPO, SOATO and SOOGU) which may be used for unique identification.

5.1.1.3 The Rights Database Module

The Rights module may be seen as a book or journal used to document all activities relating to real estate, establish priorities and keep track of their status. These activities typically take place between real estate objects, physical entities and juridical entities. This module may be further subdivided into specific kinds of rights of registration. The minimal information necessary for registration includes items on real estate ownership, leases, mortgages, easements, and encumbrances. The Rights module also keeps track of changes in the rights by means of a historical record. Rights are represented by means of a legal document. The records of these documents are also a part of the Rights module. The design of the Rights module requires a lot of specific attention to detail and understanding of the relations among the different rights. This module should be designed in close collaboration with an expert for the particular application which is being created - title registration, etc.

5.1.1.4 Tax

The nature and characteristics of Property Tax make an almost non-dispensable feature of its administration the operation of a computer based Property Tax

Information Management System (PTIMS). The core of the system is the Properties Database (Fiscal Cadastre) where basic information required for property tax administration purpose is stored. Descriptive data for each individual property, taxpayers ID and current tax liabilities as well as past liabilities and corresponding payments are structured in the database which can be permanently accessed by authorized users of the PTIMS. The Fiscal Cadastre is designed based on the original REIS database structure, modified to include the Property Identification Number (PIN) required to support property tax administration and enlarge the operation of tax liabilities and payments.

5.1.1.5 GIS

The link between the legal data and graphical information of the REIS may be performed in several ways. One of the simplest way to do this is by means of the cadastral number. This is the minimal information necessary for unique geographical identification. The City of Pskov has included this additional address field in their database. Table IV. 7 shows the database elements used in the City of Pskov.

Field Name	Type	Description
Cadastral Number	Character (18)	the unique identifier linked to the REIS
Address	Character (25)	the land parcel address, used for queries if the cadastral number is not known

Table IV. 7: Pskov Data Elements to Link REIS Graphical Data and Legal Data

5.1.2 Core Data Elements

To implement the REIS database the following REIS database elements serve as the core of the REIS.

REAL ESTATE OBJECTS

Real Estate Identification

Cadastral Identifier
Address
BTI Registration number and letter
Other Identifiers
RE Identification Catalogues (Street Names, Rayon Names, etc.)

Land Parcel

General Description (use, category)
LP areas (general, developed, under utilities, etc.)
LP survey data (LP survey agency, survey data, etc.)
Appraisal data (normative and market values)
Other related data (other data can be subsequently included, such as contour coordinate description, boundary description, etc.)

Primary Object (any building or construction)

General data (type, use, data built, number of floors, number of residential units, number of nonresidential units, number of entrances, etc.)
Areas
Floor Description
Facilities Description
Construction Description
Appraisal Data

Secondary Object (any commercial or residential unit)

General Data (type, use, areas, number of rooms, etc.)
Facilities
Room Description (if necessary)
Appraisal Data

Object Catalogues (type of use, type of construction, type of roof, walls type, etc.)

ENTITIES

Physical Entities

Name
Date and place of birth
Id document
Address

Juridical Entities

Name
Registration data (number, date and place of registration)
Juridical address
Mail address

Entities Catalogues

LEGAL INTERESTS

Application

Application Number
Description (date, reason, ...)
Reference to RE object/s
Reference to Applicant
Reference to Documents
Result of Application

Proxy

Trustier
Trustee
Reference to RE
Description (date, reason, ...)
Identifier

Legal Interests (Ownership, Mortgage, Lease, Encumbrance, Easement)

Reference to RE object
Reference to Entity
Description (type, share, extension, etc.)
Registration data
Legal basis for registration (reference to document)
Termination data
Legal basis for termination (reference to document)

Certificates

Description
Given to (reference to entity)
Reference to RE object
Termination data
Issued by (reference to agency)
Identifier

Others Document

Description
Identifier

CONTRACTS (any covenant or legal document for the use of property)

Reference to RE object
Lessor (reference to Physical/Juridical Entity)
Lessee (reference to Physical/Juridical Entity)
Terms of Lease
Rent Payments
Rent Review
Penalties
Rent Termination

TAX (Fiscal Cadastre)

Reference to RE object
Taxpayer(s)
Activities
Bank accounts
Founders

5.1.3 A Unique Real Estate ID

A principal element of the REIS database is the ability to identify real estate accurately and easily through a widely available standard that the city can use. This subject is further explained on Volume VI Section 2.5. At the database level, a unique identifier assists the system to:

- Link information from various sources and provide basis for future expansion and integration;
- Object integration - link data about land, primary and secondary objects;
- Vertical integration - among different types of data: graphical, legal, physical cadastre data, planning and zoning data;
- Horizontal integration: among neighboring objects - e.g. send letters to all neighboring parcel owners in regard to a boundary dispute, find all parcels in a block and all parcels located on a particular street, etc.

The chosen system of cadastral identification may differ in different cities. A general representation and model structure of the cadastre may be as follows:

XX:XXX:XX:XX:XX-XXXX-XXX-XXXX

where:

XX	City Code as subject of the Russian Federation
XXX	Cadastral massive
XX	Cadastral zone
XX	Base Cadastral Block Code
XX	Parcel Number
XXXX	Primary Object Number - BTI file number
XXX	BTI Letter
XXXX	Secondary Object Number

It should be noted that there are not always unique numbers for all units inside a building, especially for the commercial units. A way of numbering them must be defined to avoid duplication with already existing numbers of the residential units.

The allocation of cadastral numbers should provide for the maximum possible flexibility in order to impose less changes to the existing local situation and to avoid hindering the process of registration and inventory. For example, if there is no division of a city into cadastral blocks, the address system can be improved and a unique code can be allocated for each street and used as a basis for unique real state identification.

5.1.4 Normalization of Data from Different Agencies

"Normalization" is the database technique for eliminating complex record structures, and "foreign keys" is the corresponding technique for dealing with interfile relationships. The REIS database should eliminate redundancy so that any piece of information is stored in one and only one location of the database. The problem with the REIS database is that information is distributed among several agencies. An individual may have two records containing his or her name and address. This redundancy makes it a problem to keep data up to date and produces errors in reports

The normalization of the REIS data element itself is not a serious problem. The problem is that the data is maintained by different agencies. A way to avoid this problem is through implementation of a central data system, in which the core data will be maintained by the REIS. This requires the cooperation and agreement between the agencies to share their data. (See Volume III, Sec. ____ on data sharing).

5.1.5 Minimal REIS Data Elements

The REIS may have many and different data elements. For the initial implementation of the REIS, a minimal set of data elements is necessary Annex IV. W lists a sample set of REIS database elements and their relationships to other data elements. This list should be adjusted to fit the local conditions.

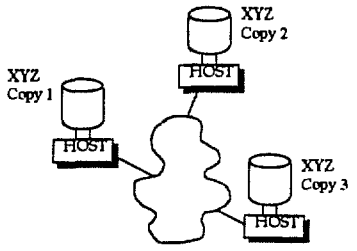
5.1.6 Analysis and Design of the Data Structure

5.1.6.1 Forms of Distributed Data

For the REIS implementation, a centralized data system would work best. In most cities of Russia, however, the REIS data is scattered across several agencies. These agencies consider the data their own but are willing to share it with others. This makes the REIS a likely candidate for a "distributed-data" design.

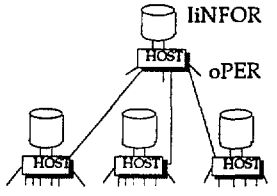
There are several possible models to implement the REIS. The choice of the model should fit the local organization structure and budget of a city.

- **Duplicated Data**



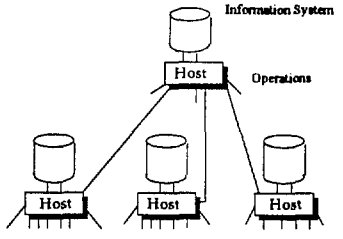
Multiple copies of the same data are stored at different locations because this is cheaper than transmission. Updates to the multiple copies must be carefully controlled. This model is not recommended for the REIS. This can lead to serious security problems as data is duplicated at more than location. This opens the possibility of fraud as a transaction performed in one database is not reflected in another.

- **Subset Data**



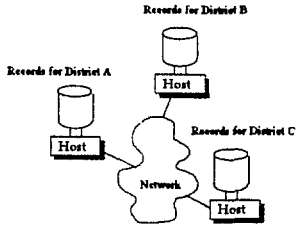
Subsets of data, compatible with a parent database, are stored separately for data entry, retrieval, or local processing.

- **Reorganized Data**



Data in an information or decision support system is derived from data in a routine production system.

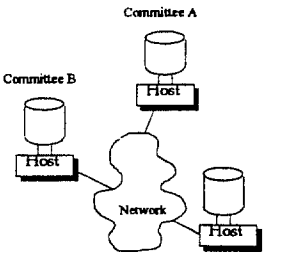
- **Partitioned Data**



The same data *structure* is used in different locations, but not the same *data*.

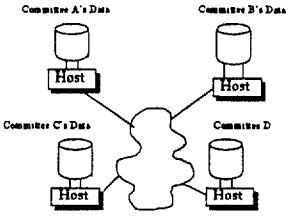
- **Separate-Schema Data**

Different data structures are used in different locations forming an integrated system.



- **Incompatible Data**

Independent computer systems set up by different authorities, or departmental data designed without coordination.



5.2 Data Security Analysis and Design

5.2.1 General Strategy

The general strategy of REIS database system protection from non-approved personnel or public access includes the following aspects:

- managing system users;
- users authorization control;
- providing data protection at the operational system level.

A discussion of general approaches to these aspects follows.

5.2.2 Managing System Users

Managing system users includes creating, changing the parameters and deleting descriptions of REIS users.

Such management should provided by the REIS administrator. The administrator should have privileges for creating or changing the parameters, as well as deleting users. The administrator would be some official, probably Head of the Department of Registration of Real Estate Rights and Transactions.

In case it is necessary to provide strict data protection, the system administrator should be the only person who may create database objects and establish users' access rights.

5.2.3 Control of User's Authorization

REIS user's authorization control is to be provided at following levels:

- **At the database level**: The user's identifier and password are to be checked at the moment the user attempts to establish a connection with the database.

- **At the application level:** The user's identifier is to be checked when the user enters the application.

- **At the operating system level:** The user's identifier, password and access privileges are to be checked in compliance with operating system regulations. Provisions should be made for updating the passwords both regularly and in an emergency.

5.2.4 Providing Data Protection at the Operating System (OS) Level

To provide data protection at the operating system level, the system administrator should have OS privileges to create or delete OS files and file systems related to REIS.

Ordinary database users should not have OS privileges to create or delete OS files and file systems related to REIS.

Data Protection Model

A model of REIS data protection from non-approved access and management of access privileges is depicted in Figure IV. 7. This model design provides a general approach to data protection management. This model creates a database access privileges management system which uses roles and is supplemented by means of control of access to the application. *"Roles" means in this context the group of privileges and other contributions, which could be given or taken back simultaneously.* Roles simplify assignment or management of general privileges which are required by different groups of users of the database.

According to this model, data protection for system personnel has the following procedure:

1. Establishing who are database and applications users, system administrator and operating system users.
2. Establishing objects of protection from non-approved access:
- applications (appropriate software);
- databases and their objects (tables, sequences, triggers, stored procedures);
- file systems.
3. Each application should be determined by its *role,* understood as the total number of access privileges to database objects through this application.
4. For each application role, the necessary privileges are assigned.
5. Each user should be determined by his role, understood as the total number of applications roles used by this user.
6. Each user is determined by its access authorization to each application used.
7. The total number of privileges is established to provide the system administrator access to database objects.
8. Authorization of system administrator's access to OS file systems is to be established.

The REIS data protection model helps to solve the following possible problems:

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- If the user's functions expand (user has to work with a new application), he is assigned another role corresponding to his new functions, or the new role is to be created. A new application access authorization should also be established.

- If the user's functions are reduced (there is no need to work with a certain application), the assigned role is taken back and another role is given. The application access authorization should also be deleted.

- If the administrator's functions expand, he is given additional privileges corresponding to his new functions.

- Information on each role and each user is to be kept in a "data vocabulary" so that an appropriate decision can be taken in each specific case.

Notes:

1. To describe users, roles and privileges, SQL operators syntax is used (CREATE USER, CREATE ROLE, GRANT).

2. Oracle SQL* Plus, SQL* DBA or Oracle User Manager could be used as instruments for creating all the descriptions mentioned below.

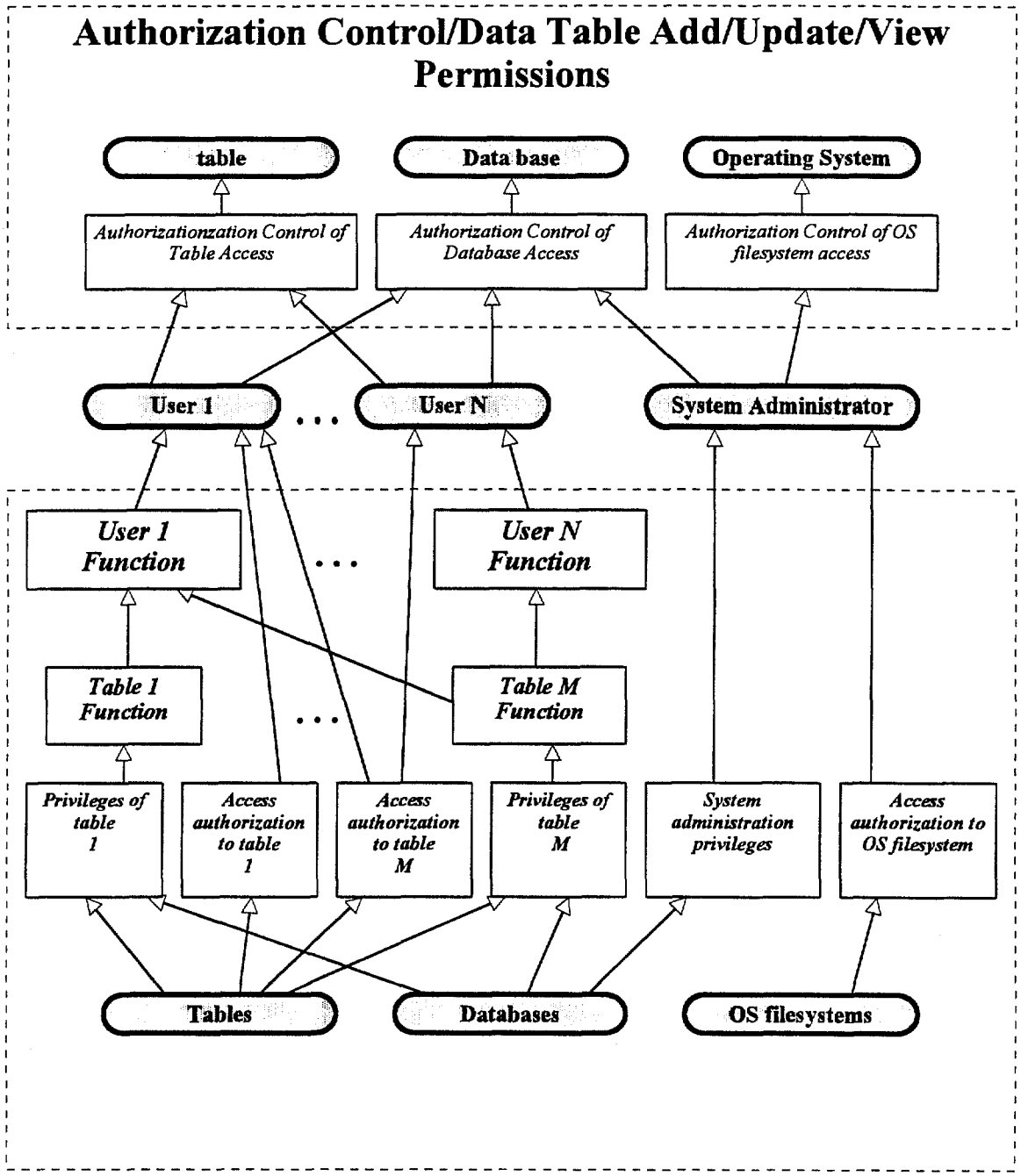

Figure IV. 7: SCHEME FOR MANAGEMENT OF REIS ACCESS PRIVILEGES

5.2.5 Data access policy

The security of the computer system can be maintained by mechanisms within the software and hardware. In order for these to work, an adequate access policy needs to be created according to the requirements of the city and the legal regulations. A matrix is a helpful tool for creating the access policy. The matrix can be taken to several levels of detail. The most secure level is at the database table and field level. Items to cover in this matrix are:

1. Column Number:
2. Table Name
3. Field Name
4. Information Generation — Organizations creating information and responsible for its correctness
5. Information Entrance — Operators of the above-mentioned organizations responsible for entering information into the REIS
6. Information Approval — Individuals of the above-mentioned organizations responsible for changing information into the REIS
7. Database Keeping — Above-mentioned organizations responsible for safety, security and prevention of non-sanctioned access.
8. Database Update — Responsible for competent update entering into the REIS
9. Database Query — Organizations participating to the REIS that have read access for organizational needs but prohibited from giving information to third parties.
10. Public Access Grants — Organization administrator is responsible for regulating public access to REIS information.
11. Information Managers — Access policy for technical team of information managers.

Table IV. 8: Data Access Distribution and Policy

An example follows.

	Table	Field	Information Generation	Information Entrance	Information Approval	Data-Base Keeping	Data-Base Update	Data-Base Query	Public Access Grants	Information Managers
1	2	3	4	5	6	7	8	9	10	11
	Land parcel									
		Identifier	REIS	REIS	Land Committee	REIS	-	All	√	REIS
		Cadastre Region	Land Committee	Land Committee	Land Committee	REIS	Land Committee	All	√	REIS

Table IV. 9: EXAMPLE OF A REIS ACCESS CONTROL MATRIX

5.3 Design of the Software Function

The first objective of the REIS application is to support automation of the registry. In addition, it should later support the property taxation system and the overall real estate information system.

These requirements require a *modular approach* to design. *The module for registration is created first to provide a foundation for the other applications.* The taxation application is

built on the foundation of the registration module. Other real estate functions can continue to be added to these.

These modules share common database elements and functions. The overall design of the REIS should always take these factors into consideration. *Each application should be planned and designed separately.* This simplifies the creation and maintenance of the each application. It improves security and reduces the dependence of each application on others.

5.3.1 Information System vs. Registration System

A fundamental question which must be addressed in the design of the system is the nature of the system to be created. In the case of the real estate information system, there are two basic alternatives from which to choose. One alternative is an information system; the other is a process support system, or a system which actually automates the process of registration. The two systems are very different, and those differences must be considered carefully when the initial decision is made as to the design of the system.

Of the two, the information system is the more simple. The function of the information system is to store data regarding the real estate objects, their owners and the documents which create the rights in them. The data in the information system can be used to produce statistics and reports about the registration process, and for the management and analysis of the land resources of the rayon. Data in the information system can be combined with data from other agencies, such as the Statistics Department or the Tax Inspector, to provide useful management information.

The process support system can do everything the information system does and more. A REIS designed as a registration support system will actually automate the process of registration and will include in the database all data items pertaining to the registration process as well as the real estate object, the owners, the documents and the rights the owners have in the objects. This means that the date and time documents are received must be included in the system, the nature of official actions taken with respect to documents must be recorded, and the electronic "signature" of the officials taking action or approving or rejecting documents must be included as well. The database can be searched to determine the status of any given document filed in the Registry. This will enable the analysis of backlogs of registration work at various offices, and the calculation of the time expended in approving or rejecting applications for registration. Such a system will enable the Registrar to manage the caseload of the registry. The registration support system will also produce all the documentation which the Registry must produce, such as certificates of ownership, *spravki*, and registration books. At a more sophisticated level, a system to support registration could even evaluate documents, based on pre-programmed criteria, and determine whether or not they should be accepted for registration.
The database created in the registration support system can likewise be used for information purposes and can provide the basis for statistical analysis the same as the information system can. The data in the registration support system database can also be used with the geographic information system to produce maps showing the spatial distribution of various phenomena across the rayon. Thus, the process

support system is a very powerful tool, both for management and analysis as well as the support of the process itself.

A registration support system will impose a number of constraints on the Registry personnel and will require more work and attention to operate. In addition to following all manual processes, the automated process imposed by the system must also be followed. Constraints and edit checks must be built into the system, and situations will probably occur in which those constraints must be overridden. This will require time and manual intervention. Furthermore, if the extensive volume of data collected regarding the registration process is not used, the data will simply add to the cost of maintaining the database without providing anything of value. All these factors should be considered when attempting to determine whether to implement an information system or a process support system.

One of the major determinants of whether to utilize a registration support system is the volume of transactions. If the volume of transactions is large, the system can be an effective tool to manage and monitor the caseload and to insure no applications for registration or other documents become lost in the system. If, however, the volume of transactions is small, the benefits of the registration support system will be largely outweighed by the extra effort required to use the system, with no real benefit because existing manual processes can efficiently handle the caseload. It is necessary to evaluate the purpose of the REIS in order to determine whether an information or registration system is best.

5.3.2 Registration

The REIS application allows the city to accurately locate and identify real estate objects, and to record the ownership rights and other interests in those objects. The application is responsible for the automation the registration procedures established by the city registrar. *It is important that the procedures of the registrar be created first.* The screens and outputs of the computer system must be created to match these procedures.

The minimum set of functions supported by the Registration application should be:

- **Start and End of Work**

  ⇒ Starting a working session.
  ⇒ Test for registrar authenticity.
  ⇒ Defining a new system user.
  ⇒ Deleting of system user.
  ⇒ Using help system.

- **Application processing**

  ⇒ Input of information about application and about documents establishing and confirming rights.
  ⇒ Search for information about land parcels.
  ⇒ Search for information about buildings.
  ⇒ Search for information about flats.
  ⇒ Search for information about non-residential premises.
  ⇒ Search for information about individuals.

⇒ Input of information about individuals.
⇒ Search for information about legal entities.
⇒ Input of information about legal entities.
⇒ Saving an application.
⇒ Getting information about an application.
⇒ *Getting complete information about an application.*
⇒ *Getting a list of applications.*

- **Property registration**

  ⇒ Registration of right to a land parcel.
  ⇒ Registration of right to a building/flat.
  ⇒ Registration of right to non-residential premises.

- **Lease registration**

  ⇒ Registration of a land parcel lease.
  ⇒ Registration of a building lease.
  ⇒ Registration of a flat lease.
  ⇒ Registration of non-residential premise lease.
  ⇒ Lease discharge.

- **Mortgage registration**

  ⇒ Registration of a land mortgage.
  ⇒ Registration of a building mortgage.
  ⇒ Registration of a flat mortgage.
  ⇒ Registration of a non-residential premise mortgage.
  ⇒ Mortgage discharge.

- **Easement registration**

  ⇒ Registration of an easement for a land parcel.
  ⇒ Registration of an encumbrance arisen from an easement.
  ⇒ Easement cancellation.

- **Encumbrance registration**

  ⇒ Registration of encumbrance for a land parcel.
  ⇒ Encumbrance cancellation.

The minimum set of *outputs* supported by the Registration application are:

- **Issuing output forms**

  ⇒ Output form "Certificate of State Registration of Rights to Real Estate Objects and Real Estate Transactions" (for land parcels)
  ⇒ Output form "Certificate of State Registration of Rights to Real Estate Objects and Real Estate Transactions" (for buildings)

⇒ Output form "Certificate of State Registration of Rights to Real Estate Objects and Real Estate Transactions" (for flats)
⇒ Output form "Certificate of State Registration of Rights to Real Estate Objects and Real Estate Transactions" (for non-residential premises)
⇒ Output form "Certificate of existing rights to real estate objects" (for land parcels)
⇒ Output form "Certificate of existing rights to real estate objects" (for buildings)
⇒ Output form "Certificate of existing rights to real estate objects" (for flats)
⇒ Output form "Certificate of existing rights to real estate objects" (for non-residential premises)
⇒ Output forms for "Unified State Registry of Rights to Real Estate" (the Registry does not exist yet)

- Folios of registration books on the five main types of rights to real estate:

⇒ Book of records of the main rights (desirable)
⇒ Book of records of leases (desirable)
⇒ Book of records of mortgages (desirable)
⇒ Book of records of easements (desirable)
⇒ Book of records of encumbrances (desirable)
⇒ Book of records of applications (desirable)
⇒ Book of records of printed and issued certificates of state registration (desirable)
⇒ Book of records of printed and issued certificates of the current state (desirable)
⇒ Book of records of printed and issued certificates of historic search (desirable)
⇒ Book of records of powers of attorney
⇒ Description of parcels (optional)
⇒ Description of primary objects (optional)
⇒ Description of secondary objects (optional)

The minimum set of *queries* supported by the Registration application are:

- **Standard queries to the database**

⇒ Execution of query "Buildings and their owners."
⇒ Execution of query "Land parcels and their owners."
⇒ Execution of query "Buildings on a land parcel."

Additional *public information queries* supported by the Registration application are:

- **Public Information Queries (Examples)**

⇒ Basic RE description for land, building and units, organized around the address and cadastral ID
⇒ Detailed RE description, including normative value

⇒ Catalogue of all real estate objects which each committee has information about, e.g.
  * List of all municipal properties, including those already leased and those available for sale and lease,
  * List of all real estate objects registered in the different REIS agencies with generalized information on their legal status, such as type of ownership, number of owners, number of mortgages, whether an arrest is in effect, etc.
  * list of all real estate sold.

⇒ Lists of real estate being dealt with in each committee, e.g.
  * list of RE in process of lease or sale in Property Committee/Property Fund
  * list of current applications for registration in Land Committee

⇒ Verify legal status - showing detailed title information (ownership, mortgage, lease, encumbrances, etc.) for authorized users, e.g. tax authorities, courts, etc.

5.3.3 Tax

The Property Tax Information Management System (PTIMS) is structured as seven interrelated Modules which combine data processing and administrative management functions intended to support the functions of Data Management, Property Valuation , Tax Assessment, Bills and Tax Rolls Production, Tax Collection Monitoring, Enforcement Support and Taxpayer Services Support. All six modules share a common Database, the Fiscal Cadastre and common procedures for users access monitoring and information retrieval. A diagram of the PTIMS structure is shown on Figure IV. 8.

- **Data Management Module**

  ⇒ The Data Management Module is intended to deal at first stage with the Construction of the Fiscal Cadastre, which links land and buildings information through the use of a common PIN for all properties registered in the Bureau of Technical Inventory (BTI) and the Land Committee (LC) files.

- **Valuation Module**

  ⇒ Based on real state market information and using Computer Assisted Mass Appraisal techniques (CAMA), a set of property valuation models have been is developed specifically for the city. The Valuation Module of the PTIMS includes all these models to generate the set of Fiscal Values to be used as the tax base for the operation of the Property Tax.

- **Tax Assessment Module**

  ⇒ Starting from each property value as determined by the corresponding valuation model and taking into account whatever Property Tax related legislative and regulatory framework in force (e.g., tax rate, exemptions, relief thresholds, special privileges) to be decided for property tax in the

Pilot Cities, the Tax Assessment Module will produce the corresponding property tax assessment for each property registered in the Fiscal Cadastre.

⇒ Every time an authorized creation, deletion or modification is performed in the Fiscal Cadastre, the Valuation Module shall automatically recalculate the new Fiscal Value and Assessment Module shall generate the corresponding Tax Assessment. Valuation and assessment statistics are automatically updated based on the new values.

- **The Bill and Tax Roll Production Module**

  ⇒ Differently from other taxes which are self-assessed by taxpayers, Property Tax is a pre- assessed and pre-billed tax. Therefore, Tax Notices, Tax Receipts and Tax Rolls must be generated by the Tax Administration and delivered to taxpayers for further payment. This task requires a specialized high-production module due to the massive nature of the exercise.

- **Collection Monitoring Module**

  ⇒ Although the Collecting Banks and the STS monitor collections for their own purposes, the City requires a similar function operating independently for cross-checking purposes and revenue performance monitoring and prediction. The Collection Monitoring Module allows for these purposes, based on capturing payment information directly from the payment points (e.g. banks).

  ⇒ Whenever the Bill Production Module generates a Tax Bill for a property, immediately the Properties Datafile registers the corresponding liability. The moment a paid Receipt is entered and accepted by the system, the liability is extinguished for the corresponding bill and property and the paid amount account for control and statistical purposes. In additional to individual liability-payment monitoring, this Module routinely generates a set of specifically designed Collection Reports by consolidating billing and collection information by different aggregation criteria.

- **Enforcement Support Module**

  ⇒ Closely related to the Collection Monitoring Module, this module allows the City Administration to collaborate with the STS in the selection of taxpayers for enforcement purposes, eventually allowing to follow up the different steps of the enforcement procedures by the STS.

- **Tax Services Support Module**

  ⇒ The concept of strict taxpayers compliance enforcement by the tax administration should be counterbalanced by the rights taxpayers have to be permanently and reliable informed on the characteristics of the tax and their rights to appeal situations honestly considered to be detrimental to their interest.

⇒ The practical implementation of these concepts leads to the creation of Taxpayer Services Centers and the obligation of the Tax Administration to provide an acceptable level of services when dealing with taxpayers. The information management capabilities required to support these concepts are provided by this module, including the specific design of the administrative components required to accomplish these objectives.

- **Security**

⇒ To ensure adequate data integrity, users access to information is restricted using pre-established access privileges. Additionally and transparent to the users, every interaction between users and the system is registered automatically. This particular feature allows to generate audit trails, should such an investigation be required, and also allows to generate operational statistics.

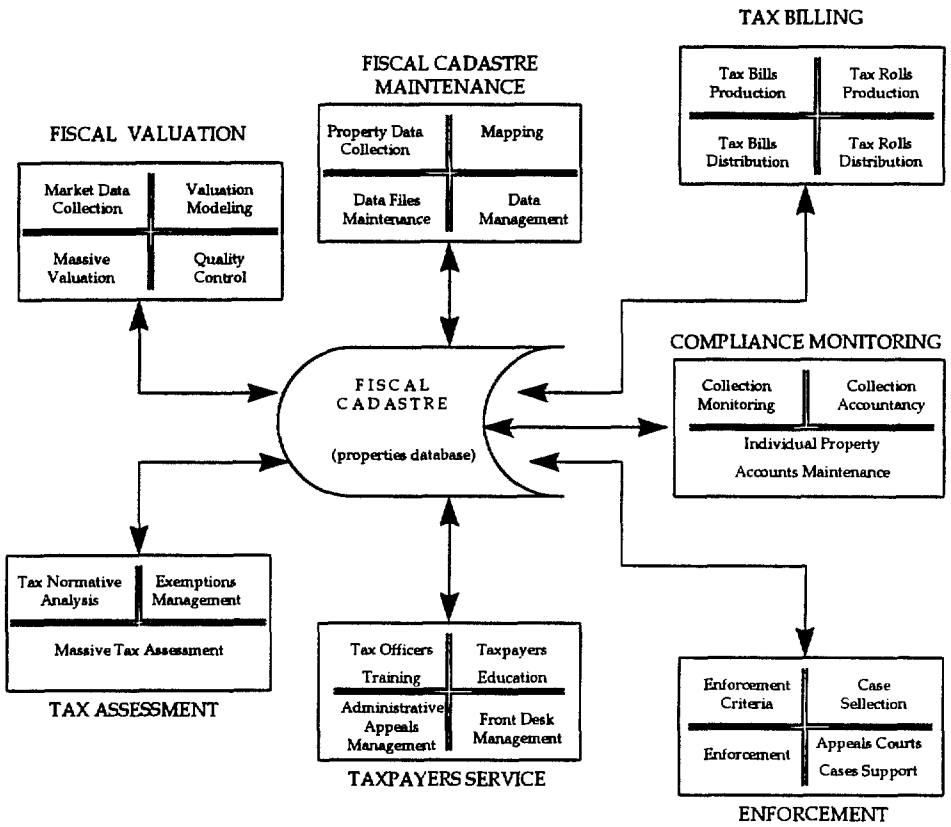

Figure IV. 8: Relation of the REIS Tax Modules and Functions

5.3.4 GIS

Geographical Information Systems is a large and complex field of land information. A GIS is a able to perform complex spatial on graphical data, flexible automated mapping capabilities, analysis and modeling tools that can be used to solve complex

planning, modeling and management problems.. *Initially GIS should provide only a minimum set of functions to support the REIS, not to create a city-wide information system.* Land registration requires that all physically separated real estate objects have an accompanying attribute table to describe the rights attached to that real estate object. Thus graphical representation of the land parcels and buildings is an essential component in the establishment of a secure registration system.

The advantage of a GIS system is that the information exits in digital form. A map is static and are difficult and expensive to keep up to date and since they are static they lose flexibility. A GIS map is organized into layers. Each layer consists of different aspects of the whole map. Stacking the individual layers together produces the complete map. A GIS provides the facility to extract different sets of information from a map (roads, settlements, vegetation, etc.) and use these as required. This provides great flexibility, allowing a paper map to be quickly produced which exactly meets the needs of the user.

Some general capabilities of a mapping/GIS system should be:

- "Point and shoot" object selection/activation;
- Area calculations;
- Perimeter calculations;
- Coordinate geometry;
- Polygon overlay calculations;
- Keyboard entry of coordinate data;
- Contour generation from coordinates;
- Support of a pointing device;
- Support of a report generator/plotter; and
- Support of a macro/command language.

In support of registration, a GIS application should be able to produce a diagram showing real estate objects which would accompany the Certificate of Title. This diagram should at a minimum display the following:

- North direction
- Parcel boundaries
- Street frontage, corners and intersections
- Parcel identification number of real estate object and the identification numbers of surrounding parcels
- Parcel coordinates
- Easements
- Building identification number

To support area calculations and other spatial queries, the graphical information pertaining to the position of parcels, buildings and easements must be the most accurate available.

Eventually, to support a city-wide information system, the GIS can be expanded to include the following layers in the mapping portion of the graphical database:

- Roads

- Railroads
- Bodies of Water
- Utilities
- Topography
- Geology

There are different GIS packages that work well with a REIS. ARC/INFO is a high-performance alternative used by the cities of Tver and Orenbourg. MapInfo is a lower end PC-based product used by Pskov and Peccary.

Pskov contracted with a local surveying firm to create digital basemaps of the area. As land parcels are added to the REIS, the graphic components can be digitized and linked to the tabular database. The MapInfo program is designed to automatically calculate the area of the parcel and store this information in the Oracle database.

5.4 System Design

Analysis of the REIS and its implementation in Russia makes strong cases both for a centralized system and for a distributed system.

The reasons to have a centralized REIS system are:

- Applications such a registration and taxation call for data to be stored at one location;
- Data for registration and taxation is updated frequently and all users need up-to-date information. Centralized data eliminates the problem of data synchronization;
- Spontaneous queries from users to the data can only be answered by examining many records or the database as a whole. Searching data that is scattered among different locations is time consuming;
- The storage of data for registration and taxation requires a high level of security. The unlawful use of the data by criminal elements is a strong possibility. The data is better guarded at one location;
- To make the system auditable it is cheaper to keep track and details of the updated transactions in a centralized system.

The reasons to have a distributed REIS system are:

- Some of the REIS key data is maintained by different agencies (BTI, LC, etc.;)
- The departments perceive the data to be their own;
- Data accuracy, privacy and security are a local responsibility;
- Although a large amount of the data used by one agency is rarely used by another, there is still a strong reason for the agencies to share data;
- A localized decision support is used;
- The cost of a large centralized system to maintain *all* the information from all the departments is too high.

In developing the standards and guidelines for the design of the REIS, there should be four primary objectives:

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- The system design should be as simple as possible, while still meeting the rather demanding requirements of the applications;
- The system design should not result in permanently chaining the city to a single hardware or software vendor;
- The system design should take advantage of the current growth in the data processing and information system industries, while at the same time not rely on unproved technology;
- The system design should allow for the sharing of REIS data among the different organizations which maintain this data.

The REIS computer environment will be distributed in terms of both the data and actual computer processing. There will be a mix of hardware and software products, though the number of different vendors should be minimized to ease implementation and maintenance problems. This distributed approach has many advantages, but it does have the disadvantage of making it more difficult to ensure compatibility between products.

It should be noted that in discussing centralized and distributed options for REIS implementation, there is also the option of combining the two options. In a centralized-distributed system all the information directly related to the registration of rights to real estate is kept in one central server, which provides all the advantages of this option, while data from the agencies not related to such registration are stored in their own servers and are fully controlled by the respective agencies. This scheme conforms to the concept of modularity - the main module is the integral and indivisible REIS Core operating information necessary and sufficient for the registration of real estate and a number of modules satisfying the needs of the agencies. The agencies can create or eliminate modules at their own will and this process is fully controlled by them and in no way influences the system as a whole.

Physically the information essential for the system Core is not necessarily located on a single server. But even if it is located on several servers, the Core has a precise structure and cannot be arbitrarily changed by users. So in case the Core is distributed between several servers, it must be clearly stated which information located on each server belongs to the Core and which information belongs to this particular agency. The rules of work with such data will vary considerably.

5.4.1 The System Model

The key to making a distributed strategy work is to develop a sound set of standards which bind the various components of the system together. The standards should specify how the hardware and software components of the system will perform. In addition, the standards will identify procedural and organizational norms for the organization to adopt relative to the implementation and use of information technology.

This section provides an overview of standards and specifications for the various components comprising the REIS computer configuration. A discussion of some of the recent trends in hardware, software and networking will also help the city staff to understand better the reasons for the recommended design.

5.4.2 Hardware Selection for the System Model

When specifying hardware in a non-vendor-specific way, it is difficult to provide precise details since each hardware and software combination is a special case. For this reason, the guidelines provided in this section are given in the form of standards, rules of thumb, and comparisons of various alternatives. For each topic included, a discussion of the underlying technology is provided to allow the city staff to better understand and evaluate different vendors' system proposals and configurations. When discussing system requirements and configurations with the vendor community, it has been the REIS experience that software vendors generally have a better understanding of the hardware requirements in any given situation than the hardware vendors do.

Hardware vendors often under-configure the systems they propose. In part, this can be ascribed to the technical ignorance of some sales and marketing support personnel. Another contributing factor is the natural tendency to "low-ball" in competitive situations. The tendency to under-configure is almost always in terms of RAM, disk space, and often screen size. It almost never occurs in the model of workstation proposed, as that is easily compared to other competitors' offerings in terms of benchmark scores.

5.4.2.1 Performance

Specifying a computer by some measure of its power or performance is a thankless task. There are no satisfactory measures because every computer design favors certain operations over others and every benchmark favors certain types of processing over others. Benchmark results are also very dependent on how the system is configured at the time. How can one ever be sure that any one generic benchmark is more appropriate to their situation than any other?

"Specmarks" are a measure of computer system performance promulgated by a multi-vendor consortium. At this time, the test comes in two different versions, '89 and '92 (or 1.0 and 2.0). Each version consists of multiple tests of raw system performance. The results are aggregated into a general purpose measurement and a graphics measurement, which are added together for an overall Specmark rating. As with most benchmarks, the Specmark rating is not particularly relevant to real-world computing, and it is subject to vendor tricks intended to give misleadingly favorable results. However, as a general guide for ranking and selecting systems by relative performance, they can be useful. REIS suggests that in the absence of other evidence, differences in Specmark scores of less than 20% are probably irrelevant. For host/servers, the "general-purpose Specmark" (the Specmark minus the graphics portion) is a better measure of the tasks host/servers actually perform.

5.4.2.2 Hardware Life-Span

The life-span of computer hardware is very limited. What is state-of-the-art today will be superseded within about six months. Beyond that, the useful life of the hardware is roughly three years. After three years the hardware can still perform a useful function, but only in a more limited role. For example, a state-of-the-art high-

end workstation will be replaced by a new model in the vendor's lineup within six months. The machine will still function within the user's environment in its intended role for approximately three years. After that time, the needs of the user and advances in software functionality will render the workstation obsolete. The life of the equipment can however be extended beyond three years by downgrading its role, such as from a high-end station to a low-end station.

In terms of the question of purchasing hardware versus leasing, this analysis of hardware life indicates that *only high-end equipment should be purchased.* Lower-end equipment will simply become obsolete too quickly to justify the investment. By the same reasoning, *leases should be for no more than three years* so that the equipment can be maintained at, or close to, state-of-the-art. Leases should include upgrade clauses, so leased equipment can be upgraded during the lease itself.

5.4.2.3 Host/Servers

Today's RISC-based systems offer a level of performance equivalent to that of mainframes at a fraction of the cost. These systems are referred to as "host/servers" because they are capable of functioning both as a "host" computer, running applications software and supporting terminals, and as a "server", responding to requests from software running on other workstations and PCs. These systems are capable of functioning in both these roles simultaneously.

The savings afforded by the use of a RISC-based system rather than a mainframe-based system is a result of:

- lower initial purchase price of the hardware,
- no requirement for a computer-room environment,
- lower software licensing fees,
- reduced system maintenance costs, and
- reduced system support personnel costs.

As indicated, one of the cost savings afforded by today's RISC-based host/server systems is related to the fact that they do not require the traditional "glass house" environment required by mainframe computers. However, as we shall see in the following paragraphs, a computer room is often still necessary.

One area of the computing environment that cannot be overlooked is that of power supply. Disruptions and fluctuations in the supply of power to the system will result in the corruption of the file system and resulting loss of data. The strict adherence to a program in which files are duplicated on a regular basis onto a secure medium (system back-up) will reduce the effect of such a data loss, but not prevent it. The system's file-servers need to be protected against the sudden loss of power as well as against power surges, spikes, and brownouts. A high-quality interruptible power supply (UPS) with power conditioning is therefore required for all host/servers as well as all UNIX-based workstations.

In addition to a reliable power source, computers do require a controlled climate. The rule of thumb for PCs and UNIX mini-computers and workstations is that if the temperature and humidity are comfortable for humans in office clothing, they are

suitable for the systems. UNIX systems are usually left on 24 hours a day, 7 days a week. Turning computers on and off is stressful to the hardware. Furthermore, many activities such as backups, software upgrades and file transfers are scheduled in off hours. UNIX systems also have elaborate start-up and shutdown routines designed to preserve system integrity. They cannot simply be turned on and off.

Many buildings have their climate control turned off or scaled back on weekends and at night. This often creates conditions detrimental to the computer systems and the data they house. Instead of keeping climate control in effect for the entire building all the time, the rooms where the main systems are housed can have their own climate control installed. A small air conditioner, for example, could be kept running to cool one or two rooms containing the organization's host/servers, UPS, and communications hardware. Other UNIX workstations could be shut down at night. Confining these systems to a small area also allows them to be physically secured better. Effectively, this is a computer room.

Large amounts of memory and magnetic storage will be attached to the host/server in order to handle the data storage and processing requirements of the system and the application software. For the REIS it is generally recommended to use RAID (Redundant Array of Inexpensive Drives) subsystems for Host/Servers. If, however, RAID subsystems are not used, then disk capacity should be spread over at least two or three drives to reduce access times. Having two or more disks, or disk subsystems, allows a certain amount of parallel activity to take place, thereby reducing the amount of delay incurred by the mechanical movement of the drive read/write heads.

If RAID is considered, it should be noted that RAID level 5 is generally best for database access while RAID level 3 is better suited for GIS and CAD. This is another case where tuning a host for GIS conflicts with tuning for database access.

A host/server needs to be powerful enough to serve several workstations as well as a larger number of X-windows terminals and PCs. A general rule of thumb is that each workstation will need about four megabytes of the host's RAM, while each X-windows terminal or PC accessing the host/server through X-windows emulation software will need approximately eight megabytes of RAM. It is also necessary to include additional 64MB to support the server processes. The REIS normally begins with 64MB of RAM and adds 16MB for each concurrent GIS user plus 4MB for each concurrent non-GIS user. *For the REIS, experience would lead us to recommend as much RAM as one can afford.*

5.4.2.4 Calculation of Physical Storage

The REIS will have several pieces of hardware for different functions. The hardware selection is highly influenced by the physical storage requirements. The physical storage requirements of the hardware to store the REIS database requires particular attention.

There are many factors in the calculation of the physical storage necessary for the REIS database. In general, the storage requirements can be calculated as the sum of the REIS data, the operating system and the applications.

The calculation of the capacity requirements for the REIS can be performed on a simple table such as the one in the following example:

Database Element	Number of Objects		Bytes per Object		Table Size (MB)
Building Data	35000	X	480	=	16.8
General Flats	102000	X	432	=	44.1
...	...		...		...
...	...		...		...
DBMS Overhead	50%	X	461	=	230
			Total	=	xxx

Table IV. 10: CALCULATION OF REIS STORAGE REQUIREMENTS

These are initial estimates of size. As the number of interests in real property grows and the market becomes more active, the databases will get larger. The database will increase as the city finds other applications for the basic data within REIS and adds additional data.

The documentation of the operating system and other applications is the best source to obtain an estimate of its physical storage requirements.

5.4.3 Database Section Table for the System Model

The major component of the software to be purchased is the relational database management system (RDBMS). This is the "engine" which will drive the specific applications written to manage the databases in the REIS. The two most common database management systems are xBase and Oracle. This section compares the advantages and drawbacks of both systems and a combination of the two.

dBase, FoxPro, Paradox, and Clipper are a few of the xBase packages on the market today. Given the popularity of xBase applications, programmers and other support persons are relatively easy to find. The programming languages are moderately easy to learn. Training is not expensive and there are usually no licensing fees. It is possible to connect the databases with PC-based Geographic Information Systems.. The number of records accessible has been tested successfully in the millions. There are no built-in auditing and security measures.

Oracle is considered to be the industry standard for larger computing systems. Oracle supports and is supported by all major application development packages including GIS products. Overall, Oracle is the fastest RDBMS available and provides excellent support for distributed databases. User access can be controlled and audited. Oracle offers extensive record-keeping capabilities and fail-safe alternatives in the event of a system crash. Experienced Oracle programmers may be difficult to

find and training is expensive. Oracle is used for the REIS by Tver, Pskov, Pechory, Orenbourg.

Comparative Characteristic	X-Base	Oracle
Networking Capability	Multi-user	Multi-user
Database Model	Relational	Relational
Query Language	xBase, SQL	SQL,PL/SQL
The possibility of using the models:		
File Server	Yes	Yes
Database Server	No	Yes
Application Server	No (?)	Yes
Transaction Mechanism (Rollback?)	No	Yes
Distributed Database Support	Yes	Yes
Integrity Constraints	No	Yes
Built-in Authorized Access	No	Yes
Fault Tolerance Possibilities	?	Yes
Automatic Archiving	No	Yes
Internal Auditing Systems	No	Yes
Database Events Support	Limited	Yes
Difficulty of Technical Training	Middle	High
Availability of Trained Specialists	Many	Few
Difficulty of End-User Training	Low	Low
Difficulty of System/Database Administration	Low	High
Need for Database Administrator	No	Yes
Server Requirements:		
CPU Requirements (minimal/optimal)	486/Pentium	486/Pentium
RAM (minimal/optimal)	16 MB/32 MB	32 MB/64 MB
Disk Space Required for the Software:		
for development	<100 MB	100-200MB
for operations	variable	variable
Access Time	Fast	Fast
Required Operating System	Windows NT, Windows '95, Windows for Workgroups, OS/2, Novell	Windows NT, UNIX, Novell, OS/2
Price:		
Server	<$375	$5,000
Client	Included	$370/seat
Product Examples (similar products)	FoxPro, dBASE, Paradox, Clarion	Oracle, Informix, Sybase, Progress, DB2, Interbase, Gupta (SQL Windows), Ingres

Table IV. 11: COMPARATIVE ANALYSIS OF xBase AND ORACLE DBMS

Oracle and xBase Combination

Both xBase and Oracle include a database and a programming language. It is possible to combine the strong points of both xBase and Oracle by using the xBase front-end programming language with an Oracle database. The benefits of combining the two are the advantages of the database security features of Oracle coupled with the easier programming language of xBase.

No city has yet adopted this combination package for the REIS, but Pskov's GIS system serves as an example of how using a database with different programming language can be used effectively. As known, Pskov uses Oracle with links to the MapInfo GIS. MapInfo's programming language was used to create the data entry screens to enter digitized land parcel information. The data, however, is stored in the REIS Oracle database through SQL calls from MapInfo. All of this is transparent to the user and it appears that all programming was done in Oracle.

5.4.4 Development Tools

So far in this section, system architectures have been discussed primarily in terms of the hardware and operating systems. Database management systems (DBMS) also reflect and support aspects of the system architectures for which they are designed. The dominant vendors of relational database management systems (RDBMS) all support, to varying degrees, a client-server architecture as well as a host-based architecture. They are also approaching support for the peer-to-peer architecture, but there are still a number of technical issues which await a satisfactory solution. Since client-server and peer-to-peer architectures are network-based, these vendors offer inter-database links which operate over common network transports, such as TCP/IP. The dominant vendors do a good job of supporting links between clients and servers when the client has little or no local data. They do a reasonably good job of allowing servers running their products to access each other and for the client applications to present what appears to be a single view of the data from multiple servers. Some, such as Oracle, allow transparent read-only network access to some other vendors' products as well. *None of the vendors adequately support a truly distributed database* where pieces of the database are each housed on different vendors' systems - a peer-to-peer database architecture. The common shortcoming in this case is the tool set for managing the databases across the network and keeping them current and synchronized.

Some vendors of third-party front-end and RDBMS enhancement products also provide inter-database network links. These products allow a front-end environment to transparently access multiple databases of several vendors for both viewing and updating. Some are even capable of managing a single common data dictionary for all of the databases, and support hooks into Computer Aided Software Engineering (CASE) tools. Such an approach gives customers a much greater number of options for selection and implementation of database management software, as well as greater access to existing databases. Unfortunately, not all application vendors have allied themselves with these database vendors, so their ability to access and modify databases across the network tends to be limited to what the database vendors themselves offer.

6. Development

6.1 System Architecture: Issues and Background

6.1.1 Types of Architecture

A computer system is a combination of the operating system software, communications software and applications software, operating together on a common hardware platform. The operating system and the communications software as well as certain essential applications, such as the data base manager, are entwined with the hardware and each other. All are inter-dependent and together implement the system architecture through their design.

6.1.2 Available Options

Nowadays there are three basic system architectures to choose from:

- **Host-Based Systems**

  These are multi-user systems supplying access to their data processing services though terminals. The terminals may not exactly be dumb (a "dumb" terminal is one without an internal, stand-alone processor and operating system) - X-terminals have considerable processing power - but they only process graphics upon instruction from the host. Communications may be accomplished either by direct connection to the host or across a network in a manner which fools the host into thinking the device is directly connected. (Direct connections are those which use a dumb port on the host machine, such as a serial port, to pass data and protocol. Modems and phone lines may be located between the terminal and the port.) The most familiar example of this architecture is the traditional mainframe computer.

- **Client/Server Systems**

  A server manages the data and the shared file systems, and runs back-end applications which supply records and files requested by the client. Servers do some local processing as well, in the form of batch jobs and some pre-processing of data, but off-load much of the processing and all of the user interface to the clients. The clients are intelligent workstations, usually PCs or UNIX-based systems, which have their own operating system software and stand-alone intelligence. Communications between clients and servers are either via a network connection or are accomplished in such a manner as to simulate the behavior of a network node by running the network protocol across a direct line. In addition to supplying data and applications to the clients, servers also support and manage shared peripherals such as file systems, plotters, and printers.

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- **Peer-to-Peer Systems**

  These systems consist of a network of intelligent workstations and larger systems, each of which can act as both a client and a server. In the peer-to-peer architecture, there is no hierarchy built into the operation of the networked systems. Each functions in both the client and server role, depending on the needs of the moment. Each peer or node can supply data, file space, printer services, process data and provide other services to others as requested.

Each of these architectures has its advantages and disadvantages; however, *it is the maturity of the technology that constitutes the critical advantage.* Technological maturity directly affects both efficiency and reliability. The multi-user host-based system has been around almost since the beginning of computing. Client-server systems are a relatively recent reality. Peer-to-peer systems are essentially client-server systems taken to the next level; they are the least mature of the designs.

Because of the relative maturity of client/server systems, their increasingly favorable economics, and their superior ability to support a network of workstations running highly graphical, complex applications off large databases, vendors have been migrating from the host-based architecture to the client-server architecture.

6.1.3 Advantages and Disadvantages

6.1.3.1 Host-Based Systems

Multi-user host systems are the most efficient in terms of computer resources, as well as being the easiest to assure security. In such systems, the most expensive resources -- the central processing unit (CPU), larger printers, and peripherals -- are all centrally managed and available to everyone. Only the least expensive peripherals -- terminals and small printers -- are assigned to desktops where they risk under-utilization. Security is better both because of the maturity of the operating systems and, more importantly, because the host systems themselves can be physically secured in computer rooms. (Any security system can be breached if one has physical access to the system.) The major disadvantages of multi-user host systems are that (l) they are more expensive to upgrade, as upgrades tend to affect the entire computer system, and (ii) multi-user host systems do not support graphical interfaces as satisfactorily as the other two architectures.

6.1.3.2 Client-Server Systems

Client-server systems share some of the advantages of host-based systems -- the sharing of more expensive peripherals and the physical security of data managed by the server. They do a much better job of supporting complex, user-friendly graphical user interfaces, because the servers primarily transmit data across high-speed networks to powerful client computers which do the front-end applications processing. The clients provide dedicated computational resources to meet the real-time demands of interactive

graphics. Upgrades tend to be less expensive because the servers and the clients are smaller, cheaper, and less complex, and because upgrades can more narrowly target system bottlenecks. A major disadvantage of client-server systems is that the desktop devices, the ones most likely to be under-utilized, are far more expensive (and difficult to maintain) than dumb terminals. However, as the economics of the computer industry have changed, driving down hardware prices, this has become less of an issue.

6.1.3.3 Peer-to-Peer Systems

The peer-to-peer architecture at this time is best suited to inexpensive PC-based networks with few demands on the network and on each other. In part, this is because today's systems are capable of sharing peripherals, but most cannot share processing power or internal bandwidth. (Bandwidth is the volume of data that can be moved between two locations in a given amount of time.) Today, processing power can only be shared when all of the peers are of an identical hardware and operating system architecture, e.g. all DEC VAX systems or all IBM RS/6000's, and then only if their operating software supports the cycle-sharing. Consequently, when one peer is asked both to serve its user and to supply files, printing, or processing services, it tends to be unacceptably slow. A number of technological advances are needed, especially an order-of-magnitude increase in network bandwidth, better operating systems, and a more efficient sharing of processing cycles (clustering), before peer-to-peer systems will be able to withstand moderate to heavy demands. When sufficient intelligence is added to all peripherals so that each is a specialized computer on the network able to accept and process instructions from anyone, peer-to-peer systems will come into their own.

The development of distributed object computing standards is the greatest hope for the efficient implementation of a peer-to-peer architecture in a heterogeneous environment. Although considerable work is being done in this area, it may not be mature enough for production environments until the next century.

6.2 Development Team

An important factor in the creation of the REIS is the technical development team of the system. Different cities may have varying staffing needs, but in most cases, a team of four persons with complementary technical skills can satisfactorily design and implement the REIS. Each of the staffing positions are addressed below. It should be noted that some of these positions can be combined depending on the city's budget and implementation timetable.

6.2.1 Senior Director

This person must have experience in managing the development of the system. Responsibilities are to ensure the adoption of quality practices and standards during the design, build, test, and implementation stages. The project manager must identify design and implementation issues, make certain that appropriate testing and documentation is performed, ensure that technical and user documentation is addressed and reviewed, and is responsible for seeing that the overall procedures are in place for the effective operation of the system and the integrity of the data.

6.2.2 Lead Programmer

The lead programmer must have experience in the development of automated systems as well as experience in the selected application development environment. The lead programmer will assist in the clarification of user requirements, adopt quality practices and standards during the design, build, test, and implementation stages, identify design and implementation issues, guide/assist in the development of detailed program and system. This person will need to identify and suggest alternative methods of implementation that would take full advantage of the products being used in the environment in which the system will be commissioned.

6.2.3 System Analyst

The systems analyst will work as the liaison between the REIS committees and the programming staff. It is necessary for the analyst to have a complete understanding of the workings of the various non-technical groups and a thorough grasp of technical issues. In addition, the analyst must be able to communicate the non-technical requirements to the technical team to clearly assess the REIS system specifications.

6.2.4 Database Programmer

This person should have experience in data modeling, normalization, and database design with regard to land information. The database is the central component of any automated system and needs to be addressed appropriately to ensure the system is capable of delivering the services to its users in an accurate and timely manner as well as being easily adaptable to new or changed requirements. Responsible for developing the database. Tasks include addressing all data administration issues and developing procedures for backing up and recovering the database, controlling security and access, monitoring and tuning the performance of the application and the database, managing disk space and storage needs, and overseeing other tasks related to database and communications issues.

6.2.5 GIS Specialist

If a city elects to incorporate GIS capabilities into the REIS, a GIS Specialist will be needed on the development team. This person should be an experienced programmer with strong knowledge of geography concepts. Since GIS is a relatively new field, the specialist should undergo some formal training. Tasks will include writing the necessary code to interface the geographical information with the database, digitizing, supervising data entry, and producing custom maps. This person should offer suggestions on how the GIS capabilities could be best used for the REIS. This job may be done on a part-time basis until the GIS develops to the point that this position is full-time. It is possible to contract with private firms to perform some data entry tasks.

The City of Pskov successfully developed their REIS with a team of three technical persons combined with start-up assistance from Arthur Andersen's REIS team. The Pskov system was written in Oracle with a graphical connection to MapInfo . The project manager and database programmer shared the Oracle programming effort. The third programmer concentrated on MapInfo and developed the routines necessary for the GIS connection. The total development time was just over one year.

6.3 Communications

One of the primary purposes of the proposed information system is to facilitate the exchange of information within and among the various the city sections and also with external agencies. Three general approaches to sharing/exchanging data between users have been considered for use within the city system:

- moving files with removable media,
- copying data or direct access over phone lines, and
- sharing data through a local area network.

Each of the methods that can be implemented to accomplish data exchange is discussed in the following.

6.3.1 Removable Digital Media

Removable media transfer, sometimes known as a "sneaker net", is one of the oldest methods used for transferring data between users. Using 3.5" floppy disks, this method can be the simplest and least expensive to implement; all that is needed is a disk drive on each computer and a floppy disk. For the same reason, however, this is also the least efficient method, because the amount of data and the speed of the transfer are severely limited. Additional capacity and higher transfer rates are provided by other removable media formats, though at additional expense.

Data exchange with removable media is accomplished by copying data from one machine onto the removable media and then loading it onto another machine as a duplicate data file. This method of sharing data has the disadvantage that there is no data coordination between the systems. Each computer has a separate copy of the data and *there is no assurance that any updates made by one user ever get made to the second copy of the file.* Therefore this method of data sharing only provides the recipient with a "snap-shot" of the data at a given point in time. For this reason, applications using this method which require up-to-date information would require frequent and regular transfers.

Another disadvantage of this method is that each system must have its own copy of the software for processing the data. The other two data exchange alternatives provide the ability not only to share information but also to use application software located on another machine.

Finally, each exchange of data requires a certain amount of labor by both the provider and the recipient. The data selection, copy, transfer and upload processes

are all manual. This method is, by design, the most labor-intensive. When considering the costs of devices and media and the time and labor required for an exchange of large data sets, this method can become quite expensive. It is most cost effective for irregular and infrequent exchanges of data over longer distances.

6.3.2 Phone Line Connections

For exchange between sites separated by some distance, one option is to use a modem to dial into a server computer over regular telephone lines. For longer distances, this option is less expensive than a network solution, and is faster than transfer via removable media. A modem connection can be used in two ways:

- The first use of a modem connection is to transfer data from one computer to another. This approach is the same as the removable media transfer, with the phone line replacing the floppy disk/tape/cartridge. Use of the phone line greatly speeds up the transfer, as there is no media to be physically moved from one location to another. However, this approach has the same disadvantage discussed above, because it too creates a duplicate copy of the data.

- The second use of a phone line connection is to connect to the host computer as a terminal or client. Functioning as a terminal, the user's computer would run terminal emulation software to mimic the action of a dumb terminal connected to the server computer. This type of connection allows direct access to the data through applications running on the server CPU (Central Processing Unit). In this way no data is duplicated, preserving data integrity, and every access provides the most up-to-date information. The phone line connection is used to extend the network. The advantages are similar to terminal emulation. This method is discussed later on in this section.

The main disadvantage to this second approach is speed and performance. Operating over a phone line (even at 56 kilobaud) is slow. In addition, every user is dependent upon the server CPU. If the server computer is unavailable, due to mechanical problems or to a limited number of dial-in ports, the user cannot do any computer work. Once logged onto the system, the user must compete with every other user for system resources. With more users, the response time of the server becomes slower. Also, the data may become corrupted or lost due to a poor connection. Even with the fastest modems, it is generally not practical to support interactive graphics over dial-up telephone connections, although recent improvements in hardware and software is dramatically improving this option.

Another recent development which increases the usefulness of telephone/modem connections is the Microsoft-At-Work standard. Among its features is the ability to do high-speed transfers of binary files and E-mail using fax software and fax modems. Although fax modems are limited to 14400 baud, as opposed to uncompressed data rates of 28800 baud using the V.34 standard, the fax software is generally much easier to set up and manage for unattended file transfers. Microsoft Windows for Workgroups 3.11 includes this capability to support Class 1 fax modems. Major manufacturers of fax software, such as Delrina (WinFax Pro 4.0), support and enhance the standard. Recent tests conducted by AmCad included the transfer of portions of this document over phone lines. Several sections amounting to 70 pages of text and graphics averaged one minute 45 seconds transfer time. The

transfers were scheduled in advance and were completely unattended by human operators.

6.3.3 Networks

Network connections can be implemented using cable, leased phone lines or dial-up phone lines, along with appropriate hardware and software to manage the traffic and communications. One can connect to a host through a network either as a client or as a terminal. The distinctions between these two types of connections was discussed previously in this section. Both types of connection support multi-user sharing of one system's data as well as the copying of data from one system to another.

6.3.3.1 Local Area Networks

A local area network (LAN) is a high-speed communications link for computer equipment in a limited geographic area. LANs can connect PCs, terminals, minicomputers, mainframes, printers, fax machines and other peripherals. Using a LAN allows the sharing of programs, data, peripherals and CPUs. Each device on the network is referred to as a *node*. Data is passed from node to node over dedicated cables (either metal or optical fiber). Through the network, users can have transparent access to data and software on any node. The user doesn't know or care *where* the data is; it all appears as if it were a single local database.

6.3.3.2 Wide Area Networks

Wide area networks are networks which extend beyond the immediate area, such as a network linking buildings miles apart. The link used to cover the long distances can be a dedicated fiber optic cable (this is the fastest, most reliable, and most expensive), or one or more leased (dedicated) telephone lines with special high-speed modems. It is also possible to extend network services using dial-up lines and modems connected as nodes on the network. In every case, except for differences in speed, all connections will generally appear to users as being local.

Networks are highly advantageous due to their speed and ability to transparently share data and resources among users. The network provides all the advantages of the phone line connection, and at the same time overcomes the dependence upon a single central CPU by allowing applications to run on the local computer while accessing data on one or more remote computers. The main disadvantage of LANs is the cost of implementing the LAN (hardware and software) and the skill required to manage and maintain the network. Recent reductions in costs have made networks the most cost-effective solution for groups co-located in single building. The total labor required for network management is also usually much less than the labor required to frequently prepare and distribute data on removable media.

The Figure IV. 9 below illustrates the most cost-effective data exchange option for various combinations of transmission distances, file sizes and frequencies of exchange. In the figure, frequency of exchange increases as one moves to the right; file size increases as one moves up the chart.

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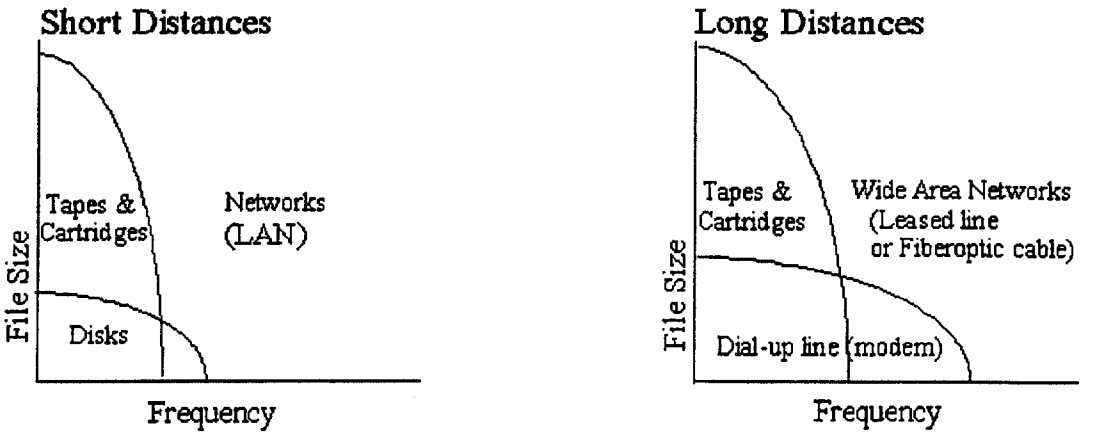
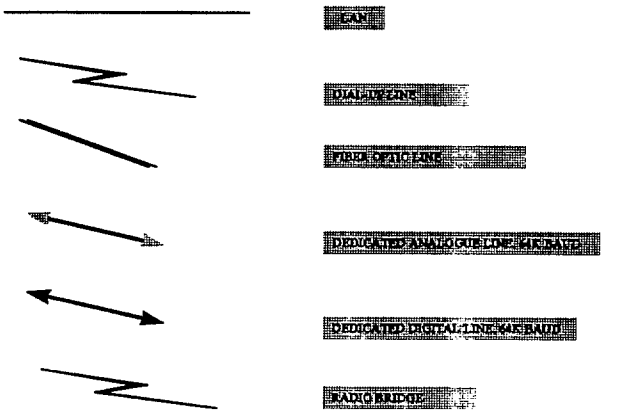


Figure IV. 9: DATA EXCHANGE OPTIONS

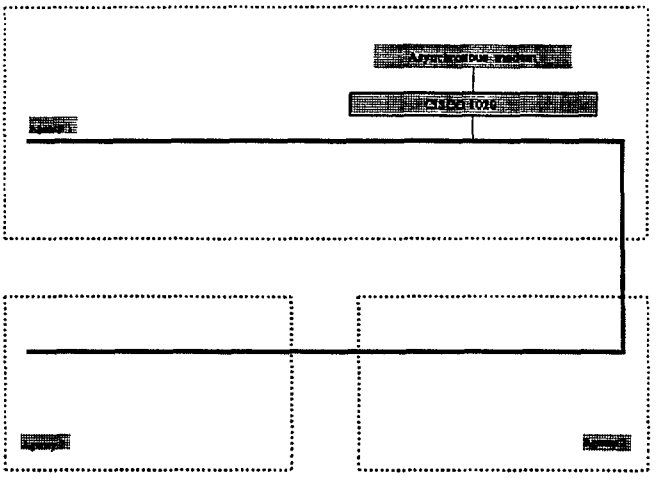
6.3.3.3 REIS Communications: Case Studies

There are series of typical situations that will be encountered in setting up a network for the REIS. In most situations the REIS will have to share data with multiple agencies. For the purpose of brevity, the sample shown here deal with three agencies. Additional agencies can be dealt with in a similar way.



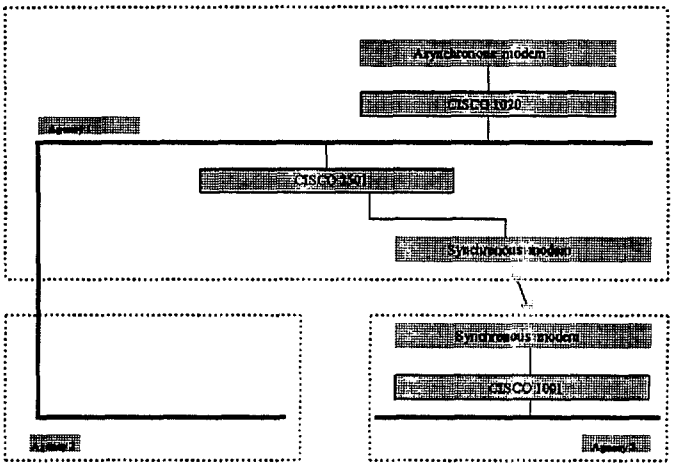
Conventional Signs

Case 1: All the agencies are located in a ***single location*** or building.



Suggested Hardware	No.
CISCO 1020 (1 Ethernet - TP, 1 async)	1
CISCO 1020 (1 Ethernet - TP, 1 async)	1
Software for CISCO 1020	1
Asynchronous modem	1

Case 2: One or more agencies are in a ***remote location*** relative to the REIS database. The distance of the agency does not make it economically feasible to use fiber optic cable. The agencies may be linked using a modem connection.



Suggested Hardware	No.
CISCO 2501 (1 Ethernet - AUI, 2 serial)	1
Software for CISCO 2501	1
CISCO 1020 (1 Ethernet -TP, 2 async)	1
Software for CISCO 1020	1
CISCO 1001 (1 Ethernet - TP, 1 serial) with Software	1
Synchronous modem PanDacom (64kbit)	2
Asynchronous modem	1
Allied Telesyn AUI/TP Transceiver	1
Cable V.35	2

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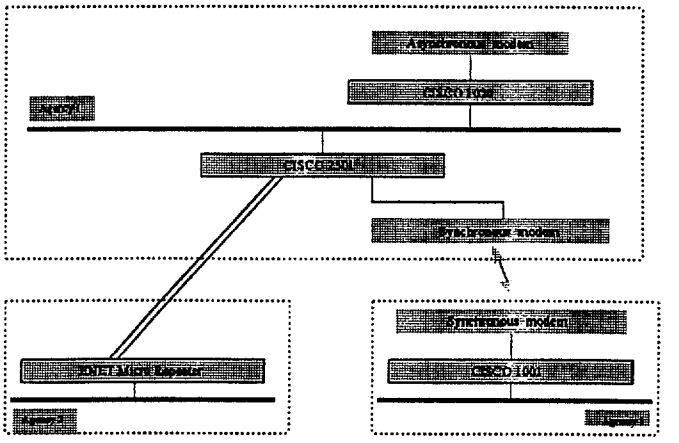
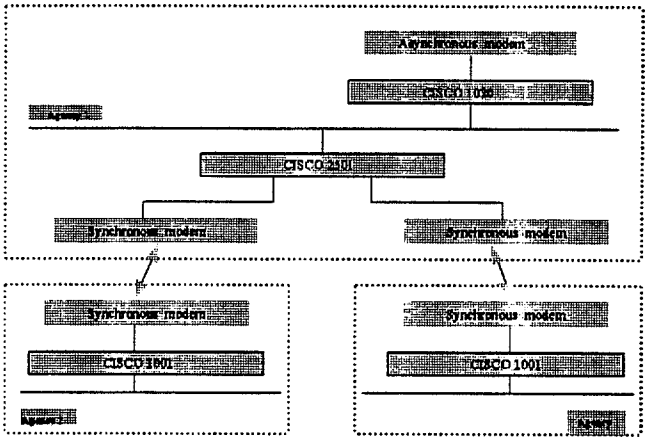
Case 3: This is a variant of Case 2. In this case, it is economically feasible to use Fiber Optic cable to link the agencies.



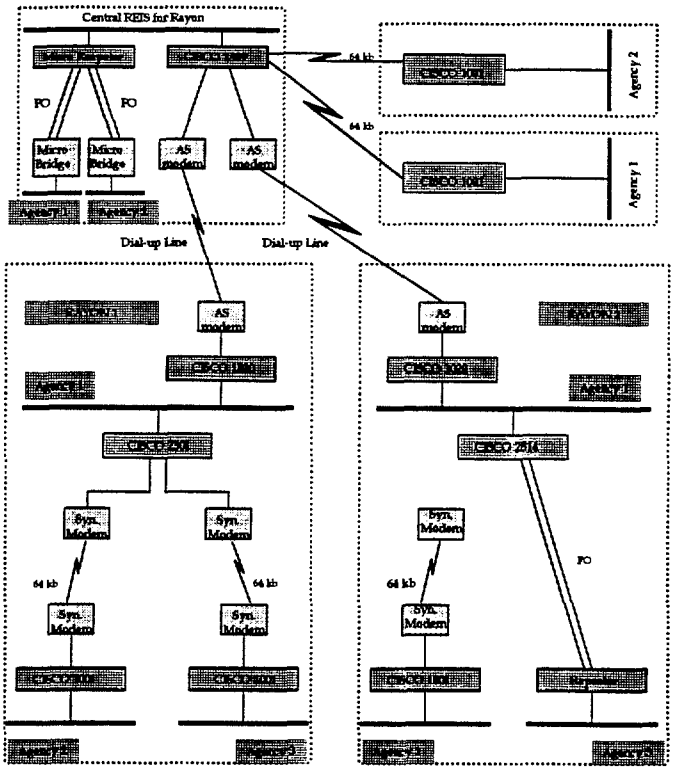
Suggested Hardware	No.
CISCO 2514 (2 Ethernet - AUI, 2 serial)	1
Software for CISCO 2514	1
CISCO 1020 (1 Ethernet -TP, 2 async)	1
Software for CISCO 1020	1
CISCO 1001 (1 Ethernet - TP, 1 serial) with Software	1
Synchronous modem PanDacom (64kbit)	2
Asynchronous modem	1
Allied Telesyn AUI/FO Transceiver	1
Allied Telesyn AUI/TP Transceiver	1
Allied Telesyn Micro repeater BNC/FO	1
Cable V.35	2

Case 4: This case is a variant of Case 3. The distance of the agencies does not make it economically viable to use FO. The use of ***modems*** become an option.



Suggested Hardware	No.
CISCO 2501 (1 Ethernet - AUI, 2 serial)	1
Software for CISCO 2501	1
CISCO 1020 (Ethernet -TP, 1 async)	1
Software for CISCO 1020	1
CISCO 1001 (1 Ethernet - TP, 1 serial) with Software	2
Synchronous modem PanDacom (64kbit)	4
Asynchronous modem	1
Allied Telesyn AUI/TP Transceiver	1
Cable V.35	4

Case 5: The REIS is implemented at the ***rayon level.*** In this case the agencies of each rayon are connected to each other. These agencies are then connected to a rayon center. The rayon center is responsible for distributing the information.



Suggested Hardware	No.
CISCO 2514 (2 Ethernet - AUI, 2 serial)	
Software for CISCO 2514	1
CISCO 1020 (1 Ethernet -TP, 2 async)	1
Software for CISCO 1020	1
CISCO 1001 (1 Ethernet - TP, 1 serial) with Software	1
Synchronous modem PanDacom (64kbit)	2
Asynchronous modem	1
Allied Telesyn AUI/FO Transceiver	1
Allied Telesyn AUI/TP Transceiver	1
Allied Telesyn Micro repeater BNC/FO	1
Cable V.35	2

6.4 Integration with Existing Computer Systems

The most common development tools used in Russia are xBase databases running on PC architecture hardware. The REIS may necessitate the use of new hardware and software which may not be compatible with the exiting systems. The most common problem faced on compatibility is the database formats. Today most software packages offer features to migrate data from several format to another. In cases when this feature is not available, it is possible to transfer data to another format by transferring the data to an ASCII file first and the load the ASCII file to the new database. There are also third party tools available to perform data

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conversion. These tools are particularly useful for the conversion of graphic data. (See Section 6.5 Useful Development Tools)

File servers that are on a network can take advantage of ODBC drivers to speed the process. For example, in the City need to integrate a Clarion database with an Oracle database. Table IV. 12 shows the situation the City of Tver before the development of the REIS.

Characteristic	SYMCAD	REIS
Data base system	Clarion 2.1 and 3.0	Oracle 7.1
Operational environment for the database server	MS DOS (MS Windows is possible)	IBM AIX
Data model	Quasirelational (data integrity is weakly supported)	Relational (ISO SQL-3 standard)
Computers the databases are resided on	PC-486	RS-6000
Application development tools	Clarion 2.1 and 3.0	Oracle CDE 4.x
Operational environment for application	MS DOS (MS Windows is possible)	MS Windows
Data access model	File server	Client-server
Computers to run applications	PC-286,386,486	PC-386,486,Pentium
NetWare software	Novell DOS (MS Windows for WG is possible)	IBM AIX, MS Windows for WG, MS TCP/IP
Net adapters and cable system	Supporting Ethernet	Supporting Ethernet

Table IV. 12: City of Tver Integration Problem with the REIS

The City solved the problem by integrating the Clarion database to the Oracle server using ODBC drivers. (See Figure IV. 10)

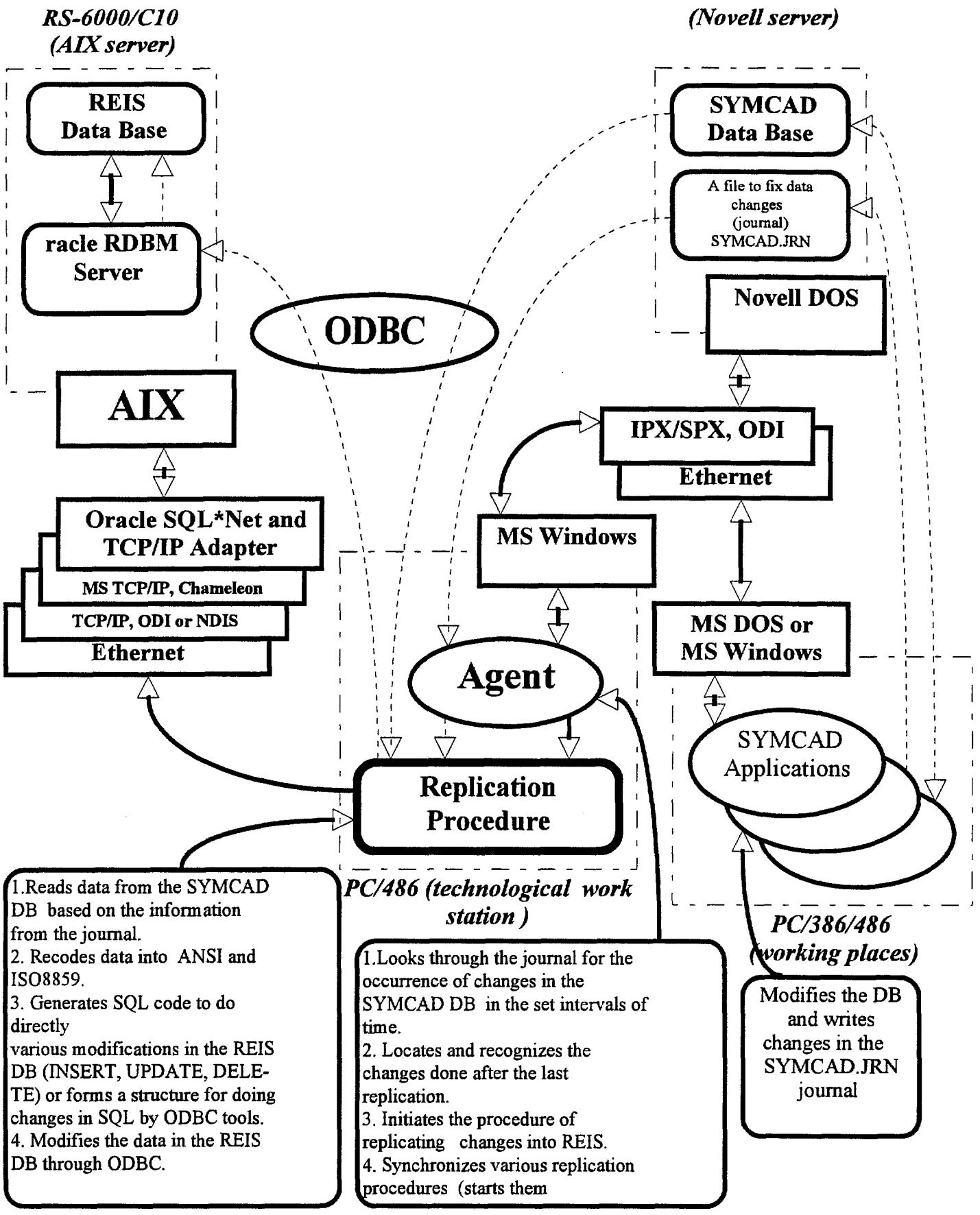
RS-6000/C10
(AIX server)
(Novell server)
REIS
Data Base
racle RDBM
Server
AIX
Oracle SQL*Net and
TCP/IP Adapter
MS TCP/IP, Chameleon
TCP/IP, ODI or NDIS
Ethernet
ODBC
SYMCAD
Data Base
A file to fix data
changes
(journal)
SYMCAD.JRN
Novell DOS
IPX/SPX, ODI
Ethernet
MS Windows
MS DOS or
MS Windows
Agent
Replication
Procedure
SYMCAD
Applications
PC/486 (technological work
station)
PC/386/486
(working places)
1.Reads data from the SYMCAD DB based on the information from the journal.
2. Recodes data into ANSI and ISO8859.
3. Generates SQL code to do directly
various modifications in the REIS DB (INSERT, UPDATE, DELE-TE) or forms a structure for doing changes in SQL by ODBC tools.
4. Modifies the data in the REIS DB through ODBC.
1.Looks through the journal for the occurrence of changes in the SYMCAD DB in the set intervals of time.
2. Locates and recognizes the changes done after the last replication.
3. Initiates the procedure of replicating changes into REIS.
4. Synchronizes various replication procedures (starts them
Modifies the DB and writes changes in the SYMCAD.JRN journal

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Figure IV. 10: Tver Integration of Clarion and Oracle databases.

Although this solution proved to be viable; it also proved to be extremely time costuming to create. Also, ODBC drivers are limited since they can not take advantage of all the features provided by the Oracle database and they also suffer from poor performance. This solution worked temporally for Tver and the City later decided to migrate all the databases to Oracle.

lt most cases is generally advisable to have a incremental data migration policy to the new technology instead of the integration old technologies with new ones.. This process is not as time consuming and it is possible to fully take advantage of the new technology.

6.5 Useful Development Tools

There are many software tools on the market that are useful in developing a flexible computing environment. There is often the need to perform basic computing tasks, such as file management and data conversion, and it is important to have the necessary software packages to perform these tasks. REIS training programs emphasize developing basic computing literacy because these skills will ultimately be very useful for supporting the REIS as well as aiding in performance of daily tasks. This section attempts to explain and outline some of the day-to-day situations that can arise in a computing environment and offer time-saving solutions .

6.5.1 DOS File Management

In a DOS environment, file management can be tedious because of the lack of intuitive graphics found in a Windows environment. File management programs reduce the risk of inadvertently erasing or losing valuable data due to confusion caused by lack of organization. One of the more popular file management tools is *Norton Commander*. In addition to hard disk management, there are basic text editing capabilities, the ability to view popular xBase databases and spreadsheets, and file recovery capabilities.

6.5.2 File Compression

File compression is very useful for storing and transporting large data files. *Pkzip*, made by Pkware, Inc., is a popular compression/decompression program. The program offers the ability to compress files over a span of several diskettes and the ability to retain subdirectory structures. These capabilities are very useful for making larger backup copies. Available for DOS, Windows 3.x, and Unix.

6.5.3 Word Processing

Word processing packages offer the ability to create and edit text easily. Word processing can greatly expedite normal office procedures and its use should be encouraged by all office personnel. One of the more popular packages is Microsoft Word, included in Microsoft Office. Word offers useful features such as revision management, bookmaking tools, and automatic table of contents generation, cross

reference and master documents that would be beneficial in maintaining REIS documentation.

6.5.4 Spreadsheets

Spreadsheets are very useful in an office environment and as rudimentary database applications. For the office, spreadsheets can automate many laborious tasks such as calculations and report generation. For the REIS, spreadsheets can aid in cost analysis for procurement purposes and in creating projected timelines. Basic programming capabilities can be added for greater control. For "quick and dirty" database applications, spreadsheets can easily capture database information that can later be transferred to a more permanent storage location. One of the most powerful spreadsheets is Excel, a part of Microsoft Office.

6.5.5 xBase Databases

xBase databases are extremely popular because of their low cost and moderate learning curve. The most well-known package is dBase, but there are several other companies offering similar products, such as FoxPro, Clipper, and Paradox. Russia has many qualified programmers who are well-versed in xBase products. xBase databases are extremely flexible and can be used for temporary data gathering, format conversion or for the REIS itself.

6.5.6 Database Modeling

Database design is a critical part of REIS development. Data modeling tools can expedite the design task by allowing "point and click" database design, editing, and documentation. Logic Works Erwin®/ERX is a powerful data modeling tool that allows design and generation of databases for client/server and Web applications.

Erwin displays all entities, attributes, relationships, indexes and primary and foreign keys. Data models can be edited, viewed and printed in a wide variety of ways, from high-level logical models to detailed physical database. ERwin creates logical models of databases which can in turn generate the physical databases. Attribute manipulation supports "drag and drop" of attributes from one entity to another, allowing changes and normalization "on the fly." Databases can be designed, documented and implemented without writing SQL CREATE TABLE or INDEX statements. Because the physical design is driven by a logical model, referential integrity is built into applications from the start. The same model can be used to generate multiple databases, or to convert an application from one database platform to another. This software supports Windows 3.x, Windows 95, Windows NT and Sun Solaris.

6.5.7 Text Conversion

It is sometimes beneficial to move textual information from one format to another. For example, a city without an operational REIS may want to start gathering information right away. A solution to this problem is for the city to begin collecting

data in a temporary storage area to be uploaded into the REIS at a later time. Agencies participating in the REIS may already have databases that can be shared if the information can be converted into a useful format.

Two of the most popular data gathering tools are spreadsheets and xBase databases. Information stored in these packages can be loaded easily into other databases.

Most modern database packages have automatic import capabilities that support a variety of standard formats. For example, loading information into a Microsoft Access database from an Excel spreadsheet or xBase database can be done automatically because of the data importing features of Access. Imports into Oracle can be automated because of the features of SQL Loader.

Automatic importing capabilities may not be available if the original data gathering tools are out-of-date or not supported by the new database. In this case, it may be necessary to convert the existing data to a standard format which can then be loaded into the REIS database. Since most database programs support inputs and outputs from a flat file (ASCII text in predetermined column sizes), this can be viewed as the bridge from one package to another. For example, information from a flat file can be loaded into an xBase database by creating an xBase database with a matching structure and appending the ASCII file. It is not necessary to have comma-delimited fields if the database structure is defined correctly.

6.5.8 Graphics Conversion

Working with graphics files inevitably requires some type of conversion. For example, scanning a BTI floor plan may produce a graphics file in one format while the computer program to use the file may require another type, thereby making it necessary to convert the graphic from one format to another. Another reason for conversion is that different image formats use different resolutions. Higher resolutions require more disk space and can slow the application. Sometimes it is desirable to scan images at a high resolution for permanent storage and make second copies at a lower resolution to be used in applications.

Alchemy is a popular graphics conversion program. The standard version converts between most standard graphics formats and the advanced version converts PostScript files as well. Alchemy has a graphical user interface for manual conversions and can also convert multiple images in batch mode. Runs in DOS and Unix.

6.6 Prototyping

Prototyping is a technique for building a quick and rough version of a desired system or parts of that system. The prototype serves as a communication vehicle for demonstrating the system to users and designers. It allows them to review the proposed design, detect any flaws and devise ways to improve the system. It is far more effective for this purpose than reviewing paper specifications. A prototype is real; it can be adjusted and modified.

Prototyping is one of the main techniques used to solve the problem of inadequate communication between designers and users, and the high proportion of system flaws found in the specifications of requirements.

A prototype is not a full-scale version of the eventual system; it is usually a simplified version that has most of the functions of the working system but not the scale, speed or performance. It lacks such features as security, auditability, recoverability, and ability to handle large volumes, large databases, or many users.

Prototyping is particularly valuable in the following situations:

- Users are unsure of what exactly they want.
- The system changes a basic business operation.
- An end-user dialog should be tried out with the users to see if it can be improved.
- The functions are subtle, and the users understand them better than the analysts.
- Screens and reports should be checked with management to see if they can be made more useful or easy to use.
- There is scope for user creativity to improve the system.
- The users do not understand all the impacts of the new system.
- The users have difficulty expressing all the system requirements.
- The prototype may act as a catalyst to elicit alternative ideas.
- The relative merits of alternative solutions need to be explored.

Prototyping can be used in several phases of development of the REIS. During the initial analysis and specifications phase, a prototype can show the desirability of the system before committing funds. During the design phase it can be used to stimulate user ideas or compare the attractiveness of alternative ideas. It can help stimulate creative thinking about the system. During the development phase it can be used extensively in the design of the screens, dialogs and reports. It can be used to check that the functions of a system are what the users really want.

The development of prototype needs planning just as much as the real project. A simplified procedure for the development of a prototype may be as follows:

- Define the objective of the prototype;
- Determine who will review the prototype;
- Decide whether or not to use real data;
- Select hardware;
- Decide who will build the prototype;
- Design the prototype;
- Determine steps to follow after prototyping;
- Build and test the prototype;
- Establish appropriate user expectations.

The last point is very important. A danger of prototyping is that the users expectations are raised to high level which cannot be fulfilled. The users should know that the time span from prototype to a working system is long, and that some of the user's suggestions will take extensive time to implement , or cannot be realized at all.

Despite this problem, *a prototype of the REIS should be built in all cases.* A prototype will detect any flaws in the analysis phase and find whether user needs have been misrepresented during the design phase. Determining these flaws before full implementation will save money for the city money and save time for the development team.

7. System Implementation: Planning, Design and Execution

The Implementation Plan presents the major phases of the project, along with the key activities, deliverables and responsibilities of the different groups required for a successful implementation. The plan does not include every detail action and responsibility required to ensure successful implementation. These details will be developed during the actual performance of the project.

Early in the development cycle, a small number of computer resources may be capable of supporting the REIS system. Starting with a small system saves money not only due to lower initial purchase prices, but also on recurring maintenance and licensing fees.

As the system grows over subsequent implementation phases, increased computational power, capacity, and functionality can be acquired incrementally. This provides the benefit of spreading out the expense of purchasing hardware and software components over a number of budget cycles. An additional benefit is that *by delaying purchases until the capability or capacity is required, the latest technology can be acquired.* One note of caution however, is that products which are too new and unproven - the so-called "bleeding edge" products - should be avoided; any item purchased should be able to exhibit a certain level of maturity and reliability.

7.1 System Analysis

During this phase, the City Administration provides access to key personnel in various agencies and committees holding real estate information and/or active in the registration process. Based on preliminary information from these sources, recommendations will be made on the creation of Working Group and key issues to explore during the System Analysis. Any additional sources to be required are also determined during this phase.

A meeting schedule is developed which will include regular (in many cases, weekly) meetings with the Working Group to review and agree to the content and scope of the system. The content of the system is limited by the scope of the project and by the funding provided.

A Need Analysis report is prepared to document the business processes, software to support these processes, current databases and communications of the City.

An overview of the software processes needed to support the REIS, the core database and system architecture is developed. These requirements will be completed during the Procurement and system development phase.

Deliverables

At the end of this phase a preliminary agreement detailing project goals and objectives and party responsibilities is signed by the Working Group and the City.

The creation of the legislation of the REIS Center is finalized and the objectives and scope of the system are agreed. The location of the central facility where the unified database will be located is finalized.

The City Needs Analysis is produced and review by the Working Group detailing condition and preliminary system recommendations. The acceptance of the findings in the reports is documented.

Actions

1) Create Working Group
2) Identify Organization with REIS Data
3) Data Flows
4) Data Sharing Analysis
5) Communications Assessment
6) Needs Analysis
7) Develop Process Flows
8) Define Technical Platform

7.2 System Design

The design of REIS Center is performed to organized its functions, services, application forms, output forms, documents, information to be provided with examples.

The REIS Core data is developed and the computer system to support the REIS is designed. The specifications of the hardware an support to realized the system is prepared on the basis of the funds provided for the project.

A study of REIS systems developed in other cities is reviewed and a prototype of the system is developed.

Actions

1. Design of REIS Center
2. Design REIS Center Functions
3. Design Core Database
4. Design input/output forms
5. Design Graphical Component
6. Design Link of Graphics DB and REIS Core DB
7. Design Supporting Computer System
8. Develop HW/SW/Communication Specifications

Deliverables

During this phase the City designs the REIS Center and supporting computer system. An Implementation plan is forward to the City which includes the specifications of the hardware and software to be purchased for the project as part of the Procurement Plan. The hardware and software selected is subject to the limitations of the scope of the project and funding provided.

7.3 Procurement

During this phase the hardware and software requirements agreed during the design phase are translated into detailed hardware and software specifications. These specifications are then used to generate a purchase order with the hardware and software vendors that have been selected. The selection of the vendors is performed by the Development Team in accordance with funding limitations. The Working Group will finalized the purchase and delivery of the equipment. The City will install the equipment in accordance of the design of the REIS.

Actions

1) Working Group Approval
2) City Approval
3) Anticipated Equipment Delivery

Deliverables

A Procurement Plan detailing the hardware and software specifications is finalized and submitted to the City Working Group for endorsement. The Procurement Plan is signed by the City Administration. At the end of this phase hardware and software is delivered and installed.

7.4 Organizational Changes: Identify and Implement

The organizational changes necessary to implement the REIS have been detailed in Volume II: Institutional Arrangements and Volume III: Legislation Necessary to Implement the REIS. In these Volumes it has been emphasized that if there is no political will to undertake these organizational changes, it would be better not to start REIS implementation at all, since it will achieve only the establishment of another agency which will duplicate existing functions and raise costs both to the users and to the city administration.

The organizational changes are discussed at length in Volumes II and III and are recapitulated here only as a reminder. They should begin as soon as the decision to establish a REIS is taken. The organizational changes include the following:

- **Changes in Policy:** The largest change in existing agencies due to the establishment of the REIS will be at the policy level. The most important policy change will be the sharing of data with other agencies. This change need to occur very early in the project life. The agencies should sign legal agreements with each other and the REIS by which they give other agencies the right of access to certain parts of their data.

- **Changes in Business Procedures:** The REIS will cause some business functions within an organization to change. The process of collecting data, the kind of data collected and the type of data shared can change the procedure of how n agency does these tasks.

- **Changes in Location:** In many cases the establishment of the REIS will involve the relocation of some or even all of the participating agencies to a centralized office where their employees will be physically located next to each other and can easily exchange data over a Local Area Network and by personal contact.

- **Changes in Structure:** It is very unlikely that departments of existing agencies will be eliminated because of the REIS. It is likely, however, that some personnel of the participating agencies will need to be affected to the REIS, so that while organizationally remaining in these agencies it will work on REIS tasks under the direction of the REIS manager.

- **Changes in Staffing Levels:** It is very unlikely that the REIS will create a reduction in staff levels of existing organizations unless a department is eliminated. Overall staffing level is likely to increase in order to manage and operate the REIS.

- **Changes in Job Content:** In some cases the specific task of a job at an agency may change in order to implement the REIS.

- **Changes in Skill Requirements:** A new system such as the REIS will require the training of a large group of people in many different skills. Training will be required for the REIS development team, the management of the REIS and the participating agencies, the operators, and the public. The training requirements are covered in Volume Vol. V of the Manual.

To prepare for the organizational changes a plan needs to developed s early as possible. A simple plan to implement the changes may be as follows:

- Identify Organizational changes:
  - ⇒ Policy
  - ⇒ Business procedures
  - ⇒ Location
  - ⇒ Structure
  - ⇒ Staffing
  - ⇒ Job Content
  - ⇒ Training
- Design the changes for all of the above;
- Prepare legal agreements for the changes to insure that top management is in agreement;
- Schedule and implement the changes.

7.4.1 Develop REIS Center

During this phase the business functions required to support the REIS Center, the information to be provided, its sources and its recipients are reviewed and those

areas that will need to be added or changed are identified. The software process needed to support the agreed business functions are documented and an overview and its structures needed are developed.

Actions

1. Information Provided
2. Develop Business Plan
3. Develop Staffing Plan
4. Develop Detail Procedures
5. Develop Support Documentation

Deliverables

A final document to be presented to the City Working Group is prepared stating the objective of the REIS, its functions, the detailed procedures of these functions, input and outputs of the as well as copies of all legislation and agreements created to support the Center. The phases of implementation of the REIS Center are stated and a business and financial plan is prepared.

A set of documentation necessary for the daily operations of the Center, procedures, guides and training material is prepared.

7.4.2 Legal Documents

This is a continuous working phase of the project. Agreements have to be prepared to insured that all parties involved in the creation of the REIS are in accordance with each other and the law.

The main agreements to be prepared are:

1) Memorandum of Agreement
2) Legislation for creation of REIS Center
3) Data Sharing Agreement
4) Financial Program

Deliverables

All agreements are signed and sealed by the parties involved.

7.5 System Development

During this phase the business procedures agreed to during the REIS Center design and Computer System Design are translated into detailed software programs that will be included in the system. Throughout this phase and the reminder of the project the City will provided full time personnel to develop the application, prepare data for conversion, prepare data entry of information which is not in digital form, develop testing plan and document the system fully.

During this phase of this project regular meetings are held with the Working Group to review the progress of the project and to address any issues that my arrive during

the development of the system. The prototype system is utilized through this phase to communicate with the Working group on the progress of the Development Team. At the end of this phase the applications agreed to during the Design phase of the project is ready for testing and the user training of the users of the REIS may commence.

Actions

1) Development Logistics
2) Data base Creation
3) Data Entry Screens
4) Output Screens
5) On-Line Help System
6) Data Conversion & Entry
7) Develop Link of Graphics DB and REIS Core DB
8) Data Entry
9) Installation of Network Installation of HW/SW

Deliverables

At the end of this phase the REIS software is completed and supporting documentation is in the process of completion. Data available for the system is converted and loaded and continual data entry for the remaining of the database is entered.

7.6 Documentation

During this phase the system application is documented fully. The documentation details the system support procedures, maintenance and application guide.

The REIS application should be fully documented at several levels. This documentation constitutes a major part of the work, but is nevertheless extremely necessary. The documentation will allow the city to maintain the system, as well provide a foundation for further expansion. There are two categories of documentation: technical and non-technical (for end users).

Actions

1) Develop Technical Support Documentation
2) Develop System Administration Guide
3) Develop User's Guide

Deliverables

All manuals and documentation stated above.

7.6.1 Technical Documentation

The technical documentation explains the REIS in detail. This documentation is divided into at least two separate documents. One document covers the REIS application and the second document the administration of the REIS system.

The *Technical Documentation* of the *REIS Application* covers documentation of the database, the application modules and code. A lot of this technical documentation can be generated automatically by the development tools used to create the application. This documentation is useful but it lacks concept meaning. Therefore this documentation needs to be augmented further in order to make it more understandable to human beings. The technical documentation should also cover a lot of the concepts used to create the system. These are similar to the concepts covered during the initial analysis and design phases. Additional topics to cover are:

- Overall system design
- Schema diagrams
- Database design
- Data Flows
- Application design
- Process Flows
- Server setup
- Security System
- Hardware and Communication Set Up
- Status on Delivery
- Status upon expansion

The *System Administration Documentation* covers all the information necessary to maintain the system operating uniformly and securely. It should also cover how to deal with system problems and/or recover the system from failure. Topics covered in this document are:

- Overall system design
- Installation documentation
- Procedures for restart and recovery
- Backup procedures
- Fallback procedures
- Security
- Network schema diagrams
- Trouble-shooting

7.6.2 End User

The end user documentation should cover all the information necessary for all end users to take full advantage of the system. This documentation is divided into three separate documents:

- **User's Guide:** This document covers all the aspects necessary for an end user to operate the REIS system.

- **Online User's Guide:** With the development tools available today is possible to make the information on the User's Guide online. This user documentation provides the advantage of having hyper-text links and search engines to get help on particular items. It is highly recommended that User's Guide and the Online User's Guide be created in parallel.

- **User Training Guide:** All new users of the REIS will have to be trained before they start using the system. A training guide for the REIS should be created to help in the training.

7.7 Training

The training phase of the project includes the training of the development team, and training for system users. The training may start as soon as the application is completed with the data already entered into the system.

Actions

1. Develop Training
2. Deliver Real Estate Training
3. Deliver Advanced Computer Training
4. Deliver DB Administration
5. Application Development Tools
6. GIS (Graphics) Training
7. Develop REIS Center User Training
8. Deliver REIS Center User Training
9. Develop Committee User Training
10. Deliver Committee User Training

Deliverables

Appropriate training provide to the development team on the software platform selected by the City to create the REIS. A set manuals for the training of the users of the system as well as the delivery of training.

7.8 System Testing: Planning and Execution

During this phase the business functions and processes developed during the Application development phase of the project are tested in accordance with a test Plan developed and agreed by the Development Team and the Working Group.

Actions

1) System Readiness Test
2) Develop User Acceptance Test Plan
3) User Testing/ System Acceptance

Deliverables

At the end of this phase a document summarizing test results and detailing REIS improvements is forwarded to the City Working Group.

A through plan for testing of the REIS needs to be prepared by the REIS planning team and presented to the city authorities for approval before the system goes into operation. Upon approval by the city, the REIS is tested and the results compiled.

The testing of the REIS may reveal areas that require modification. These modifications will be performed by the project team. After the problem has been corrected, the appropriate section of the test plan will be repeated to confirm that the function performs in accordance with the System Design.

The test plan should be designed so that each major system component is tested. The test plan activities are divided into two major areas:

- **System Readiness Testing:** In this phase the project team performs various tests to confirm that the application is ready for User Acceptance Testing. The major activities performed are:
  - ⇒ Program Unit Testing,
  - ⇒ Security Testing,
  - ⇒ Network Testing,
  - ⇒ Graphics Testing
  - ⇒ Testing of any other components of the particular REIS designed.

- **User Acceptance Testing:** In this phase, users test the system to confirm that it performs in accordance with the System Design. The major activities performed are:
  - ⇒ Structured User Testing, and
  - ⇒ Unstructured User Testing.

7.8.1 System Readiness Testing

During this phase the project team performs various tests to confirm that the application is ready for User Acceptance Testing. The major activities performed are:

- **Program Unit Testing**, in which program units are tested both separately and as a whole. It should be noted that the bulk of this testing will have occurred during the Application Development Stage.
- **Performance testing**, in which large volumes of transactions are tested to check the performance of the system.
- **Security Testing**, in which individual tests are performed to ensure that the database integrity is not compromised. These tests include: data backup, procedures for restoring data, and protection from user tampering with the data by using password protection schemes and division of security levels.
- **Network Testing**, in which the individual hardware components linked on the network are tested for connectivity and functionality.
- **Graphics Testing**, in which the link between the graphics and database applications (e.g. between ArcInfo and Oracle) is tested to confirm the support of the application according to the business function requirements.
- **Other**, components which may require testing for REIS in q particular city.

7.8.2 User Testing

During this activity, users test the system to confirm that it performs in accordance with the System Design. These tests include registration of privatizations and secondary transactions such as a transfer of ownership, lease, mortgage and encumbrance. The details of the tests are specified in the document "Program and Methodology of Testing." This document is prepared by all parties involved in the development of the REIS. It contains a set of tests for each function the REIS system is to support in accordance to design.

- **Structured User Testing**: Users perform the tests included in the Test Plan. These tests will focus on validation of application business functions provided by the system and on the expected information inputs and outputs.
- **Unstructured User Testing**: Users from the city office which carries out real estate registration perform additional tests to confirm that the Application performs in accordance with the System Design.

7.8.3 Acceptance of the Testing Plan

A legal document should be prepared for all interested parties to sign signaling the acceptance of the testing plan s well as the responsibilities of each of the parties. This will ensure that everyone agrees with methodology of the tests and that all areas of the REIS are covered. A sample document of such an acceptance is shown in Annex IV. M.

7.9 System Installation and Commissioning

It is highly recommended that the installation of the REIS be performed gradually. All new systems have problems during the initial period of implementation. A full introduction of the system at once runs the danger of long down-times when unexpected problems occur. These down-times can create a lack of confidence in the system and may lead to its not being used at all.

Upon completion of the computer system, an acceptance plan by the city administration and the participating agencies should be prepared. This acceptance plan consists of documents of agreement on the REIS as it is ready for normal operation. These documents have to be signed by all major parties involved in the development of the system. This acceptance plan should be developed with the assistance of a legal advisor.

The most important documents to be signed for acceptance of the computer system are:

- The test plan
- Test results
- Software
- Equipment
- Networking
- The system status at completion.

Actions

1) Installation of REIS hardware and software.
2) Creation of REIS Center Office and implementation of supporting computer system.

Deliverables

An agreement signed by all members of the Working Group that the system meets the requirements of the parties involved and it is ready to start operations.

7.10 Workable Implementation Timeline

It is difficult to create an exact estimate of the time required for the completion of the REIS project. Nevertheless is extremely helpful to create one to assist in planning and keep the project on track. The following timeline is an estimate of the time required to fulfill the REIS project. This timeline is a working and changeable tool that will be adjusted as the development progresses. Ultimately this tool will aid in the successful completion of the project. (See Annex IV. A)

8. REIS Case Studies

The implementation of the REIS was performed in several Russian cities as part of the USAID task order for the development of the real estate market in Russia. Each city has its own unique characteristics, needs and requirements. The solutions to these problems were also different. The following are the case studies of several selected cities that implemented the REIS and serve as examples for the implementation of the REIS.

8.1 Tver REIS

8.1.1 Summary

8.1.1.1 Introduction

In November 1994, the City of Tver was in a similar position to most other Cities in the Russian Federation with regard to privatization and the secure registration of rights to real estate.

It is well known that a market economy requires, as a fundamental requirement, a legal basis for property rights and a secure registration system that protects the rights of individuals and companies. Even these fundamental requirements were missing.

At the end of this project the city of Tver has a functional Registration Chamber and a Title Registration database application.

8.1.1.2 Key Achievements

1. Technical training and advice provided enabled the City to develop the Title Registration Application that in turn led to the creation of the legal and regulatory basis for an effective Title Registration System.

2. The REIS Team was a force in the organizational and procedural changes that were required to develop a single office dedicated to secure Title Registration.

3. The City had an existing plan for a City-wide information system that incorporated all the municipal functions. This system had undergone extensive development but was not operational. Under the original plan the REIS was integrated into this system. During this process the advantages of the new system were demonstrated and the city now plans to replace the old system with the technology used in REIS.

8.1.2 Tver -- Project Overview

8.1.2.1 Project Objectives and Goals

The specific goals of the REIS are:

1. Establish a system that allows Tver to accurately locate and identify real estate, and to record the ownership rights and other interests in those objects;
2. Facilitate the immediate conversion of the REIS to perform real estate title registration functions once the database is constructed (at the City Administration's election);
3. Provide a method whereby the value of real estate, as reflected by market prices, is reported. Correct information about transfer prices of real estate is necessary for taxation purposes either in terms of transfer or on-going taxation; and

4. Provide the public and the participants in the real estate market with data that affects a real estate transaction. The participants in the real estate market include sellers and buyers, lessors and lessees, real estate agents, and financial institutions that will use property as security for lending money.

The project provides the core of a computerized REIS, as the basis for future expansion to other municipal management tasks.

8.1.2.2 Completed REIS Tasks

1. Analysis of existing databases and computer systems to ensure REIS compatibility with existing systems;
2. Needs analysis and examination of title and registration functions, City's long term planning goals and future expandability;
3. Database analysis and design;
4. Procurement plan approval by Tver and USAID;
5. Link between REIS and SYMCAD;
6. Demonstration utilizing "live" data for the Pilot Area;
7. Entry of all Pilot Area data;

8. The first version of the REIS application and its data entry screens and reports are completed,
9. Database link between ArcInfo and Oracle database was completed,
10. ArcView application to produce a diagram to accompany the title showing real estate objects was created,
11. User testing and validation of the REIS application utilizing "live" data;
12. All computer equipment is installed in the Chamber, Informatics Department, BTI, Land Committee, Property Committee and the Geodesy Department;
13. The computers are networked and 'real time' live data is shared among the agencies ; and
14. The Chamber is fully operational as a Title Registration office.

8.1.3 Tver REIS Deliverables At Completion

8.1.3.1 REIS Title Registration Application

Methodology

This system is based on an IBM RS6000 Power PC using AIX operating system that houses an Oracle database with title, building, land and ArcInfo GIS information. The database is accessed on a client/server basis by PC applications designed with Oracle Designer-2000 on a Ethernet based network running TCP/IP, IPX/NETX, and NetBEUI protocols

Advantages

The REIS design provides efficient data entry, simplified systems management, global manipulations and alterations, graphical capabilities, and reliable security. The use of a structural system analysis and an open system design technology and philosophy can support future growth of the combined system applications such as city planning, property appraisal, land information processing, land use monitoring, and taxation.

REIS Application Functions

The REIS application has achieved many of its specific goals and has prepared the ground work for further development. The project provides the core of a computerized REIS, as the basis for future expansion to other municipal management tasks.

The application allows Tver to accurately locate and identify real estate, and to record the ownership rights and other interests in those objects. The functions supported by the REIS title application are:

Start and End of Work
Staring a working session. Test for registrar authenticity.
Defining a new system user.
Using help system.
Application processing
Input of information about application, right confirming and right establishing documents.

Search for information about land parcels.
Search for information about buildings.
Search for information about flats.
Search for information about non-residential premises.
Search for information about individuals.
Input of information about individuals.
Search for information about legal entities.
Input of information about legal entities.
Saving an application.
Getting information about an application.
Getting complete information about an application.
Getting a list of applications.
Property registration.
Registration of right to a land parcel.
Registration of right to a building/
Registration of right to a flat.
Registration of right to non-residential premises.
Registration of joint tenancy for a land parcel.
Registration of tenancy in common for a land parcel.
Lease registration.
Registration of a land parcel lease.
Registration of a building lease.
Registration of a flat lease.
Registration of non-residential premise lease.
Lease discharge.
Mortgage registration.
Registration of a land mortgage.
Registration of a building mortgage.
Registration of a flat mortgage.
Registration of a non-residential premise mortgage.
Mortgage discharge.
Easement registration.
Registration of an easement for a land parcel.
Registration of an encumbrance arisen from an easement.
Easement cancellation.
Encumbrance registration.
Registration of encumbrance for a land parcel.
Encumbrance cancellation.
Issuing output forms.
Output form "Certificate of State Registration of Rights to Real Estate Objects and Real Estate Transactions" (for land parcels).
Output form "Certificate of State Registration of Rights to Real Estate Objects and Real Estate Transactions" (for buildings).
Output form "Certificate of State Registration of Rights to Real Estate Objects and Real Estate Transactions" (for flats).
Output form "Certificate of State Registration of Rights to Real Estate Objects and Real Estate Transactions" (for non-residential premises).
Output form "Certificate of existing rights to real estate objects" (for land parcels).

Output form "Certificate of existing rights to real estate objects" (for buildings).
Output form "Certificate of existing rights to real estate objects" (for flats).
Output form "Certificate of existing rights to real estate objects" (for non-residential premises).
Output form "Unified State Registry of Rights to Real Estate".
Standard queries to the database
Execution of query "Buildings and their owners."
Execution of query "Land parcels and their owners."
Execution of query "Buildings on a land parcel."

Table IV. 13: Tver City MAIN REIS APPLICATION FUNCTIONS

8.1.3.2 Equipment Delivery

At project start these agencies were equipped with old computer systems. In order to take full advantage of the REIS system the agencies were provided with new equipment. This equipment was delivered and setup by the REIS team and transferred to and signed off by the different agencies. The equipment distribution is as follows:

TVER DEPARTMENT OF ARCHITECTURE AND CITY DEVELOPMENT

IBM PC 330 486/66 PCI
IBM P50 Monitor
Arc View 2 for Windows

TVER BUREAU OF TECHNICAL INVENTORY

IBM PC 330 486/66 PCI
IBM P50 Monitor
Hewlett Packard Desk Jet 1200C
Arc View 2 for Windows

TVER REGISTRATION AND LICENSING CHAMBER

IBM PC 330 486/66 PCI
IBM P50 Monitor
Hewlett Packard Laser Jet 4+
Hewlett Packard Desk Jet 1200C
Technical User's Guide to the REIS
Technical User's Guide to the REIS
Technical User's Guide to the REIS
Arc View 2 for Windows

TVER GEODETIC DEPARTMENT

IBM C10 RS/6000
IBM Power Display
Hewlett Packard Vectra 5/90c

Sony Trinitron Multiscan 17se
Hewlett Packard 650C DJ Plotter
Hewlett Packard Digitizer
Hewlett Packard Laser Jet 4M/V
Hewlett Packard Desk Jet 1200C
REIS System Administration Guide
Fiskars UPS
Arc/Info for RS/6000

TVER INFORMATICS DEPARTMENT

IBM C10 RS/6000
IBM Power Display
IBM ASCII Terminal
IBM Type 7208 8mm tape drive
Hewlett Packard Vectra 5/90c
Sony Trinitron Multiscan 17se
Hewlett Packard Desk Jet 1200C
Tver REIS/R User's Guide
Tver REIS/R User's Guide
Tver REIS/R System Administration Guide
Tver REIS/R System Administration Guide
Fiskars UPS
File Server Key
Oracle 7.1.4.1.0 RDBMS
Arc View 2 for Windows

TVER PROPERTY COMMITTEE

IBM PC 330 486/66 PCI
IBM P50 Monitor
Arc View 2 for Windows

TVER LAND COMMITTEE

IBM PC 330 486/66 PCI
IBM P50 Monitor
Hewlett Packard Desk Jet 1200C
Arc View 2 for Windows

8.1.3.3 Networking Environment

The different Tver City agencies involved or containing data objects of real estate were united on a network put in place by the REIS project. This work was contracted to IBM Networking Group in Moscow. The networking of the city agencies will help the REIS expand into a full Real Estate Information System. These agencies were network for the purpose of data sharing.

- **Bureau of Technical Inventory (BTI)** -- responsible for all transactions involving buildings (so called "immovables"). The BTI was established 80

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years ago and is now a "self-financing" entity organized under the City Administration;

- **Land Committee (KomZem)** -- responsible for all transactions involving land (including the land under buildings recorded at the BTI. The KomZem was created in 1991 and is a federal entity with a presence in each oblast and rayon;
- **Property Committee (KI)** -- responsible for municipal buildings. The KI is also a federal entity; and
- **City Architect's Department** -- responsible for city planning and the Geodesy Department which maintains the map data.

The final networking is shown on Figure IV. 11

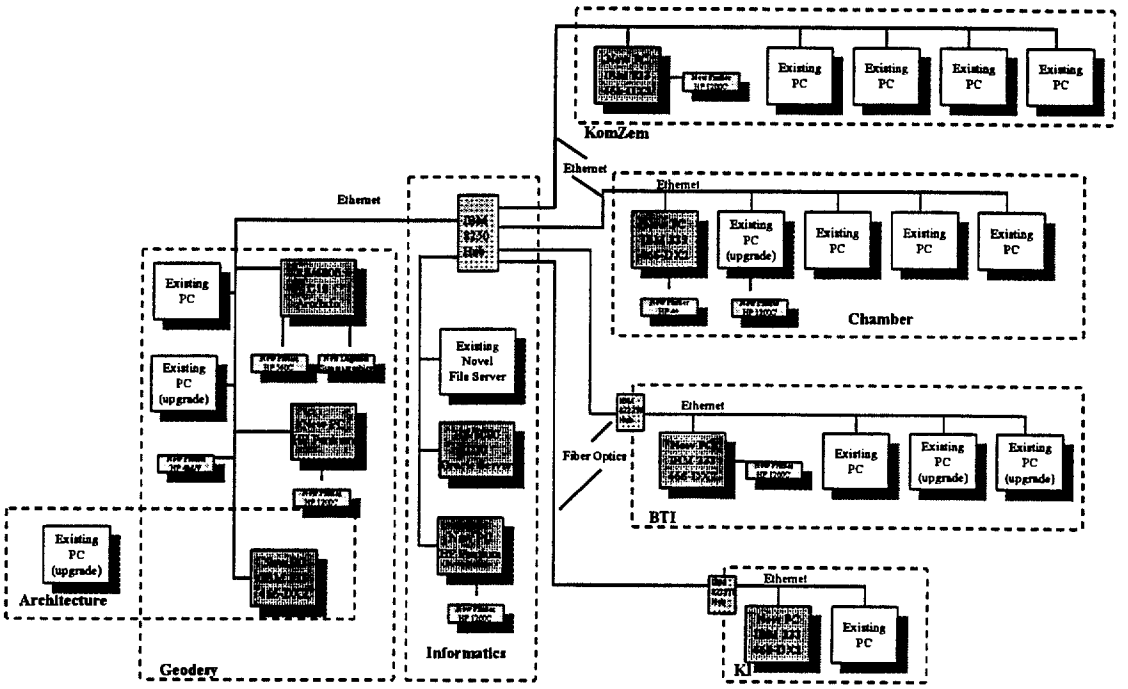

Figure IV. 11: Tver Networking and Equipment Schema

8.1.3.4 Graphical Environment

The city is has been provided with the equipment necessary to develop a complete GIS system under the Geodesy department. This department was provided with a powerful RS6000 C10 to run ArcInfo version 7.0. In addition the department receives a plotter, digitizer and laser printer. The several members of the staff were trained in Tver to fully exploit the advantages of this system.

In addition to this an ArcInfo application was create using ArcView with Avenue to support the REIS title registration application. This application integrates the ArcInfo and Oracle database to allow for parcel description information held in the REIS database to be reproduced graphically. The REIS application support consists of a program to print a diagram showing real estate objects to accompany the Certificate of Title. The data for this task is limited to the Pilot Area. This data is

obtained from REIS server via the network using Oracle SQL*Net and ODBC drivers. The functions supported by the ArcView application are:

ArcInfo Application Graphics Functions
1. Connectivity to REIS server using SQL*Net and ODBC drivers
2. Data from Pilot Area
3. Display: North point
4. Display: Parcel boundaries
5. Display: Street frontage, corners and intersections
6. Display: Parcel identification number of real estate object and the identification number of surrounding parcels
7. Display: Parcel co-ordinates
8. Display: Easements
9. Display: Building identification number

Table IV. 14: Tver ArcView and REIS Application Functions

8.1.3.5 Integration with Existing Systems

As part of the join work with the city the REIS Technical Team complied with City requests and was successful in the integration of REIS and the pre-existing Municipal Management Systems SYMCAD. The SYMCAD system was developed to run in DOS 3.1 and NetWare 3.12. The application was designed in Clarion with a Clarion database. The City administration decided that the REIS would be physically separate from SYMCAD but remain an integral part of the municipal management procedures and systems. We analyzed the existing system to identify the files and data elements that would logically be part of the REIS. We separated these files and data elements from the system so that they could be dealt with in isolation. In this way, a fully functioning real estate information system was developed and put into operation. The REIS was connected to and accessible by the SYMCAD system and was integrated into SYMCAD applications according to the City's own priorities. The integration was done by the use of Oracle SQL*Net and Oracle ODBC Drivers to the SYMCAD's Clarion database.

Upon completion of the project the Tver City has come to the understating that maintaining and old outdated system and a new more technologically advanced system is not desirable both technically and economically. The advantages of the REIS system design have convinced the City to make plans to replace SYMCAD with the new system.

8.1.3.6 Technical Documentation

The REIS application has been fully documented at several levels. This documentation constituted a major part of the work but nevertheless extremely necessary. This documentation will allow the city to maintain the system as well provide a foundation for further expansion.

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The documentation includes:

- **REIS Application User's Guide:** This guide is also part of the application On-Line Help System. The User's Guide can also be used for training of registrars in the City of Tver Registration and Licensing Chamber.

- **The REIS System Administration Guide:** This document explains in detail the management of the Tver system. The topics covered are overall system design, database design, application design, server setup, network setup and Systems maintenance such as security maintenance and backup procedures. Included in this documented is also The REIS Technical Guide section. This guide describes in complete detail the system, database and application design.

- **REIS Application Test Plan:** Before the release of the final application to the city a test plan was developed to the test the business functions and processes developed during the Application Development Stage of the project. The test plan activities are divided into two major components. The **System Readiness Testing** in which the project team performs various tests to confirm that the application is ready for User Acceptance Testing. The major activities performed are: Program Unit Testing, Security Testing, Network Testing, and Graphics Testing. The **User Testing** in which users test the system to confirm that it performs in accordance with the System Design. The major activities performed are Structured User Testing, and Unstructured User Testing.

8.1.4 Tver REIS Accomplishments At Completion

8.1.4.1 Project Achievements

1. Fully Functional Title Registration Office. Title registration activities at the Chamber will gradually increase as the market activity increases. Forms, procedures and training have been an integral part of the REIS project. The Chamber is geared for expected levels of activities. All forms of ownership rights, including mortgages, liens, easements, restrictive covenants can be accommodated on an object based system that relates the land to the structures attached to the land.

2. Established Registration Business Practices, Policies and Procedures. The physical location, office layout, operational regulations, responsibilities, staffing, office practice, paper forms and certificates, backup information, graphic requirements, public acceptability and education will be designed and implemented.

3. Secure 'Real Time' Integrated Data Exchange. Links with the other City organizations allow rapid transfer of information for registration following privatization or leasing, and the ability for those organizations to access up-to-date ownership information allow better land and real estate management. In addition, the capability (hardware, software and training) has been given to integrate graphic data with the REIS. The software selected enables the City to develop a full Land Information System using the REIS data as a base.

4. Complete Pilot Area REIS Implementation. The initial data loaded into the system is for a small area within the City. This data includes all the real estate objects within the pilot area and is used to demonstrate the effectiveness of the system.

8.2 Pskov REIS

8.2.1 Summary

8.2.1.1 Introduction

In January 1995 in the City of Pskov there were many obstacles that hindered private sector real estate transactions. Those obstacles included a lack of a reliable unified title registration system, punitive tax laws, and unclear federal land and mortgage law.

The City Administration recognized the need for a unified, secure registration system to the protect the real estate rights of individuals and companies.

At the end of this project the city of Pskov has a functional Real Estate Information System, Title Registration database application and fully trained personnel to complement the procedures with real estate transactions.

8.2.1.2 Key Achievements

1. The City of Pskov created the legal and regulatory basis for an effective Real Estate Information System.
2. A single office dedicated to provide secure known as the Pskov City Register.
3. The Pskov REIS use Client/Server architecture, user graphic interface and fiber optic network to link the real estate participants to the REIS.
4. The City of Pskov REIS is prepared to introduce new participants into the REIS such as banks, tax services and other state and commercial structures.

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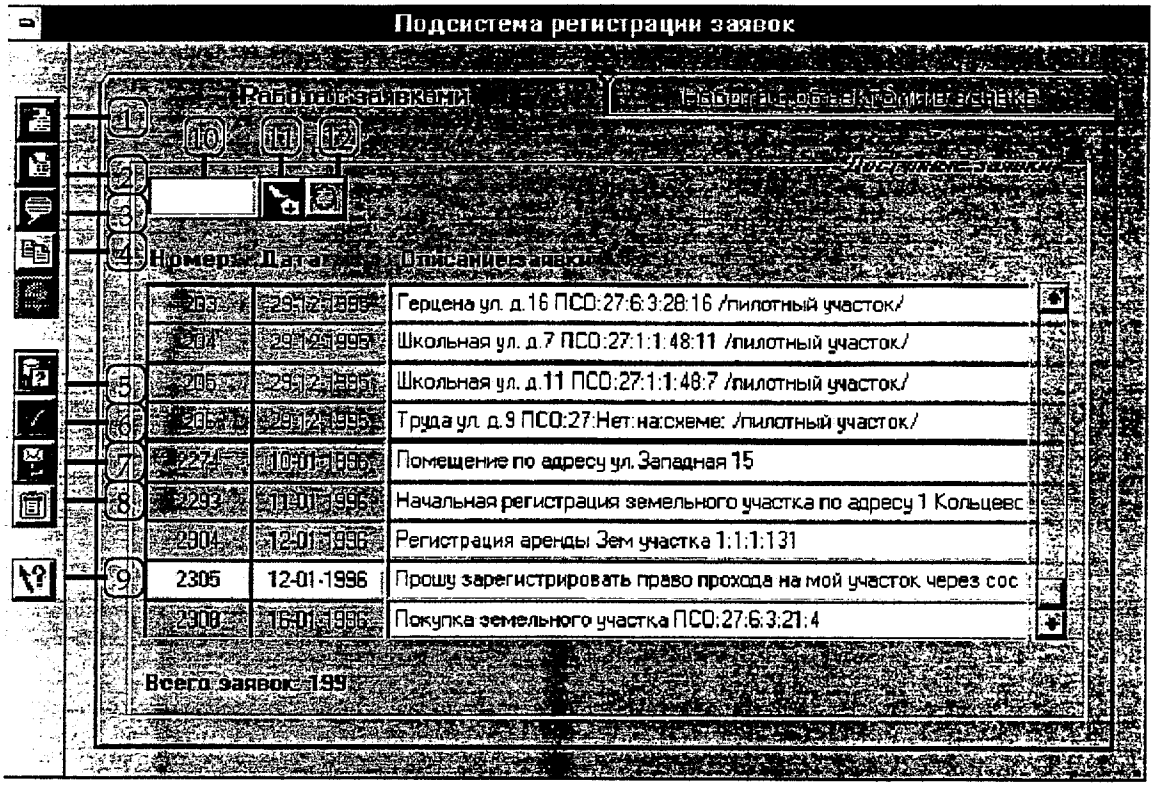

Figure IV. 12: Pskov REIS Application

8.2.2 Pskov - Project Overview

8.2.2.1 Project Objectives and Goals

The specific objectives of the REIS are:

1. Integrate the existing real estate information held at the various City agencies into one database structure;
2. Establish a REIS that allows the City to accurately locate and identify real estate objects and to record the ownership rights and other legal interests in those objects;
3. Provide a basis whereby the market value of real estate, determined through real estate transfer prices, may be reported. Accurate real estate transfer price information is necessary for taxation purposes, in terms of transfer tax or on-going taxation;
4. Provide the general public and real estate market participants with real estate information that affects real estate transactions and property values;
5. Provide the core of a computerized city-wide information system that can serve as the nucleus for future expansion.

8.2.2.2 Development Status

The status of the REIS project is summarized below:

Completed REIS Tasks

1. Needs analysis and examination of title and registration functions, City's long term planning goals and future expandability;
2. Database analysis and design;
3. Procurement plan approval by Pskov and USAID;
4. System Development:
    - Conceptual Model
    - Architecture
    - Database structure
    - Functional Hierarchy
    - Project Scenario
    - Screen Forms
    - Reports/Output
    - Archive Subsystem
    - Stored Procedures
    - On-Line Help System
5. Technical Support Documentation and Users Guide Development;
6. User Acceptance Test Plan development;
7. Pilot Area data entry;
8. Final system readiness test;
9. Software and hardware installation in the Pskov City Register, Land Committee, BTI and Property Committee;
10. Pskov City Register, Land Committee, BTI and Property Committee networking via local FDDI network.

8.2.3 Pskov REIS Deliverables At Completion

8.2.3.1 REIS Title Registration Application

Strategy

1. Established a single, unified mechanism for all types of ownership, leases, sublease chains, proxies, etc.
2. Established a single, unified mechanism for security. This is done by putting every **create, update, delete** for main tables REIS via stored procedures.
3. Established long term transaction mechanism. A real estate transaction may involve many entities, properties and rights, and may take long to complete. All activities within the transaction see only the working copy.
4. Established the ability to trace documents and authorizations. Transactions can not be closed and the effects take place unless required documents have been recorded in the database as "approved" over an authenticated password.

Methodology

This system is based on an Compaq Proliant 4500 - IBM PC Two Pentium Processors Server using Windows NT that houses Oracle database. The database is accessed on a client/server basis by PC applications designed with ORACLE SQL*FORMS 4.5

and ORACLE SQL*REPORTS 2.5 on Ethernet based network running TCP/IP, NetBEUI protocols and Windows For Work Groups operating system.

Advantages

The REIS design is based on the cheapest platform IBM PC with Windows NT. Nevertheless, it provides all advantages of using Oracle 7.1 features. Windows NT has simplified system management, global manipulations and alterations, reliable security. The use of a structural system analysis and an open system design technology and philosophy can support future growth of the combined system applications such as city planning, property appraisal, land information processing, land use monitoring, and taxation.

Pskov **REIS Application Functions**

The REIS has four main functions:

- **Real Estate Rights Registration;**
- **Real Estate Objects Inventory** (data entry in the database);
- **Information Search;**
- **System Administration.**

N	Function
1.	Starting a working session. Test for registrar authenticity.
2.	Using Help System.
3.	Land Inventory.
4.	Primary objects inventory.
5.	Secondary objects inventory.
6.	New application creation, entry of information about application.
7.	Application Search.
8.	Introducing individual into Application.
9.	Data record about documents for individual.
10.	Application transfer to BTI.
11.	Introduction of primary object into Application.
12.	Recording information about documents for primary object.
13.	Application transfer to the Land Committee.
14.	Introducing land parcel in the Application.
15.	Recording information about documents for land parcel.
16.	Application transfer to the Register.
17.	Registration of right to a land parcel, primary object.
18.	Registration of an encumbrance for a land parcel.
19.	Adding normative documents for the Application.
20.	Getting information about Application.
21.	Expertise of made up Application.
22.	Generation of documents.
23.	Examination of Certificates.
24.	Electronic signature of Certificates.
25.	Stamping Certificates.
26.	Examination of Land Register List.
27.	Electronic signature of Land Register List.
28.	Stamping Land Register List.
29.	Examination of BTI Register List.
30.	Electronic signature of BTI Register List.
31.	Stamping BTI Register List.
32.	End of (closing) Application.
33.	Introducing a legal person into Application.
34.	Recording information about documents for a legal person.
35.	Introducing a secondary object in the Application.
36.	Recording information about documents for a secondary object.
37.	Registration of a land parcel lease.
38.	Registration of a land mortgage.
39.	Registration of an easement for a land parcel.
40.	Query execution "Land Parcels".
41.	Query execution "Primary Objects".
42.	Query execution "Secondary Objects".
43.	Query execution "Owners".
44.	Getting Spravka about object state at the current moment.
45.	Getting report "Historical Search ".
46.	Change of user password.
47.	Change of electronic signature.
48.	Change of user name.
49.	Maintaining system dictionary.
50.	Change of access rights for operators to applications .
51.	Examination of the REIS Archive.

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8.2.3.2 Equipment Delivery

This equipment was delivered and set up at Pskov City Register location. The existing computers at the Pskov City Register, Land Committee, Property Committee and BTI were upgraded and provided with fiber wall system box, fiber optic cable, 12 port hubs to be networked into a local fiber optic network.

	EQUIPMENT NAME	QUANTITY
1	Database Server- Pentium 90 Tower 2*90 MHz Pentium CPU's 64 MB Ram, 3.5" 1.44 MB FDD Internal Integrated Fast-SCSI-2 Controller 3* 1GB Disk Drives SCSI-2 CD-ROM SCSI-2 Internal 4/16ГБ DAT Drive SCSI-2 Internal Keyboard, Mouse 17" SVGA Color Monitor Ethernet Controller 1400 VA UPS 4мм tape (20 each)	1 20
2	**Administrative Workstation** 486DX2-6616 MB Disk 540 MB 15" Monitor Ethernet Adapter	5
3	**Administrative Workstation** 90мhz Pentium CPU 32 MB Ram, 3.5" 1.44 MB FDD Internal Integrated Fast-SCSI-2 Controller 1GB Disk Drive SCSI-2 CD-ROM SCSI-2 Internal Keyboard, Mouse Color Monitor 20" SVGA Ethernet Controller 1400 VA UPS	1
4	**Digitizer** HP (A3-size/puck, ANSI B/ISO w/adjustable stand)	1
5	**Plotter** HP E-size, Color w/ Jet direct	1
6	**Fiber Wall System Box** **Fiber optic cable** (meters)	4 1900
7	**Hub** 12 port Hubs, FO to 10 BaseT	4
8	**Laser Printer** HP Laser Jet 4 MV HP Laser Jet 4/4M	5
9	Windows NT3..5 Server Windows NT3..51 Server Oracle RDBMS (10 seats) Designer 2000 Windows for WorkGroups 3.11 MS Office 4.2 MapInfo 3,0	1 1 1 1 5 5 1

8.2.3.3 Networking Environment

The different Pskov City agencies involved or containing data objects of real estate were united on a network put in place by the REIS project. The work was contracted to a local company Pskovsvetcom. The networking of the city agencies will help the REIS expand into a full Real Estate Information System. These agencies were networked with the purpose of data sharing.

- **Land Committee (Komzem)** - responsible for all transactions involving land (including the land under buildings recorded at the BTI). The Komzem was created in 1991 and is a federal entity with a presence in each oblast and rayon;
- **Bureau of Technical Inventory (BTI)** - responsible for all transactions involving buildings ("immovables"). The BTI was established 65 years ago and is now a "self-financing" entity organized under the City Administration;
- **Property Committee (KI)** - responsible for municipal buildings and is a federal entity;
- **Complex Expedition # 186 (Company 186)** - responsible for instrumental survey of land parcels. Company 186 digitized the REIS Pilot Area data and developed Pskov REIS Pilot Area digital cadastre plan. Company 186 is currently developing a cadastre plan of Pskov city.

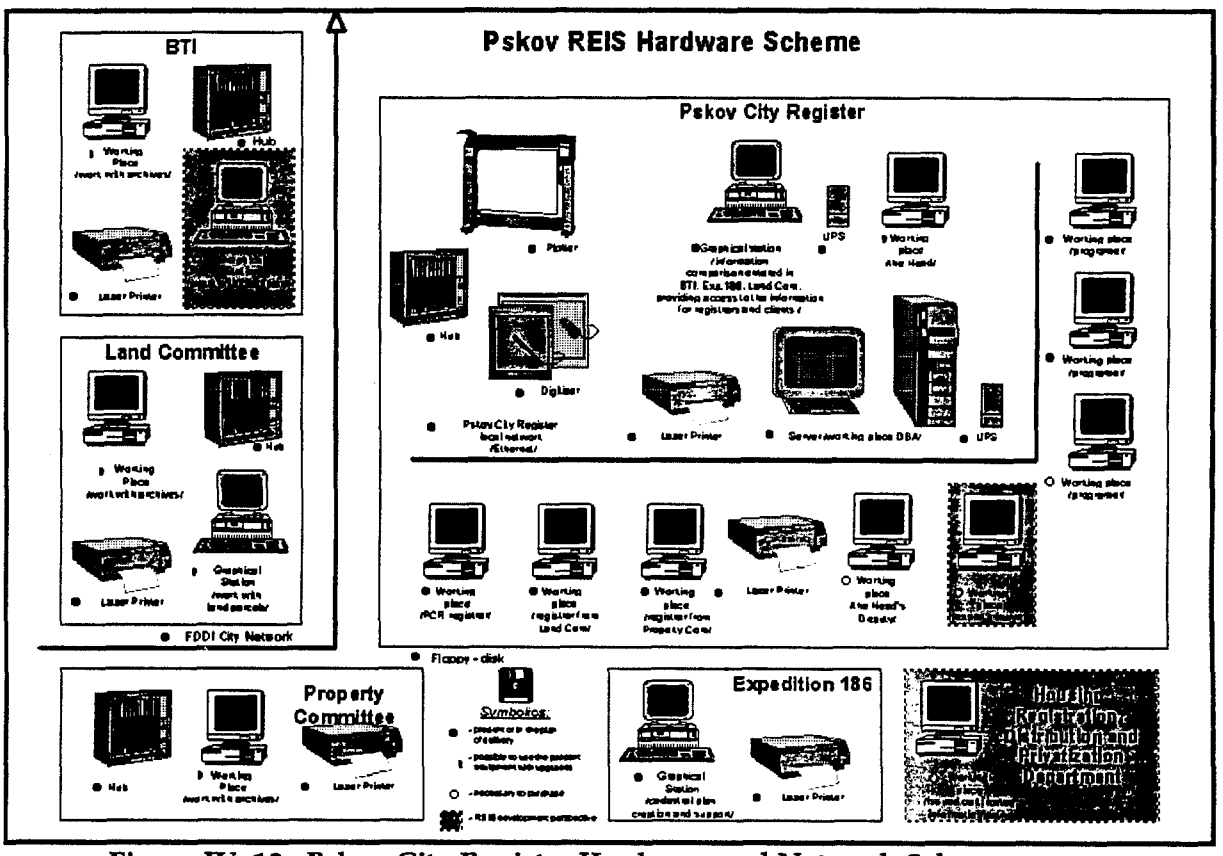

Figure IV. 13: Pskov City Register Hardware and Network Scheme

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8.2.3.4 Pskov REIS Working Principles

The system contains permanent, transition and archive data.

- **Permanent** data reflect status of registered real estate objects at the current moment;
- **Transition** data collect and prepare data to be transmitted into Permanent database and check data correctness;
- **Archive** data provide historical search.

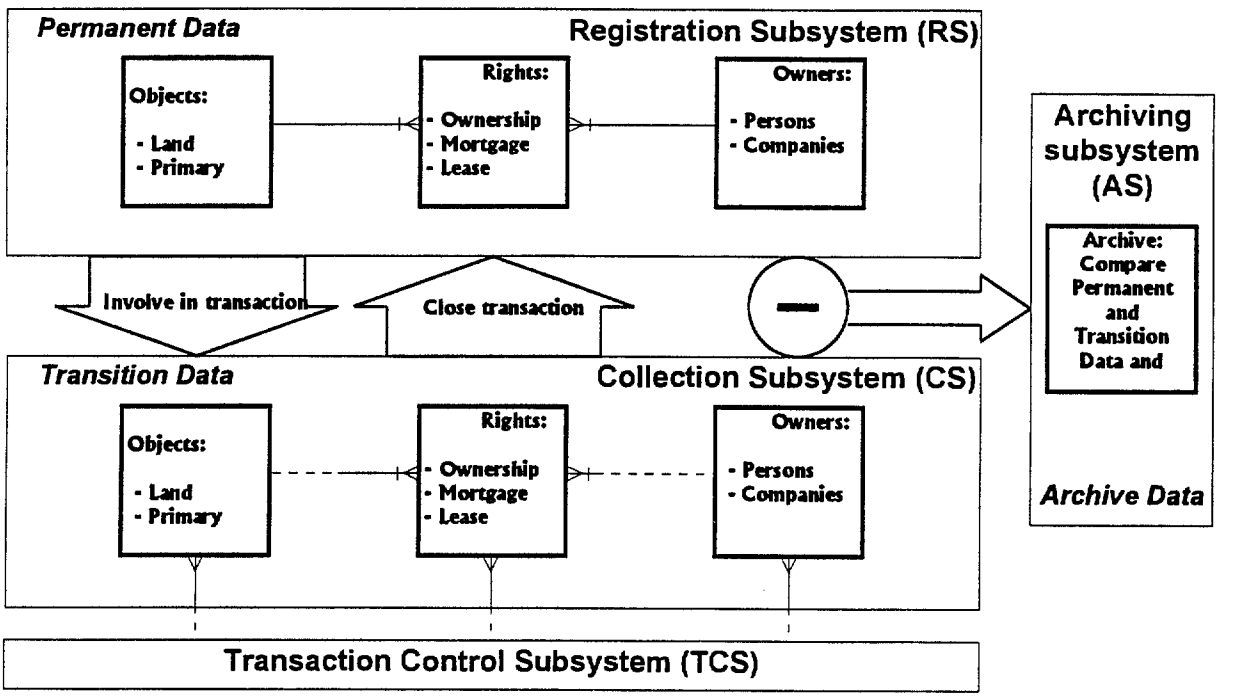


Figure IV. 14: Pskov System Procedure

8.2.3.5 Training

Pskov REIS training was provided to Arthur Andersen and Pskov City Administration personnel and made up 324 student days for the entire training period March 1996-January 1996.

- Basics of Land Title Registration
- Project Management
- Basic Computer Skills
- Windows NT Administration
- Network Administration
- ORACLE Programming
- Administer ORACLE Database
- Client-Server Application Design and Development
- Geographical Information System MapInfo Development

8.2.3.6 Technical Documentation

The REIS application has been fully documented at several levels. This documentation will allow the city to maintain the system as well provide a foundation for future expansion.

The documentation includes:

- **Pskov REIS User's Guide**: This guide is also a part of the application On-Line Help System. The User's Guide can be used for training of registrars in Pskov City Register, Land Committee, BTI and Property Committee.

- **Pskov REIS Administration Guide**: This document explains in detail the management of Pskov system. The topics covered are overall system design, database design, application design, server setup, network setup and system maintenance such as security maintenance and backup procedures.

- **Pskov REIS Test Plan**: Before the release of the final application to the city a test plan was developed to test the business functions and processes developed during the Application Development Phase of the project. The test plan activities are divided into two major components. **The System Readiness Testing** in which the project team performs various tests to confirm that the application is ready for User Acceptance Testing. The major activities performed are: Program Unit Testing, Security Testing and Network Testing. **The User Testing** in which users test the system to confirm that it performs in accordance with the System Design. The major activities performed are Structured User Testing and Unstructured User Testing.

8.2.3.7 Graphical Environment

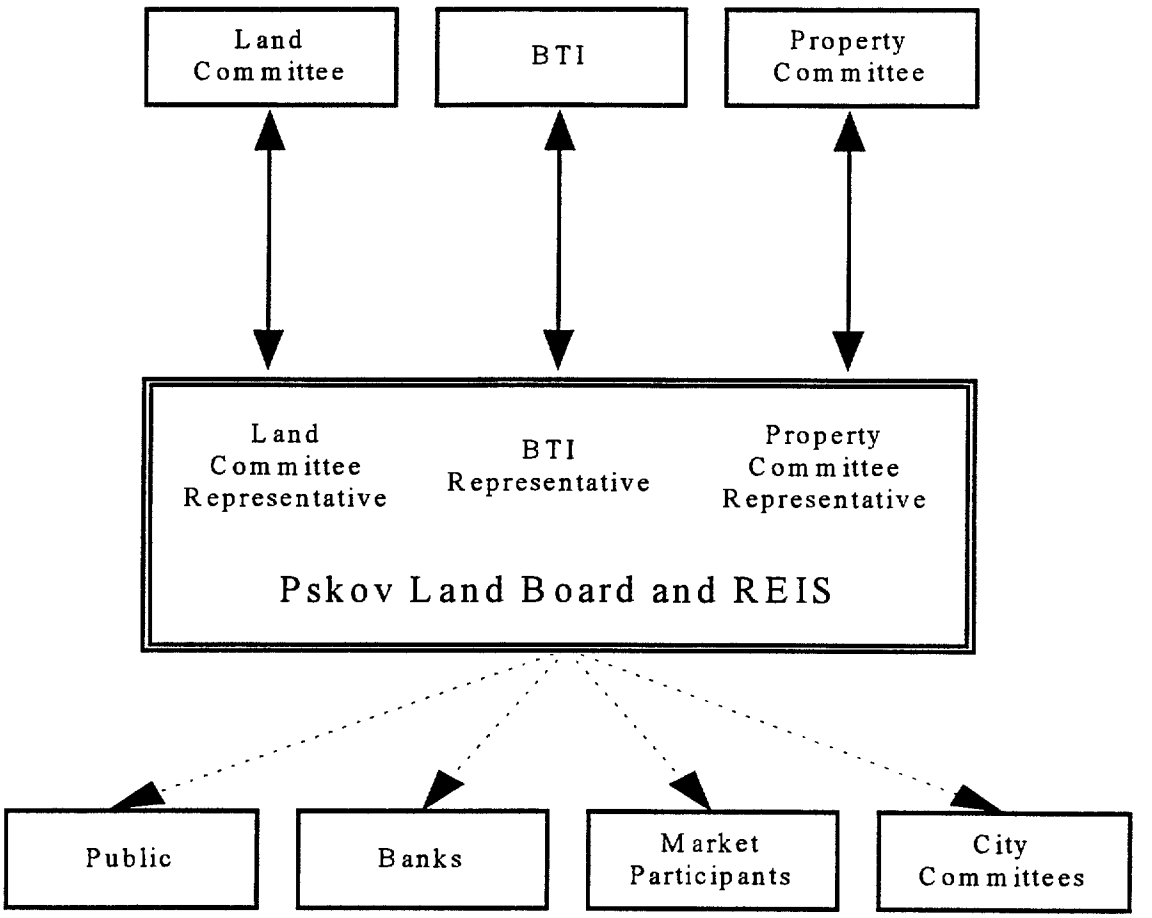
The graphical application MapInfo with SQL DataLink and Map Basic is used in Pskov REIS. Pskov REIS Pilot Area data are entered in the database. The system is capable to connect MapInfo graphic database via SQL DataLink and ORACLE SQL*Net to Oracle Server.

8.2.4 System Expansion

The Administration will continue to develop secondary, and complimentary computer applications. It is anticipated to introduce new REIS participants to expand the system throughout the territory of Pskov:

- Real Estate Department (gets the necessary information about land parcels, buildings, dwellings and other objects of municipal real estate);
- Municipal Housing and Utilities enterprises (in their work use the list of real estate objects on the territory of each enterprise);
- Tax Inspection (regularly gets the information about real estate owners on the territory of the city);
- Architecture Board (takes the REIS information into account to develop plans of city construction and forms' encumbrances for engineering network, etc.);
- Nature Protection Committee (makes the monitoring of ecological state of the city and creates encumbrances of ecological character);

- Monuments Protection Center (creates encumbrances for land parcels in its jurisdiction);
- Banks, Notaries, Realtors and other real estate market participants (get necessary information about real estate in Pskov for transfer, mortgage, lease deeds).



8.3 Pechory REIS

8.3.1 Summary

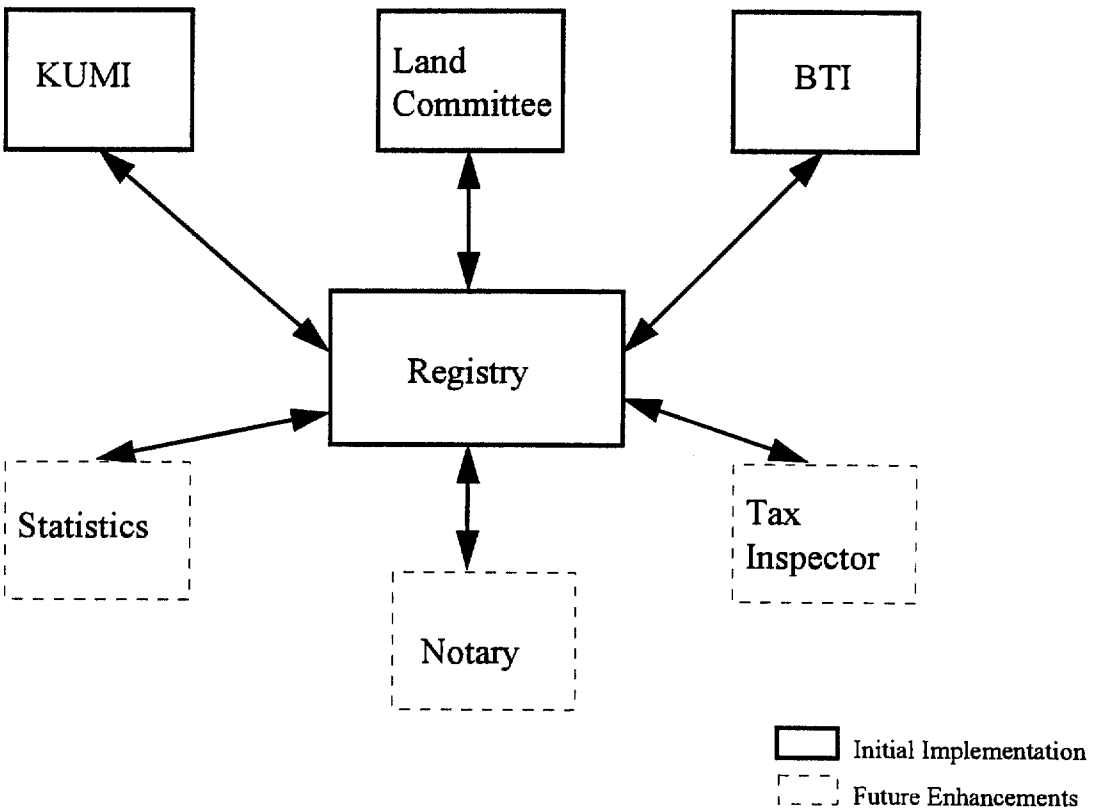
8.3.1.1 Introduction

The administration of the City and Raion of Pechory has determined that it must develop a comprehensive, unified real estate database of graphic and tabular data in order to effectively plan and manage its rich land-based resources. The Administration's ambitious plan includes the creation of a registration office which will coordinate and unify the registration functions of the City Property Committee (KUMI), Land Committee (Komzem) and Bureau of Technical Inventory (BTI). As time and resources permit, the Notary Chamber, Tax Inspectorate and the Statistics Department will be linked in this system as well, thus creating a unified system of databases to provide the kind of information required for effective decision making.

8.3.2 Project Overview

8.3.2.1 Project Objectives and Goals

The Head of the Administration of the City and Raion of Pechory has outlined an ambitious plan for the improvement of the land title registration process in the City and the Raion. This plan includes the creation of a new registry office to coordinate and unify the registration functions now performed by the Land Committee (Komzem), the City Property Committee (KUMI) and the Bureau of Technical Information (BTI). Representatives of those offices will work in the new registration office and perform their existing registration functions. As the system becomes established, links will be established between the database created to support the REIS and the Statistics Office, the Notary Chamber and the Tax Inspector. With these links in place, the City and Raion Administration can begin the development of a comprehensive land information system which will serve the needs of the Administration to manage and plan for its land resources. The links to the REIS database will also assist the Statistics Office, the Tax Inspector and the Notary Office in their work.



Pechory's Proposed City Registry

Figure IV. 15: Pechory REIS Conceptual Diagram

8.3.2.2 Development Status

The City and Raion of Pechory are fortunate in that a neighboring city and the center of the Oblast, Pskov, has developed a Real Estate Information System in cooperation with the consulting firm Arthur Andersen. The City of Pskov and the City and Raion of Pechory maintain a close working relationship and it is expected that personnel from the Pskov City Registry will assist the City and Raion of Pechory in the development of its REIS.

Pechory is a small city located 50 kilometers from Pskov. At the time of analysis, there were minimal technical skills in Pechory. Pskov had already undergone the development of its REIS and hopes over time to expand its system to include all the data for the Oblast. Pskov has offered its completed REIS to Pechory, which means that Pechory does not have to develop its own system. Pskov can maintain Pechory's system through maintenance contracts between the two cities.

There is a need to automate Pechory's registration function and have ready access to the registration database for both responses to queries and analysis of land use and land transfers in the City/Raion. There is a need to link the digital map of the City/Raion prepared by Survey Company 186 with the registration database through the functionality provided by the existing MapInfo graphics package. Networking requirements appear to be minimal due to the fact that all offices of the Registry will be housed in one building.

8.3.3 Existing Conditions

8.3.3.1 Registration Processes

Registration processes are carried out in three primary agencies -- the Land Committee, the Property Committee and the Bureau of Technical Inventory. The Land Committee is responsible for registering interests in land, the Property Committee is responsible for registering interests in properties owned (or formerly owned, in case of the first privatization) by the Municipality and the BTI is responsible for registering interests in buildings and apartments. For the most part the data collected during the registration process is not duplicated among these three agencies, but there is some redundancy in the data collected by the BTI and the Land Committee concerning land parcels.

8.3.3.2 Data Sharing

The agencies in Pechory share data among themselves as depicted in Table IV. 15. One of the most important observations is that the BTI is a provider of data to many different agencies, including the Land Committee, KUMI, the Municipal Economy Committee and the Chief Architect. The other observation is that the Land Committee, the Property Committee and the Chief Architect are the largest consumers of data from other agencies. The design of the REIS database and the hardware configuration for the system should provide that BTI, KUMI and the Land Committee have access to the data they require in their daily operations. The Chief Architect should have access to the database as well, but placing hardware in that

office and connecting that hardware to the system will need to wait for a subsequent phase of the project due to budgetary considerations.

	Komzem	BTI	KUMI	Statistics	Mun.Econ.	Ch.Arch.
Property Address	1,2	1	1,4	7,9	1	1
Cadastral Number	1	HET	3	HET	HET	HET
BTI Number	HET	HET	HET	HET	HET	HET
Owner Name	1,2	1	1	2,9	4	2
Owner Address	1,2	HET	1	2,9	4	2
Parcel Characteristics	1,2	1	3	3	HET	3
Building Characterist	4,5	1	1,4	6,10	4	4,5
Unit Characteristics	4	1	4	6,10	HET	4,5
Room Characteristics	HET	1	4	HET	HET	HET
Document Data	3,4,5	1,2	1,3,4	HET	11	3,4,5
Rights Data	3,4,5	1,2	1,3,4	HET	11	3,4,5

Code	Meaning
1	Agency's Own Files
2	Applications
3	KOMZEM
4	BTI
5	KUMI
6	Chief Architect
7	Municipal Economy Committee
8	Statistics Office
9	Oblast Statistics Office
10	Housing & Utilities Committee

Table IV. 15: Data Sharing Among Selected Pechory Offices

8.3.4 REIS Deliverables at Completion

8.3.4.1 Equipment Delivery

Pechory has chosen a centralized data model with one file server running Windows NT and three workstations. The server hardware specifications are shown in Table IV. 16, and Table IV. 17 shows the details of the workstations.

Component	Requirements
CPU	Intel Pentium 90 MHz, min.256

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	cache
System memory	32 megabytes RAM, with remaining expansion up to a minimum 64 MB
Computer bus	EISA or PCI, Integrated Fast-SCSI-2 Controller
Hard drive	2 GB Disk Drive SCSI-2
Floppy disk drive	1.44 MB FDD Internal
CD-ROM drive	SCSI-2 Internal, quad speed min.
Tape backup	4/16 GB DAT Drive SCSI-2 Internal
Ports	2 Serial ports min., 1 Parallel port
Network	Ethernet Controller
Modem	External or Internal fax modem, 14,400/9600 BPS, CCITT V.32 bis compatible (28.8 preferred)
Video card	SVGA, 2MB VRAM, accelerated graphics, local bus
Keyboards	101-key with Cyrillic & English char. set
Pointing device	2 or 3 button Mouse
Monitor	20' SVGA Color Monitor
UPS	1400 VA
Printers	HP Laser Jet 4 Plus (or equivalent)
Network Hardware	2 terminators, 100 meters of coaxial cable

Table IV. 16: Pechory's File Server Specifications

Component	Requirements
CPU	Intel 486 DX2-66 MHz
System memory	16 megabytes RAM
Computer bus	EISA or PCI
Hard drive	1 Gigabyte Disk Drive - SCSI-2
Floppy disk drive	1.44 MB FDD Internal
CD-ROM Drive	SCSI-2 Internal, quad speed minimum
Modem	External or Internal fax modem, 14,400/9600 BPS, CCITT V.32 bis compatible (28.8 preferred)
Network	Ethernet Controller
Video card	SVGA, 2MB VRAM
Keyboards	101-key with Cyrillic & English char. set
Pointing device	2 or 3 button Mouse
Monitor	15' SVGA Color Monitor
Printers	HP Laser Jet 4 Plus (or equivalent)
UPS	1400 VA

Plotter	Color Ink Jet Plotter, Paper Size A1 or Larger, min. 8 MB installed RAM
Scanner	300 dpi color scanner, paper size A4 or larger, with image capture and editing software (HP Scanner Jet II - CX or equivalent)
Network Hardware	1 network card, 1 "T" connector

Table IV. 17: Pechory's Workstation Specifications

8.3.4.2 Networking Environment

The following agencies will be networked to facilitate data sharing:

- Bureau of Technical Inventory (BTI) - responsible for all transactions involving buildings
- Land Committee (KomZem) - responsible for all transactions involving land
- Property Committee(KUMI) - responsible for municipal buildings

Pechory's REIS will be physically located on two floors of one building. The complete networking scheme is shown in Figure IV. 16.

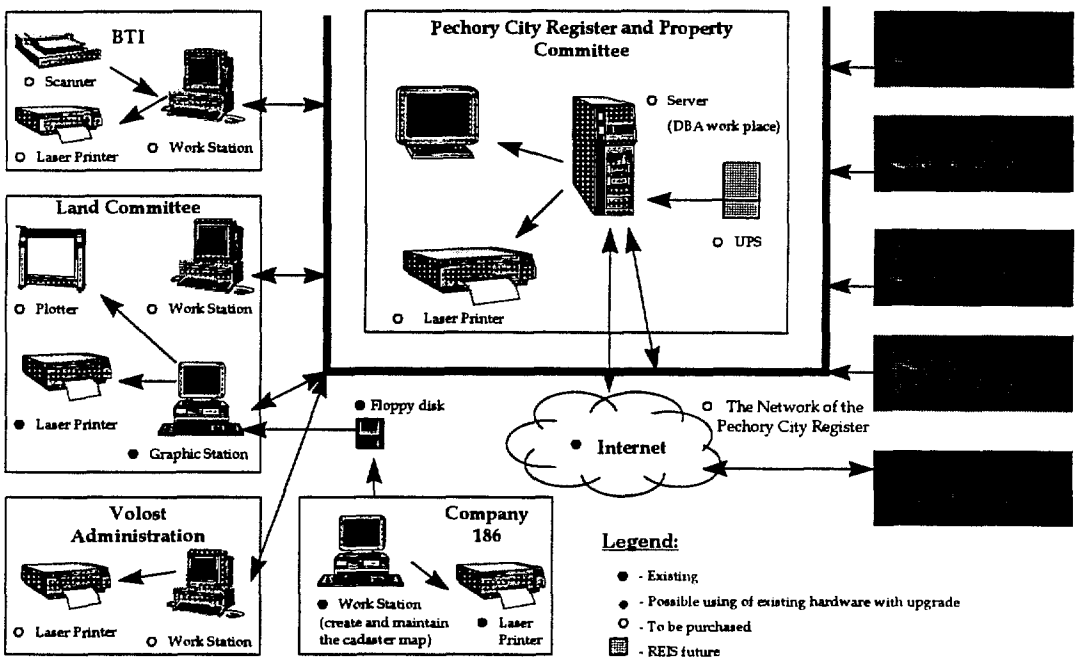

Figure IV. 16: Pechory Network and Hardware Schema

8.3.4.3 Graphical Environment

Pechory had purchased MapInfo software prior to the REIS *Needs Assessment*. A local surveying company, Company 186, has prepared digital maps in MapInfo

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format for about 25% of the area. Additionally, Pskov is using MapInfo software and the programs to interface with the Pskov REIS have already been developed and implemented.

The City is also receiving a plotter, scanner, and two laser printers. The GIS Specialist from Pskov will offer customized MapInfo training to Pechory.

8.3.5 Outstanding Issues

8.3.5.1 System Maintenance

Pskov has offered to give Pechory its Oracle registration system. Accepting this offer eliminates Pechory's REIS developmental needs but does not address ongoing system maintenance issues. The solution is an agreement between the two cities whereby the Pskov Registry updates and maintains the system for a fee. This relationship can be beneficial for Pskov as well because lessons learned in one city can be shared with another. A healthy working relationship between these two cities is necessary.

8.3.5.2 Training

There is currently a lack of overall computing skills in Pechory. The *Implementation Plan* calls for intensive computer training at all levels for all potential administrative REIS users. If this plan is successful, Pechory will have the knowledge necessary to maintain the REIS over time.

There is an additional need for a systems administrator. With the maintenance agreement with Pskov, this person is not required to program or perform any developmental work but must oversee daily tasks, including regular system backups and restorations. The *Implementation Plan* requires the City to select and train a system administrator. Failure to properly train this person can create serious problems in the future.

8.4 St. Petersburg

8.4.1 Introduction

Real estate information in St. Petersburg has traditionally been collected and managed by different agencies and kept in different formats. For example, land and land ownership data is held by the Land Committee, municipal building and leasing information by the Property Committee, privatized dwelling units by the Housing Agency, map data by the City Architect's Department and sales transaction of commercial real estate data by the Property Fund.

Registration activity and associated systems are spread across several agencies and committees in different locations throughout the city. Currently, registers are held by the Land Committee, Housing Agency (now known as the Municipal Bureau of Rights Registration -MBRR), Property Committee and Property Fund.

Each organization also performs functions apart from registration. For example, the Land Committee monitors land use and the Property Committee provides property management services, answers queries and assists the Property Fund during privatization.

Other organizations in the city are also involved in real estate management. Building data is collected and maintained by the Bureau of Technical Inventory. The BTI rayon (district) offices provide data about city-owned real estate to the Property Fund and the Property Committee. These offices will also provide the Cadastral File to the Land Committee (following recent legislation).

The organizations listed above have independent software and procedural implementations. The Land Committee is currently implementing an automated registration system for all forms of real estate. The MBRR has a paper registration system for apartments which is currently being automated. Following recent legislation, the MBRR was subordinated to the Land Committee, which intends to convert the MBRR system onto the Land Committee registration system. Similarly, the Property Fund and the Property Committee have registration systems in-place for sale transactions and leases, respectively. These systems are also a combination of paper and automation and the information about legal rights will be recorded in the Land Committee registration system.

In addition to the different functions and systems, these organizations also have different structures, specifically with regard to local offices. For example, the Property Committee, the Land Committee and BTI have local offices at the rayon (district) level, but they are in different locations and the number of rayon offices differ. Further, communication links between central and rayon offices do not cross committee lines.

Given these differences, the sharing and common use of real estate information is difficult and there is no reliable and comprehensive information base that connects data about all real estate objects. Specifically, there is a lack of common data elements and table structures which hinders the sharing of information. Each organization has systems in place that serve the needs of that particular entity. The systems in total, however, are not unified and do not facilitate the efficient flow of information across organizations that would allow for more efficient registration and property management procedures. These factors, in turn, discourage private real estate transactions.

Objectives of the REIS

The City of St. Petersburg approved legislation intended to create a city-wide real estate management scheme to more efficiently manage city property and to encourage the development of a private real estate market.

This legislation is in the process of being implemented. The implementation period could take an extended period of time before current practices and procedures are replaced with new ones. The REIS has been designed to reflect this "transition period." Specifically, the REIS will integrate existing practices and also allow for new procedures to be implemented.

The broad objective of the REIS is to process information that facilitates private real estate transactions and promotes efficient procedures for registration and, ultimately, for property management. More specifically, the REIS will facilitate the flow of information across organizations and assist relevant agencies/committees to exchange data and optimize business functions which have a direct bearing on the private real estate market.

The REIS will allow for the distribution of information to public entities and private citizens. Such information could include: ownership, location, legal description, liens/mortgages, encumbrances, use restrictions, value, physical condition, land use/zoning, utilities, easements and tax status. Likely users of information will include city organizations; individual owners, buyers and sellers of property; banks and other potential sources of financing; real estate developers and investors; and real estate agents.

The REIS focuses on those agencies that collect and manage information relating to properties which have been privatized or are in the process of being privatized or leased. These entities include the Property Committee, Land Committee, Property Fund, Housing Agency (MBRR) and BTI.

8.4.2 Description of the REIS

The key features of the REIS include database server equipment located at the central administration locations of each of the committees, and local databases in each of the rayons. The committee servers would be connected to the rayon networks and to each other via a Communications Center. At the central level, the Property Committee, Property Fund, Land Committee (Cadastre), and MBRR would be linked to the Center. Each committee would be allowed to develop, enhance, and maintain its own system independently from the other committees. In addition, they will have the ability to query other committees and rayon locations for information necessary to expedite daily operations.

The Communications Center would handle transfers of data between the committees (query routing), according to agreed formats and common data elements. The Center will also maintain the data dictionary for the REIS. The database control component of the Communications Center would help assure conformity between the data structures developed in each committee and would provide for a stable platform for the future expansion of the REIS and the ability to share data across committees as the privatization process and secondary market transactions expand over time. Specifically, common data elements will ensure compatibility in data exchange and allow the City to extend the system to other users in the future, such as tax authorities and the banking community.

Committee offices in the pilot rayon would be linked together using a local area network which would be linked to the Communications Center. The Property Committee, the Land Committee, and the BTI will be part of each rayon configuration. The Communications Center design provides for data storage at each individual rayon and the ability for committees to query either the rayon database or the BTI through the rayon database. These links will help distribute the work associated with privatization and subsequent transactions into the rayon offices, increasing the operational efficiency of each committee.

For security and legal reasons, the legal Cadastre and other registration files will be maintained on equipment that is physically separate from other portions of the system, and in a structure that maintains a logical separation from other databases. The Cadastre, however, will be tightly coupled to the system so that the data contained in it is accessible by other committees and entities that have a legitimate need for access. This is important as the Cadastre will provide the core information required in the complete information system being developed by the city. Security and access rights will be controlled by access rules embedded in the operating system and the database management system.

The Communications Center can be located anywhere, including being housed and maintained by one of the existing committees. To ensure the ongoing effectiveness of the system, The Communications Center could be under the control of an independent agency.

CONCEPTUAL DESIGN OF REIS

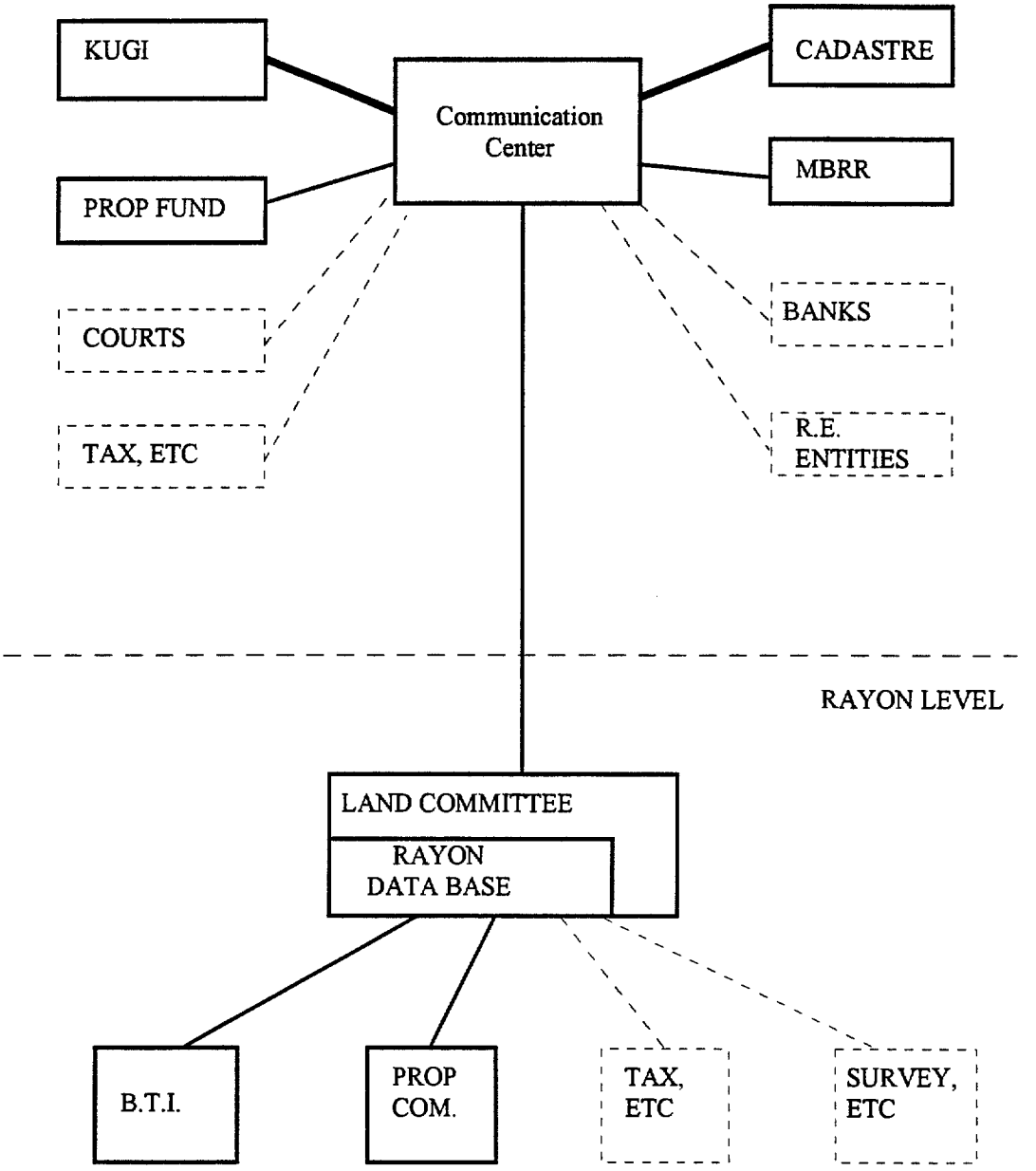

Figure IV. 17: St. Petersburg Conceptual Design

The Pilot System will consist of the design and full implementation of the Communications Center (and connections to committee servers) and linkage to a fully configured rayon database in the Kalininsky rayon. (See Figure IV.17) The committees Applications developed for the committees will allow them electronic access to BTI information at the rayon level, so that the Pilot System can demonstrate the ability of each committee to access this information. Further, we propose to work with the Land Committee to integrate its registration system into the REIS so that the Pilot System can demonstrate an automated registration process.

8.4.3 System Architecture

The system architecture for the REIS calls for a hybrid host/client/server system using PC-based clients. The system architecture and hardware/software specifications described below offer several important advantages:

1. Simplicity - proven technology for both hardware and software platforms.
2. Scaleablity - the system can grow as privatization activity increases.
3. Expandability - the system can accommodate other applications and data sources (e.g., tax, utilities) without requiring extensive redevelopment.
4. Compatibility - is achieved through open system standards.
5. Reliability - the system can recover from system failures, and it allows for automatic rollback when transaction errors occur, and protection from data corruption.
6. Security - the system provides excellent security for host/servers, database management system and network.

The REIS consists of three broad components: the Communications Center, the central committee locations and the rayon databases.

8.4.3.1 Communications Center

The Communications Center serves as the connection between the rayon networks and each of the committee servers. It provides overall control, consolidation, and "unification" of databases stored at each location, while allowing each committee to develop, enhance, and maintain is own systems independently from the other committees. The Communications Center will handle transfers of data between committees, according to agreed data formats and data dictionary definitions.

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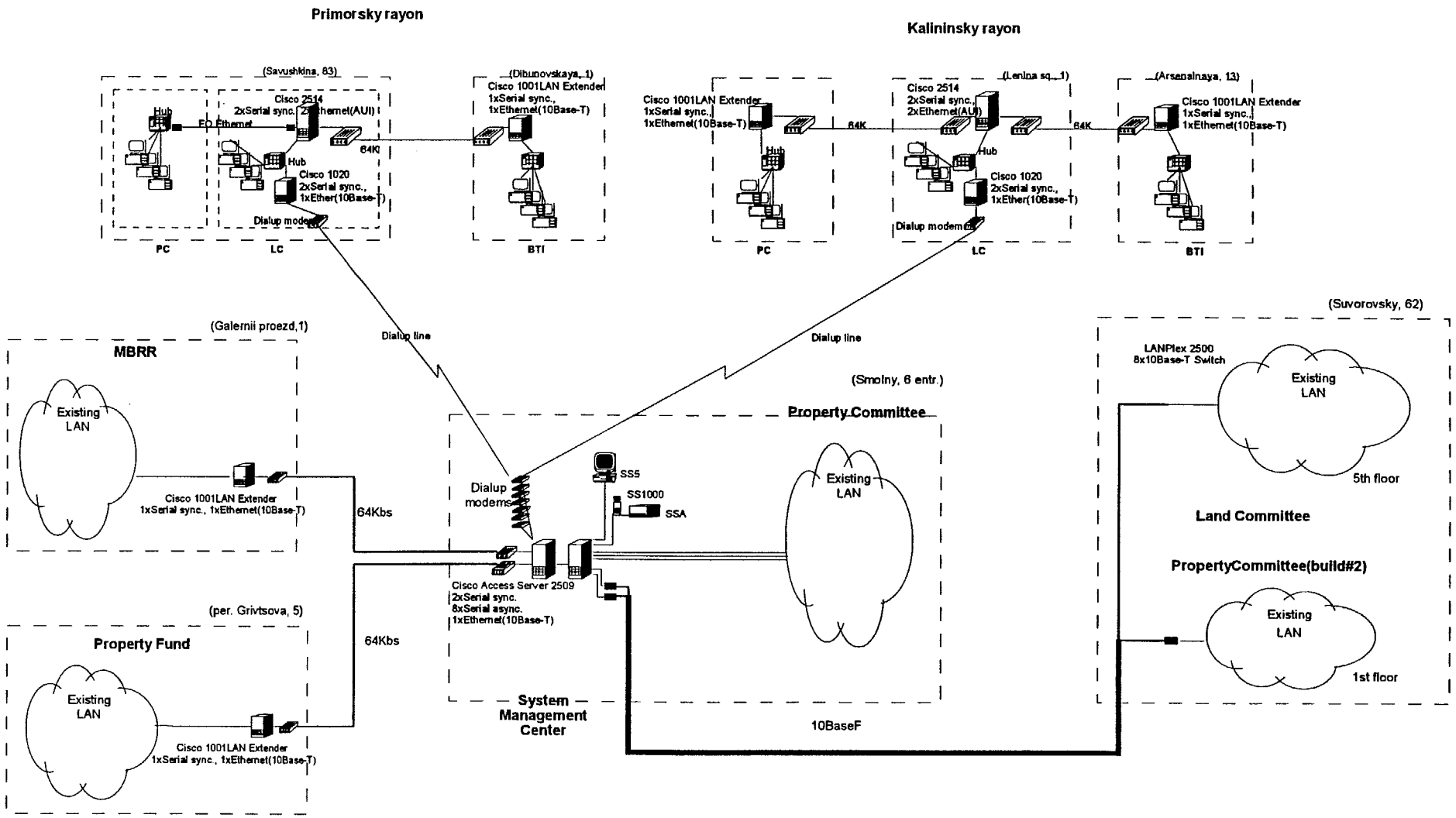

Figure IV. 18: St. Petersburg Networking Schema for Pilot Area

8.4.3.2 Central Committee Locations

Each of the committees involved in the initial phase of the REIS development is to be provided with equipment that is relevant to their current needs, and which will provide an interface between networks already located at each of the committees' central locations and the REIS network as a whole. The configuration of the equipment provided to each Committee will be selected to help ensure that all of the committees are fully engaged in the development of the REIS.

8.4.3.3 Rayon Databases

The selected rayons will have their own host/server with an Oracle database. The rayon host/server will be on a rayon local area network ("LAN"). We will provide the necessary hardware and software to the Land Committee, Property Committee and BTI in the rayons to ensure operation between these agencies and the Communications Center.
Each rayon configuration is proposed to contain a single Pentium satellite server located at an appropriate committee rayon location. The other rayon offices will be supplied with a PC workstation, which will be linked to the satellite server via telecommunications or Ethernet.

8.4.4 Hardware Specifications

We propose to use equipment from Sun Microsystems Computer Corporation for the servers in the Communications Center and in the central committee locations. Compaq PC's are proposed to be used as satellite servers and workstations. This technology platform will provide a stable environment for the development and extension of the Pilot System. SUN has been recommended for the following reasons:

1. SUN is a well-known and popular supplier in Russia.
2. SUN is a common platform for the ORACLE RDBMS.
3. There are companies in St. Petersburg that support the SUN/ORACLE platforms who are known and trusted by the City.
4. UNIX (Solaris) is a multi-user operating system which can support dumb (character mode) terminals.
5. At least one agency within the City (MBRR) already uses SUN equipment, so a level of comfort exists within the City regarding this platform.

8.4.4.1 Communications Center

The Communications Center server is proposed to be a Sun SPARCserver 1000 with the following approximate configuration:

Sun SPARCserver SS1000E
- 2 x 60mhz CPU's
- 128 MB RAM
- 2 * 1GB disks
- 30 GB disk array
- 4mm tape
- Console, Ethernet adapters, etc.

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The Communications Center server is designed to be the central control point for the REIS network. As such, it provides a linkage between each of the committees and agencies connected to it, and it is the gateway from those committees to the rayon databases. In addition, it functions as an Oracle repository, and contains the Data Dictionary that defines the access between each of the agency databases.
In the near term, the Communications Center server will serve primarily as a routing, staging, and marshaling system serving the REIS system as a whole. It is configured to hold a large amount of static database information, primarily in the form of summary "snapshots" of heavily accessed databases, such as the Cadastral files. It may also be used to maintain summary snapshots of data maintained at the rayon level. The snapshot capability of the Communications Center will allow committees to access information from other committee databases without overloading committee servers.

In addition, the transitory data processed by the Center, which will consist of transactions and queries being routed to other locations, should not represent a large load factor for the immediate future. We do not foresee this to exceed 10,000 transactions and queries per day, for the near term, and should not require more than 1GB of temporary storage at the Communications Center server at any given time.

The proposed system has the theoretical capacity to handle in excess of 600 simple transactions and operations per second (a "simple" transaction being defined as a transaction that requires 3 or fewer fully random disk accesses). It should be noted that a complicated administrative query can generate thousands of I/O operations, requiring several seconds or several minutes to complete. The Communications Center server can serve as a buffer by insuring that this foreign query load (i.e., queries from other committees and entities) is not wholly reflected on an individual Committee's server equipment.

This configuration should be more than adequate for the immediate future; however, the volumes will naturally grow as additional applications and users are brought on-line. Also, there may be significant latent demand that may be released once the REIS is in place throughout most of the City.

The maximum number of active users (terminal and nodes) that the proposed configuration should be expected to support is in the range of 150 - 200. The client/server/distributed database concept upon which the Communications Center is being designed results in an effective "active user" count that is far below that figure. The City must keep these practical limits in mind as the system is enhanced in the future.

8.4.4.2 Central Committee Servers

The servers in the central administration locations of the Property Committee, Land Committee (Cadastre), the Property Fund and MBRR are proposed to be Sun SPARCserver 5's or Sun SPARCserver 20's with the following approximate configurations:

8.4.4.2.1 Requirements of the Land Committee

The Land Committee has requested an administrative server/interface system in the following configuration:

Sun SPARCserver 20SX8-712
- 2 - 75mhz CPUs
- 64 MB
- 1 GB disk
- 6 GB disk array
- 4mm tape

This is similar to the MBRR configuration described below, and should be able to support approximately 150 users, in theory.

However, the Land Committee differs from the MBRR in that their activities are focused largely on the rayon level, where there are considerable database storage requirements. The central server, as we understand it, will contain Cadastral, legal, and summary information.

When fully populated, the Cadastral database for a city of the size of St. Petersburg can easily exceed 2GB. Basic ownership information should add at least another 2GB. Of course, Cadastral and ownership information will be entered over time, so that these levels of storage will not be reached for several years.

Another concern is the ability of the Land Committee server to accommodate queries against the Cadastral and legal databases. In the near future, we estimate that foreign query load on the Land Committee server will not exceed 10 queries per minute. Even if that load increased by an order of magnitude to 100 queries per minute, it is within the capabilities of the equipment, depending on other load factors.

As long as usage of the server configuration above is limited to Cadastral and legal databases, and there are no other major changes in its use profile, the equipment should be adequate for a 3 to 5 year period.

8.4.4.2.2 Requirements of the Property Committee

The Property Committee has requested an administrative server/interface system in the following configuration:

Sun SPARCserver 5
- 1 - 85mhz CPU
- 64 MB memory
- 1 GB disk
- 6 GB disk array
- 4mm tape

The above configuration can theoretically support up to 80 users, though the amount of memory requested by the Committee is probably low.

On a transaction basis, the requested configuration should be capable of supporting approximately 180 transaction events per second, which is ample. Given that some of the activity will undoubtedly involve more complex query operations (which consume much greater amounts of system resources), the requested system is probably not over-configured.

The Property Committee administers approximately 35,000 commercial leases and approximately 70,000 land leases. It is estimated that each lease requires 1 - 2 updates (transactions) each month. Primary lease transactions and other types of transactions may be as high as 100 per day, and we assume that they could grow to 500 per day system wide. In general, commercial leases of space larger than 200 square meters are handled at the central administration; all others are handled at the rayon level.

Assuming no graphics storage requirements, the initial storage requirements for basic lease information will probably be in the range of 200 MB. It is also estimated that growth of this basic database could be in the range of 150 MB per year. In addition, on-line storage of transaction history could consume 300 MB per year. At the end of five years, this would approach 2.5 GB.

8.4.4.2.3 Requirements of the Property Fund

The Property Fund has requested an administrative server/interface system in the following configuration:

Compaq Proliant 2000
- 2 - 90mhz Pentium CPU's
- 64 MB
- 5 * 1GB disk drives
- 4mm tape
- 20" Monitor

The server equipment to be provided to the Property Fund is intended for two purposes: (1) to provide an incremental increase in the automation resources of the Fund and (2) to provide an interface to the REIS. Based on the requirements of the REIS and the information we have received from the Property Fund, this configuration appears to be appropriate.

8.4.4.2.4 Requirements of the MBRR

The MBRR has requested an administrative server/interface system in the following configuration:

Sun SPARCserver 20SX8-712
- 2 - 75mhz CPUs
- 64 MB
- 1 GB disk
- 6 GB disk array
- 4mm tape

The above configuration would theoretically support up to 150 users in the projected REIS environment. It could support more with a larger disk array.

The MBRR currently has plans to provide 36 workstations for primary entry and 20 workplaces for operators to enter archive information. They further calculate that the 20 operators who enter archive information can produce 500 - 1,000 entries per day. Non-archival operations account for 1,500 - 2,000 entries per day. These entries are more complicated than archival entries, with each generating 2 - 4 transactions to the RDBMS.

The above SPARCserver configuration should be able to handle approximately 200 simple transactions per second. This should provide a buffer for additional resources consumed by more complex queries.

The MBRR has stated that their current database is approaching 1.5 GB in size. Given their planned number of operators, and their estimates of transaction volume, we expect that their database could grow, in terms of raw text (non-graphics) data, by 500 MB per year. Since the MBRR is a centralized operation, this load will fall on the central server for the near term; however, the MBRR has mentioned plans to move portions of their operations to the rayon level, which will mitigate server load.

The MBRR has indicated a need for graphics support for storage of apartment floor plans.

In addition, the MBRR is planning to begin archiving information on writeable CD-ROM's in the near future; they plan to purchase this equipment with their own funds, but to interface it with the SPARCserver provided by the REIS. Since CD-ROM production requires that 700MB-800MB of data be pre-staged on disk as a CD-ROM image, CD-ROM support will probably consume approximately 1GB of disk space.

Given the above estimates, the configuration suggested by the MBRR is probably adequate for the near term (2 - 3 years). This depends largely on the amount and type of graphics to be supported. Also, the number of users planned for their network (36 for registration, 20 for archive entry, 8 for development), exceeds the number recommended for a single Ethernet network; we will recommend 2 or even 3 separate Ethernet banks.

8.4.4.3 Rayon Databases

The systems to be used as distributed servers in the rayon locations are Pentium 90 based systems capable of running Microsoft Windows NT Server or Solaris. These servers will support Ethernet-TCP/IP LAN services within the rayon, and communications facilities for connection with the Communications Center.

Based on discussions with the Working Group, it was agreed that the Pilot Rayon should be fully-configured, along with as many other rayons as permitted by the budget. Based on the budget approved by USAID, a total of 12 rayons can be fully-configured, assuming rayon specifications provided by the city. Thus, this procurement brief assumes that a total of 12 rayons will be fully equipped and the city will be responsible for funding and equipping the remaining rayons.

Proposed rayon Configuration (Pilot rayon and 11 others):

Pentium 90 (file server)
- 256 kb cache
- 64 MB
- 2GB disk
- Double-speed CD-ROM
- 4mm tape
- 15" VGA

Pentium 90 (database server)
- 64 MB
- 2GB disk
- CD-ROM
- 4mm tape
- 15" SVGA

Pentium 90 (graphics station)
- PCI Bus
- 32 MB
- 1GB disk
- Double-speed CD-ROM
- 17" Monitor

Clerical/Administrative Workstations (2-3)
- 486 DX2-66
- 16 MB
- 540 MB disk
- 15" Monitor

8.4.4.3.1 Unix/Oracle Development Stations

We propose to provide the City of St. Petersburg with high-level workstations to allow them to continue development of the Communications Center, and support software for the committees responsible for components of the REIS.
The following will be the typical configuration of the development workstations to be provided to the Communications Center, the Property Committee, the Land Committee and the MBRR:

Sun SPARCstation 5
- 1- 85mhz CPU
- 32 MB
- 2 GB disk
- 20" Monitor
- Development software

This configuration is consistent with that suggested by the Working Group.

8.4.4.4 Networking Hardware

The LAN hardware selected for this project is Ethernet carried on 10Base-T or thin coax. Whenever possible, Ethernet combo interfaces should be used to provide maximum flexibility.

8.4.5 Software Specifications (Operating System)

8.4.5.1 Communications Center Server

The operating system for the Communications Center server (and development workstation) will be UNIX (Solaris).

8.4.5.2 Central Committee Location Servers

The operating system for the committee servers (and development workstations) will be UNIX (Solaris).

8.4.5.3 Rayon Servers

The operating system used for the server placed in each rayon will be Microsoft Windows NT Server, Version 3.5, or Solaris for 386 platforms.

8.4.5.4 Administrative/Clerical PC's

The operating environment to be provided for PC's will be Microsoft Windows For Workgroups (DOS).

8.4.6 Relational Data Base Management System

The major component of the software to be purchased is the relational database management system (RDBMS). This is the "engine" which will drive the specific applications written to manage the databases in the REIS. Although there are several very good packages in use, we have selected Oracle for the implementation of this system. The basic requirement is for a robust ANSI SQL92 - compliant relational database manager on a UNIX-based platform compatible with the major mapping and GIS products along with a development environment which supports character-mode terminals, PC's and X-windows with the same source code. A hybrid client/server - multi-user host system is planned. This will maximize flexibility and economy. In-country support and service and Cyrillic character support are required. Oracle and Oracle development tools have been selected.

Oracle RDBMS was selected for the following reasons:

1. The population of St. Petersburg (5 million people) and mission-critical application require a sophisticated RDBMS that is secure and offers expandability and scaleability;
2. Oracle has extensive in-country sales and support;
3. Oracle is used by MBRR and as part of the systems in the Land and Architecture Committees;
4. Oracle is favored by the technical staffs of the Land and Property Committees;
5. Overall, Oracle is the fastest RDBMS available;
6. Oracle supports and is supported by all GIS and mapping products;

7. Oracle supports and is supported by all major application development packages; and
8. Oracle provides excellent support for distributed databases.

8.4.7 Networking Software

The protocol used by all networks on the REIS will be standardized as TCP/IP. Network support software, SQL*Net and OnNet, will be provided as appropriate.

8.4.8 CASE and Development Tools

For application development and maintenance, we have selected Oracle CASE Version 5.0 and the Oracle CDE bundle. The components of these tool bundles are as follows:

CDE Bundle:
- SQL*Plus
- Oracle Reports
- Oracle Reports Deployment
- Oracle Forms
- Oracle Forms Deployment
- Oracle Forms Generator
- Oracle Reports Generator
- Oracle Generator Support Files
- Installer
- SQL*Net NetBios
- SQL*VDM
- SQL*Net SPX
- SQL*Net TCP/IP

CASE Bundle. All of the above, plus:
- Oracle CASE Dictionary
- CASE Designer

8.5 Nizhniy Novgorod REIS

8.5.1 Nizhniy Novgorod - Summary

8.5.1.1 Introduction

With a population of 1.5 million, Nizhniy Novgorod is the third largest city in Russia. The City expressed interest in implementing a unified real estate information system to clarify land ownership and protect the rights of individuals and companies.

The history of the development of the REIS in Nizhniy Novgorod will provide much insight into how a REIS can be successfully developed and integrated with the registration process. The lessons learned in REIS implementation in Nizhniy Novgorod can be applied in other cities as they attempt to develop REIS or registration systems.

8.5.1.2 Key Achievements

1. Development of a unified process for registration of rights to all real estate objects in the City.
2. Creation of an institutional home for the registration office.
3. Development of substantial legislation to govern registration.
4. Progressive development of a computer system to support land titling registration in the City.

8.5.2 Nizhniy Novgorod - Project Overview

8.5.2.1 Project Objectives and Goals

The Chemonics' REIS team in Nizhniy Novgorod had as its primary goal the establishment of a computer system to support the registration process. Secondary goals, necessary for the implementation of the primary goal, were the development of a registration process for the system to support and adoption of appropriate legislation to create and govern the REIS and the registration process.

8.5.2.2 Development Process

After a period of user analysis, two developments took place simultaneously. The first development was the creation of a model titling and registration process. This process was unified, in that it combined the disparate registration processes of KUMI, the eight raion BTI offices and Komzem into one centralized process. This model was presented at a seminar attended by more than thirty City and Raion officials. Following the presentation, representatives of the Land Committee, the Property Committee and the City Legal Department met and modified the suggested model to better suit the needs of Nizhniy Novgorod. It was ultimately decided by the City to place the Raion BTI offices under the jurisdiction of the City Property Committee and create a new Bureau of Registration and Technical Inventory within the Property Committee. This new department was given the responsibility for registration in Nizhniy Novgorod. Legislation required to implement this new organizational structure and registration process was prepared and ultimately adopted and signed into law by the Head of the Administration. The adoption of this registration process and the actual implementation of that process is the most successful achievement of the project in Nizhniy Novgorod. The Nizhniy Novogorod legislation is attached as an Annex to Volume 3.

The second development was the preparation of a real estate information system for demonstration purposes. This system was programmed in Clipper for DOS and was essentially a prototype. The purpose of the development of this system was to demonstrate the concept of a REIS. It was to be used as a working model which from which a more comprehensive design could be made.

Working with a group of Russian programmers in Moscow, Chemonics ultimately produced a system written in Visual FoxPro 3.0, with a database design largely taken from the original Nizhniy Novogorod prototype. The system was based on

several fundamental design principles which could be used in other cities which wish to develop a REIS. Those principles are as follows:

- The system is document-based. It is based on the principle that documents are the controlling feature of the system, and that all data to be stored in the system will come from documents. For that reason, the system is centered around documents.
- The system stores only the minimum data necessary for the registration of real estate rights. The system supports *registration,* it is not an inventory system. For that reason, the number of data items stored in the system is intentionally small. This makes the system more efficient to operate yet provides the basis for expansion in the future.
- The system clearly identifies the agencies responsible for individual data items so that the integrity of the database can be insured.
- The system provides query capability for the information necessary to allow an owner to accurately determine legal title to ownership rights and legal restrictions to those rights to the real estate objects.
- The system is flexible and can be adapted to changing conditions.

Prior to the delivery of this software to Nizhniy Novgorod, the Mayor of the City requested an inventory of the apartments in the City. This inventory was to be computerized. Personnel in the Registration office determined that because of the delays which occurred in the programming and delivery of the FoxPro REIS that they would proceed with the development of the computerized apartment inventory and use the data stored in that system to populate their REIS. The apartment inventory system was written in Clipper for DOS. In addition to the Clipper apartment database, the City decided to proceed with the development of a system, also in Clipper, for buildings and constructions. A third system, to be written in Delphi for Windows, is to be the actual registration system. This system will produce the Land Book which will be maintained by the registry.

The Nizhniy Novgorod Registry was opened in the late spring of 1996 and has been in continuous operation since that time. Development of the computer systems has proceeded along with implementation of the registry, and as of the date of this *Manual,* the software is reported to be working and operational.

8.5.3 Nizhniy Novgorod - REIS Deliverables at Completion

8.5.3.1 Main Computer Specifications

The following computers were ordered for the City Architect's office, the Land Committee, and the Registration Office (2), for a total of four computers.

Components	Requirements
CPU	Intel Pentium with certified error-free chip, 90 MHZ; minimum 512 cache
Power Supply	220 Volt, compatible with Russian power outlets; uninterrupted power supply for computer and monitor
System Memory	32 MB RAM, expandable to 64 MB
Computer Bus	Local bus for graphics card and hard disk drive; EISA or PCI bus preferred

Hard Disk Drive	1 gigabyte
Floppy Disk Drives	1 internal 3.5 inch FDD, 1.44 MB
Tape Backup	Internal 250 MB cartridge backup
CD-ROM Drive	Internal double speed CD-ROM drive
Storage expansion slots	Minimum 6 mass storage expansion slots
Computer slot expansion	Minimum 2 free expansion slots, with at least 1 slot EISA-compatible
Keyboard	Minimum 101-key keyboard with Cyrillic and English characters
Video Card	SVGA, 2MB VRAM accelerated
Modem	Internal FAX modem, 14,400/9600 BPS, CCITT V.32 BIS compatible
Installed Software	Microsoft Windows for DOS current version, with printed documentation in Russian and English

8.5.3.2 Additional Computers for scanning, tabular data entry, and public access

The following computers were ordered for the City BTI office (1), the Raion BTI offices (2 in each of the 8 offices), and the Registration Office (9), for a total of 24 computers.

Component	Requirements
CPU	Intel 486 DX/66
Power Supply	220 Volt, compatible with Russian power outlets; uninterrupted power supply for computer and monitor
System Memory	16 MB RAM, expandable to 32 MB
Computer Bus	Local bus for graphics card and hard disk drive; EISA or PCI bus preferred
Hard Disk Drive	1 gigabyte
Floppy Disk Drives	1 internal 3.5 inch FDD, 1.44 MB
CD-ROM Drive	Internal double speed CD-ROM drive
Storage expansion slots	Minimum 6 mass storage expansion slots
Computer slot expansion	Minimum 2 free expansion slots, with at least 1 slot EISA-compatible
Keyboard	Minimum 101-key keyboard with Cyrillic and English characters
Video Card	SVGA, 2MB VRAM accelerated
Modem	Internal FAX modem, 14,400/9600 BPS, CCITT V.32 BIS compatible
Installed Software	Microsoft Windows for DOS current version, with printed documentation in Russian and English

8.5.3.3 Reducing Xerographic Copying Machines

In order to process the paperwork in the registration process, and to speed the assembly of documents required for the entry of historical data, copy machines were procured, one for each raion BTI office (8 total) and 1 for the registration office.

Component	Requirements
Paper sizes	A3 and A4
Reducing/Enlarging	64% to 156%
Paper trays	A4, A3, B5
Accessories	Must include stand for copier and trays

8.5.3.4 Small Format Scanners

Scanners were acquired so that building floor plans found in the Raion BTI offices could be scanned and entered into the database. One was procured for each raion BTI office (8 total) and one was procured for the Registration office.

Component	Requirements
Scan resolution	300 DPI or greater
Scan type	Gray scale
Scan size	A4 or larger
Software	Must include image capture and editing software

8.5.3.5 Large Format Scanner

One large format scanner, capable of processing the Chief Architect maps which are mounted on thin aluminum sheets, was acquired for the Chief Architect's office. All REIS cities are permitted to use this scanner, as it was delivered to Nizhniy Novgorod on the express condition that other REIS cities could use it as required to scan their maps.

Component	Requirements
Scan resolution	400 DPI or greater in hardware; up to 800 DPI with software interpolation
Scan type	Gray scale with 256 levels, from minimum three CCDs
Path	Flat path for document to be scanned; must accept originals up to 0.75 mm in thickness
Scan size	A0 or larger
Thresholding of bitmap image	Must be hardware-supported in real time, w/differential thresholding for image/background contrasts
Software	Windows-based image capture and editing software

8.5.3.6 Other Equipment

In addition to the foregoing equipment, the City also received a plotter and a large digitizer to aid in the conversion and printing of maps.

8.5.3.7 Networking Environment

No networking capabilities were provided for in the Chemonics' FoxPro software, although it can be revised to work in a network environment. The programs ultimately developed by the City are designed to work on a local area network.

8.5.3.8 Graphical Environment

City personnel selected Intergraph for computerized mapping and geographic information system (GIS) capabilities. It is anticipated that floor plans from the BTI Technical Passports will be scanned into the database and linked to the tabular data in the registration system. It is also anticipated that the Chief Architect maps will be scanned and vectorized and linked to the tabular database as well.

Volume IV Annexes

Annex IV. A: Workable Implementation Timeline

(Available in Russian version)

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Annex IV. B: Hardware Survey Sample Form

Computer Equipment Survey

Agency: _____ Entry date: __/__/__

City Name: _____ Rayon _____ Surveyor Name:: _____

Postal address: _____

Item #	Office #	Manufacturer	CPU/MHz	Memory	Type WS/Server	Hard drive	Floppy Drive	Monitor	OS	Network Card	Printer	Additional Equipment

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Annex IV. C: Database survey

Computer Equipment Survey

Agency: Informatics _____ **Entry date: 06/17/96**

City Name: Orenburg_____ **Rayon** _____ **Surveyor Name:: John Doe**_____

Postal address: 18/1 Sovietskaya_____

Application Name	Number of records	Operating Systems					Databases Applications			Geographic Information System		Purpose
		DOS	Windows	OS/2	Unix	Novell	Clipper	FoxPro	Oracle	MapInfo	ArcInfo	

Description:

Annex IV. D: REIS Core Data Elements

			Committee						
REIS Core Data Elements									
REAL ESTATE OBJECTS									
	Real Estate Identification	Cadastral Identifier Address BTI file number Other Identifiers RE Identification Catalogues (Street Names, Rayon Names, etc.)							
	Land Parcel	General Description (use, category, purpose) LP areas (general, developed, under utilities, etc.) LP survey data (LP survey agency, lease survey data, etc.) Appraisal data (normative and market values) Other related data (other data can be subsequently included, such as contour coordinate description, boundary description, etc.)							
	Primary Object (any building or construction)	General data (type, use, purpose, data built, number of floors, number of residential units, number of nonresidential units, number of entrances, etc.) Areas Floor Description Facilities Description Construction Description Appraisal Data							
	Secondary Object (any commercial or residential unit)	General Data (type, purpose, use, areas, number of rooms, etc.) Facilities Room Description (if necessary) Appraisal Date							
	Object Catalogues (type of use, type of construction, type of roof,								

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			Committee						
	REIS Core Data Elements								
	walls type, etc.)								
ENTITIES									
	Physical Entities	Name Date and place of birth Id document Address							
	Juridical Entities	Name Registration data (number, data and place of registration) Juridical address Mail address							
	Entities Catalogs								
LEGAL INTERESTS									
	Application	Application Number Description (data, time, reason) Reference to RE object/s Reference to Applicant Reference to Documents Result of Application							
	Proxy	Identifier Trustier Trustee Reference to RE Description							
	Document	Identifier Description							
	Legal Interests (Ownership, Mortgage, Lease, Encumbrance, Easement)	Identifier Reference to RE object Reference to Entity Description (share, extension, etc.) Data registration Legal basis (Reference to document) for registration							

			Committee						
REIS Core Data Elements									
		Data of termination Legal Basis (Reference to document) for termination							
	Certificates	Identifier Description Given to (reference to entity) Issued by (reference to operator) Data for Termination							
CONTRACTS									
	Reference to RE object Reference to RE object description Lessor Leasee - reference to Physical/Juridical Entity Terms of Lease Rent Payments Rent Review Penalties Rent Termination								
TAX Activities Bank accounts Founders									

d: Digital format. p: Paper format

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Annex IV. E: Communication Survey Form

Agency:	
City	
Rayon	
Postal Address	
Computer Director	
Telephone	
Fax	
E-Mail	
LAN:	
Network adapter, cable, hubs, etc.	
Communications	
Agency telephone exchange	
# of outside lines	
Dedicated digital/telephone lines	
Office telephone exchange	
Total capacity, internal/external, channels	
# of free internal/external channels	
Other	
Telephone company used for communication support	
Additional, Equipment Required	
Telephone channels	
Dedicated Lines	
Computers	
# of employees	
Earthing	
Sockets, European Standard	

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Annex IV. F: Technical Expertise Survey

Department Names	Number of workers	Operating Systems					Databases Applications			Geographic Information System		Notes
		DOS	Windows	OS/2	Unix	Novell	Clipper	FoxPro	Oracle	MapInfo	ArcView	

Annex IV. G: Local Suppliers of HW/SW and Training Survey

No.	NAME	ADDRESS	NOTES
1.			
2.			
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16.			

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Annex IV. H: Calculation of Physical Storage

Database Element	Number of Objects		Bytes per Object		Table Size (MB)
		X			
		X			
		X			
		X			
		X			
		X			
		X			
		X			
		X			
		X			
		X			
		X			
		X			
		X			
		X			
		X			
DBMS Overhead	50%	X			
			Total	=	

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Annex IV. I: Sample Data Flow Tables from St. Petersburg

Land Committee

Information Required by LC	Information Provided by LC
Real estate definition (BTI)	Catalogue of all real estate registered
Lease contracts (KUGI)	List of all real estate in process of registration
Sales contracts (Property Fund)	Title report information
Legal ownership information (MBRR)	Report on result of registration
Data from Land Committee rayons	Normative value report
	Real estate description (after registration)
	Data to Land Committee rayons

Property Committee

Information Required by PC	Information Provided by PC
Real estate description (BTI)	Lease contracts to Property Fund
Sales contracts (Property Fund)	Lease contracts to Land Committee for registration
List of all real estate sold (Property Fund)	Catalogue of all municipal real estate
Normative value of parcel (Land Committee)	List of real estate to be privatized to Property Fund
Conclusion of parcel (Land Committee)	List of real estate in process of contract agreement (or to be leased)
Results of registration of lease (Land Committee)	Data to PC rayons
Title report on all legal information on municipally-owned real estate (Land Committee)	
Lease agreements and other information from PC rayons	

MBRR

Information Required by MBRR	Information Provided by MBRR
Real estate definition (BTI)	Legal ownership information to Land Committee
Cadastral ID, parcel, and primary object information (Land Committee)	Catalogue of all real estate registered in MBRR
Legal ownership information (Land Committee)	Catalogue of real estate in process of registration

Property Fund

Information Required by PF	Information Provided by PF
Real estate definition (BTI)	Sales contracts to Land Committee
Land parcel conclusion (Land Committee)	Sales contracts to Property Committee
Lease contracts (Property Committee)	List of all property sold
Legal status of real estate (Land Committee)	List of all real estate in process of sale
List of municipal real estate for sale (Property Committee)	
Results of registration (Land Committee)	
Normative value of land parcel (Land Committee	

BTI

Information Required by BTI	Information Provided by BTI
Real estate definition information (land, primary objects, secondary objects) (all committees	Current legal status of real estate from all committees

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Annex IV. J: Sample Output Forms from Tver REIS

(Available in Russian version)

Annex IV. K: Sample Outputs from Pskov REIS

(Available in Russian version)

Annex IV. L: Sample Outputs from St. Petersburg REIS

(Available in Russian version)

REIS Test Plan

During this phase the business functions and processes developed during the Application Development Stage of the project are tested in accordance with the Test Plan designed and developed by the City of {.....} and REIS Development Team. The testing activities are divided into two major components.

System Readiness Testing

During this activity the project team performs various tests to confirm that the application is ready for User Acceptance Testing. The major activities performed are:

- **Program Unit Testing,** in which program units are tested as a unit and as a whole. It should be noted that the bulk of this testing occurred during the Application Development Stage.
- **Security Testing,** in which individual tests are performed to ensure that the database integrity is not compromised. These tests include: backup, restore procedures and protection from tampering of data by users using password protection schemes and division of security levels.
- **Network Testing,** in which the individual hardware components linked on the network are tested for connectivity and functionality.
- **Graphics Testing,** in which the link between ArcInfo and Oracle is tested to confirm the support of the application according to the business function requirements.

User Testing

During this activity users test the system to confirm that it performs in accordance with the System Design. These tests include registration of a privatization and secondary transactions such as a transfer of ownership, lease, mortgage and encumbrance. The details of the tests are specified in the document Program and Methodology of Testing.

- **Structured User Testing,** users perform the tests included in the Test Plan. This test will focus on validation of application business functions provided by the system and the expected information inputs and outputs.
- **Unstructured User Testing,** users from the {.....} City Registration and Licensing Chamber perform additional tests to confirm that the Application performs in accordance with the System Design.

During the testing of the project, areas may be identified that require modification. These modifications will be performed by the project team. After the area/problem has been corrected the appropriate section of the test plan will be repeated to confirm that the function performs in accordance with the System Design.

The successful execution of the Test Plan indicates that the system has been accepted by the City.

Key Responsibilities

Action	Responsibilities	
	REIS Team	City
1. Identify users from the City to perform User Acceptance Testing		X
2. Provide technical personnel to perform System Readiness Testing	X	
3. Perform System Readiness Testing	X	X
4. Perform User Acceptance Testing	X	X
5. Correct errors identified during testing	X	X

Deliverables

At the end of this phase a document summarizing test results and detailing REIS improvements is forwarded to the {.....} City Administration. This document can be used as a guide for further development of the REIS by the {.....} City Administration.

Details and Signatures of the Parties

We agree the Key Responsibilities and Deliverables detailed above were completed by the {.....} City Administration and REIS Development Team for this phase of the REIS project.

Administration of the City of {.....}
11, Sovietskaya St.
170640 {.....}
Russian Federation

_____
V. N. Ignotova,

Head of the {.....} City REIS

Date: _____

REIS Development Team
8, Malaya Trubetskaya St.
OGS-Moscow Office
119811 {.....}
Russian Federation

_____
Igor Neretin

Representative,
REIS Development Team

Date: _____

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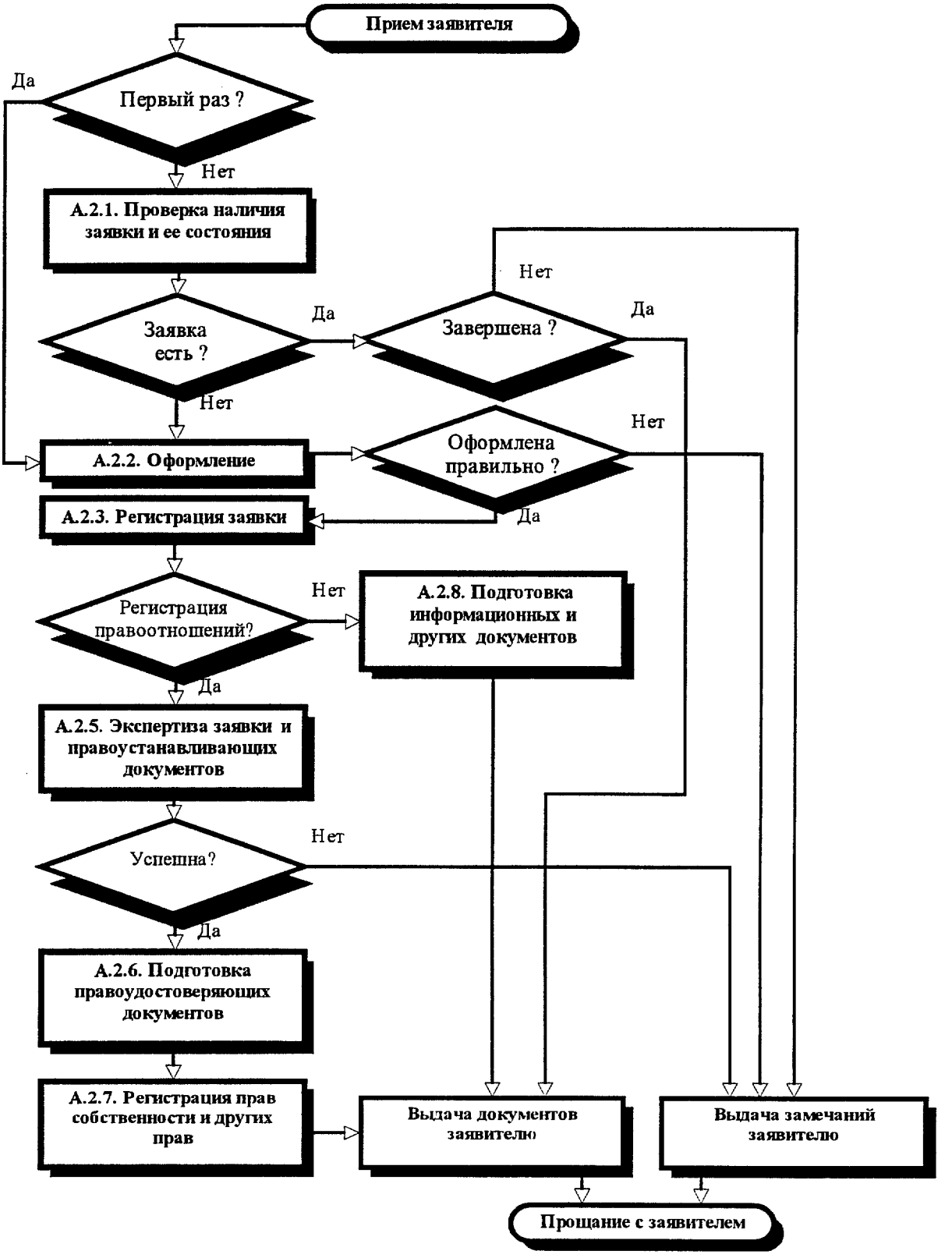
Annex IV. N: Real estate title/rights registration - general data flow overview

(Included Russian version)

Регистрация прав на недвижимость: общий вид



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Annex IV. O: Data flow: Application selection and status

(Included Russian version)

Проверка наличия заявки и ее состояния

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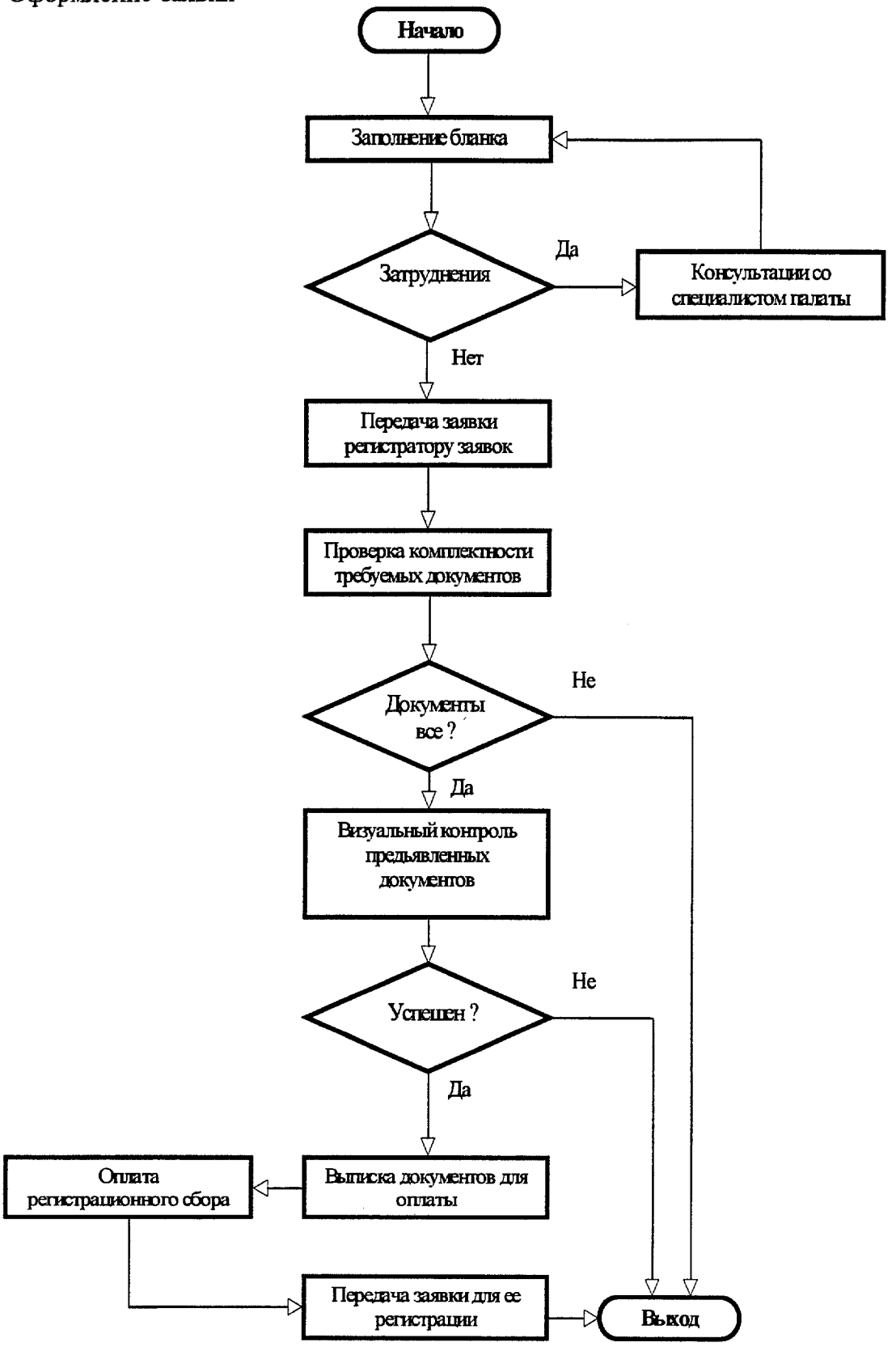
Annex IV. P: Data flow: Writing of the application in the determined form

(Included Russian version)

Оформление заявки



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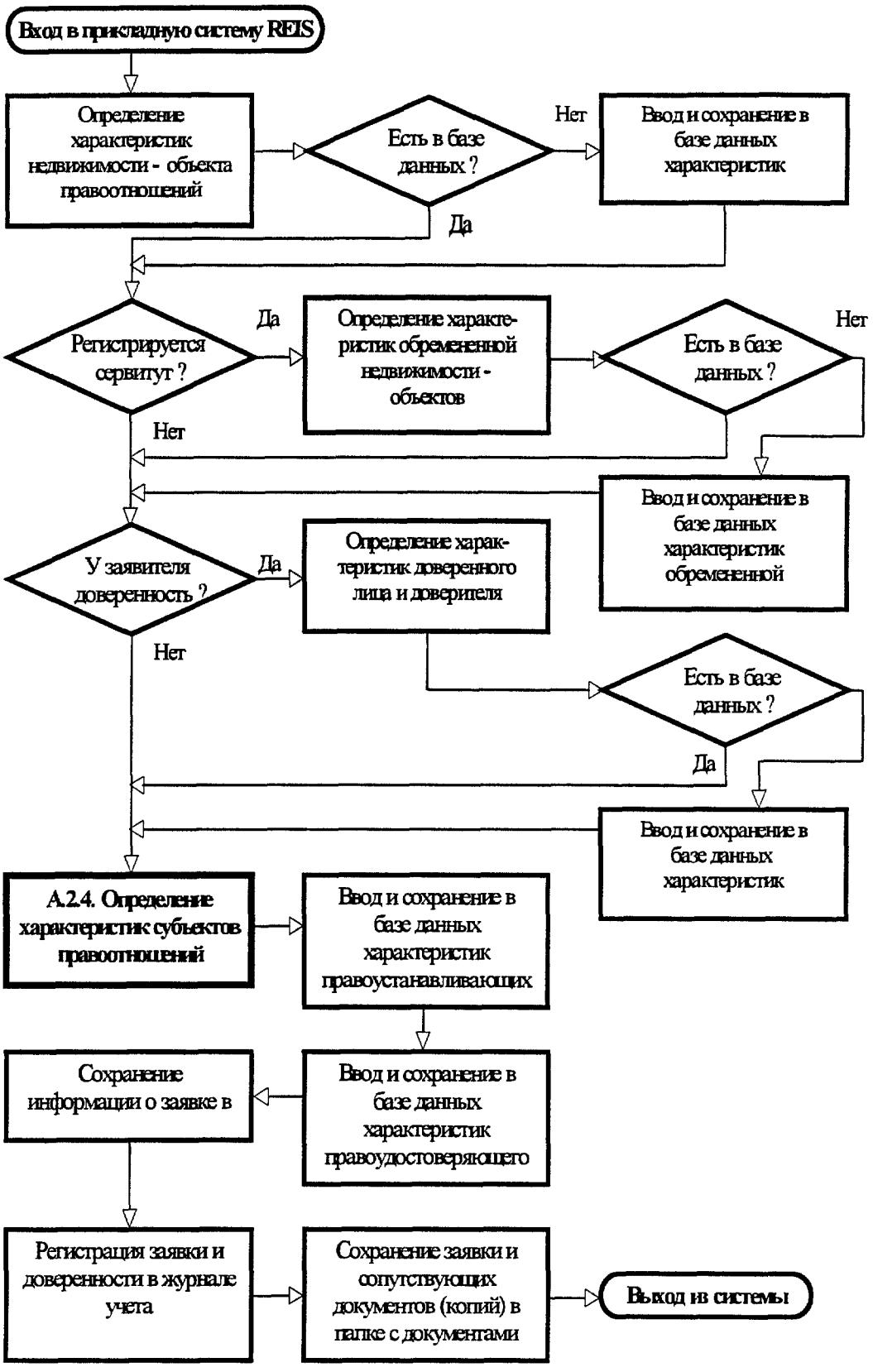
Annex IV. Q: Data flow: Application Registration

(Included Russian version)

Регистрация заявки



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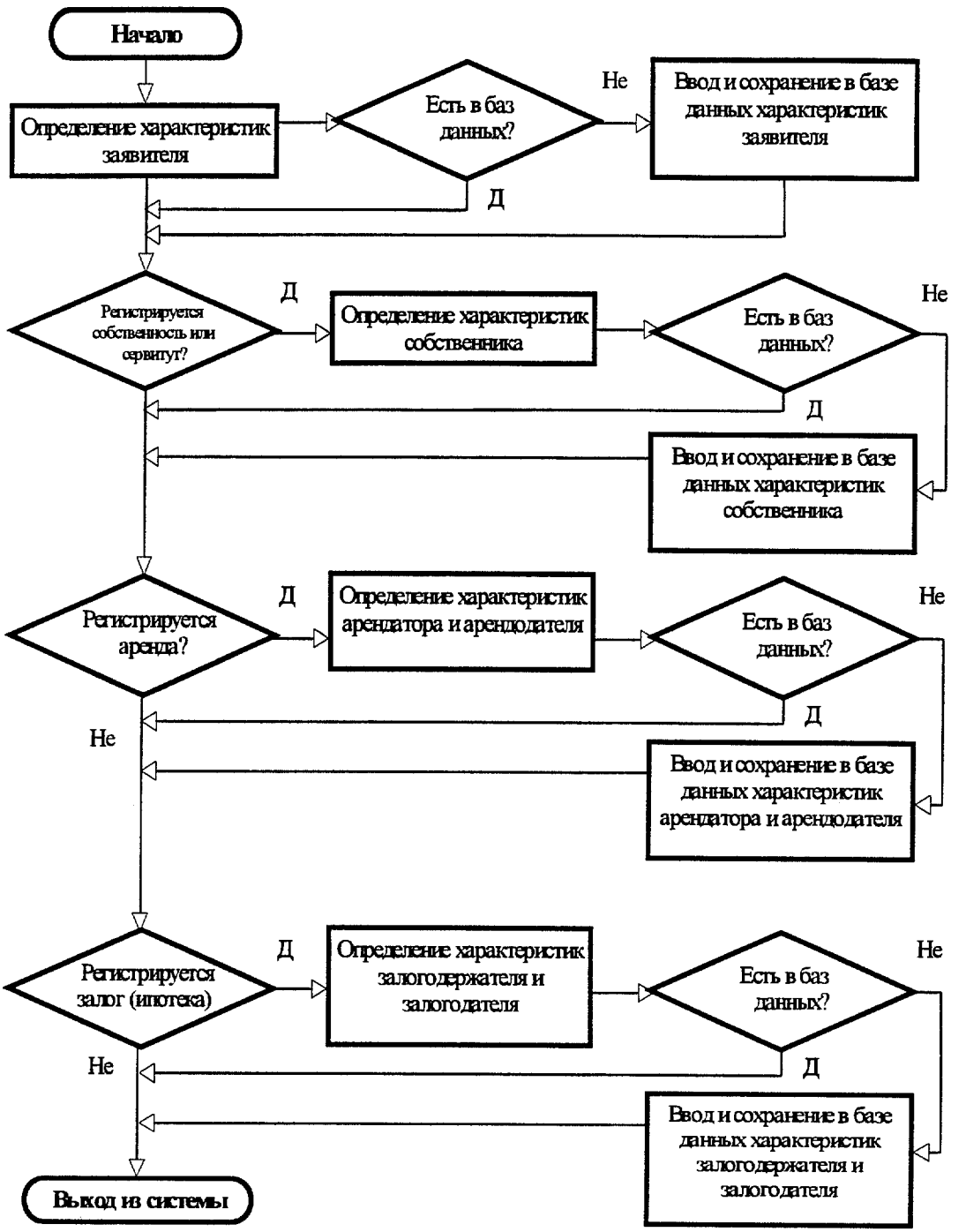
Annex IV. R: Data flow: Definition of characteristics of the subjects of title relationship

(Included Russian version)

Определение характеристик субъектов правоотношений



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Annex IV. S: Data flow: Expertise of the application and right-establishing documents

(Included Russian version)

Экспертиза заявки и правоустанавливающих документов

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Annex IV. T: Data flow: Preparation of rights-certifying documents

(Included Russian version)

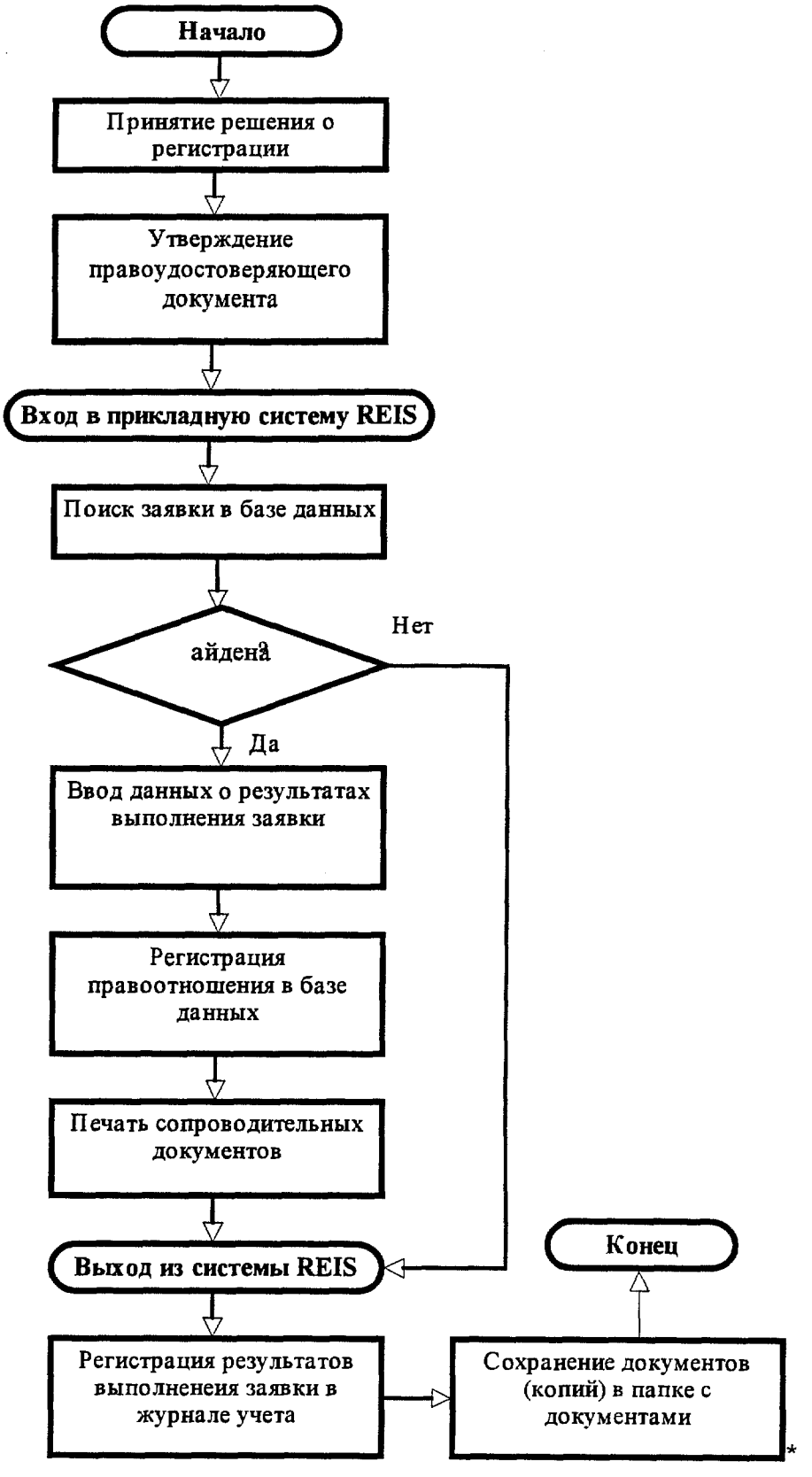
Подготовка правоудостоверяющих документов

238

Annex IV. U: Data flow: Registration of ownership rights and other rights

(Included Russian version)

Регистрация прав собственности и других прав



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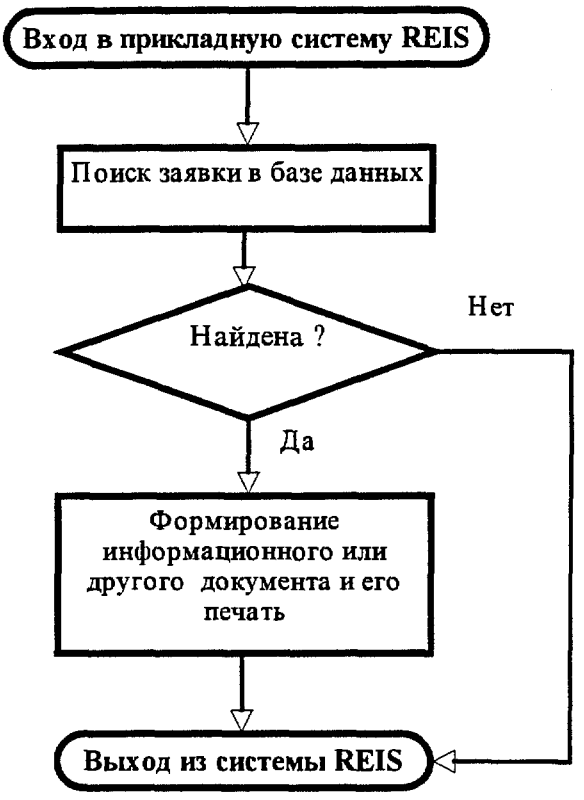
Annex IV. V: Data flow: Preparation of informational and other documents

(Included Russian version)

Подготовка информационных и других документов



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Annex IV. W: Sample REIS Database Tables/Описание таблиц базы данных

(Included Russian version)

Описание таблиц базы данных REIS/R представлено в табл. 3.2.2.1.

Таблица 3.2.2.1.

Database Tables for REIS/Таблицы базы данных REIS/R

№	Name/ Идентификатор	Description of Table/ Описание таблицы	Relations/Связи			
			Related Tables/ Связанная таблица	Relationship/ Отношение	Relationship Type/ Тип связи	
					Obliga-tory/ Обяза-тельная	Non-obliga-tory/ Необя-зательная
1	TITLE_BUILD	Титульные данные о строении (общие сведения) / Building Title Data (general building information)	TITLE_DESCR	M:1	+	
			TITLE_PARCEL	M:1	+	
			STREET_NAME	M:1	+	
			CITY_REGION	M:1	+	
			DET_COSTS	1:M		+
			GEN_ELEMENT	1:M	+	
			UTILITIES	1:M	+	
			GEN_AREA_VOL	1:M	+	
			RES_AREA	1:M	+	
			NON_RES_AREA	1:M	+	
			COM_ROOMS	1:M	+	
			OWNERSHIP	1:M	+	
			LEASE	1:M		+
			MORTGAGE	1:M		+
			ENCUMBRAN	1:M		+
			EASEMENTS	1:M		+
			BTI_NUMBER	M:1	+	
2	BTI_NUMBER	Справочник инвентарных номеров БТИ / BTI inventory Number Catalogue	TITLE_BUILD	1:M	+	
			LAND_ROUND	1:M	+	
			CLEAN_AREA	1:M	+	
			GEN_COSTS	1:M	+	
			TITLE_DESCR	M:1	+	
			HOUSE_TYPE	M:1	+	
3	GEN_BUILD	Общие сведения о строении / General building information	TITLE_BUILD	1:M	+	
			TITLE_DESCR	M:1	+	
			BTI_NUMBER	M:1	+	
4	HOUSE_TYPE	Справочник типов жилого фонда / Housing stock Type Catalogue	BTI_NUMBER	1:M	+	
5	TERR_TYPE	Справочник типов территорий / Terra Type Catalogue	STREET_NAME	1:M	+	
			STREET_ALTER_NAM E	1:M	+	
6	STREET_NAME	Справочник улиц / Street Name Catalogue	TITLE_BUILD	1:M	+	
			STREET_ALTER_NAM E	1:M		+
			TERR_TYPE	M:1		+
			JE_GENERAL	1:M		+
			INDIVIDUALS	1:M		+
			IND_HISTORY			+
7	STREET_ALTER_NAME	Справочник альтернативных имен улиц / Alternative Street Name Catalogue	STREET_NAME	1:M		+
			TERR_TYPE	M:1		+
8	CITY_REGION	Справочник районов города / City Rayon Catalogue	TITLE_BUILD	1:M	+	
			JE_GENERAL	1:M		+
9	LAND_AROUND	Экспликация земельного участка / Parcel Explication	BTI_NUMBER	M:1	+	
			TITLE_DESCR	M:1	+	
10	CLEAN_AREA	Уборочная площадь / Cleaning area	BTI_NUMBER	M:1	+	
			TITLE_DESCR	M:1	+	

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№	Name/ Идентификатор	Description of Table/ Описание таблицы	Relations/Связи			
			Related Tables/ Связанная таблица	Relationship/ Отношение	Relationship Type/ Тип связи	
					Obliga-tory/ Обяза-тельная	Non-obliga-tory/ Необя-затель-ная
11	GEN_COSTS	Общая стоимость строений и сооружений на участке / Total costs	BTI_NUMBER	M:1	+	
			TITLE_DESCR	M:1	+	
			DET_COSTS	M:1		+
12	TITLE_DESCR	Справочник типов разделов и показателей техпаспорта / Title Description Catalogue	TITLE_BUILD	1:M	+	
			GEN_COSTS	1:M	+	
			DET_COSTS	1:M	+	
			GEN_ELEMENT	1:M	+	
			UTILITIES	1:M	+	
			GEN_AREA_VOL	1:M	+	
			RES_AREA	1:M	+	
			NON_RES_AREA	1:M	+	
			COM_ROOMS	1:M	+	
			GEN_FLATS	1:M	+	
			DET_FLATS	1:M	+	
			GEN_NON_RES	1:M	+	
			DET_NON_RES	1:M	+	
			LAND_AROUND	1:M	+	
			CLEAN_AREA	1:M	+	
13	DET_COSTS	Детальная стоимость элементов строения / Detailed Costs	TITLE_BUILD	M:1		+
			TITLE_DESCR	M:1	+	
			GEN_COSTS	M:1		+
14	GEN_ELEMENT	Общее описание конструктивных элементов строения / Consruction Elements General	TITLE_BUILD	M:1	+	
			TITLE_DESCR	M:1	+	
			DET_ELEMENT	1:M		+
15	DET_ELEMENT	Детальное описание конструктивных элементов строения / Consruction Elements Detailed	GEN_ELEMENT	M:1		+
16	UTILITIES	Обустройство строения / Utilities	TITLE_BUILD	M:1	+	
			TITLE_DESCR	M:1	+	
17	GEN_AREA_VOL	Общие площадь и объем строения / Areas and volumes total	TITLE_BUILD	M:1	+	
			TITLE_DESCR	M:1	+	
			DET_AREA_VOL	1:M		+
18	DET_AREA_VOL	Расчетные площади и объемы частей строения / Areas and volumes	GEN_AREA_VOL	M:1		+
19	RES_AREA	Распределение жилой площади / Residential Area	TITLE_BUILD	M:1	+	
			TITLE_DESCR	M:1	+	
			GEN_FLATS	1:M		+
20	GEN_FLATS	Общая характеристика квартиры / Flat General	TITLE_BUILD	M:1	+	
			DET_FLATS	1:M		+
			OWNERSHIP	1:M	+	
			LEASE	1:M		+
			MORTGAGE	1:M		+
			TITLE_DESCR	M:1	+	
21	DET_FLATS	Экспликация квартиры / Flat Detailed by residential room	GEN_FLATS	M:1	+	
			TITLE_DESCR	M:1	+	
22	NON_RES_AREA	Площадь нежилых помещений / Non-Residential Building Usage (Rented area)	TITLE_BUILD	M:1	+	
			TITLE_DESCR	M:1	+	
			GEN_NON_RES	1:M		+
23	GEN_NON_RES	Экспликация нежилых помещений (общая) / Other rented area - general	DET_NON_RES	1:M		+
			TITLE_DESCR	M:1	+	
24	DET_NON_RES	Экспликация нежилых помещений / Other rented area - detailed	GEN_NON_RES	M:1		+
			TITLE_DESCR	M:1	+	
			OWNERSHIP	1:M	+	
			LEASE	1:M		+
			MORTGAGE	1:M		+
			ENCUMBRAN	1:M		+
			EASEMENTS	1:M		+
25	COM_ROOMS	Экспликация помещений общего пользования / Common Rooms of a Building	TITLE_BUILD	M:1	+	
			TITLE_DESCR	M:1	+	

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№	Name/ Идентификатор	Description of Table/ Описание таблицы	Relations/Связи			
			Related Tables/ Связанная таблица	Relationship/ Отношение	Relationship Type/ Тип связи	
					Obliga-tory/ Обяза-тельная	Non-obliga-tory/ Необя-затель-ная
26	TITLE_PARCEL	Титульные данные о земельных участках / Parcel Title Data	TITLE_BUILD	1:M	+	
			LAND_COST	M:1	+	
			LAND_USE	M:1	+	
			LAND_PURP	M:1	+	
			LAND_TYPE	M:1	+	
			LAND_AREA	1:M		+
			OWNERSHIP	1:M	+	
			LEASE	1:M		+
			MORTGAGE	1:M		+
			ENCUMBRAN	1:M		+
			EASEMENTS	1:M		+
27	LAND_COST	Справочник коэффициентов платы за землю в зависимости от зоны градостроительной ценности / Land CostCoefficient Catalogue	TITLE_PARCEL	1:M	+	
28	LAND_USE	Справочник видов использования земли / Land Use Catalogue	TITLE_PARCEL	1:M	+	
			LAND_TYPE	M:1	+	
			LAND_PURP	1:M	+	
29	LAND_PURP	Справочник целевых назначений участка / Land Purpose Catalogue	TITLE_PARCEL	1:M	+	
			LAND_USE	M:1	+	
30	LAND_TYPE	Справочник категорий земли / Land Type Catalogue	TITLE_PARCEL	1:M	+	
			LAND_USE	1:M	+	
31	ENCUMBRAN	Отягощения / Encumbrances	TITLE_PARCEL	M:1		+
			JURID_ENTITY	M:1		+
			INDIVIDUALS	M:1		+
			TITLE_BUILD	M:1		+
			GEN_FLAT	M:1		+
			DET_NON_RES	M:1		+
			GEN_RESTR	M:1		+
			USE_MODE	M:1		+
			PROT_LAND	M:1		+
			RE_ORDER	M:1		+
			EASEMENTS	M:1		+
			CNFIRM_CERT	1:M		+
			DOC_TYPE	M:1		+
33	EASEMENTS	Сервитуты / Easements	JURID_ENTITY	M:1		+
			INDIVIDUALS	M:1		+
			TITLE_PARCEL	M:1		+
			TITLE_BUILD	M:1		+
			GEN_FLAT	M:1		+
			DET_NON_RES	M:1		+
			RE_ORDER	M:1		+
			ENCUMBRAN	M:1		+
			CNFIRM_CERT	1:M		+
			DOC_TYPE	M:1		+
36	LAND_AREA	Площади участка / Parcel Areas	TITLE_PARCEL	M:1		+
37	GEN_RESTR	Справочник типичных стандартных ограничений на использование участка / Catalogue of General standard restrictions of Use	ENCUMBRAN	1:M		+
38	USE_MODE	Справочник режимов использования земли / Land usage mode Catalogue	ENCUMBRAN	1:M		+
39	PROT_LAND	Справочник видов охранных территорий / Protection Land Catalogue	ENCUMBRAN	1:M		+

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№	Name/ Идентификатор	Description of Table/ Описание таблицы	Relations/Связи			
			Related Tables/ Связанная таблица	Relationship/ Отношение	Relationship Type/ Тип связи	
					Obliga-tory/ Обяза-тельная	Non-obliga-tory/ Необя-затель-ная
40	OWNERSHIP	Владение объектами недвижимости / Ownership of real estates	CNFIRM_CERT	1:M		+
			EXEMPTIONS	1:M		+
			JURID_ENTITY	M:1		+
			INDIVIDUALS	M:1		+
			TITLE_PARCEL	M:1	+	
			RE_OPER	M:1	+	
			DOC_TYPE	M:1	+	
			TITLE_BUILD	M:1		+
			GEN_FLAT	M:1		+
			DET_NON_RES	M:1		+
			RE_ORDER	M:1	+	
41	CNFIRM_CERT	Устанавливающие документы / Establishing certificates	OWNERSHIP	M:1		+
			LEASE	M:1		+
			MORTGAGE	M:1		+
			EASEMENTS	M:1		+
			ENCUMBRAN	M:1		+
			DOC_TYPE	M:1	+	
			RE_ORDER	M:1		+
42	EXEMPTIONS	Льготы для собственника / Owner Exemptions	OWNERSHIP	M:1		+
			DOC_TYPE	M:1	+	
43	LEASE	Информация об аренде / Leasing Information	JURID_ENTITY	M:1		+
			INDIVIDUALS	M:1		+
			TITLE_PARCEL	M:1		+
			TITLE_BUILD	M:1		+
			GEN_FLAT	M:1		+
			DET_NON_RES	M:1		+
			RE_ORDER	M:1	+	
			CNFIRM_CERT	M:1		+
			DOC_TYPE	M:1		+
44	PROP_TYPE	Справочник видов собственности / Property Type Catalogue	OWNERSHIP	1:M	+	
45	DOC_TYPE	Справочник документов / Document Catalogue	OWNERSHIP	1:M	+	
			EXEMPTIONS	1:M	+	
			CNFIRM_CERT	1:M	+	
			LEASE	1:M	+	
			MORTGAGE	1:M	+	
			EASEMENTS	1:M	+	
			ENCUMBRAN	1:M	+	
46	MORTGAGE	Информация о залогах / Mortgage Information	JURID_ENTITY	M:1		+
			INDIVIDUALS	M:1		+
			TITLE_PARCEL	M:1		+
			TITLE_BUILD	M:1		+
			GEN_FLAT	M:1		+
			DET_NON_RES	M:1		+
			RE_ORDER	M:1	+	
			CNFIRM_CERT	M:1		+
			DOC_TYPE	M:1		+
47	JURID_ENTITY	Титульные сведения о юридических лицах / Juridical Entity Title Data	JE_GENERAL	1:1	+	
			JE_KOPF	M:1	+	
			REGISTER	M:M		+
			FOUNDER	M:M		+
			OWNERSHIP	1:M	+	
			LEASE	1:M		+
			MORTGAGE	1:M		+
			PROXY	M:M	+	

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№	Name/ Идентификатор	Description of Table/ Описание таблицы	Relations/Связи			
			Related Tables/ Связанная таблица	Relationship/ Отношение	Relationship Type/ Тип связи	
					Obliga-tory/ Обяза-тельная	Non-obliga-tory/ Необя-зятель-ная
48	JE_GENERAL	Информация о юридических лицах / Juridical Entity General Information	JURID_ENTITY	1:1	+	
			CITY_REGION	M:1		+
			STREET_NAME	M:1		+
			SUCCESSION	M:M		+
			ACCOUNT	M:M		+
			CORR_ACC	1:M		+
			FILIATION	M:M		+
			ACTIVITY_TYPE	1:M	+	
			PROP_TYPE	M:1		+
			JE_SOATO	M:1		+
			JE_SOOGU	M:1		+
			JE_OKONH	M:1		+
49	FOUNDER	Учредители юридичекого лица / Juridical Entity Founders	JURID_ENTITY	M:M		+
			INDIVIDUALS	M:1		+
50	ACCOUNT	Банковский счет / Bank account	JE_GENERAL	M:M		+
			CORR_ACC	M:1		+
51	FILIATION	Информация о филиалах и представительствах / Information about affiliations and representations	JE_GENERAL	M:M		+
52	JE_KOPF	Справочник типов организационно-правовых форм предприятий / Juridical Entity Type Catalogue	JURID_ENTITY	1:M	+	
53	JE_SOOGU	Общероссийский классификатор органов государственного управления / SOOGU Catalogue	JE_GENERAL	1:M		+
55	JE_OKONH	Общероссийский классификатор отраслей народного хозяйства / OKONH Catalogue	JE_GENERAL	1:M		+
56	ACTIVITY_TYPE	Виды деятельности предприятия / Juridical Entity Activity Types	JE_GENERAL	M:1	+	
57	REGISTER	Информация о регистрации / Juridical Entity General Information	JURID_ENTITY	M:M		+
58	JE_SOATO	Общероссийский классификатор административно-территориальных единиц / SOATO Catalogue	JE_GENERAL	1:M		+
59	SUCCESSION	Правопреемственность / Succession in title	JE_GENERAL	M:M		+
60	CORR_ACC	Справочник корреспондирующих счетов / Corresponding account Catalogue	ACCOUNT	1:M		+
			JE_GENERAL	M:1		+
61	INDIVIDUALS	Титульные сведения о гражданах (физических лицах) / Individual General Information	FOUNDER	1:M		+
			IND_HISTORY	1:M		+
			STREET_NAME	M:1		+
			OWNERSHIP	1:M		+
			LEASE	1:M		+
			MORTGAGE	1:M		+
			ENCUMBRAN	1:M		+
			EASEMENTS	1:M		+
			FIRST_NAME	M:1	+	
			SECOND_NAME	M:1	+	
			LAST_NAME	M:1	+	
			IND_DOC_TYPE	M:1	+	
			PROXY	M:M		+
62	IND_HISTORY	Изменения титульных сведений о гражданах (физических лицах) / History of Individual General Information Changes	INDIVIDUALS	M:1		+
63	IND_DOC_TYPE	Справочник типов документов, удостверяющих личность / Individual Document Catalogue	INDIVIDUALS	1:M	+	
64	FIRST_NAME	Справочник имен / First Name Catalogue	INDIVIDUALS	1:M	+	
65	SECOND_NAME	Справочник отчеств / Second Name Catalogue	INDIVIDUALS	1:M	+	
66	LAST_NAME	Справочник фамилий / Last Name Catalogue	INDIVIDUALS	1:M	+	

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№	Name/ Идентификатор	Description of Table/ Описание таблицы	Relations/Связи			
			Related Tables/ Связанная таблица	Relationship/ Отношение	Relationship Type/ Тип связи	
					Obliga-tory/ Обяза-тельная	Non-obliga-tory/ Необя-затель-ная
68	RE_ORDER	Заявки	OWNERSHIP	1:M	+	
			LEASE	1:M	+	
			MORTGAGE	1:M	+	
			ENCUMBRAN	1:M	+	
			EASEMENTS	1:M	+	
			CNFIRM_CERT	1:M	+	
			PROXY	1:1		+
			SERV_PERS	M:1	+	
			RE_OPER	M:1	+	
69	SERV_PERS	Справочник персонала, обслуживающего регистрацию / Register Personal Catalogue	RE_ORDER	1:M	+	
70	PROXY	Доверенности (на совершение сделок) / Proxies (power of attoney)	RE_ORDER	1:1		+
			INDIVIDUALS	M:M	+	
			JURID_ENTITY	M:M	+	
71	ERR_MESS	Таблица сообщений об ошибках / Error Message Table				
72	RE_OPER	Справочник типов операций, выполняемых над недвижимостью / Real Estate Operation Catalogue	RE_ORDER	1:M	+	
			OWNERSHIP	1:M	+	

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Annex IV. X: Sample REIS Database Columns/Описание столбцов таблиц базы данных

(Available in Russian version)

Annex IV. Y: Sample Fiscal Cadastre Database

(Available in Russian version)

Annex IV. Z: References and Contact Information

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REAL ESTATE INFORMATION SYSTEM (REIS)

MANUAL

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1. Executive Summary

This Volume will be of interest to those responsible for the implementation of a Real Estate Information System (REIS). It is expected to be of particular benefit to those people who are charged with the responsibility for ensuring that the REIS personnel and other users are effectively trained.

1.1 For City Administrators and REIS Managers

Four major steps are necessary for the initiation of REIS training:

- Step One : Orientation Training Sessions start for the three REIS groups: (i) city administrators and REIS managers, (ii) the business community, and (iii) REIS registrars and operators.
- Step Two : The REIS Manager starts the process of identifying training institutions and negotiating costs for training.
- Step Three : The training institution which wins the bid for training and/or the REIS Manager will do a training needs assessment of the agencies associated with REIS.
- Step Four : The training begins.

1.2 How to proceed with REIS?

During Orientation Training, the steps of REIS will be explained in detail on the basis of the REIS Manual. The REIS Manual will be given to participants for further reading. The Working Committee responsible for establishing the REIS and the REIS Manager will proceed using the Manual as a guide.

A design of the training process is attached; see the Training Spiral (Figure V.1).

1.3 Who Needs Orientation Training?

An orientation to REIS covers the total process and provides the audience with a picture and flow of the whole REIS. The REIS Manual will be given for reading to the participants of the Orientations. The three groups who need Orientation are:

- City Administrators and REIS Managers
- Business Community
- REIS Registrars and Operators
-

More information can be found in Section 2.3.

1.4 Which equipment to use?

- **Hardware:** Lists and samples of hardware choices can be found in Volume IV: Development of a REIS Computer System. This information will assist cities in making decisions about the equipment they need to create a REIS.

- **Software:** There is a vast array of computer software which can implement a REIS. Choices need to be made from specifications mentioned in Volume IV.

1.5 Training Needs Assessment: Finding out Who Needs What Training

A training needs assessment must be conducted by the training institution which wins the negotiated bid and/or the REIS Manager. The assessment includes:

- collecting staffing plans
- assessing skills needed for each staff position
- deciding which courses are required for each committee
- deciding the timing of the training to meet administration needs

More information can be found about Training Needs Assessment in Chapter 6.

1.6 What Training Do They Need?

Technical Training includes: Introduction to computers, data entry procedures, data base management, system operations, data base management, introduction to Geographical Informational Systems, GIS operations, advanced GIS Operations, computer networks and communications (see Volume 4 for issues related to computer systems).

Real Estate Training includes: Title registration and transaction procedures, parcel identification, register books and registration forms, determination and description of parcel borders, standard forms and procedures, land information systems, primary and secondary registration, land policy, real estate rights, and juridical aspects (see Volume 6 for issues relating to the implementation of a registry).

Management Training includes: Implementation, staffing, staff training, identifying training providers, negotiating costs and location, performing a training needs assessment, determining training calendars, coordinating equipment acquisition and deployment, monitoring and evaluating the training and managing the whole REIS. All of Volume 5 addresses these topics.

1.6.1 Where Should the Training Take Place?

The options are:

- In buildings of the City Administration
- In local training institutions, or in computer science departments of universities
- In the offices of computer companies in the city
- In the offices of computer companies in Moscow or St. Petersburg

More information can be found in Chapter 5.

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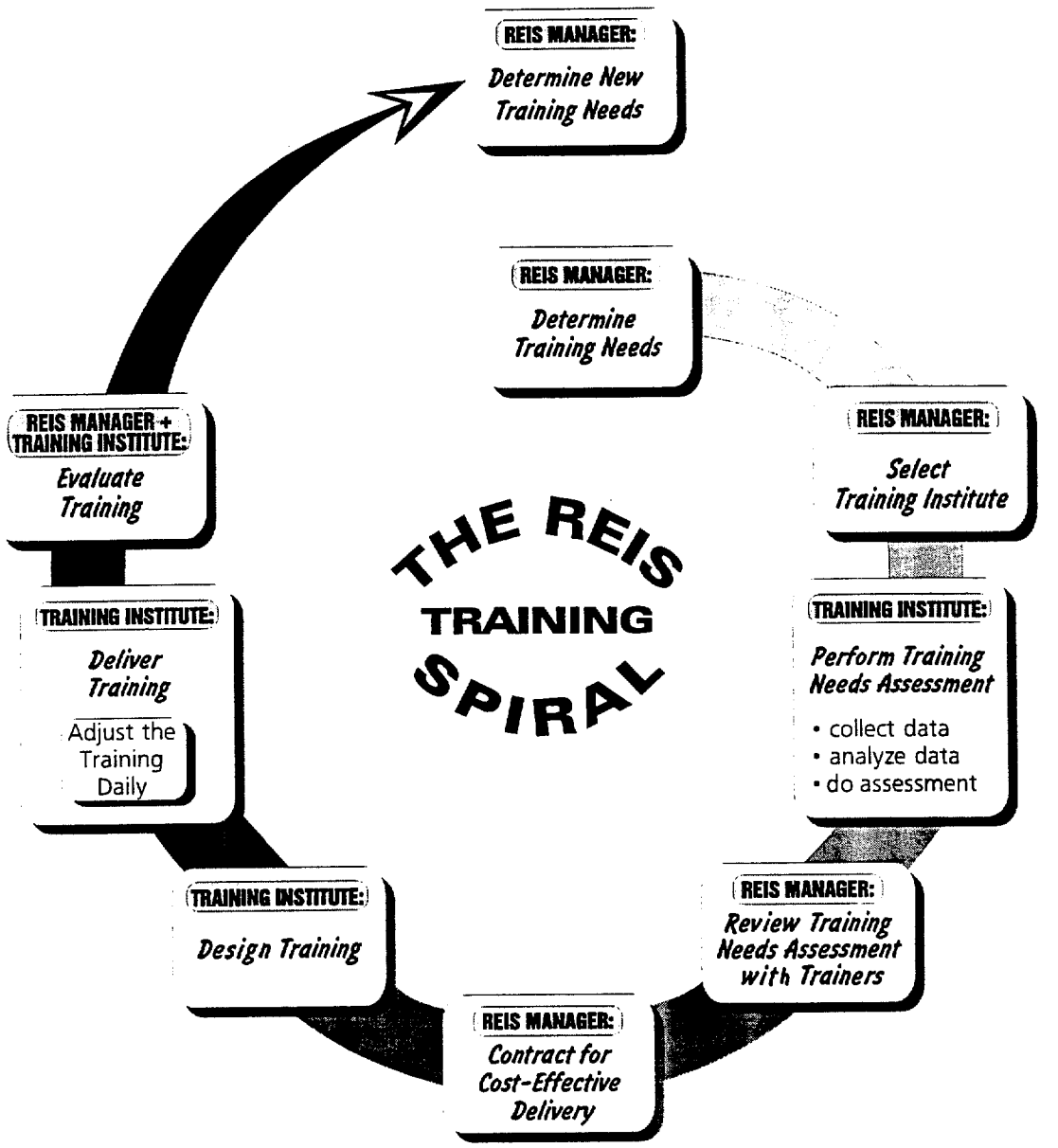

FIGURE V.1: THE REIS TRAINING SPIRAL

1.6.2 Who Should Do the Training?

The options are:

- City employees who have the know-how
- Trainers in local institutions, or from computer science departments in local universities
- Specialists from local computer companies
- Specialists from computer companies in major cities
- Software vendor's specialists
- Foreign specialists
- Send a local specialist to a certified computer company to acquire the skills, knowledge and certificate, to train the city employees, or
- Use a combination of all of these options.

More information can be found in Sec. 4.5.

1.7 When Should the Training Start?

The first training should be an orientation session in which the participants gain an overview of the whole system and of what is expected when the REIS is functioning. This orientation should happen during the first month for all three groups mentioned in Section 1.3 above.

The formal training should start right after the completion of the training needs assessment. This assessment will inform the training institution of the REIS Training needs and costs.

More information can be found in Chapter 4.

1.8 What Will the Training Cost?

Most of the computer training sessions extend for a minimum of two weeks or 60 hours. As at March, 1996 the average cost of training was approximately $90 per day per person. Training costs vary considerably: for example, Basic PC Training costs approximately $23 per day per person, while the training for sophisticated programs like Designer 2000 costs $180 - $190 per day per person. The number of people being trained depends on the size of the city.

2. Introduction

The success of the REIS program depends on training of the personnel who will operate the system. A wide range of training is needed. Fortunately most of this training is available locally, in well-established training institutions. For many people a basic introduction to computer awareness is necessary. For others a high level of computer sophistication is needed.

The success for the REIS program also depends on the cooperation of the agencies involved in sharing information. A fundamental attitude of cooperation must be a thread that weaves through the project from the first meetings with senior municipal officials to negotiations with the Bureau of Technical Inventories, Land Committees, Municipal Property Committees, the Chief Architect's Office, and other salient agencies. Congenial interoffice relations must be managed and reinforced on a daily basis for the REIS to work effectively.

Training can also make REIS financially viable. The better the training, the more efficient the system, and the more revenue generated. Well-trained employees create a well-functioning REIS.

Training can enable REIS personnel to develop the computer programs and the cooperative attitude necessary to create and maintain the REIS with the prospective city administration. Training programs include:

- Formal and informal training
- Orientation training within cities
- Observational visits within Russia

2.1 Formal Training

Formal Training, including basic technical courses and computer literacy, is taught in local Russian training institutions, consulting firms, and software vendor offices. The training necessary for REIS includes:

- Introduction to personal computers
- Database entry
- Basic and advanced Windows
- Introduction to GIS for computer operators and technicians
- Operating systems

For those needing advanced computer technical training, software manufacturers conduct formal courses. All formal training should be tailored to the specific needs of the city and should depend on the city's choices of hardware and software. See Annex V.A for sample course outlines.

2.2 Informal Training

Informal Training includes one-to-one training which can happen on a flexible schedule throughout all the agencies. This kind of training is very practical in updating the skills for a seasoned employee, who then can train new entry people. Often this kind of training can be delivered to two people, the trainer sitting between two operators who practice hands-on, on the computer. Coaching is also effective in training people who already know a basic computer system and like a flexible, spontaneous response to questions.

2.3 Orientation Training

Orientation Training is given to large groups of people who want an overview of the REIS program. A trainer or a group of trainers take the participants through the REIS process. The approach may involve the use of overhead transparencies, handouts and a "walk through" of the training manual to guide the group. Open questioning during the presentation or a question-and-answer period following the session will help tailor the session to the specific purpose of a particular audience. Annex V.B. includes educational materials of the First Institute of Independent Appraisal (St.-Petersburg) with main concepts of real estate market.

Annex V.V. contains information regarding principles of Land and Property Cadastre, prepared by Moscow Land Committee specialists. Although some points of this material do not exactly correspond with the present "Manual", in general it is really interesting and useful for all participants of real estate market.

2.3.1 Future Developers

Special orientation training should be created for future developers and managers of a REIS. They can receive the overview of the REIS program as mentioned above, and in addition would acquire information pertaining to REIS communication, database and network development and management.

2.3.2 Overview Plus for Administrators and Managers

By way of orientation to the REIS, administrators and managers should be exposed to the whole system in a clear, logical presentation. This presentation should use non-technical language and emphasize the managerial aspects of the REIS. The benefits and advantages should be explained as well as the logic of the changes. This particular group will be responsible for setting the tone of cooperation and support for the whole endeavor. Their openness and positive attitudes will be encouraged by a question-and-answer session. They will also appreciate an explanation of a sample implementation schedule, costs and calendar of activities of the REIS.

2.3.3 The Business Community

An additional group who should be included in an Orientation Training are members of the local business community who deal directly or indirectly with real property and property records. This group includes notaries, bank real estate officers, developers, appraisers, land use planners, surveyors, real estate brokers and sales agents. They will need an overview of the REIS and an opportunity to ask questions. It will be important to instill in this group a level of understanding, cooperation, support and ownership of the REIS program. This group will require the design of an information and communications training program which provides primarily non-technical information.

2.3.4 Registration Administration and Mapping

The registration administration and mapping people will need Orientation Training which consists of an overview of the registration process and an awareness of the technical applications they will manage and use. It will also be important to instill in this group the need for sharing information with other agencies on a cooperative basis. The benefits and advantages to the REIS of sharing information will have to be explained. Technical language can be used, but clear definitions and visual explanations will be helpful for this group.

2.3.5 REIS Registrars and Operators

Another special Orientation Training should be provided for registrars and operators of the REIS. This orientation would comprise the overview as mentioned above plus a description of the daily operations, data input, client interactions, and products. This session might also discuss the work flows, forms, procedures to be followed, fee structures, revenue sharing, etc.

Other Orientation Training can be provided for special REIS groups by putting together several of the orientation training modules mentioned above for special purposes.

2.4 Observational Visits within Russia

Observational visits can be arranged to cities where a REIS is already developed and functioning. These visits can be invaluable for the city executives who need to

understand the basic concepts of the REIS by giving them a clear overview of the REIS:

- what it is composed of,
- what is required to establish it, and
- what it can accomplish.

The visit provides an opportunity for REIS managers, computer technical staff, city administrators and institutional leaders not only to see what has occurred but also to share experiences, discuss common problems and identify possible solutions.

The first part of the visit might be in the form of an overview presentation, followed by a question-and-answer period. A guided tour of the REIS center and the mapping center should be arranged. These sessions may be conducted by people who have had experience in the training of trainers. REIS Manuals should be available for future study and explanation. Visitors are advised to take notes of the presentations and question periods in order to make reports to interested groups in their home cities.

2.5 Courses for Senior Managers on Title Registration

These courses could be developed to include a combination of theory, practical and visits to a demonstration site.

Some of the topics for such a course are: modern real estate management practices, relationship between the REIS and other government agencies, functions and management of the registry, planning and implementation of a registry, costs, staff training, changes needed over time, registration procedures, mapping, computerization of titling systems, basic real estate transactions, legal aspects and surveying.

3. Who Needs Training and What Kind of Training

Everyone who works on a REIS program needs training of some kind. The REIS is a giant learning opportunity for everyone who is involved. The learning is basically in three major areas: *knowledge, attitudes, and skills.*

3.1 The Senior Officials of a Municipality

The senior officials should gain knowledge and a positive attitude at a demonstration of a REIS in a city where a REIS is installed and working. They will bring back to their city information of the benefits of such a system, as well as attitudes of enthusiasm, sharing, and interagency cooperation, spiced with a healthy dose of reality.

After a city administration makes the decision to develop a REIS, the senior officials need an overview of the whole system and a "walk through" of the REIS documentation. This can be given by experienced personnel from a REIS city. They are in an ideal position to explain the phases of implementation, the attitudes and skills necessary.

3.2 The REIS Senior Manager

The REIS senior manger is responsible for the implementation and the on-going development of the REIS to satisfy city needs and accommodate the changing legislative environment. The manager will need a basic course in REIS requirements, real estate procedures, GIS principles and project management. This person also needs interpersonal skills to encourage the cooperation of the other agencies which will interact with the REIS. (See Volume II, Sec. 6.1 for more information regarding the role, etc. of this position.)

3.3 The Systems Administrator

The Systems Administrator is responsible for the management and maintenance of the REIS. The Administrator will need training in GIS, system management and maintenance, data communications, database applications, software development tools and system design. (See Volume II, Sec. 6.3 for more information regarding the role, etc. of this position.)

3.4 Database Administrators

Database Administrators are responsible for supervision and monitoring of the REIS database. The Database Administrator will need training in database software, GIS, system management, data communications, software application development, system design and database administration. (See Volume II, Sec. 6.4 for more information regarding the role, etc. of this position.)

3.5 Programmers and Developers

Programmers and Systems Developers are responsible for analyzing REIS user requirements and designing these potential uses so that the application programs can perform these tasks. The uses are then developed, tested, refined and documented as system procedures. These developers will need basis and advanced real estate procedures and updated training in appropriate software such as database, development tools and operating systems. (See Volume II, Sec. 6.5 for more information regarding the role, etc. of this position.)

3.6 Geographic Information System (GIS) Specialists

GIS Specialists are responsible for all graphic data, conversion of graphic data, the design, development, testing and documentation of GIS application programs and procedures. The GIS Specialist will be working with the database group. The GIS Specialist may need additional training in the most recent version of the GIS software. He or she will also need an overview training of the whole REIS. A combination of short lectures and hands-on practical computer instruction will probably be needed. (See Volume II, Sec. 6.6 for more information regarding the role, etc. of this position.)

3.7 Registrars and System Users

Registrars and other system users are responsible for the real estate registration procedures including: first registration, secondary transactions, working with the

maps for real estate identification, preparation of land owner certificates, and other registration activities. They will need training in data processing, entry, retrieval, storage and maintenance, in registry procedures and processes, and in data security. Typing skills are desirable.

If the registration system is a paper-based system, the training will include: real estate systems and concepts, the role of the registry, and registry procedures.

3.8 Data Control Coordinator

Data Control Coordinators are responsible for supervising and monitoring the work of the data entry staff, including quality control procedures, training of new staff, etc. They need an overview of the whole REIS and perhaps a course in data entry and control and a basic course in real estate procedures. (See Volume II, Sec. 6.7 for more information regarding the role, etc. of this position.)

3.9 Data Entry Clerks

Data Entry Clerks are responsible for preparing and entering data into the data base, data processing, retrieval, storage, maintenance, verification and security. When they become experienced they can also assist in the training of new data entry staff, and otherwise help the Data Control Coordinator. They need a basic course in real estate procedures, basic technical computer training and computer literacy courses. Typing skills are desirable. A combination of classroom and on-the-job instruction is necessary for this group. (See Volume II, Sec. 6.8 for more information regarding the role, etc. of this position.)

3.10 Training Calendar

To sum up the preceding, training activities should unfold according to the following steps:

- Step One : Orientation Training Sessions start for the three REIS groups: (i) city administrators and REIS managers, (ii) the business community, and (iii) REIS registrars and operators.
- Step Two : The REIS Manager starts the process of identifying training institutions and negotiating costs for training.
- Step Three : Where a training institution wins the bid for training, that institution and the REIS Manager will do a training needs assessment of the agencies associated with REIS.
- Step Four : The training begins.

A training calendar for computer technical training can be schematized as follows. The first schedule applies to a major systems development employing a relational data base, and the second schedule to a small systems development using for example an 'X base' type data base.

	Basic Real Estate	Ad-vanced Real Estate	DOS	Win-dows Word/ Excel	NT/ Unix	SQL	DBA	Applicati on Develop ment Tools	Re-ports	REIS Appli-cation
	3 days	3 days	2 days	1 week	1 week	1 week	1 week	1 week	1 week	1 week
Management										
REIS Operators										
DBA										
Developers										

Training Calendar for Relational Databases

	Basic Real Estate	Ad-vanced Real Estate	DOS	Win-dows Word/ Excel	NT	X-Base Basics	X-Base Advanced	REIS Appli-cation
	3 days	3 days	2 days	1 week	1 week	2 days	1 week	1 week
Management								
REIS Operators								
DBA								
Developers								

Training Calendar for X-Base Databases

FIGURE V.2: TRAINING CALENDAR FOR THE REIS

3.11 Training for Appraisers

Training for Appraisers is not needed in the initial stages of REIS implementation, but as property assessment becomes necessary trained appraisers will be needed by REIS cities. The Russian Appraisers' Society can provide training in real estate appraisal. (See Annex V.C for sample courses provided by the St. Petersburg branch of the Russian Appraisers' Society).

4. Institutes of Training

4.1 Local Training Institutes

During the initial REIS program funded by USAID during 1994 and 1995 contacts were made with a number of local institutes. The institutes were asked to complete a survey as to the capacity of their training, equipment for hands-on training, and the

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levels of training proficiency of the computer department staff. Descriptions of their computer programs were studied, visits were made to the institutions and resumes of the teaching staff were requested. Several training facilities are identified for their qualified staff, credible programs and equipment to deliver the required training program.

Based on the needs of the REIS program and what could be offered by these institutes, contracts for training were developed and training started. All programs were evaluated.

4.2 Assessing Local Training Institutions

Assessing the facilities of a local institution for its experience and ability to design and present customized training programs requires a visit to the facilities and an interview of the head of the department. A "Training Provider Survey" (See Annex V.D) is very helpful in assessing different institutions as to their ability to conduct quality computer courses.

4.2.1 Informational Presentations at the Training Institution

Informational sessions such as the "orientation training" discussed in Section 2.3 above require a facility that has experience in the production of seminars and workshops for 20 to 50 people which require audience participation and interaction. Equipment requirements include flip-charts, overhead projections for transparencies, slides and other visual aides. This facility should have strong involvement with the real estate, business and financial communities, and enjoy their acceptance and support. It is imperative that the administration and faculty involved with these seminars have strong commitments to the concepts of private ownership and free market exchanges.

4.2.2 Educational Facilities

The faculty should have an existing classroom with access to the necessary number of computers (Intel 286 or higher). The computers should be as close to the proposed procurement models as possible, with the appropriate software and related programs available. Maintenance personnel should be available to ensure the smooth functioning of the equipment.

4.2.3 Special Computer Programming

For advanced REIS training, it is important that the educational facility have experienced staff and applications dealing with spatial relationships and cartography or Computer Aided Drawing (CAD) or Geographic Information Systems (GIS). Some of these advanced courses will only be available in Moscow or St. Petersburg.

4.3 Benefits of Local Institutional Training

Using a local training institution has the following benefits:

- It provides immediate credibility, prestige and acceptance of the training programs.
- By using the institution's equipment, the trainees can save valuable time while equipment is being procured for the REIS program. This can be a saving of up to 60 days.
- It ensures sustainability of the training capability.
- If this is appropriate and feasible, the selected institution could participate in the creation of a nation-wide REIS training program, which can be used in the rollout phase as REIS is implemented nationwide.
- Travel, meals and lodging costs of the trainees will be saved.

4.4 Training Courses for the REIS

Basically, the person responsible for the conduct of the training will need to consider three major questions:

- Where should the training happen?
- Who should do the training?
- Which equipment should be used?

4.4.1 Where Should the Training Happen?

The options include:

- In buildings of the city administration
- In local training institutions or in computer science departments of universities
- In the offices of computer companies in the city implementing the REIS
- In the offices of computer companies in Moscow or St. Petersburg
- In the offices of vendors, or third party companies

4.4.2 Who Should do the Training?

The options include:

- City employees who have the know-how
- Trainers in local institutions, or from computer science departments in local universities
- Specialists from local computer companies
- Specialists from other computer companies in major cities
- Software vendor's specialists - the city can register with the company when they purchase software
- Foreign specialists
- A local specialist sent to a certified computer company to acquire the skills, knowledge and certificate to train the city employees, or
- A combination of all of these options

4.4.3 Which Equipment to Use?

- **Hardware:** Lists and samples of hardware choices can be found in Volume IV: Development of a REIS Computer System. This information will assist cities in making decisions about the equipment they will need to create a REIS.

- **Software:** There is a vast array of computer software which can implement a REIS. Choices need to be made from specifications mentioned in Volume IV.

4.4.4 Basic Training Course on Computer and Software (Sample)

Number of academic hours: 60 (one academic hour is 45 minutes).
Five times a week during three weeks.
Group: 10 trainees.
Number of groups: 4
Topics:
- Introduction: computer as a main device: types, features, rules of work and use
- MS DOS
- Norton Commander
- Text processors
- Spreadsheets.

4.4.5 Advanced Course on Software (Sample)

Total number of academic hours: 25
Five times a week during one week
Number of groups: 2
Group: 5 trainees
Topics:
- MS Windows
- Application system development using MS Windows
- Excel
- Word text processor

4.4.6 Advanced Training (Sample)

As a sample of what a course outline should look like, see in Annex V.E a description of a course in UNIX system training.

4.5 Trainers Qualifications and Expertise

All trainers should speak Russian and, if they are to conduct a computer-related program, they should have a university degree in information technology, computer science or equivalent and should have had significant experience in computer training. Another prerequisite for a trainer in computer technology is English since many appropriate software applications for a REIS are written in English.

In some circumstances a city may wish to conduct its own training. Where designated training staff do not have the formal skills in conducting training programs, they will find the 'Train the Trainer' program outlined in Annex V.E a most useful reference guide.

4.5.1 Qualifications for GIS and LIS Programs Training

GIS and LIS trainers should have a university degree in information technology or computer science training or equivalent, and additional experience in geography and surveying. The trainer should have two to four years of GIS application development experience. The trainer should have training experience with GIS software which can include: Intergraph, Microstation, MGE, IRAS-B and IGEOVAC, MapInfo, AutoCad or Arc/Info. Trainers should have experience with digitizers and an understanding of real estate issues.

Most of the advanced GIS training must be acquired from software vendors, many of whom give certificates for completion of their courses. Trainers should have certificates from such computer companies in their field of work i.e. analyst, programmer, network developer, etc. Another source of trainers is from local computer consulting companies or prominent consulting companies in major Russian cities, usually St. Petersburg or Moscow.

4.5.2 Qualifications for Trainers of Programmers, Developers and Analysts

The trainers for computer programmers, developers and analysts should have experience in training programs for the designated application software. They should have a university degree in computer science, information technology or the equivalent. Where appropriate to the program, these trainers should have had at least two years' experience of training in LAN network technology and database management systems.

4.5.3 Qualifications for Trainers in Database Administration

Trainers in database administration should have a degree in information technology, computer science or the equivalent, and two to four years' experience in information systems management, database management and applications, system development and implementation methods, project management and personnel supervision. The trainer should have general knowledge of GIS concepts and technology but very detailed knowledge of Local Area Networks (LANs).

4.5.4 Qualifications for Trainers in Database Entry, PC Introduction and General Computer Literacy

The trainer of these groups should be above all a good trainer with a clear, patient presentation style. The trainer should be able to explain computer systems in simple language without using jargon, gradually clarifying computer definitions using concrete explanations and diagrams.

The trainer should have a university degree in information systems, computer science or equivalent, and one to two years' experience in training adults in computer literacy and database entry. The trainer should have experience training in word processing applications such as MS Windows, Microsoft Word and Excel.

4.6 Training Needs Assessment

A Training Needs Assessment is the first task the manager responsible for training must perform. The REIS manager should provide a list of staffing plans to implement the REIS. The REIS Manager and the instructors will assess together the skills needed for each staff position. Based on the information gleaned from this assessment, the training institution and the manager will be in a position to determine the courses required for each agency of the REIS.

Where an institution or agency is available to undertake the training, its costs need to be evaluated on a competitive basis. If selected, the institution should be involved in the needs assessment. The selected training institution will then design the courses based on the analysis of training needs, produce the training schedule and assign the training staff.

4.7 Preparation for Training

Computer-based training courses are designed by the training provider. Some of these will be off-the-shelf courses which do not need any redesign or modification for REIS needs. Other courses will need modification and still others will have to be created from scratch.

The training schedule is prepared indicating the location, time and instructor for each course. The criteria training institution arranges for a training facility which meets the criteria. See Annex V.G for training facility guidelines.

4.8 Training Provided by Other Sources

Some training courses will only be available in Moscow or St. Petersburg and will have to be provided by software vendors. In this case, travel, meals and lodging will be an expense of each trainee needing this specialized training.

Computer companies can also send instructors to local training institutions. The costs can often be negotiated and typically will include the trainer's salary, travel, meals and lodging.

4.9 Institutes of Training - Summary

The above discussion of training institutes can be summarized as follows:

1. Local Institutions can provide efficient and cost-effective training for the REIS program.

2. A competitive bidding process enables the REIS to make a choice of training providers.

3. The basic training decisions to be made by the REIS Manager are:

- where will the training happen?
- who will do the training?
- which hardware and software will be used?

4. The qualifications of the trainers are very important.

5. The training institution assesses the needs of the REIS by assisting in:

- planning the staff requirements with the REIS Manager
- assessing the skills needed for each staffing position with the REIS Manager
- determining the courses required
- preparing the costs for approval
- designing the required courses

6. The training institution prepares with the REIS Manager the training schedule, including:

- location
- timing
- training staff

7. The training takes place in a classroom which meets the needs of the REIS as described in a training criteria.

5. Training in Registration Systems

5.1 REIS / Registration Training

5.1.1 Data Entry

Training should be provided to the data entry clerks for a cost-effective, time-efficient and accurate input of data into the computers which store, retrieve and manipulate the data. This training should start with an orientation to the whole system, so that the clerks can have a complete view of the task. Then the focus should shift to the actual work of the registry and the functions they will perform.

5.1.2 Introduction to Computers

An introduction to computers for persons with no or minimal prior computer experience should start with non-technical explanations and hands-on keyboard exercises. A typing course is very helpful. Trainees who do not have typing skills will need hours of practice on keyboard familiarization before they start data entry. An outline for a 30-hour Introduction to the Computer Course for beginners is presented in Annex V.H.

5.1.3 Course for Registration Specialists

The following course is attended by the specialists from BTI, Land Committee, Property Committee, Juridical Entity Department, Real Estate Agency, and Property Fund in Tver. This "Title Registration Training" covers the nine following topics in a five-day course, six hours per day.

- Title and Transaction Registration
- Parcel Identification
- Register Books and Registration Forms
- Parcel Borders Determination and Description
- Standard Forms and Procedures to Filling These Forms
- Land Information System
- Primary Registration
- Title Registration in Different Countries of the World
  Land Policy. Terms and Conditions to have Right for Land. Juridical Aspects.

Material relative to these topics is contained in Volume 6.

5.2 Data Entry Users Manual

A Users Manual needs to be created by the programmer so that computer entry is possible for the users of the system. Every system is different, and programmers must tailor design the computer entry system for each application. Operators do not need to know how the design is created. They only need to know how to use the system - what kinds of words or descriptions to fill into which form. Forms can be developed from generic forms provided by the software.

5.3 Selecting a Training Facility

A screening procedure is available to the REIS Manager to select the most appropriate training facility. Such a procedure includes interviews in educational facilities, completing a check-list of instructors, classrooms, hardware, software in Cyrillic, methods of instruction, experience with development and presentation of customized training programs, and cost. Following such a process it is possible to choose the best training which can be provided locally.

5.4 Training Methodology

The Tver Registration and Licensing chamber fulfilled some of the city's training needs by organizing theoretical training in the morning, followed by hands-on afternoon training in the workplace working on actual cases. Transfer of skills was most successful when a trainer was seated between two trainees for short periods of time, each trainee working on a computer keyboard entering data into real registration forms.

Typical registration trainees have had extensive (in some cases more than 25 years) experience with the old system of registration and inventory keeping, but no prior computer experience. Because of these factors it is important to accompany the subject-matter training by acceptance of change, positive shifts in attitude, pleasant associations with new technology, pride in accomplishment, repetition until a procedure is familiar, transferring small chunks of new information at one time, and giving continual praise for accomplishment.

5.5 Adult Education Methodology

Adult Education Methodology includes training that takes into consideration how adults learn. Adults learn by:

- using interactive methods
- small group interaction
- relating the new material to their existing knowledge
- providing a frame of reference for the learning
- knowing the practical application in advance
- using the group's knowledge and experience
- multiple sense (audio-visual) learning
- giving and receiving feedback
- positive reinforcement
- knowing what you will be able to do at the completion of the course
- being consulted if changes take place.

More on this topic can be found in the Training of Trainers' Section following.

5.6 Evaluation of Training

All training programs are evaluated by the trainees and therefore are self-corrective. Evaluations provide feedback for the training programs which follow. Typical trainees' comments include:

- too short a training period
- lack of information about the purpose of the training
- lack of hands-on practice
- too much theory
- lack of available computers in the workplace
- insufficient training in the skills of transferring knowledge to associates

Sample evaluations are shown in Annex V.I.

5.7 Summary of Training Selection and Methodology

- Most REIS-related instruction can be awarded to a contractor (consulting firm or educational institution) after a competitive bidding process.
- The successful bidder will furnish the necessary instructors and courses.
- All the courses are taught in Russian.
- Adult education methodology should be used stressing a transfer of knowledge, development of skills and a change of attitudes.
- The transfer of knowledge and skills is accomplished through a balance of theory and hands-on experience.
- The participants should be trained in real estate record processing, data entry, retrieval, verification and security, storage and maintenance.
- All training sessions are evaluated, which provides a process to improve the training from trainers' and trainees' comments.

6. Training of Trainers for REIS

6.1 Introduction

Training of trainers means giving knowledge and skills to a select cadre of trainers, so that they can transfer this knowledge and skills to yet another group for rollout of

the REIS. The REIS trainer of trainers must not only transfer the content of the REIS material, but at the same time demonstrate the most effective way to teach this material. This activity involves the adult learner in the process of planning, implementation and evaluation. The training covers three areas: technical training, real estate training and management training.

6.2 Role of a Trainer of Trainers

It follows that a Trainer of Trainers should have REIS knowledge, skills, attitudes and experience to train others; in addition, he or she should have the ability to transfer these knowledge, skills, attitudes and methods to the trainees so that they in turn will be able to train others. See also Annex V.E for an outline of a 'Train the Trainer' program.

A REIS 'trainer of trainers' should train a selected group of professionals in three areas:

- How to give REIS orientation to members of the agencies concerned,
- How to transfer skills of cooperation for encouraging the agencies to work together for implementation of the REIS, and
- How to instruct others in the required computer competence skills, real estate knowledge and management knowledge, skills and attitudes.

The REIS instructor should be able to:

- Analyze course materials and learner information.
- Know how to prepare the instructional site.
- Establish and maintain instructor credibility.
- Manage the learning environment.
- Demonstrate effective communication skills.
- Demonstrate effective presentation skills using adult education methods.
- Demonstration effective questioning skills using adult education methods.
- Respond appropriately to learners' need for clarification and feedback.
- Provide positive reinforcement and motivational incentives.
- Be familiar with a range of instructional methods and move from one method to another appropriately.
- Use media effectively.
- Evaluate learner instruction and encourage the learner to self-evaluate.
- Self-evaluate delivery of instruction and ask learners to evaluate the instruction.
- Report evaluation information.
- Demonstrate the ability to transfer all of these skills to others.

6.3 Methodology

Training of trainers uses the methodology of adult education, commonly known as interactive learning. This methodology includes a wide variety of teaching and learning practices which engage interaction between trainer and trainee. A continuum of these interactions can be seen in Annex V.J.

6.3.1 The Training Spiral

The training process which starts with the Training Needs Assessment follows the Training Spiral. Training flows in a spiral, always going higher and higher. When the cycle is complete, the next phase of the training is just beginning. The REIS Training Spiral Design is shown in Figure V.1.

6.3.2 Training Needs Assessment

Before each training course the trainers should conduct a "training needs assessment" for adjusting the contents of the training to the needs of the trainees. The training needs assessment can be done by different methods or a combination of these methods:

- A questionnaire to be filled by the trainees.
- A series of questions to be answered by the trainees *and by those who employ them,* possibly in a round-table discussion.
- Formulating a list of staffing plans for the future of REIS and assessing the skills needed for each staff position.
- Accumulated observation by walking around the work area of the trainees, over a period of time, can often be helpful in judging the level of competence or the extent of the training needed.

The following form (Table V.1) can be used as a model for training needs assessment.

Sometimes trainers overlook the value of a training needs assessment, or an employer does not allow time for this level of inquiry. Mistakes will occur in the training when the trainer assumes what training should take place without confirming it.

6.4 Assumptions about Adult Learning

The principles of adult learning, discussed in the following Sections 6.5 and 6.6, repose on four assumptions about how adults learn:

- Readiness to learn
- The need to be self-directing
- Building on the learners' previous experience
- Orientation to learning

6.4.1 Readiness to Learn

Once adults are convinced by the REIS Manager *why* they should master the new skill, knowledge, or attitude, the motivation to learn follows. Without this motivation to learn, resistance to the learning may result. *Adults must be ready to learn before the trainer can teach them anything.* The participants must be aware how they will be able to apply the new knowledge to the REIS Center and why it will be important to them. The REIS Manager should explain that the extent of the training directly relates to the efficiency of the REIS.

INSTRUCTIONS
For each item listed below, please place a check in the appropriate boxes on the right as to whether you and/or your subordinates have a current need for training in that subject, or whether you anticipate a future need for you and/or your subordinates in that subject.

Skill Area	Current Need		Future Need	
	Self	Sub	Self	Sub
Customer service skills				
1. Gaining a customer-centered perspective				
2. Listening and questioning skills				
3. Telephone skills				
4. Customer interaction skills				
5. Handling difficult customers and complaints				
6. Providing quality customer service				
7. Creating and conveying a professional image				
8. Other:				
Computer skills				
1. Interpret customers' requests				
2. Identify missing documents				
3. Resolve customers' problems				
4. Knowledge and proficiency of MS-DOS				
5. Knowledge and proficiency of Windows				
6. Knowledge and proficiency of the REIS application				
7. Knowledge of Real Estate				
8. Knowledge of registration law				
9. Knowledge of registration regulations				
Team orientation				
1. Level of cooperation, support and team orientation among co-workers within immediate work unit				
2. Level of cooperation, support and team orientation among co-workers with your agency				
3. Level of cooperation, support and team orientation among co-workers within the REIS				

TABLE V.1: TRAINING NEEDS ASSESSMENT

6.4.2 The Need to be Self-Directing

Adults have a strong need to take responsibility for their own lives, to have a hand in designing their own learning activities and be involved in directing them. Self-directed learning, however, does not necessarily mean learning without help. Self-directed adult learners use manuals and networking, and they obtain assistance whenever needed. Computer manuals will be of great assistance to the self-directed trainees, and networking with other REIS city employees will further their learning.

6.4.3 Building on the Learners' Previous Experience

Adults usually have previous experience which is relevant to the subject or skill being learned. Trainers too often ignore that their trainees have a lifetime of experience on which the new learning can build. Adults can help each other learn.

In a group of trainees at least a few will have relevant real estate and computer experience, and these persons can be valuable resources for the astute trainer. If the trainer can bring out this computer experience and make it an integral part of the learning process, the trainees will indeed be learning from each other.

6.4.4 Orientation to Learning

While in some REIS training the memorization of facts and figures is critical, most of the learning is logical and sequential. The majority of training situations call for practical or "real world" attitudes and values. Learning is most effective when its closeness to the actual job or task is apparent.

6.5 The Principles of Adult Learning

The following principles help to better understand how adults learn.

6.5.1 Learning is an Individual Activity

The accumulation of knowledge, skills and attitudes is an experience that occurs within the learner. While trainers can set the stage and create a climate conducive to learning, learning remains an internal process. The learning process may be different for each adult. Therefore REIS trainers must recognize and respect the individuality of the trainees and their preferred learning styles.

6.5.2 Learning Should be Adjusted to the Mood of the Learner

We all have good days and bad days. It is perfectly natural to experience some ups and downs in the learning process. Psychological as well as physiological factors can obstruct effective learning. Sometimes the trainees themselves don't know what affects them, and it is important for the trainer to recognize the mood of the trainees and change the learning accordingly - for example, schedule small-group work which needs active discussion right after lunch when a theoretical presentation is likely to put the participants to sleep.

6.5.3 Learning is a Continuing Process

"Continuing education" or "cradle-to-grave learning" are terms we hear frequently. Living is a lifelong learning process. This does not necessarily refer to an academic setting; on the contrary, an observant trainer can always be learning from colleagues and trainees. If the motivation to learn exists, nobody is ever too old to acquire new knowledge, skills and attitudes.

6.5.4 Learning Results from Stimulation to the Senses

Trainees will learn better when the trainers can appeal to all their senses. This fact underscores the need for visual aids to reinforce the training session. In studies of how people learn and how they forget, estimates indicate that we can increase learning threefold by letting the trainees **see** rather than only letting them **hear**. When the learner is involved with **doing** or "hands-on" experiences, the retention of what is learned is further increased.

In this connection, see Dales' "Cone of Learning" (Annex V.K).

6.5.5 Positive Reinforcement Enhances the Learning.

Participants will more likely repeat the activities in which they received a positive reinforcement. Credit and recognition provide a powerful incentive for learning. Trainees are more likely to repeat those behavior patterns which increase their feeling of self-esteem.

6.5.6 People Learning Best by Doing

If you want your participants to really learn to perform a task, have them actually **do** the task. Research tells us that *the most effective learning happens when the initial training is followed immediately by application of the training materials.* The more similar this application is to the actual job situation, the better the long-term learning. The old proverb applies here:

WHAT I HEAR I FORGET
WHAT I SEE I REMEMBER
WHAT I **DO, I KNOW**

This underscores the value of on-the-job training.

6.5.7 "Whole-Part-Whole" Learning is Best

This concept means that the best way to start the learning process is by looking first at the "big picture" or the entire REIS. After discussing the total picture and making sure there is complete understanding, (as in the Orientation - see Section 2.3), the trainer can break down the task into its component parts and show how each piece fits into the whole. After the participants understand the overall job, its individual parts can be explained in detail. Finally, follow up by showing how the individual parts come together to make that whole.

6.5.8 Anxieties and Nervousness are Natural

Many people approach a new task or activity with innate fears, preconceptions and a general feeling of nervousness. REIS training probably causes anxiety and nervousness in some trainees. Empathy and understanding of these frustrations will help the trainee feel more at ease. Consider using "ice-breaking" activities to ease these tensions and create a climate which is conductive to learning.

6.5.9 Training Must be Varied and Properly Timed

Several short training periods are more effective than one long session, especially when trainees are trying to absorb REIS fundamentals and computer techniques. Whenever possible, "spaced" learning is more preferable than concentrated sessions. Using a variety of training techniques and participatory exercises, especially those which appeal to several senses at once, can change the pace of the training and increase its effectiveness.

6.6 The Laws of Learning

Textbooks on educational psychology are often filled with dozens of laws of learning. The following are some of the most important ones.

6.6.1 The Law of Effect

This law states that people learn best in pleasant surroundings. Comfortable furniture (tables and chairs) in a warm and pleasant environment will aid the learning process. More important, however, is the trainer's attitude. If the participants sense an air of hostility, this will hamper the learning process. A pat on the back for a trainee after a particular task or activity is an excellent way to practice the law of effect.

6.6.2 The Law of Exercise

This law is about over-learning or "practice makes perfect." We know that retention is highest with participant involvement. However, there are times when a participant may have to *unlearn* an improper method or incorrect exercise or attitude prior to learning the right way. If you are teaching a skill, you must be certain that the trainees' existing patterns of behavior are in line with the desired outcomes. If not, these patterns of behavior should be corrected before attempting to develop the new activity. In REIS training, this unlearning and over-learning followed by practice is necessary for beginners of keyboard skills and computer logic, especially if they have no previous computer skills.

6.6.3 The Law of Association

This is the foundation of all adult learning activities. Essentially, it means that every new fact, idea, or concept is best learned if we can relate it to already known information. Learning can be likened to a series of building blocks, where each new block is added to the existing set: we literally add each new bit of information to our existing body of information. The more the trainees can build on earlier experiences or knowledge, the better will be the training. The trainees should be guided from "where they are" to "where you want them to be."

6.7 Adult Education Learning Atmosphere

An atmosphere of openness, friendliness and appreciation stimulates adult curiosity and desire to learn. Physical comfort and good humor also contribute to a positive learning environment. Adults also like clear, attractive and easy-to-read materials.

The session should flow logically from introduction to segments of the REIS content, finishing with the summary and conclusion. A well-thought-out, step-by-step organization of the material will reinforce a positive learning atmosphere. Clear definitions of new concepts are very important. Frequently explaining the historical background of a process is much appreciated. Asking questions of the audience keeps participants awake and alert. Answers to the questions are not always necessary, but the practice of asking questions stimulates interactive thinking.

6.8 Training Techniques

Adult Education uses a broad array of training techniques and creativity in transferring knowledge, skills and attitudes to trainees. The techniques mentioned here are especially conducive to REIS training, but a trainer must not hesitate to use other methods as appropriate.

6.8.1 Pre-Training Reading

Many REIS trainers assign pre-training reading. Reading a REIS or computer manual can prepare a data entry clerk for registration, but it is very important to combine this knowledge with hands-on experience and practice. Sometimes the REIS manager must convince the trainees of the value of hands-on training, because they feel that reading the manual is sufficient to prepare them for their tasks. While pre-training reading is very important, nothing can replace the practical hands-on training.

6.8.2 Lecture, Panel of Speakers, and Round Table Discussion

These three techniques are related because generally the trainers are active and the trainees listen, take notes, passively absorb the message, and ask questions at the end of the session. These techniques are more effective when the sessions are accompanied by short video clips, transparencies, slides, handouts, and flip-charts on which the trainers write major points.

When to Use the Lecture Approach

- The instructor has the need to present his or her ideas to the group.
- A lecture is the most convenient and cost-effective means to disseminate material.
- Only the instructor has the knowledge to respond to the questions and comments from the group.
- In a practical computer training program, short lecturettes may provide a change of pace.
- A demonstration of REIS equipment.
- A high-status person is considered essential to gain credibility for the information or instruction.
- The content or material changes so frequently that an update can only be obtained from a lecturer.

Disadvantages of the Lecture Method

- It is often boring.
- It makes the learner passive.
- It causes a loss of motivation, curiosity and creativity.
- The presenter can hardly tell whether the message is getting through or transferred to the trainees.
- Average uninterrupted absorption time is only about 14 minutes.
- The lecture may be poorly planned, organized and delivered.
- The speaker may "talk down" to the audience, reinforcing the image of an authority figure.
- Retention is very low - most of the information is lost in 24 hours, most of the rest is lost thereafter.

6.8.3 Small Group Discussion or Activity

The small group is the basic unit for participative training. By small group is meant subdivisions of a large group that may range in size from *three to seven people.* These

small groups can form in the corners of the large-group room.

Small group discussions give a group of people a chance to share their opinions and admit the gaps in their understanding. Many people are reluctant to express themselves in a group larger than 5-7 participants. A skilled facilitator helps group members to explore a topic by involving the participants in thinking for themselves, solving problems, changing or reinforcing attitudes, sharing experiences, and creating a dynamic situation of question and answer. Case studies, role playing and structured exercises are also very effective in small groups.

Occasionally, there is learning value in having the small groups assemble in the large group after their activity to share their learning experience. Often the learning is reinforced when the learner explains or is questioned by another learning group.

Advantages of Small Groups

- It is easy to involve everyone.
- It is low-risk, threat-free and provides an opportunity to test individual ideas.
- Flexibility allows restructuring to form new groups, expand and contract group size.
- Individual REIS needs and differences can be recognized and accommodated - this is very helpful for acquisition of computer skill and real estate knowledge. (Administrators can meet together, data entry people can meet together, etc.)
- Provides opportunity for problem-solving.
- Provides a sense of rapport, trust, support and recognition.

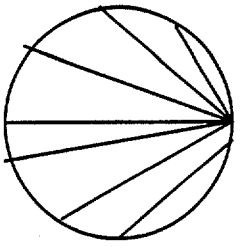
Disadvantages of Small Groups

- One or two people can dominate the group, defeating the purpose of participant involvement.
- Participants who are used to sit passively in lectures may be reluctant to discuss or share their point of view.
- Inflexibility of the seating arrangements may not accommodate arranging chairs in a circle for unobstructed view of each person.
- Group leaders may not have facilitator skills which stimulate cross conversations.
- Facilitators may not manage the time-task factor smoothly. Groups become restless when they have to wait for other groups to complete their tasks.

Guide for Facilitating Small Groups

- State the rationale for the assignment from the participants' point of view. Explain *why* they are doing the task, for example "as part of title registry training, describe the necessary steps to register secondary transactions."
- Explain clearly *what* is to be done or *what* is to be produced, e.g. "from the coordinates and the cadastre description, create the map of a certain real estate object."
- Specify *how* the task is to be done and within what time limits, e.g. "in groups of two, create in thirty minutes a form to keep track of the present owners of an apartment block."
- Describe the feedback report (also known as "processing" or "sharing").

Participants must know precisely what they will have to communicate to the total group about their learning, e.g. "give a five-minute report of your group's efforts showing what you created and how you did it; be prepared to answer any questions the members of the large group might have."



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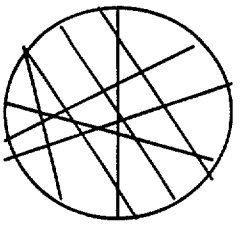

B

In these two models of small groups, the lines represent conversations.
Group A is a small lecture group, while Group B is a total involvement group.

6.9 Simulations

Simulation is a training situation designed to give the participants an experience comparable to real life. A REIS simulation should include data from a fictitious cadastre, which would demonstrate real estate problems, descriptions of properties, rights of owners, transactions, computer directions, forms, certificates, surveying problems, legal perimeters, GIS operations, and many other features of REIS.

Assigned roles in the REIS Simulation should include: REIS clerks, bankers, real estate agents, systems administrators, registry operators, etc.

6.9.1 Advantages of Using Simulations

- Participants are involved in a real-life situation.
- The learning is active.
  The learning process relies on the best approaches to adult learning, namely experiential or discovery.
- Mistakes can be made in risk-free atmosphere.
- Time spans can be compressed.
- Opportunity for immediate feedback is provided.
- The trainer's role can shift to one of learning facilitator.

6.9.2 Possible Disadvantages in Using Simulation

- Although the simulation is made similar to a real-life situation, the experience may not replicate all the situations or complexities that may arise.
- Participants may generalize incorrectly from the simulated example.
- Participants may gain from this simulation a false sense of confidence in their ability to cope with the REIS situation.
- The simulation must be designed so that the desired learning outcomes are reached.

6.9.3 Implementing the Simulation

- Introduce the simulation to the participants so that objectives, roles, rules, procedures and time frames are clear.
- Monitor the simulation in a facilitating way, but do not intervene unnecessarily.
- Allow time to process the major points learned by each group in the training, i.e. the developers, the mapping group, the registry clerks, etc.
- Relate other training situations to the simulation ("you will recall that in the simulation we...")

6.10 Designing Programs

Three kinds of training are necessary for the REIS:

- technical training
- real estate training, and
- management training

The design of training programs needs coordination between the training institution, the REIS Manager and the trainees.

Start with a blank course outline. Map out large blocks of time using a pencil, because there will be many changes and the training designer must be flexible to accommodate many different groups (see chart in Annex V.L).

Then design what the activities will take place in each block of time and which training institution or trainer will be responsible.

The actual timing of these classes takes into consideration the availability of trainers and trainees, hardware, and classrooms.

All of these technical courses must be accompanied with practical sessions and keyboard exercises, to balance theory and practice.

6.11 Implementation of Training

The trainer writes the lesson plan so that another person can deliver the lesson. "Thinking through" the steps of the lesson minute by minute will make the training easy to deliver. A sample lesson plan is shown in Annex V.M.

When the lesson is completed, the trainer writes notes at the bottom of the lesson plan showing what changes were made in the actual class and what lessons were learned from this instructional segment.

This same pattern is followed for both technical and non-technical training.

6.12 Real Estate Training

6.12.1 Course Introduction

The purpose of the course is to introduce important real estate concepts and principles as they relate to REIS. The course will provide a framework to further the

trainees' understanding of the fundamentals of real estate markets. Real estate does not fit neatly within any one academic discipline, and thus must be understood within a broader sphere of thinking. This outline gives trainees the basic concepts needed to understand and evaluate developments in local and national real estate markets.

6.12.2 Objectives of the Course

- To evaluate the real estate market and its role in the national economy.
- To discuss economic concepts in real estate.
- To explain key concepts of real estate finance.
- To describe legal issues in real estate.
- To analyze information in real estate markets.
- To describe common ethical standards in the real estate industry.

6.12.3 Topics Discussed in the REIS Real Estate Course

Economic Concepts in Real Estate
The Real Estate Registration System
Rights and Restrictions
Contracts and other Legal Issues in Real Estate
Market Information
Leases and Leasing
Finance and Mortgages
Real Estate Brokerage and Agency

More information can be found in Annexes V.A and V.N.

6.13 Management Training

Management training in REIS will ensure that managers at all levels of REIS have been exposed to skills, knowledge and attitudes which will increase the success of REIS. The following topics can be delivered in a three or four day course.

Topics for REIS Management Training include:

Leadership
Team Building
Motivation
Delegation
Communication
Time Management
Customer Relations
The Art of Giving and Receiving Feedback

A course outline for REIS management training in the above topics is detailed in the following. REIS management training will use all of the elements of adult education training. There will be skill development, attitudinal change, and knowledge transferred.

6.13.1 Leadership

Leadership is provided in REIS by the City Administrators, the Working Group, the REIS Manager and the Heads of Agencies. Their leadership takes several forms:

- Creating and communicating the vision for the REIS.
- Establishing clear directions and follow-up.
- Developing strategies, systems and methods for achieving the REIS objectives.
- Creating and enforcing high expectations and commitment in staff.
- Defining goals and measures excellence in performance.
- Maintain a climate conducive to training and learning.
- Creating a climate of cooperation and employee support.
- Creating a climate of improvement based on evaluation and feedback.

More information on this topic can be found in Annex V.O.

6.13.2 Team Building

Teams are productive units of organizations that share the vision of management and maintain, like sports teams, a high level of enthusiasm in reaching their goals.

- Team performance is more productive than each individual performance.
- Team members support and respect each other.
- Team members are cooperative and use positive interaction.
- Team members maintain a consistent organization so that other team members can find things when they want to.
- Team members accept and integrate the different skills of their team members.

More information and exercises on Team Building can be found in Annex V.P.

6.13.3 Motivation

Motivation is whatever energizes a person to reach a personal goal. What motivates a person is unique to that person. Every individual is stimulated by his or her personal needs and expectations, which are not necessarily the REIS Manager's. Some people may have common needs and expectations, but they will have different energies and priorities. To manage individual motivation, the manager must determine what these motives are.

Discussion topics and exercises regarding how to increase motivation can be found in Annex V.Q.

6.13.4 Delegation

Delegation of authority means granting to subordinates sufficient authority to perform within prescribed limits. This does not mean that the higher-level manager surrenders all authority. He or she still maintains overall authority and responsibility, and can if necessary revoke all or part of whatever authority was originally granted.

Assigning duties means that each subordinate so that each has a specific job or jobs to perform. Regarding delegation of authority, subordinates may be classified as:

- able and willing - these are the best candidates for delegation.
- unable but willing - delegation should wait until they perhaps become able through more training to assume these responsibilities.
- able but unwilling - delegation should wait until they are motivated to perform the delegated task.
- unable and unwilling - delegation should wait until the subordinate is trained and motivated.

The manager should know his staff well enough to determine which duties can be assigned to what individuals. More about Delegation can be found in Annex V.R.

6.13.5 Communication

A major task of the REIS manager is to secure the cooperation and support of the other relevant agencies. For successful management of the REIS, the following communication skills are necessary:

- **Clarity**

The manager should communicate clearly and accurately. One way to achieve this is to write frequent memos to the leaders of other agencies to reinforce and provide a written record of the message he or she wishes to communicate.

- **Two-way Communication**

Most people are familiar with communication which comes from the top of an organization or unit to subordinates. A REIS manager should share appropriate information with his or her subordinates on a regular basis. An effective manager will also solicit from his staff information relevant to the organization's goals and transmit it up the organization, to inform higher management of developments, ideas for improvement and grievances which they are not aware of.

- **General Meetings**

Periodically, maybe once a quarter, the REIS manager should arrange a general meeting to:

⇒ Report the status of the REIS to all the people who are affected by decisions concerning the REIS;
⇒ Recognize and appreciate the efforts of all employees;
⇒ Boost morale and build a team spirit;
⇒ Inform the staff of the next phases of activity.

The meeting should include everyone who is involved in the REIS, so that they will all hear the same message at the same time. Employees should not have to receive information which is important to them second hand.

- **Seeking Information**

The manager should:

⇒ Seek information personally from clients, city officials, and officials from other REIS cities;
⇒ Do personal research on how to provide service and how to improve the service;
⇒ Consult managers from related businesses technical specialists;
⇒ Actively involve the staff in the resolution of problems and the search for 'a better way'.

Other topics about communication can be found in Annex V.S.

6.13.6 Time Management

- **Organization**

A successful manager must have an effective filing system. REIS information from all parts of the organization must be analyzed, stored for easy retrieval, and referred to when appropriate.

- **Timelines**

Before preparing timelines, the manager should solicit information from employees as to realistic time expectations. Nothing can stimulate unrest faster than to push a busy group into a time commitment which will jeopardize the quality of their work and their sanity. Timelines must be realistic, clear and specific.

- **Strategic Planning**

A strategic plan has the objectives of setting the REIS long-term goals and the way to reach these goals. The plan will specify what should be accomplished, when, who is responsible, how the plan will be executed and how much it will cost.

- **Monitoring and Coaching**

The REIS manager should monitor his staff to make sure they are clear about their objectives and can reach them within the time frame. Monitoring is continuous. If some subordinates have not mastered self-direction, assuming responsibility, and time management, the manager should coach this employees in these skills.

6.13.7 Customer Relations

In the client-centered workplace, satisfying the customers is the primary goal. The staff members are conscious that the customers are the reason they have a job, and show it in their behavior. Their first question to customers is always, "how can I help you?"

The customer oriented employee is always trying to find ways to do things better, faster, or cheaper for the comfort and saving of the customer. The staff should

brainstorm creative ways to minimize the time that customers have to wait in line to obtain their requests. Competitive teams can be established to devise improved and faster ways of serving the public. A program such as quality circles could be instituted in which the typical registration procedures are timed, analyzed and improved.

6.13.8 The Art of Giving and Receiving Feedback

During the REIS implementation phase, there should be a constant effort to improve its operation. One of the major ways of improving is to receive constructive feedback - from other members of the REIS office, from the City authorities, from collaborating agencies and *above all from the REIS users* - and implement the suggestions of this feedback to improve work procedures.

More information on giving and receiving feedback is in Annex V.U.

6.14 Evaluation

Evaluation is the last phase of the Training Spiral. Its purpose is to assess the training outcomes, and perhaps review the training needs assessment, in order to prepare the next training.

Evaluation can take place on four levels:

- Getting from participants at the end of the training their reaction of satisfaction or dissatisfaction with their training. This can be done through a final open discussion with the participants, and/or by having each participant fill an anonymous training evaluation form
- Observing the change in participants' behavior, skills, and knowledge in the classroom or training situation.
- Consulting with the participants' superiors to detect any new or changed performance of the participants on the job.
- Measuring impact of the training on the organization.

The main benefits of evaluation are that it can:

- inform trainers of the results of the training and give them feedback for improving it;
- inform management about cost and benefits of the training;
- obtain an indication of the participants' current needs and thus guide the planning of future training.

6.15 The Theoretical Framework of Management Training

For trainers-of-trainers who feel the need for more theoretical background about the concepts and methods of management training, this section gives an extremely brief overview of the important names in management studies and the key concepts they are associated with.

- **Frederick Taylor**, from the US, taught management at the Harvard Business School in the 1900's. He viewed employees as merely factors of production and

advocated the splitting of work into small repetitive tasks (the **production line**) and measuring work processes to eliminate unnecessary movements.

- **Kurt Lewin,** from the US, in the 1930's and 40's linked management to democratic values and proposed to management the objective of creating a community-like workplace.

- **Fred Emery,** an Australian, proposed in the 1940's and 50's that **work groups** can be self-regulated and can take part in decision-making.

- **Douglas McGregor** (US) formed in the 1950's and 60's the **X and Y management theories.** He believed that employees can be motivated by recognition, achievement and having a sense of responsibility.

- **Eric Trist** (from England) stressed in his work from the 1950's to the 1980's that the **quality of working life** was very important to employees' productivity.

- **Marvin Weisbord,** an American, in his work in the 1970's-1990's proposed a management system which considers the whole employee. He stressed **problem-solving techniques** and advocated designing the training so that people learn just what they need, exactly when they want it.

- **William Ouchi,** a Japanese-American, developed **Theory Z** which echoed current Japanese management styles. He advocated getting employees committed to continuous learning and to manufacturing that had **zero defects.**

More information about these leaders in the field of management studies can be found in Annex V.U.

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Volume V Annexes

Annex V. A.

Samples of Training Courses

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1. Real Estate Information System Technical Courses

2. Draft courses at the St.Petersburg Association of Realtors

3. Introduction to GIS for City/Raion Computer Technicians. Introduction to GIS for City/Raion Clerk Typists

Real Estate Information System
Technical Courses

Course Title	Hours per Day, Number of Days & Total Hours	Course Objectives	Target Audience
Introduction to Computers	6 hours per day 5 days/30 hrs	Introduction to elementary computer operations	Raion & City Clerk/Typist
Data Entry Procedures	6 hours per day 5 days/30 hrs	Develop fundamental skills in data entry	Raion & City Clerk/Typist
Data Base Management	6 hours per day 5 days/30 hrs	Build skills in data base construction and operation	City & Raion Computer Technicians
Introduction to Geographical Information Systems (GIS)	6 hours per day 2 1/2 days 15 hrs	An overview of GIS concepts and applications	City & Raion Computer Technicians
GIS Operations	6 hours per day 10 days/60 hrs	GIS development and primary operations	City & Raion Computer Technicians
Advanced GIS Operations	6 hours per day 10 days/60 hrs	Supervision of GIS operations and design	City & Raion Computer Technicians
Local Area Networks (LAN)	6 hours per day 5 days/30 hrs	Design and operations of LAN	City & Raion Computer Technicians
Telecommunications with Computers	6 hours per day 5 days/30 hrs	Tele-Com for LAN operations	City & Raion Computer Technicians

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Introduction to Computers

An introduction to computers for persons with no or minimal prior computer literacy or experience. A non-technical explanation of computer operations will be delivered only as it will aid in the understanding of computer usage. A majority of the course time will be used by the participants to become familiar with the computer through supervised hands-on operation.

Data Entry Procedures

An intensive, hands-on application course where participants will be instructed and drilled in data entry procedures. Theory will be held to a minimum with a major focus on accuracy and speed.

Upon completion of these two courses, the clerical staff of each raion should be able to commence data entry in a format that will be prescribed by the REIS Computer Specialist.

System Operators

This set of courses is designed for the personnel that will be charged with the responsibility of maintaining the REIS operational and directly involved with the expansion and growth of the system. This will require more intense computer training and a much higher order of computer literacy. It is expected that the participants of this set of courses will be drawn from the existing computer information centre at the city.

Data Base Management

The focus in this course will be to develop skills and abilities for the design, construction and maintenance of a functional data base. Specific areas covered will include field determination, format and sizing, determination of storage and retrieval format, strengths and weaknesses of data base software, trouble shooting and other skills required to keep a system operational.

Introduction to GIS

This is a short course designed to provide both the technical personnel and the administration with an overview of the operation of a Geographical Information System. Minimal detail will be involved and only a cursory hands-on operation.

GIS Operations

This is a more involved course with specific GIS software operation and instructions. The participants will be instructed on topics including building topology, merging data sources, developing query operations and other related GIS functions.

Advanced GIS Operations

Advanced skills and GIS operations will be covered in this course. The participants will be instructed in the skills required for the supervision and continued operation of the GIS.

Local Area Networks

Topics for this course will include the requirements, design and operation of a Local Area Network (LAN). Specific software operations as well as over all LAN technique will be presented.

Telecommunications with Computers

An extension of the LAN course, the participants will be instructed in telecommunications as it relates to computer networking and sharing of data.

Draft courses at the St.Petersburg Association of Realtors

A soft copy of this document does not exist, please refer to the hard copy (Russian version).

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Introduction to GIS for City/Raion Computer Technicians

A soft copy of this document does not exist, please refer to the hard copy (Russian version)

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Introduction to GIS for City/Raion Clerk Typists

A soft copy of this document does not exist, please refer to the hard copy (Russian version).

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Annex V.B.

Basic Concepts of Real Estate Market

This annex is available only in Russian (hard copy) - 61 p.

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Annex V. C.

Samples of Training Courses at the Russian Appraisers' Society, St.Petersburg branch

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Programme of Training Professional Appraisers of Real Estate

A soft copy of this document does not exist, please refer to the hard copy (Russian version)

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Programme of Training Professional Real Estate Managers

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The Main Courses Held at the First Russian Institute of Independent Appraisal

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Training Provider Survey Form

Date:

Description of the company:

location
address:_____

contact persons:
name:_____phone:_____fax:_____e-mail:_____
name:_____phone:_____fax:_____e-mail:_____

printed materials about agency available

☐ yes ☐ no

primary business:
- ☐ high school
- ☐ professional school
- ☐ training courses
- ☐ academic unit
- ☐ research institute
- ☐ consulting company
- ☐ business company

number of trainers
- ☐ 1-20
- ☐ 21-100
- ☐ 101-1000

qualification of employees:
- ☐ real estate registration
- ☐ real estate...
- ☐ management
- ☐ system analysis
- ☐ distributed systems design
- ☐ data base design
- ☐ data base development
- ☐ UNIX system administration
- ☐ Windows NT system administration
- ☐ local area network communications
- ☐ global area network communications
- ☐ document processing (Word)
- ☐ spread sheet processing(Excel)

examples of success training projects that have been done

project description_____
_____

list of training projects that are in progress
_____
_____

joint venture partners in education business:

name of organization: _____
contact person: _____phone:_____fax:_____e-mail:_____

name of organization: _____
contact person: _____phone:_____fax:_____e-mail:_____

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Description of facilities available for training:

facilities

- ☐ classes
- ☐ white board
- ☐ overhead projector
- ☐ canteen
- ☐ toilets
- ☐ coffee room

hardware platforms available

- ☐ PC 286
- ☐ PC 386
- ☐ PC 486, Pentium
- ☐ Sun SPARC
- ☐ Apple
- ☐ DEC Alpha, VAX
- ☐ HP PA
- ☐ IBM RISC

system software in use

- ☐ DOS
- ☐ Windows
- ☐ Windows for Workgroups
- ☐ Windows NT
- ☐ Novell Netware
- ☐ UNIX BSD
- ☐ UNIX SVR4
- ☐ IBM LAN сервер

available communication at training classes

- ☐ phone
- ☐ fax
- ☐ LAN
- ☐ e-mail
- ☐ internet

experience in education and training

- ☐ 1 year
- ☐ 1-5 years
- ☐ 6-10 years
- ☐ 11-20 years
- ☐ 21 years and more

experience in course design

- ☐ 1 year
- ☐ 1-5 years
- ☐ 6-10 years
- ☐ 11-20 years
- ☐ 21 years and more

experience in training program coordination

- ☐ 1 year
- ☐ 1-5 years
- ☐ 6-10 years
- ☐ 11-20 years
- ☐ 21 years and more

potential follow up maintenance after training

☐ consultations ☐ hands on services

☐ no any

Course topics to be provided and course materials

_____

_____

_____

_____

course catalogue available

☐ yes ☐ no

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Educational Facility Selection Criteria Check List
Technical Courses:
Basic:

Educational Facility	286 Labs and Number of Computers	386/486 Labs and Number of Computers	FoxPro for Windows (Cyrillic)	Word Processing (Cyrillic)
Novotech Training Center	1 Lab 8 computers each Lab	1 Lab 386 8 computers each Lab.	FoxPro (DOS) (English)	Write for Windows (English & Cyrillic)
Volgo-Vyatsky Personnel Center		2 Lab + 486 10-12 Computers each Lab	FoxPro DOS, Windows English & Cyrillic.	Multiple Software available
Nizhegorodsky State University		1 Lab 386 10 Computers.	FoxPro DOS English & Cyrillic	Multiple Software Windows English & Cyrillic
Academy of Architect and Civil Engineering	1 Lab 10 Computers	1 Lab 386 10 computers 1 Lab 486 4 computers	FoxPro for Windows English & Cyrillic	Multiple Software Windows English & Cyrillic.

Technical Courses:
Advanced:

Educational Facility	386/486 Labs & Number of Computers	Graphical Software	GIS Software	GIS Instructors
Novotech Training Center	1 Lab 386 8 computers each Lab	AutoCAD, Version 10	None	None
Volgo-Vyatsky Personnel Center	2 Lab + 486 10-12 Computers each Lab	None	None	None
Nizhegorodsky State University	1 Lab 386 10 Computers	None	None	None
Academy of Architect and Civil Engineering	1 Lab 386 10 Computers 1 Lab 486 4 computers	AutoCAD, Version 12 DOS, Windows	ArcCAD Windows, ArcView Windows	GIS Departments > 3 Instructors

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Main Topics to Be Discussed on UNIX Training Courses

1. Typical duties of the system administrator, his rights and responsibilities (adding and removing users, adding and removing hardware, installing new software, day-to-day activities, troubleshooting, fixing bugs, helping users, system accounting, etc.).

2. Booting and shutting down - steps in the boot process, loading UNIX, initialization of the kernel, execution of the initialization scipts, multi-user operation, what to do if the system won't boot, shutting down and rebooting, etc.

3. The file system - types of the files, file permissions, inodes, keeping track of the filesystems, filesystem integrity.

4. Controlling processes - attributes of the processes, monitoring processes, signals, process states, etc.

5. Configuring the kernel - configuring and building the kernel, modifying the kernel, adding new (totally) devices to the kernel, testing and debugging the new kernel.

6. Installing and supporting terminals - terminal configuration files, protocols, terminal mode installation, specific steps in terminal installation, etc.

7. Printing under UNIX - printing variables, printing processes, file and directory specifications, controlling the printing environment.

8. Adding a disc - disc controllers, disc drives, disc geometry, partitioning decisions, building filesystem, brand-new disc in a box, debugging, etc.

9. Networking under UNIX - the ISO/OSI network model, the Ethernet, hardware installation, attaching transreceivers, network software, TCP/IP, NFS, building a new kernel, set up terminal interactions, designing the network, debugging and monitoring the network.

10. Daemons.

The course will start on April 17, 1995. The last day is April 22, 1995.

The beginning of the lessons on theory - 9.30 a.m., the end - 1 p.m. with one break.
After lunch at 2.30 p.m. practical realization of the received theoretical knowledge will be performed..
Instructors: two teachers from Scientific Reseach Institute "Tsentrprogrammsystem".

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TRAIN THE TRAINER

CHILDREN LEARN BY.....

DOING

↓

REPEATING

↓

AWAKENING INTEREST & AWARENESS

ADULTS LEARN BY.....

AWAKENING INTEREST & AWARENESS

↓

DOING

↓

REPEATING

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THE PRINCIPLES OF LEARNING

FORMAL ADULT LEARNING

The principles of adult learning have been derived from research, experiment and experience.

They should help you to plan a good lesson, **deliver** it efficiently and **evaluate** it afterwards. Here is a list of the principles we will be examining here:

1. Meaningful Material
2. Active Learning
3. Primacy and Recency
4. Feedback
5. Overlearning
6. Reinforcement
7. Multiple Sense Learning

1. Meaningful Material

This principle states: Trainees understand (and therefore **learn**) material only when it is related to their existing knowledge.

A trainee may be able to recall facts, etc., which he/she has committed to memory. But if you want him/her to comprehend the material fully you must give him/her a frame of reference into which he/she can fit these isolated bits of information so that a pattern develops.

Rules for the training room:

1. pitch your session at the trainee's level, not yours;
2. present the topic in a definite form or sequence;
3. use plenty of examples, illustrations, analogies and anecdotes;
4. always move from the known to the unknown; that is, begin with what the trainee already knows or has experienced. Don't make the mistake which one writer has described as follows:
   "Many teachers plunge ahead from a starting-point that many of their students have never reached and they proceed to teach the unknown by means of the incomprehensible". (Pressey, Robinson & Horrocks: "Psychology in Education")
5. find out what your trainees already know or have experienced before;
6. use knowledge of topics in your group.

2. Active Learning

This principle states: Trainees learn more quickly and effectively when they are actively involved in the learning process.

The simplest expression of this idea is: We learn by doing. This applies equally to **all** forms of training.

Rules for the training room:

1. Ask questions to stimulate thought and do not answer your own questions.
2. Plan for exercises and tests in sessions.
3. Use projects and assignments to supplement lessons.
4. Use discussion methods from time to time.
5. Provide plenty of practical work.

WARNING beware of note-taking as a form of Active Learning - the trainees' fingers may be active - but not their brains.

3. Primacy and Recency

This principle states: Trainees can recall well those things they learn **first** and **last** in sequence.

"The first impressions are lasting" sums up the principle of Primacy: the principle of Recency refers to the fact that, if nothing else, people will usually remember those instructions given last. "Last impressions are lasting".

WARNING these principles are not true under all conditions and sometimes they act against one another, such as when our most recent impressions change or blot out our first impressions.

Rules for the training room:

1. Give a preview of the session.
2. Summarise the important points of the session at the end.
3. Prepare carefully what you are going to say and do during the first few minutes of the session.
4. Remind trainees from time to time of the sequence in which they have learned a topic.

4. Feedback

This principle states: Learning proceeds more efficiently when both instructor and trainee give feedback **to each other.**

The instructor needs feedback to tell him/her how the trainee is progressing; and the trainee needs feedback from the instructor on quality of presentation. This means that a session is a two-way communication system like this:

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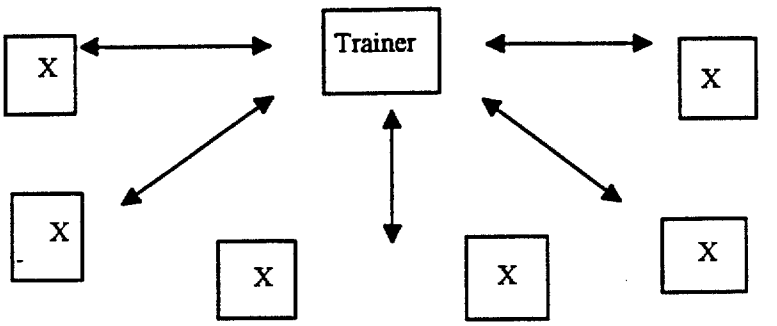
TRAINER



TRAINEES

and not like this:

INSTRUCTOR

↓

GROUP

In the first diagram there are open communication channels between the instructor and **each** trainee, along which information can flow freely about performance.

Rules for the training room:

1. Encourage trainees to ask questions.
2. Test frequently.
3. Maintain eye-contact - this is a most important communication channel.
4. Discuss and correct errors; don't criticise them.
5. Give trainees knowledge of results as quickly as possible.

5. Overlearning

This principle states: Forgetting is reduced significantly by frequent attempts at recall of learned material.

N.B. Repetition of material by the trainer is **NOT** overlearning. The trainees must do the work of this principle to operate.

Rules for the training room:

1. Ask frequent questions.
2. Provide exercises which force trainees to recall previous learning.
3. At the start of each session, ask trainees to summarise briefly the previous session.

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4. Include review periods in your timetable.
5. Train your trainees to use overlearning during their private study.
6. Supply summaries of session material.

6. Reinforcement

"To reinforce is to strengthen a tendency towards desired behaviour".

This principle states: Learning which is rewarded is more likely to be retained.

Rules for the training room:

1. Provide for early success in learning a new topic.
2. When a trainee offers new ideas or information which are relevant and interesting, offer praise or encouragement.
3. Never say in reply to an answer, "No, that's wrong!" or put a trainee down.
4. Try and remember who contributed relevant information (their name) and refer to it.

7. Multiple Sense Learning

The principle states: Presentation methods which use 2 or more senses are more effective than using one sense only.

The Chinese proverb: "One picture is worth a thousand words", is another way of stating this principle. It appears that the most important senses for information and theory learning are **SIGHT and HEARING.** But don't forget the others - particularly if you are teaching a physical skill.

Rules for the training room:

1. Combine telling **and** showing - don't rely on one only.
2. Provide audio-visual aids for **every** session which are easy to read and effective.

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A SYSTEMATIC APPROACH TO THE DESIGN OF TRAINING

1. DEFINE TERMINAL BEHAVIOUR

2. ASSESS PRESENT BEHAVIOUR

3. DEFINE CHANGES REQUIRED

4. DETERMINE COURSE CONTENT/METHOD

5. CONDUCT TRAINING

6. MEASURE BEHAVIOUR/EVALUATE

TRAINING OBJECTIVES

TERMINAL BEHAVIOUR

At the end of this session, trainees will be able to (action verb) (specific task).

STANDARDS

CONDITIONS

WRITING BEHAVIOURAL TRAINING OBJECTIVES

USE THE ACTION VERB....

TO WRITE
TO DEMONSTRATE
TO DEFINE
TO SOLVE
TO EXPLAIN
TO SELECT
TO OPERATE
TO LIST

AVOID THE ABSTRACT....

TO KNOW
TO UNDERSTAND
TO BE FAMILIAR WITH
TO PERCEIVE
TO BE AWARE OF
TO THINK ABOUT

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AN EXAMPLE OF A TRAINING OBJECTIVE

"At the end of this course, trainees will be able to ....."

TERMINAL BEHAVIOUR

demonstrate how to switch on a computer, run programmes, save files, switch off the computer

STANDARDS in a way that:

data is not lost

CONDITIONS in a typical "office" environment

WRITING TRAINING OBJECTIVES

Key Concepts

- *Derivation of objectives.* Objectives derive from the observation of performance and are based on information obtained from a training needs analysis.
- *Terminal statement.* A description of the behaviour that forms a task and the outcomes of that behaviour. These descriptions become sources for writing training objectives.
- *Training objective.* Has three components: statement of terminal behaviour, standards and conditions.

Learning Objectives

After you have completed this section, you should be able to:

- Describe the components of a training objective.
- Write a training objective for a theory session or a skill session.

WHERE DO TRAINING OBJECTIVES COME FROM?

We cannot emphasise enough the necessity for defining objectives *first* and defining them *exactly.*
Training objectives come directly from the training needs analysis. As discussed in the previous chapter, the TNA is performed at the workplace and identifies those tasks that either are not being carried out effectively or are about to change.

Any task is really made up of a series of behaviours. By describing these behaviours, you begin to arrive at *terminal* behaviour statements. A terminal behaviour statement is the basis for a training objective.

Doesn't Terminal Mean the End?

Yes, it does. By specifying terminal behaviour(s) as the end result (or goal) of the training session, you create a specific and real target at which to aim. Setting a target also indicates that you must continue the training until the trainee can perform the behaviour(s) satisfactorily. So, the first step in preparing training objectives is to start at the end.

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THE COMPONENTS OF A TRAINING OBJECTIVE

Simply describing a terminal behaviour is not definitive enough to serve as the basis for the design of a training session. To make the training target more specific, you must write a training objective. A training objective has three components:

1. A statement of the *terminal* behaviour.
2. A statement of the *standards* that the trainee is expected to attain.
3. A statement of the *conditions* under which the trainee is expected to perform the terminal behaviour.

The Terminal Behaviour Statement

A behaviour gives you, the trainer, a readily observable basis on which to assess learning. You can see the trainee doing an activity. So as a general rule, an effective statement of terminal behaviour will use an *action* verb. For example,

*To **type** a paragraph.*

An ill-defined statement (with a concept-related verb) such as

*To **understand** how to type.*

presents a number of problems. How do you observe or judge "understanding"? If you test it, how can you ensure that each trainee is tested in the same way and in the same manner? Exactly what information needs to be given to the trainee to ensure that he or she can achieve the training objective? Of course, typing is a physical activity and is thus expressed in an action verb. What happens, however, when you are planning a theory session (which imparts ideas and facts) and you cannot observe a physical activity? Well, you must "force" the trainee into an activity which demonstrates that he or she has grasped the ideas. For example, if the session was on the safety rules to be observed when using a grinding machine, you might write the following terminal behaviour statement:

*To **list** and **explain** the safety rules that apply when using a grinding machine.*

Here the activity is listing and explaining. In general, when writing the terminal behaviour statement, avoid the abstract and use an action verb.

Use the action verb	Avoid the abstract
To write	To know
To demonstrate	To understand
To define	To be familiar with
To solve	To perceive
To explain	To be aware of
To select	To think about

A well-defined behavioural statement gives the trainees a clear goal. Trainees will feel that they know where they are going and what they have to achieve.

The Standards

Both you and the trainees can now visualise the terminal behaviour. But how *well* must the trainees perform this behaviour?

Take the example of a training objective "To type a paragraph." What constitutes satisfactory performance? Must a trainee type the paragraph without errors? How long can the trainee take to type it? How long is a paragraph?

To avoid these ambiguities, include standards of excellence in the training objective. These standards can generally be divided into three types:

1. Quantity
2. Quality
3. Time

Consider this example:

To type a five-line paragraph without error and in two minutes.

This gives a quantity standard ("five lines"), a quality standard ("without error"), and a time standard ("in two minutes").

Note that setting the degree of difficulty automatically helps to define the amount of time needed to achieve that standard. The typing objective

To type a five-line paragraph without error and in two minutes.

requires perfect typing. If you were willing to accept a lower standard, such as

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To type a five-line paragraph with no more than five errors and in five minutes.

you would plan less practice for the trainees. To reach a standard of "no more than five errors in five minutes" would take x minutes of practice; to attain a higher standard of "without error and in two minutes" would take x + y minutes practice time.

As a general rule, let the standard accepted at the workplace dictate the level of difficulty of the standard in your training objective.

Let's return to our other example of a behavioural objective:

To list and explain the safety rules that apply when using a grinding machine.

Here is a rewrite that incorporates standards of excellence:

To list and explain without error and in five minutes five of the safety rules that apply when using a ginning machine.

The Conditions

The final component of a training objective describes the conditions under which the trainee is expected to perform. By including conditions in a training objective, you tell the trainee what resources he or she will have and in what environment he or she can expect to be tested. It helps you to define the resources you must prepare before the session. In the typing objective, for example, the trainees should know whether the typewriter is standard or electric, as each requires different skills.

However, listing all the conditions may become a little pedantic if some of them are self-evident. Including "a table and chair will be provided" adds little to the effectiveness of the training objective. Thus, the decision on what conditions to include in the objective depends, to a large extent, on the situation. It is probably better to err by being a little too specific rather than omitting important conditions. Here are some typical examples of conditions:

- Given a standard set of.....
- Without the aid of mathematical tables....
- Using an electronic calculator.....

TASK ANALYSIS

STAGES	KEY POINTS

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THE STRUCTURE OF THE ONE-TO-ONE SKILL SESSION

1. INTRODUCTION

2. BODY

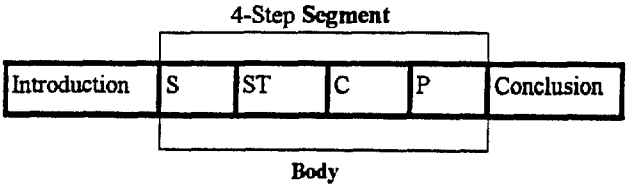
2.1	**SHOW**	*I DO IT FAST*
2.2	**SHOW AND TELL**	*I DO IT SLOW*
		YOU DO IT WITH ME
2.3	**CHECK FOR UNDERSTANDING**	*AWAY WE GO!*

3. CONCLUSION

ON-THE-JOB TRAINING

Training on the job is almost always skills training; thus the skill-session model described here is a good guide for on-the-job training. Let's review the skill-session model.

The Skill-Session Model



Task Breakdown

Your first step in preparing for on-the-job training is to analyse the task the trainee is to learn and to construct a task breakdown. The task breakdown lists the steps in performing the task and includes explanatory points where appropriate. It also specifies the content and sequence of the session plan for on-the-job training.

The Session

Next, you plan your training session. Following the skill-session model, you would construct a plan as follows.

Introduction

1. Orient the trainee to the session. Show how this session relates to the job or to other training sessions.

2. Motivate. Explain why this skill (and session) is important.

3. Check current knowledge of the trainee so that you don't repeat what the trainee already knows or miss anything he or she needs to know.

4. State objectives in order to give the trainee something to aim at.

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Body

1. Show (S). Do the task to standard, giving the trainee a mental picture of what he or she has to do.

2. Show and tell (ST), one step at a time, following the task breakdown. Follow correct methods and emphasise safety.

3. Check understanding (C) of the trainee. Question the trainee, or perform the task to the trainee's instructions.

4. Practice (P). The trainee performs the task under your supervision. Correct errors, emphasise safety, give constructive feedback. Practice should take half of the session time.

Conclusion

1. Review the steps and key points of the session.

2. Give particular attention to difficult steps.

3. Check for any new techniques the trainee may have found.

4. Emphasise safety and standards of performance.

5. Answer any remaining questions.

6. Finish the session.

After the Session

One of the advantages of on-the-job training over every other training technique is that the trainer (that is, manager, supervisor, or co-worker) and the trainee remain in close contact for a prolonged period after the training. This gives the trainer every opportunity to monitor performance and to offer appropriate rewards on a continuing basis - which is the ultimate in follow-up of training. Since ongoing rewards are one of the virtues of on-the-job training, let's look at some important principles for administering rewards.

Shaping Technically, shaping is the administering of rewards for successfully closer approximations to a desired behaviour. In practice, it means that on the trainee's first attempt at a task, you reward any reasonable effort. As the trainee has more attempts, you expect him or her

to come closer to success, and so you give rewards only for better attempts. You are gradually increasing the standard the trainee must achieve before you give a reward, until eventually the task must be done expertly before a reward is forthcoming. You have shaped the trainee's behaviour to the desired standard.

Shaping can be readily seen if you observe parents and their young children. For example, when a baby at age twelve months says "Ma," the mother gives plentiful rewards (smiling, touching, hugging, attention) and happily accepts being called "Ma." In a few months, however, the mother can be observed saying "Mum, not Ma," and remaining relatively unresponsive until the baby offers a sound closer to "Mum" than "Ma." Rewards are given for closer approximations to "Mum" until, at age two years, rewards are given only for a clearly enunciated "Mum."

In a similar way, someone just starting a job is initially rewarded for performance that would usually be regarded as sub-standard. With experience on the job, the required standard is progressively raised and rewards are given accordingly.

Reward Schedule After you have established the desired behaviour through shaping, do you have to reward the trainee every time the behaviour occurs? This is neither practical nor efficient. You must continue to give rewards in some way, however, since unrewarded behaviour will cease (extinguish). Try gradually moving from a "one piece of behaviour to one reward" ratio (1:1) to a 2:1 ratio, to a 5:1 ratio, and so on. In this way, you get more of the behaviour for each reward. You can make your rewards even more effective by making their occurrence slightly unpredictable. For example, if you are operating on a 10:1 ratio, you might give the reward after the behaviour has occurred 8 times, then after another 13 times, then after another 9 times, and so on. Alternatively, you might reward on a time basis, for example, about every half day.

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THE STRUCTURE OF THE "CLASSIC" TRAINING SESSION

1. **INTRODUCTION**

2. **BODY**

EXPOSITION		
ACTIVITY	— STAGE 1	
SUMMARY		
EXPOSITION		
ACTIVITY	— STAGE 2	
SUMMARY		
EXPOSITION		
ACTIVITY	— STAGE 3	
SUMMARY		

3. **TEST**

4. **CONCLUSION,OR"GRAND SUMMARY"**

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STEPS IN DESIGNING A GROUP TRAINING SESSION

1. Write down your training objective (ATEOTS, TWBAT.....).

2. Gather together, or make a list of, all resources/material/information relating to the topic.

3. Divide information into:

   (a) must know

   (b) should know

   (c) could know

4. Develop a logical sequence for presenting your information. Two guiding principles for developing a logical sequence are:

   - generally move from the known to the unknown;

   and

   - generally move from the simple to the complex.

5. Develop handouts, visual aids, and other accompaniments which make expositions easier to understand.

6. Design trainee activities to accompany your exposition/each exposition. (Note: This is a key stage in designing an effective session.)

7. If necessary, develop a test.

8. Write your Introduction and Conclusion.

VOICE CONTROL

Here are some tips on how to use your voice when addressing an audience:

1. Timing is important . A good rule of thumb is to speak just a shade slower than in ordinary conversation. This not only helps your listeners but will give you an opportunity to think about what you are going to say next.

2. Don't break up your sentences too much. Pause, but don't break sentences into halves or quarters so that you never say more than four words without pausing.

3. Modulate your voice to avoid monotony in your delivery. Like any good TV or radio newsreader, you too can change the tone and pitch of your voice with each new item so as to make every announcement fresh and lively.

4. Learn to emphasize key words and phrases either by raising your voice slightly, pausing just before speaking to give them full weight, or lowering the tone of your voice when you want the words to remain firmly in your listeners' minds. With this tactic your audience has to concentrate more and will listen harder. Take care, however, not to let your voice drop at the end of sentences.

5. Speak clearly but without shouting. Shouting at people becomes boring and listeners will be unable to concentrate on what you are saying.

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DELIVERY TECHNIQUES

Once you are in front of your audience, you will need to ensure that they receive your message with interest and respond favourably. To do this you will have to rely on more than the mere words that you use. You will have to rely also on a variety of delivery techniques, some of which will come to you instinctively, and others which will have to be learned and consciously applied.

VOLUME

Your first objective is to be heard by every person in your audience. So whether you speak from your seat to an audience of six, or from a podium to an audience of a thousand, it is your responsibility to ensure that everyone in your audience can hear you.

Many accomplished speakers have acquired the art of **varying** the volume of their presentation depending on the effect they want to create. For instance, a speaker may raise the volume level at a point in his/her speech where he/she wants to emphasise the conviction with which he/she holds a certain belief. On the other hand, the same speaker may sometimes descend into an audible - but barely audible - near-whisper when he/she is trying to create an impression that he/she is disclosing some highly emotional or personal information or belief.

ARTICULATION

If you are going to be heard and understood, you must not only speak loudly enough to an attentive audience; you must also articulate clearly. What is sought here is not a false refinement of speech, but an ordinary regard for the sound of the language. When 'being' sounds like 'bing', or 'death' sounds like 'debt', there is real danger that you will be misunderstood. But articulation has a social dimension too. If a speaker says 'fillum' for 'film', 'pitcher' for 'picture', and 'frinstance' for 'for instance', he/she creates in his/her audience an attitude similar to that which a misspelled word would cause in written communication. The result is a loss of acceptance that can seriously reduce a speaker's ability to hold and influence his/her audience.

VARIETY

A good speaker avoids a monotone. By variations in rate of delivery, pitch, and force, you can enliven your delivery and bring out subtleties of meaning.

The speaker should also vary the **tone** of the voice so that the mood conveyed - amusement, sadness, reflection. enthusiasm, and so on - is consistent with the message in the words that are used.

EYE CONTACT

The most direct link between the speaker and the audience is through the eyes. If you care about your audience, you will look right at them, directing your eyes momentarily to one person, then another. You will not look over their heads or out the window or down at the floor.

Eye contact is important to getting your message across to the audience, but it is also a way of receiving feedback. By noting the response of your audience - whether it be interest, boredom, or confusion - you are in a position to determine whether to continue in the same vein or to make adjustments in the content and delivery of your speech.

One difficulty in maintaining eye contact arises when you are using notes or visual aids. Notes should be as brief as possible, and once you glance at them, you should return your attention to your audience. Point to a chart or an overhead transparency when you want your audience to do the same, but then remove the chart or transparency from view as soon as you have finished referring to it.

POSTURE AND MOVEMENT

There are no fixed rules on how to stand or sit when you talk, but audiences expect that a speaker will look alert and interested in what she/he is saying. That means, for example, that a speaker will not slouch over a table on his/her elbows. Sitting or standing, his/her best position is erect but not stiff.

A stand-up speaker will look most comfortable with both feet solidly on the floor and slightly apart, and hands at sides. Unnecessary movement, like fidgeting with the hands or shifting the weight from one foot to the other is distracting and should be avoided.

Meaningful movement, on the other hand, will add interest to the presentation. Thus, to emphasise a point, you may gesture with one or both hands or move closer to the audience. As you progress from one point to another, you may also move a few steps to the right or left, as if to call attention to the change in ideas.

The movement, incidentally, helps you to relieve some of your tension, but in a very constructive way. For a speaker who is feeling very self-conscious, the action of courageously stepping forward to be closer to the audience can do a great deal to overcome any initial feeling of panic.

HOW TO BREATHE LIFE INTO A TECHNICAL PRESENTATION

- Eliminate or minimise jargon.
- Use startling, interesting and creatively presented statistics.
- Give examples.
- Use anecdotes and personal stories.
- Use quotations.
- Use analogies.
- Give the historical background.
- Introduce humour.
- Pose problems/dilemmas associated with your topic.
- Ask questions of your audience.
- Challenge some accepted wisdom.
- Use visual aids.
- Make your delivery colourful, varied, interesting.

USES OF GROUP DISCUSSION IN TRAINING

- Explore the range and depth of opinions.
- Draw on the expertise of individuals within the group.
- Solve problems.
- Change or reinforce attitudes.
- Vary the focus (away from the trainer) within a session.
- **The Means** by which Case Studies, Role Plays, and Games are "processed".

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STRUCTURE OF A GROUP DISCUSSION

- INTRODUCTION

- QUESTION - DISCUSSION - SUMMARY

- QUESTION - DISCUSSION - SUMMARY

- QUESTION - DISCUSSION - SUMMARY

etc.

- GRAND SUMMARY

QUESTIONS

- OPEN
- CLOSED
- OVERHEAD
- DIRECT

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HOW THE PROCESS CONSULTANT OPERATES IN A DISCUSSION GROUP

Poor Timesharing

Symptoms: Some group members talk a lot of the time, while some seem to make very few contributions. Someone who ought to have something to contribute says nothing. A lot of the talk is off the topic.

Remedy: Timesharing does not seem to be taking into account the ability of group members to contribute. Draw the group's attention to its use of time. Check with the person or people doing the least talking. Check with the person or people doing the most talking.

Destructive Criticism

Symptoms: They criticise each other's ideas. Some contributions are ignored. They attack each other rather than the common problem. Some of them are behaving defensively.

Remedy: They do not seem to be focusing on group goals, but are more concerned with self-defence. Try asking them to define common goals. Remind them when they attack the person. Bring the hidden agendas to the surface and work through them first. Ask them to switch roles. Ask them to define their individual needs, then define a mutually acceptable goal.

Inattention

Symptoms: They seem to be repeating themselves often. There are signs of inattention. A speaker's offering doesn't seem to follow the previous contribution. They seem to be talking "past" each other.

Remedy: Perhaps they don't use a sufficiently common language. Suggest that they try paraphrasing the last speaker's offering (to his or her satisfaction) before making any contribution of their own. Ask if there's a way of phrasing the issue so that all contributions seem relevant. Draw their attention to the common goal. Perhaps redefine the common goal.

Uneven Power

Symptoms: One person is doing most of the talking. One person seems to initiate most suggestions. People defer to one member. There are non-verbal signs of dominance or submission on the part of some group members. One person is making most of the decisions. Some have given up.

Remedy: There may be unequal power in the group. Try drawing their attention to it. Check with the quieter/more submissive members. Suggest that the quieter members speak first. Suggest that the group use polling procedures, or record views privately in writing before proceeding with the discussion. Use video, if available, to demonstrate non-verbal manipulation, or intervene whenever it happens. Ask the most dominant member to help with the process for a while, and keep them away from content.

It Still Doesn't Work

Symptoms: You've tried everything, and nothing seems to work.

Remedy: Perhaps they don't really want to be there. Ask them. Perhaps there are hidden agendas: drop content entirely until you've sorted out the process. Ask for their help. Ask if they are still interested in the exercise. Maybe you can ask them to do a force field analysis on their own effectiveness. Perhaps you are imagining it: ask them for their ratings of their effectiveness and yours. Ask if a third party would help. If all else fails, maybe you should ask them if they'd prefer to go home; or maybe you could go home and leave them to it.

USE VISUAL AIDS WHEN YOU NEED TO

1. FOCUS ON THE AUDIENCE'S ATTENTION

2. REINFORCE YOUR VERBAL MESSAGE
(But do not repeat it VERBATIM).

3. STIMULATE INTEREST.

4. ILLUSTRATE FACTORS THAT ARE HARD TO VISUALISE.

DON'T USE VISUAL AIDS TO

1. IMPRESS YOUR AUDIENCE WITH OVERLY DETAILED TABLES OR GRAPHS.

2. AVOID INTERACTION WITH YOUR AUDIENCE.

3. MAKE MORE THAN ONE MAIN POINT.

4. PRESENT SIMPLE IDEAS THAT ARE EASILY STATED VERBALLY.

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VISUAL AIDS

1. USE THE **KISS** PRINCIPLE. DON'T OVERLOAD YOUR AUDIENCE.

2. USE "KEY WORDS" OR PHRASES ONLY.

3. WHEREVER POSSIBLE, USE PICTURES OR GRAPHS RATHER THAN WORDS OR NUMBERS.

4. TALK TO YOUR AUDIENCE, NOT YOUR VISUAL AIDS.

5. PLACE YOURSELF AT CENTRE STAGE.

VISUAL AIDS: SOME TRICKS OF THE TRADE

- Verify for yourself that everything is ready; don't rely on someone else's word.
- **If using an overhead projector**, locate the on/off switch before you start, since each projector is different, and many have switches in hard-to-find locations. (For example, 3M machines use a bar instead of a switch..)
- **If using an overhead projector**, adjust the focus to suit your transparencies **before** your presentation commences.
- Turn off the **overhead projector** when you need to make a lengthy explanation about a point on the transparency and there is no need for the audience to watch the screen. In other words, show the visual aid **only** when you are making the same point it does, and turn off the visual when it is not needed.
- Point with the hand that is closest to the blackboard, flipchart, or screen.
- Stand to the side of the screen as you refer to it with your hand.
- Look at the visual aid only when you first refer to it. Don't keep staring at the screen or object and don't keep an arm rigidly pointing.
- Turn a **flipchart** page when you have finished referring to it.
- Break up **slide presentations** by inserting a black slide at points where an explanation is needed, or where you wish to make a transition to a new section of your presentation. This wakes up your audience and helps re-focus their attention.
- Show or **demonstrate an object** by revealing it when it is referred to and then covering it up when it is no longer in use.
- Avoid passing objects around the audience since this is very distracting. Instead, walk into the audience and show the object to everyone briefly, and then make it available again at the end of the presentation.
- **Indicate the use of all visual aids in your notes.**

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DIRECT VISUAL AIDS

1. THREE DIMENSIONAL OBJECTS (PRODUCTS MODELS, MOCK-UPS).

2. PICTURES/DIAGRAMS/CHARTS

3. WHITEBOARD.

4. ELECTRONIC WHITEBOARD.

5. HANDOUTS.

PLANNING YOUR VISUAL AIDS

When considering what type of visual representation to use for your data or ideas, there are some rules of thumb to consider:

1. **Use visual aids sparingly.** One of the biggest problems in technical presentations is the overuse of visual aids.

2. **Use visual aids pictorially**. Graphs, pictures of equipment, flowcharts, etc., all give the viewer an insight that would require many words or columns of numbers.

3. **Present one key point per visual**. Keep the focus of the visual simple and clear. Presenting more than one main idea per visual can seriously detract from the impact.

4. **Make visuals big enough to see.** Walk to the back row and make sure that everything on the visual can be seen clearly.

5. **Make visuals attractive.** Where possible, use colour. Avoid clutter, and work for simplicity and clarity.

6. **Avoid miscellaneous visuals.** If something can be stated simply and verbally, such as the title of a presentation, there is no need for a visual aid.

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DANGERS OF VISUAL MATERIAL

The use of visuals can have its pitfalls. Here are some dangers to avoid:

1. **Exhibits or charts that are too small.** Whatever your visual medium, it must be large enough and clear enough for everyone to see.

2. **Charts that are too complicated.** Nothing should be cluttered or too subtle. If a chart cannot be easily understood by all, it should not be used.

3. **Inadequate explanation of a visual aid**. If you are using a chart, slide, or transparency, explain it fully. Don't just say "This transparency explains the layout"; work through the layout with your audience.

4. **Irrelevant visual material.** Just because you happen to have a picture of timber being unloaded at a wharf, doesn't mean you have to use it in your presentation on modern contruction methods. Never use a visual just for the sake of it.

5. **Badly rehearsed use of visuals.** Slides can be an absolute disaster if their sequence is not properly rehearsed.

6. **Technical hitches.** If you are using any electronic audio-visual equipment, make sure it is properly adjusted before you start and, if necessary, have someone operating the equipment who knows what they are doing.

7. **Disasters.** Be prepared for the worst. The day will come when you forget the tape or the slides or the charts. Be ready to cope without them if you have to.

SUGGESTIONS FOR OVERCOMING THE FEAR OF PUBLIC SPEAKING

1. Know the material well. Be an expert.

2. Practise your presentation. Do a pilot in front of the mirror; if possible, videotape yourself.

3. Use group involvement techniques.

4. Learn the names of some (or all) of the people in your audience, and use them.

5. Establish your credibility early.

6. Use eye contact to establish rapport.

7. Exhibit the extent of your preparation (via handouts, etc).

8. Anticipate potential problems, and prepare and rehearse responses.

9. Check out the venue and facilities well in advance of the actual engagement.

10. Obtain information about your group in advance (through observation, or questionnaire, or mutual acquaintances).

11. Use 'relaxation techniques'. Breathe deeply; meditate; use positive self-talk.

12. Prepare an outline and follow it.

13. Manage your appearance. Dress comfortably and appropriately.

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14. Get plenty of rest so that you are both physically and psychologically alert.

15. Use your own style. Don't imitate someone else.

16. Use your own words. Don't read.

17. Assume that the audience is on your side; they aren't necessarily antagonistic or hostile.

18. Accept some fears as being positive (energising stress vs. destructive stress).

19. Introduce yourself to the audience in advance (via a social context).

20. Identify your fears, categorise them as controllable or uncontrollable, and confront them.

21. Give special emphasis to the first five minutes.

22. Imagine yourself as a powerful and compelling speaker; allow this positive self-image to become a self-fulfilling prophecy.

23. Create an informal setting. Dim the lights; remove barriers such as tables; sit on the edge of a table rather than a chair.

KEYS TO BREAKING THE FEAR BARRIER

- ADMIT YOUR FEAR; UNDERSTAND ITS SOURCE.
- TAP ENERGY THAT FEAR PRODUCES.
- RECOGNISE FEAR OF PUBLIC SPEAKING AS NORMAL.
- VISUALISE YOURSELF AS A POWERFUL SPEAKER.
- SEE AUDIENCE AS AN ALLY.
- SPEAK ABOUT SOMETHING YOU CARE ABOUT.
- COMBINE PREPARATION WITH PRACTICE.
- THINK POSITIVELY ABOUT YOURSELF.

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POINTS TO REMEMBER - TRAIN-THE-TRAINER

Introduction to Training

- Introduce yourself, your history, your experience, why you are here
- Explain what they can expect to learn
- Tell them the timetable for training
- Explain the process (how they will learn)
  - Doing, reading, seeing, visiting
- Explain the "rules"
  - If you don't understand ask
  - Informal/formal training environment
- Encourage questions at all times
- Get them to introduce themselves, why they are here, what they know, what they don't know, what do they expect from the training

On-the-job Training (process training)

- Test their knowledge prior to each session/day/topic
- State the objective of each session prior to commencement
  - At the end of this session, you will be able to....
- Tell them what is important or why the training is important
  - How is fits in the big picture
  - Accuracy, double checking

SHOW	-	I do it fast
SHOW AND TELL	-	I do it slow
DO IT WITH ME	-	We do it together
CHECK	-	Away we go

- Give them feedback on their performance/encourage them
- Conclusion - repeat, reinforce, test, check, feedback

Group Training

- Define your objective (clear and concise)
  - At the end of this session, you will be able to....
- Make a list of all resources, materials, information you have available relating to the topic.
- Divide information into:
  - Must know
  - Should know
  - Could know
- Develop a logical sequence for presenting your information
  - Generally move from the known to the unknown
  - Generally move from the simple to the complex
- Develop handouts, visual aids etc
- Incorporate trainee activities (group work, demonstrations etc)
- Test or evaluate trainees
- Write your introduction and conclusion
- Develop a timetable and do a practice run. Modify timetable if necessary.
- Remember: Encourage questions at all times
- Remember for your conclusion: Repeat, reinforce, test, check, feedback.

Hints for Training

- Be prepared
- Be organised
- Be motivated/enthusiastic
- Voice control - be loud enough (not too loud or too soft, speak slower than in ordinary conversation)
- Avoid jargon
- Maintain eye contact
- Have good posture and be aware of your body language
- Listen to what your trainees have to say
- Ask for examples/ideas from your trainees - get them involved
- Share your experiences with the trainees

Hints for Training Cont...

- Ask open questions
- Obtain information about your group in advance (special needs, at the same starting point)
- Think about things you like/don't like about other trainers to develop yourself

Visual Aids

- Familiarise yourself with any equipment you are using prior to training
- Reinforce your verbal message
- Stimulate interest
- Use only key words or phrases
- Use pictures or graphs if possible
- Talk to your trainees not your visual aid
- Use visual aids sparingly
- Make text big (approx 16 pt or above)
- Use colour if possible
- Explain what is on the visual aid
- Don't use a visual aid for the sake of it

Training Room Requirements

- 36 sq. ft (3.35 sq. m) of floor space per delegate
- 1 terminal/workstation per a maximum of 2 delegates
- 10 ft (2.54 m) minimum ceiling height throughout
- Minimum of 100 sq. ft (9.3 sq. m) of window area with moveable blinds
- Flip chart and stand, pens, reserve paper
- Whiteboard (120 cm x 200 cm), pens, eraser
- Overhead projector and moveable (150 cm x 150 cm) screen
- All cabling to be run through underfoot trunking or safely secured to exposed surfaces
- Screen broadcast system (ideally, Coursemaster or UTAC or similar, but 27'' monitor or Barco or similar screen projection are suitable alternatives)
- Minimum of 116 sq. ft (10.79 sq. m) of space between the front delegate row worktables and rear wall
- Minimum of 6 sq. ft (0.56 sq. m) delegate table area per delegate
- Local delegate printing facilities within easy access of training room
- Access to telephone
- Access to Xeroxing
- Minimum of 26 sq. ft (2.4 sq. m) course presenter's table area
- Full set of Oracle product technical documentation to support products taught available for reference in training room
- Suitable wheelchair access to training room from adjoining area
- Natural light, adequate airing capability, air conditioned ideally, temperature control essential
- Adequate refreshment area. Refreshment for delegates and trainers (soft drinks, coffee, tea, etc.)
- Adequate sanitary capacities

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Annex V.H.

Introduction to the Computer Course

#	SUBJECT	Q-ty of hours
1.	Purposes of the course. Brief historical information about computer development.	0,5
2.	Computer configuration and main devices (processor, RAM, ROM, floppy drive, hard drive, data input, output)	1,5
3.	Computer software (programmes, disk and text information, data input/output, files)	2
4.	Working with a computer (getting ready, keyboard, working with files)	4
5.	Text editors. (Basic notions. Brief information about the existing editors.)	1
6.	WordPerfect text editor. (Basic characteristics. Using keyboard while working with text editors.)	1
7.	Inputting and editing text.	4
8.	Formatting text.	2
9.	Set up for printing and printing.	2
10.	Database notion. Databases. Application. (Data Structure. Relational Model.)	2
11.	Dialogue interface FoxPro. Developing and working with a database. (Developing and changing data structure. Adding data. Marking data to be deleted. Packing databases.)	2
12.	Looking through a database. Review of the contents. Modifying Browse windows. Looking through in the mode of replacement.	2
13.	Search within a database. (Opening RQBE window. Placing a request. Changing the request.)	2
14.	Database reports. (How to make a request. Changes in the request. Printing out the report.)	2
15.	Creating a model of data input into the database. (Fields in the user's window.)	2
	TOTAL:	**30**

COURSE EVALUATION FORM

Code: Title:

Date(s) from: to:

THE COURSE

I enjoyed it	Very much	☐	☐	☐	☐	☐	☐	☐	Not at all
I learned	A great deal	☐	☐	☐	☐	☐	☐	☐	Nothing
It was relevant to my job	Very	☐	☐	☐	☐	☐	☐	☐	Not at all
I found it	Easy	☐	☐	☐	☐	☐	☐	☐	Difficult
The pace was	Too fast	☐	☐	☐	☐	☐	☐	☐	Too slow
The whole course was	Too long	☐	☐	☐	☐	☐	☐	☐	Too short
The documentation was	Excellent	☐	☐	☐	☐	☐	☐	☐	Poor
The workshops helped	A lot	☐	☐	☐	☐	☐	☐	☐	Not at all
The workshops were	Too hard	☐	☐	☐	☐	☐	☐	☐	Too easy

THE LECTURER 1. 2. 3.

Knew their subjects	Well	☐	☐	☐	☐	☐	☐	☐	Not at all
Presented	Well	☐	☐	☐	☐	☐	☐	☐	Badly
Answered questions well	All the time	☐	☐	☐	☐	☐	☐	☐	Never
Were interesting	Very	☐	☐	☐	☐	☐	☐	☐	Not at all

THE FACILITIES Location:

The course room was	Comfortable	☐	☐	☐	☐	☐	☐	☐	Uncomfortable
The Administration was	Good	☐	☐	☐	☐	☐	☐	☐	Unsatisfactory
The computers were	Satisfactory	☐	☐	☐	☐	☐	☐	☐	Inadequate

CATERING

The quality was	Excellent	☐	☐	☐	☐	☐	☐	☐	Bad
The quantities were	Sufficient	☐	☐	☐	☐	☐	☐	☐	Insufficient
The environment was	Pleasant	☐	☐	☐	☐	☐	☐	☐	Unpleasant

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What did you hope to learn on this course?

Did the course fulfil your requirements?

What topics do you think required more time?

What topics do you think required less time?

What changes would you suggest?

Any other comments?

Delegate: Company Name:

Address:

Post Code

Telephone:

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Annex V.J.

INTERACTIVE TRAINING CONTINUUM

A continuum of Assumptions and Processes of

Instructor-directed (pedagogical) training and interactive, trainee-directed (andragogical) training

Instructor-directed	**Interactively-directed**
Dependent personality	Self-directed personality
Built on experience	Experience used as a rich resource
Subject-centered	Task or problem centered
External rewards and punishments	Internal motivations
Climate that is formal, authority oriented, competitive, judgemental	Climate that is informal, mutually respectful, Consensual, collaborative, supportive
Planning and decision-making primarily by the instructor	Participatory planning and decision making
Assessment of needs primarily by the instructor	Mutual assessment of needs
Goal setting primarily by the instructor	Mutual goal setting negotiation
Learning activities are generally by transmittal techniques, assigned readings	Learning activities are inquiry projects, independent study experiential techniques
Evaluated primarily by the instructor	Evaluation by mutual Assessment of self-collected evidence
Completion	Continous education, cradle to grave

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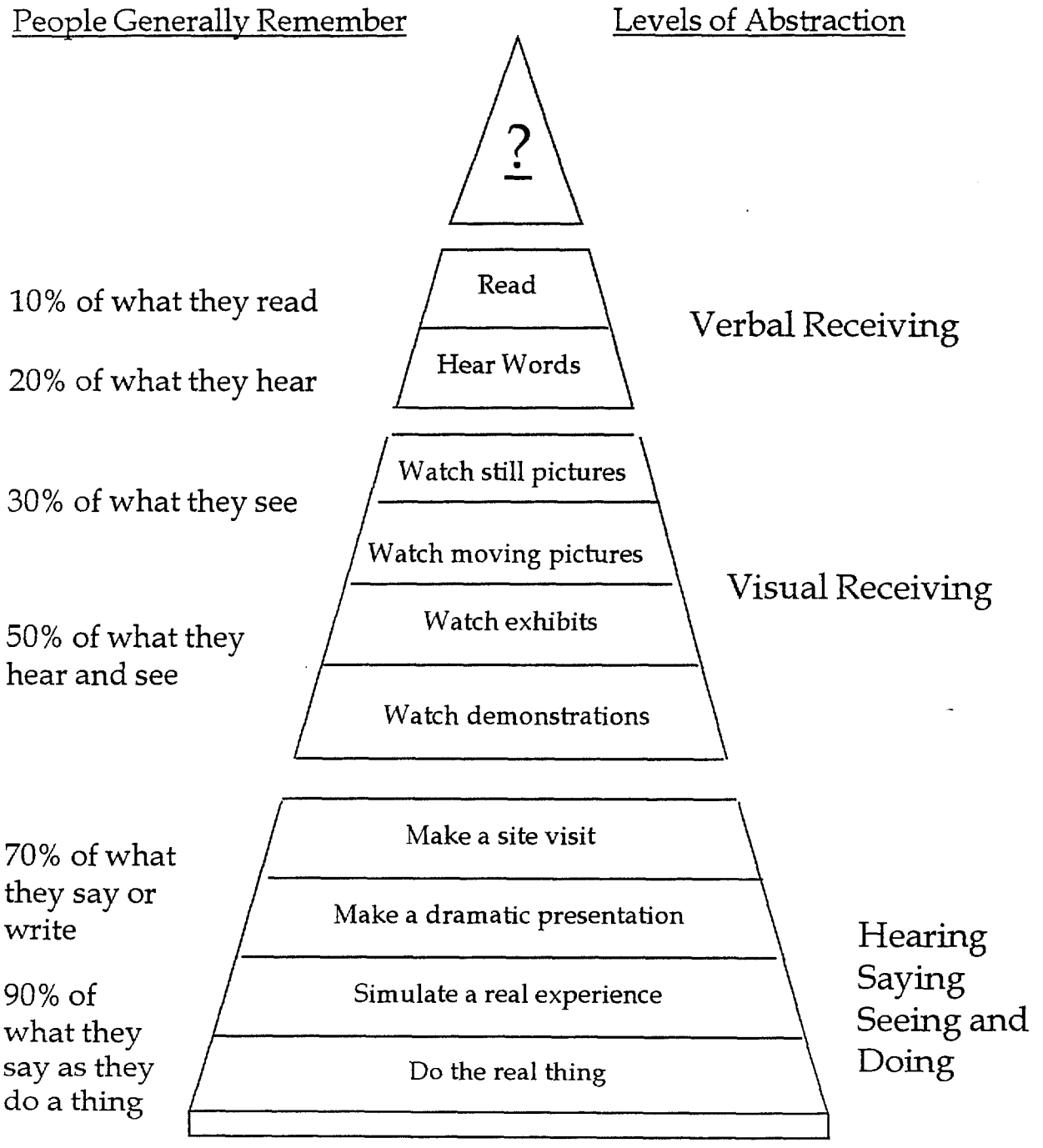
Dale's Learning Cone of Experience

An important learning principle that is supported by extensive research is that people learn best when they are actively involved in the learning process. Dale's Learning Cone of Experience, below, shows various learning activities grouped by levels of abstraction. The left column indicates their relative effectiveness as training techniques.



•Wiman and Mierhenry, Educational Media, Charles Merrill, 1969

REIS Training Shedule for 1995*

City	MONTH 01	02	03	04	05	06	07	08	09	10
	15101520253	15101520253	15101520253	15101520253	15101520253	15101520253	15101520253	15101520253	15101520253	151015203
Nizhny Novgorod	Data Entry		DB manag. Intro. to GIS		GIS op.	Advanced GIS	LAN	Tele-com		
Krasnodar		Intro. to PC	Data Entry	DB manag.		Intro. to GIS	GIS op.	Advanced GIS	LAN	Tele -com
Stavropol	13 MAR 6 WKS				N/A					
Yaroslavl			Intro. to PC	Data Entry	DB manag.		Intro. to GIS	GIS op.	Advanced GIS	LAN Tele -com
Ivanovo	N/A									
Vladimir		Intro. to PC	Data entry	DB manag.	Intro. to GIS	GIS op.	Advanced GIS	LAN	Tele -com	
Suzdal	N/A									
Moscow	FoxPro	meeting and conferences, REIS seminars conducted on an as needed basis								REIS confer
Washington D.C.				trip to U.S.						

* As of 01.06.95

Annex V.I.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8:30-9:00						
9:00-9:50 10:00-10:50						
11:10-12:00 12:10-1:00						
Lunch 1:00-2:00						
2:00-2:50						
3:10-5:50						
Dinner 6:30						
PM 7:00						

Annex V.M

Sample of a Training Day Lessons

REIS Training

Lesson Plan

Day 1 Methodology **Trainer**

Morning Session **Responsible**

Introduction to Computers

Objectives

- To present the training concept of the course
- To describe the whole training course and explain the objectives and the methodology used in training.
- To distribute REIS materials.
- To solicit from trainees, their expectations of the course and announce the norms for the course.
- To distribute the material for the assigned reading tasks.
- To explain in simple terms how a computer works and how computers will work for REIS.

8:30 AM **Welcome and introduction of trainers**

9:30 AM The trainees will be welcomed a they arrive by the training staff. A special effort is made to set a friendly, well organized climate for learning. It is expected that a positive, but serious attitude will be transferred to the trainees.

The trainees will introduce themselves, their professional role and what they expect from the course. The trainers will explain the background of the REIS briefly so that the trainees will understand what lead up to that day.

The trainers will explain that training is all about change. Change is the major task of the training team. The trainers give training to bring about change, change in knowledge, skills and attitude in the trainees. If the training does its job, the trainees will be changed by this training. The trainees will also change other when they train them. Change is the role and responsibility of the trainer. When participants come to a training they must open themselves to be changed. This is the role of participants.

Then the trainers will "walk-through" an outline of the whole course explaining what will be covered and what is expected of the trainees.

At the end of this explanation the trainer will ask if there are any questions and with patience the trainer will answer their questions.

Overheads #1 and #2, Handouts #1 Course Outline.

9:30 AM **Brief History of Computer Development**
10:30 AM

- To give a lecture on the history of computer development
- To facilitate a discussion on computer configuration and main devices such as the processor, RAM, ROM, floppy drive, hard disk, data input and output.

This section is designed to give trainees an understanding of computers, the historical background and major components of computer configuration. Each component will be described and discussed soliciting information from the trainees and building on what they know and understand about computers.

Overheads #3 and #4, Handout #2.

10:30 AM **Coffee Break**
10:45 AM

10:45 AM **Software**
12:30 AM

- To explain a computer operating system
- To explain software programs
- To explain disks and text information, data input and data output, storage data, and files, retrieval of files.

Using information that the group knows the trainer facilitates the discussion to include information about MS-DOS, computer software programs, disks, text information, inputting data, manipulating data and data output.

The storage of data will also be covered, naming files and retrieval of files.

12:30 AM **Lunch**
1:30 AM

1:30 PM **Working with computers**
5:30 PM

- To provide hands-on computer experience for each trainee
- To demonstrate how you get ready to input data into the computer
- To provide keyboard experience, turning on, turning off, saving material

To demonstrate how to work with files on a computer, opening a file, saving a file and closing a file and turning off the computer.

> As this may be the first time of these trainees have had keyboard experience the trainees could be paired with experienced trainees to relieve some of their fear. As the objectives are covered in the training it is important to go slowly step by step through the sequence of directions until everyone is familiar with new terminology and actions.

Overheads #4 and #5, Handouts #3

Feedback

Lessons Learned

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1. Topics Discussed in the REIS Real Estate Course

1.1 Real Estate

1.1.1 Land, Building and Fixtures

- Components of Real Estate

  Land
  Improvements
  Land and all things permanently attached to it, natural or artificial
  Real Property
  Personal Property: movable property such as vehicles, furniture, cash and securities
  Fixtures: articles now fixed to property such as mailboxes, light fixtures.

- Types of Real Property

  Residential
  Commercial
  Industrial
  Agricultural
  Special-purpose: churches, schools, cemeteries, government ministries, etc.

- Users of Real Property

  Homeowners
  Renters
  Other Tenants/ Corporations

- Real Estate Professionals

  Developer
  Broker
  Contractor
  Appraiser
  Property Manager

  Ethics in Real Estate

- Economic Concepts in Real Estate

Anticipation:	Expected value in the future.
Supply and Demand:	Supply is usable space for a given market. Demand is the desire to purchase or lease goods and services.

Change:	Demographic patterns, employment, available land, government regulations, zoning, price controls, public services, infrastructure, physical conditions.
Opportunity Cost:	Choices between competing investment opportunities
Contribution:	Contribution to the value of the whole property.
Surplus Productivity:	Net income after various agents have been paid.
Conformity:	When the characteristics of the property conform to the demands of the market, real property value is maximized.
Externalities:	Activities external to the site of the property, positive and negative.

1.1.2 Rights and Restrictions

- Property rights: buying the rights of ownership held by the seller
  Subsurface rights: below the ground surface
  Surface rights
  Air rights

- Legal Restrictions

  Police power
  Eminent Domain: the right of the government to acquire privately owned property for public use.
  Taxation: funds necessary to operate the government.
  Escheat: process whereby the government can acquire property.
  Encumbrances: include mortgage loans, unpaid taxes.
  Easement: use of owned land for another purpose such as public utilities.
  Encroachment: a structure that extends beyond the border of a property.

1.2 Legal Issues in Real Estate

1.2.1 Ownership

Estates: an interest in real property.
Forms of Ownership: co-ownership, partnerships, corporations, cooperatives, condominiums.

1.2.2 Legal Descriptions

Definition: a method of geographically identifying a parcel of land acceptable in a court of law, e.g. lot and plan reference.

1.2.3 Public Records

Deeds: a written instrument by which an owner of real estate intentionally conveys the owner's rights.
The comprehensive Plan: a plan to guide the long-term physical development of a particular area.
Zoning Ordinances: legal mechanism used by governments to limit the use of privately owned real property.

1.3 Market Information

Market information is for investors, lenders, builders, developers and brokers. The data includes social, governmental, economic and environmental forces.

1.3.1 Types of Data

Economic
Demographic
Special Data by Region
Special Data by Type of Property

1.3.2 Market Analysis

Market analysis is a study to predict changes in the amount and types of real estate facilities needed in an area.

Reasons for Market Analysis: investor information, financial information, profitable use of land information.
Pertinent terms: absorption rate, capture rate, market area, and gross income multiplier.

1.4 Leases and Leasing

A lease is a contract in which the owner of real property transfers rights to a tenant for a specific period of time in return for regular rent.

1.4.1 Basic Lease Definitions

Landlord, tenant, rental rate, term-length of the lease in months or years.
Escalations: rent increases by a fixed percentage each year usually based on an economic factor such as inflation.
Options: the right to lease or purchase property at a future date or at the end of their initial term.

1.4.2 Tenancies

Tenancy for Years: greater than one year.
Periodic tenancy: month to month tenancy until the landlord or tenant gives notice of termination.

1.4.3 Types of Leases

- Percentage Lease: a retail lease where the rent paid is a specified percentage or the tenant's sales or net income
- Index Lease: a lease that increases indirect proportion either to inflationary growth or to increase in expenses such as taxes, insurance and utilities
- Net Lease: a rental agreement requiring the tenant to pay all maintenance costs, insurance premiums and property taxes in addition to rent
- Gross Lease: a lease where the landlord is responsible for paying some portion of the property's expenses

- Graduated Lease: an agreement calling for significant increases in rents over the term of the lease
- Reappraisal Lease: an agreement that calls for a property's value and rental amount to be reestablished at regular intervals, usually 3-5 years.
- Ground Lease: provides for use and occupancy of a vacant site in return for rental payments.
- Sale/ Leaseback: an arrangement where an owner sells a property and simultaneously leases it back from the buyer.

1.4.4 Landlord and Tenant Rights

- Landlord Rights: the lease agreement generally transfers most of the landlord's rights to the tenant.
- Tenant Rights: tenants typically gain most of the property rights during the term of their lease.

1.4.5 Termination of a Lease

There are five common ways to end a lease: term expiration, mutual agreement, eviction, eminent domain, mortgage foreclosure.

1.5 Finance and Mortgages

- Loans and Mortgages

  Basic Loan Terms
  Methods of Calculating Loan Payments
  Notes and Mortgages, types of loans

- Financial Analysis

Basic Real Estate Financial Terms: gross income, effective gross income, expenses, net operating income, capital items, net cash flow.

- Property insurance

Insurance reduces risk to the property owner by transferring the risk of natural hazards to an insurance company. In exchange, the property owner pays a fee called a premium.

1.6 Real Estate Brokerage and Agency

- Real Estate Brokerage

The Real Estate industry is characterized by a network of professionals, licensed by the government to assist their clients in making informed decisions when buying and selling real estate.
A Real Estate Broker is a person who is licensed to buy, sell, exchange, or lease, rent property for others and to charge a fee for services.

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- Law of Agency

  The law that governs the legal responsibilities of the broker to his or her clients.

- Types of Agency

- General Agent, special agent

- Listing Property

  Exclusive right to sell
  Exclusive agency
  Open Listing
  Net listing
  Multiple listing

- Compensation

- Brokers are normally paid a commission upon sale of the property

- Appraisers are normally paid an agreed upon fee to appraise a property before sale

Annex V.O.

Leader Effectiveness and Adaptability Description

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LEAD
SELF
Leadership Style/Perception of Self

Developed by Paul Hersey and Kenneth H. Blanchard

Your name _____

PURPOSE

The purpose of this instrument is to evaluate your perception of your leadership style in terms of "telling," "selling," "participating," or "delegating," and to indicate whether the style is appropriate in various situations.

INSTRUCTIONS

Assume you are involved in each of the following twelve situations. Each situation has four alternative actions you might initiate. Read each item carefully. Think about what you would do in each circumstance. Then, circle the letter of the alternative action choice which you think would most closely describe your behavior in the situation presented. Circle only *one choice.*

After you have circled one choice for each situation, use the "LEAD Directions for Self-Scoring and Analysis" to score and array the data.

Leader **E**ffectiveness & **A**daptability **D**escription

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1. SITUATION

Your followers are not responding lately to your friendly conversation and obvious concern for their welfare. Their performance is declining rapidly.

ALTERNATIVE ACTIONS

You would. . .

A. Emphasize the use of uniform procedures and the necessity for task accomplishment.
B. Make yourself available for discussion but not push your involvement.
C. Talk with followers and then set goals.
D. Intentionally not intervene.

---

2. SITUATION

The observable performance of your group is increasing. You have been making sure that all members were aware of their responsibilities and expected standards of performance.

ALTERNATIVE ACTIONS

You would. . .

A. Engage in friendly interaction, but continue to make sure that all members are aware of their responsibilities and expected standards of performance.
B. Take no definite action.
C. Do what you can to make the group feel important and involved.
D. Emphasize the importance of deadlines and tasks.

---

3. SITUATION

Members of your group are unable to solve a problem. You have normally left them alone. Group performance and interpersonal relations have been good.

ALTERNATIVE ACTIONS

You would. . .

A. Work with the group and together engage in problem solving.
B. Let the group work it out.
C. Act quickly and firmly to correct and redirect.
D. Encourage the group to work on the problem and be supportive of their efforts.

---

4. SITUATION

You are considering a change. Your followers have a fine record of accomplishment. They respect the need for change.

ALTERNATIVE ACTIONS

You would. . .

A. Allow group involvement in developing the change, but not be too directive.
B. Announce changes and then implement with close supervision.
C. Allow the group to formulate its own direction.
D. Incorporate group recommendations, but you direct the change.

---

5. SITUATION

The performance of your group has been dropping during the last few months. Members have been unconcerned with meeting objectives. Redefining roles and responsibilities has helped in the past. They have continually needed reminding to have their tasks done on time.

ALTERNATIVE ACTIONS

You would. . .

A. Allow the group to formulate its own direction.
B. Incorporate group recommendations, but see that objectives are met.
C. Redefine roles and responsibilities and supervise carefully.
D. Allow group involvement in determining roles and responsibilities, but not be too directive.

---

6. SITUATION

You stepped into an efficiently run organization. The previous administrator tightly controlled the situation. You want to maintain a productive situation, but would like to begin humanizing the environment.

ALTERNATIVE ACTIONS

You would. . .

A. Do what you can to make the group feel important and involved.
B. Emphasize the importance of deadlines and tasks.
C. Intentionally not intervene.
D. Get the group involved in decision making, but see that objectives are met.

---

7. SITUATION

You are considering changing to a structure that will be new to your group. Members of the group have made suggestions about needed change. The group has been productive and demonstrated flexibility in its operations.

ALTERNATIVE ACTIONS

You would. . .

A. Define the change and supervise carefully.
B. Participate with the group in developing the change, but allow members to organize the implementation.
C. Be willing to make changes as recommended, but maintain control of implementation.
D. Avoid confrontation; leave things alone.

---

8. SITUATION

Group performance and interpersonal relations are good. You feel somewhat insecure about your lack of direction of the group.

ALTERNATIVE ACTIONS

You would. . .

A. Leave the group alone.
B. Discuss the situation with the group and then initiate necessary changes.
C. Take steps to direct followers toward working in a well-defined manner.
D. Be supportive in discussing the situation with the group, but not too directive.

---

9. SITUATION

Your boss has appointed you to head a task force that is far overdue in making requested recommendations for change. The group is not clear on its goals. Attendance at sessions has been poor. Their meetings have turned into social gatherings. Potentially, they have the talent necessary to help.

ALTERNATIVE ACTIONS

You would. . .

A. Let the group work out its problems.
B. Incorporate group recommendations, but see that objectives are met.
C. Redefine goals and supervise carefully.
D. Allow group involvement in setting goals, but not push.

---

10. SITUATION

Your followers, usually able to take responsibility, are not responding to your recent redefining of standards.

ALTERNATIVE ACTIONS

You would. . .

A. Allow group involvement in redefining standards, but not take control.
B. Redefine standards and supervise carefully.
C. Avoid confrontation by not applying pressure; leave the situation alone.
D. Incorporate group recommendations, but see that new standards are met.

---

11. SITUATION

You have been promoted to a new position. The previous supervisor was uninvolved in the affairs of the group. The group has adequately handled its tasks and direction. Group interrelations are good.

ALTERNATIVE ACTIONS

You would. . .

A. Take steps to direct followers toward working in a well-defined manner.
B. Involve followers in decision making and reinforce good contributions.
C. Discuss past performance with the group and then examine the need for new practices.
D. Continue to leave the group alone.

---

12. SITUATION

Recent information indicates some internal difficulties among followers. The group has a remarkable record of accomplishment. Members have effectively maintained long-range goals. They have worked in harmony for the past year. All are well qualified for the task.

ALTERNATIVE ACTIONS

You would. . .

A. Try out your solution with followers and examine the need for new practices.
B. Allow group members to work it out themselves.
C. Act quickly and firmly to correct and redirect.
D. Participate in problem discussion while providing support for followers.

Team Building

A discussion on team building can begin with the group:

- Recalling, reviewing and remembers what a "good" team looks like.
- "Good" teams can be related to winning athletic teams.
- Record the comments people make about what "good" team do to become effective.
- Have the group draw a picture of a "good" team. What do they look like?

When the trainer is facilitating this discussion and the team starts to draw the group picture, the facilitator should observe if one person takes a leadership role. A reporter was chosen by the group to tell about the experience they had when completing the drawing. Some questions the facilitor should ask are:
Was there competition in the group?
What attitudes were noticed? Cooperation? Helpful suggestions? Thoughtful humor?

Exercises which inspire team building can be created and discussed. On such exercise is called "The Broken Square Exercise."
Teams are given envelopes with pieces of five squares. They are told to be silent in this activity, not asking for or grabbing pieces of the puzzle but offering to others their pieces for completion of the task. An Observer/s is assigned. When the tasks are completed the Observer/s shares their group's experiences as he or she observed it. Gradually, a body of knowledge is accumlated from the observations, readins and facilitators comments toward positive team building behavior.

A copy of this exercise is on the next page.

More team behaviors accumulated from exercises such as the one above.

"Team members are appreciative of the efforts of their team and express their appreciation frequently.
Team members use positive interaction with team members and can accept feedback.
Team members believe in the goals of their organization and the aims of the task.
Team members contribute to the productivity of the whole group.
Team members listen to each others opinion and respect these opinions even if they do not agree. Disagreement is accepted by the others.
Team members talk to a team member who is affecting the general performance of the team. They try to discover if there is a solution to the change in productivity."

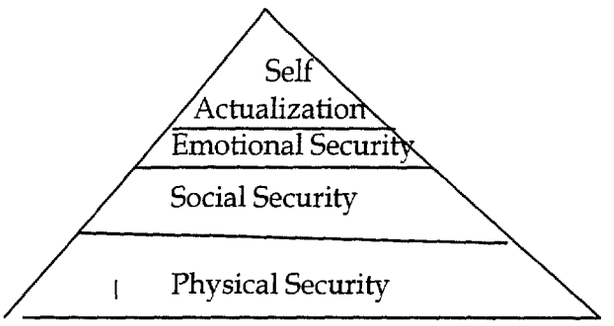
Introduction to Motivation

Round Table Discussion on Motivation

Stories of motivation are discussed: motivation of sales, motivation for school children, manufacturing quotas, money as a motivator, internal motivation etc.

A definition of motivation is displayed. Examples of what motivates individuals is written up on flip charts.

Maslow's Hierarchy of Needs is drawn on flip charts and examples of the stages of needs are explained and extended to Russian setting.



In Maslow's Hierarchy of Needs, Maslow suggested that people are motivated to work their way up the hierarchy from:

Physical Security - shelter, home, safety, roof, comfort

Social Security - family, belonging, community

Emotional Security - love, support, cooperation, to

Self-Actualization - intellectual gratification,spiritual expression.

After they reach each level they are motivated to go up to the next level.

Individuals are asked to fill out their own chart of "what motivates them personally."

Examples of **what** motivtes this group and **who** motivates them was explored and written on a flip charts.

The point is often made that generally, managers have to motivate people just like them. Logical work times when motivation can be discussed is important. Motivation can be discussed when a major change in the office procedure is taking place like the installation of a REIS. Another time when motivation can be discussed is at recruitment, or when there is evidence of unrest or unmotivation.

Role plays can be created by groups. Two groups can make a play showing a manager motivating a group that becames motivated by his or her actions. Two other groups can create a play which involves an unmotivated work force and what the manager does about it. These plays can be enacted for the whole group who can then discuss the merits of the managers decisions and actions.

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Topics about Delegation

1. Granting Authority.
2. Defening Limits of Authority.
3. Unity-of-Command Principle.
4. Creating Responsibility
5. Supervisory Responsibility Cannot be Delegated.
6. Centralized Authority.
7. Decentralized Authority.

Delegation at the Supervisory Level

Why Some Supervisors Don't Delegate

- Lack of Trained Subordinates
- Fear of Making Mistakes
- The "Do it Myself" mentality

Benefits from Supervisory Delegation

- It allows the supervisor more time to be a manager.

- It provides subordinates with a chance to develop their talents and abilities by making on-the-job decisions themselves.

Cooperative Problem Solving

Purpose: To allow the group members to experience the feeling of cooperation in problem solving.
(Do not discuss the purpose until after the activity is completed!)

Materials: 3 sets of "broken squares" puzzles (5 puzzles per set, see example in margin); "observer" name tags.

Time: 1 hour

Process: Explain to the group that we're going to explore problem solving today. *Do not state anything else about the activity until after it is over.*

Next, divide the members into three groups of five. The remaining members will be "observers" and should be evenly divided among the three groups. Have each group of five sit around a table or desk.

Next, give each group a set of puzzles by giving each member three pieces. (Note: each group should get a set of five puzzles, but the pieces should be mixed within the group.)

Tell the players to place their pieces on the flat surface in front of them. During the following exercise, explain that the following rules must be followed:

- No team member may speak.
- No team member may signal another to give her a piece of the puzzle.
- Members may give pieces to each other.
- The observers also may not speak.

Next explain that, while following the above rules, each team of five has 20 minutes to complete their five puzzles. The observers should see that the rules are followed, They may speak if they are reminding someone of the rules.

When the time is up, use the key in the margin to show group members how to form the puzzles if some were unable to complete their puzzles in the time allowed.

Sometimes a problem is a problem only because it is looked at from only one angle; looked at from another, the solution becomes so obvious that the problem no longer exists.

— *Creative Problem Solving*
Hall and Sandoupp

Hear the essence of thousands of sacred books:
To help others is virtue;
To hurt others is sin.

— Indian verse of wisdom

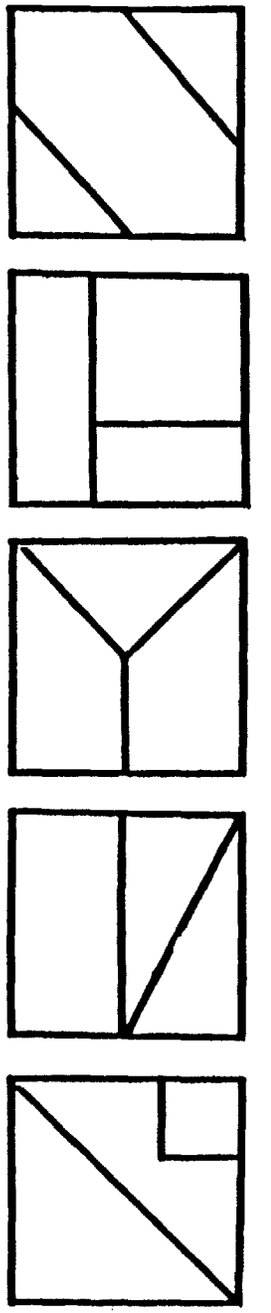
Begin a discussion with the following questions as guidelines:

1. Was anyone willing to give away all of their pieces?
2. Did anyone complete their puzzle, then remove themselves from the group?
3. Did anyone destroy their completed puzzle to give a piece away?
4. Did anyone continually struggle with their pieces, but refuse to give any or all away?
5. Who was frustrated?
6. What did you do when you were frustrated?
7. When did the group begin to cooperate?
8. Did anyone break any rules?
9. How did others feel when the rules were broken?
10. What made the task difficult?
11. What was the "lesson" in this game? The *purpose?*
12. How does this activity relate to your work in the village?
13. What would happen in the village if some people refused to cooperate?

Summarize by suggesting that the purpose of the activity was to help them experience the importance of *cooperation* and *communication* in problem solving.

Most participants also point out the importance, as highlighted in the activity, of recognizing unspoken needs.

—adapted from *A Handbook of Structured Experiences for Human Relations Training*, by J. William Pfeiffer and John E. Jones (editors), University Associates, CA. 1974



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OBSERVER SHEET

1. Was anyone willing to give away all of their pieces?

2. Did anyone complete their puzzle, then remove themselves from the group?

3. Did anyone destroy their complete puzzle to give a piece away?

4. Did anyone continually struggle with their pieces, but refuse to give any or all away?

5. Who was frustrated?

6. What did you do when you were frustrated?

7. When did the group begin to cooperate?

8. Did anyone break any rules?

3B

The Art of Feedback
Principles

Definitions of Feedback

Constructive feedback is information that help people to decide whether their behaviors have had the intended effects.
Positive feedback is information that reinforces desired behaviors and encourages repetition of those behaviors by communicating that they had the intended effects.
Negative feedback is information that discourages behaviors by communicating that they did not have the intended effects.

Principles of Giving Feedback

1. Be sure that your intentions to be helpful.
2. If the recipient has not asked for feedback, check to see whether he or she is open to it.
3. Deal only with behavior that can be changed.
4. Deal with specific behavior; do not evaluate it.
5. Let the recipient know the impact that the behavior has on you.
6. Deal with specific behavior, not generalities.
7. Use an "I statement" to accept responsibility for your own perceptions and emotions.
8. Check to make sure that the recipient understood your message in the way you intended it.
9. Encourage the recipient to check the feedback with other people.

Principles of Receiving Feedback

1. When you ask for feedback, be specific in describing the behavior about which you want the feedback.
2. Try not to act defensively or rationalize the behavior at issue.
3. Summarize your understanding of the feedback that you receive.
4. Share your thoughts and feelings about the feedback.

The Art of Giving and Receiving Feedback

During the implementation phase of REIS it is important to make improvements in the management of the training and the organization which is being trained. Improvement occurs through feedback; improvement in individuals, groups and organizations.

Useful feedback comes in several forms. We receive feedback everyday in many ways, but *useful feedback* is often rare. Common forms of feedback are;

- One person talking to another on a person-to-person basis
- Following established feedback rules and guidelines.
- Thinking ahead of what you are going to say and how you are going to say it.

Guidelines for Giving Feedback

1. Acknowledge the Need for Feedback

First recognize the value of giving feedback, both positive and negative. Feedback is vital to any organization committed to improving itself, for it is the only way to know what needs to be improved. The REIS team should agree that giving and receiving feedback is an acceptable part of how to improve the way people work together. This agreement is necessary so that no one is surprised when he or she receives feedback.

1.1 Give Both Positive and Negative Feedback

Many people take good work for granted and give feedback only when there are problems. It is important to remember to tell people when they have done something well. When giving negative feedback, a useful ratio is ten positive remarks to one negative. The negative comment is better received in a "sandwich" format, "bread at first" (positive comments), meat (negative comments) followed by more bread (positive comments).

1.2 Understand the Context

Feedback always has a context: where it happened, why it happened, what led up to the event. Before giving feedback, review the actions and decisions that led up to that moment.

1.3 Know When to Give Feedback

Before giving feedback, determine whether the moment is right. The giver of feedback must consider more than their own need to give feedback. Constructive feedback can happen only within a context of listening to, and caring about, the person.

- Do Not Give Feedback When:

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The giver does not know much about the circumstances of the behavior.

The giver does not care about the person or will not be around long enough to follow up on the aftermath of the feedback.

The feedback, positive or feedback, is about something the person has no power to change.

The other person seems low in self-esteem or the giver is low in self-esteem.

The giver's purpose is not really improvement but to put someone on the spot or demonstrate how smart or how much more responsible they are.

The time, place or circumstances are inappropriate (for example, in the presence of outsiders).

1.4 Know How to Give Feedback

- Be Descriptive

Relate as objectively as possible, what you saw the other person do or what you hear the other person say. Give specific examples, the more recent, the better. Examples from the distant past are more likely to lead to disagreement over "facts."

- Don't Use Labels

Be clear, specific and unambiguous. Describe the behavior and don't use labels such as "immature", "unprofessional", "irresponsible" or "prejudice."

- Don't Exaggerate.

Be exact, do not be untrue or unfair. It invites the receiver of feedback to argue with the exaggeration rather than respond to the real issue.

- Don't Be Judgmental.

Words like "good,", "better," "bad," "worst," and "should," place the giver of feedback in the role of judge. When this happens the possibility of constructive feedback is lost.

- Speak for Yourself.

Do not speak for other people. Instead encourage others to speak for themselves.

- Talk First About Yourself, Not About the Other Person.

Use a statement with the word "I" as the subject, not the word "you." Consider the following examples regarding lateness:

- "You are frequently late for meetings."

- "You are very prompt for meetings."
- "I feel annoyed when you are late for meetings."
  "I appreciate your coming to meetings on time."
  Use "I" statements so the effectiveness of your comments is not lost.

2. Receiving Feedback

2.1 Know How to Receive Feedback

There may be a time when you receive feedback from someone who does not know feedback guidelines. In these cases, help your critic refashion the criticism so that it conforms to the rules for constructive feedback ("what did I say or do to dissatisfy you?")

When Reacting to Feedback;

- Breathe
- Listen Carefully
- Ask Questions for Clarity
- Acknowledge the Feedback
- Acknowledge Valid Points.
- Agree with what is true. Agree with what is possible. Acknowledge the other person's point of view and try to understand their reaction.
- Take Time to Sort Out What You Heard
- In Leaving, Thank the Feedback-Giver.

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Review of Management Theory

Fredrick Taylor, 1856-1915, a Quaker born in Philadelphia, completed Stevens Institute of Technology in 2 years, while working full time. He spent many years working in factories on every level of job. He developed forty patents.

His methods became a cornerstone of Harvard Business School. Main points:

- Coercion of employees doesn't work [he hated conflict]
- Management needs to find out what skill each worker is best at and have them do only that. [As a result, he needed many layers of supervision and inspection because one foreman couldn't know all that was necessary to be first class in every skill.]
- Broke each job into fragments, simplified tools, created repetitive tasks
- Physically separated workers from each other
- Increased control and inspection
- Paid the person—not the job, which resulted in quality problems.

His disciples included Henry Gantt and Frank Gilbreth.

Kurt Lewin, 1890-1947, a radical departure from Taylor, started the National Training Laboratory (NTL), which linked science to democratic values, using action research, force field analysis and participative management.

His values included:

- Bring democracy into the workplace
- Any well-motivated person can learn how to learn
- Each group member has a unique contribution
- We modify our behavior with group support
- The need for community in the workplace
- Take into account the economic, technical and social to change a system
- Better to build commitment than kicking ass

Model for change in an organization: Unfreezing — Moving — Refreezing

Established NTL to help the individual develop self-knowledge. He said that each time people are sent to class, without the opportunity to come back and participate in decisions, they feel rightfully conned. He thought too few people had any leverage on companies' goals and procedures.

Douglas McGregor, 1906-1964, formed the Theory X and Y. He said that external controls demotivate people. People must interact across levels and functions, they are more committed to implement actions they help to plan.

Motivators, which are recognition, achievement, and a sense of responsibility, all should be built into the workplace design. Managers should be coaches, not cops. We should have client/customer-driven workplaces.

Fred Emery, an Australian born in 1925, wrote in 1956 about a paradigm shift in the workplace. He saw that work groups have the capacity for self-regulation, that one person should have multiple skills so there is redundancy of skills and knowledge. He found the most effective control systems are self-induced and knowledge based. He created open systems with linkages across functions. He saw that all workers needed whole systems awareness, elbowroom for decision making and effective feedback systems.

Eric Trist, born in England in 1909, was a founder of the Tavistock Institute of Human Relations. He discovered in 1949 that a group of miners had designed their own work team system, developed innovative work solutions, and soon had 3 shifts running smoothly, without supervisors, and with far more productivity and safety, and low absenteeism.

He was concerned with:

- Quality of working life
- Involving those most affected by decisions leads to better solutions (Get the whole system in the room at one time)
- Whole brain, whole system thinking
- Combining socio-tech with sound economic systems
- Dignity, meaning and community in the workplace
- Recognition of daily Learn-Learn approach

Marvin Weisbord, author of *Productive Workplaces: Managing for Dignity, Meaning and Community*, believes in:

- Wholeness
- Pay for knowledge and skill
- Self control
- Self regulating teams
- Involving employees in designing the whole factory
- Setting up learning prototypes
- Mix training, problem solving and purposeful focus in a work redesign so people learn just what they need, exactly when they want it.

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REAL ESTATE INFORMATION SYSTEM (REIS)

MANUAL

VOLUME VI: DEVELOPMENT OF A TITLE REGISTRATION SYSTEM

Moscow, 1997

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1. Rationale For Real Estate Registration

1.1 Introduction

Real estate registration is the generic term used to describe programs implemented by the State to enable both the State and individuals to efficiently deal in real estate. The process of registration invariably involves the allocation of title to real estate and may be undertaken for a number of reasons, including:

- economic reform
- land consolidation
- allocation of public real estate.

There are a number of major real estate registration projects currently being implemented throughout the world. The recognition of the need for a real estate registration project can arise in a number of ways. In a major social upheaval, a new administration may look at real estate allocation as one major way of more equitably sharing available resources in society while also achieving economic reforms associated with the use of real estate. In more stable circumstances, the changing requirements of the society for rights in real estate over a relatively long period, together with the administrative processes that have been established to recognize these rights, can accumulate to such extent that major changes in administrative processes and/or the allocation of rights in real estate are required.

Whatever the underlying forces driving the requirement for an efficient system of real estate registration, there is no question that a major real estate registration program requires a significant amount of resources, not only in the initial effort of titling, but also in the establishment of the infrastructure to maintain the real estate records system.

In view of this requirement for significant resources, it is important that early consideration be given to a range of policy and project design issues. This outlines some of these issues at a policy level, rather than a technical level, and covers the following topics:

- the benefits/rationale for real estate registration
- the real estate titling process
- real estate record systems
- project design considerations.

This document sets out some policy issues involved in implementing a real estate registration project. It is aimed at the policy level and provides an overview of the factors that should be considered.

1.2 Benefits of Real Estate Registration

1.2.1 Introduction

A range of benefits arises from real estate registration. These benefits impact on:

- real estate administration
- real estate management
- taxation
- economic development
- foreign investment.

1.2.2 Real Estate Administration

Population increases have put increasing pressures on the real estate resources available to most societies. For this reason it is increasingly important that a government which has adopted a policy on the allocation and use of the real estate resources is able to implement and manage this policy. There is truth in the old adage that you cannot manage what you cannot see, so the mapping and record systems that identify the real estate and document its allocation and use are important requirements in the administration of real estate. A real estate registration project will generate this base information.

A major issue throughout the world is the protection of public real estate from unauthorized uses. Where rights in real estate and the boundaries between private and public real estate are uncertain it is very difficult to ensure that public real estate is being protected. A real estate registration project, by mapping and documenting authorized and legal rights in real estate, can greatly assist in the protection of public real estate.

1.2.3 Real Estate Management

In any jurisdiction there are a number of government agencies that are concerned with the management of real estate and/or the provision of services to the community. An agency responsible for the management of forests is concerned with the location of its forest reserves and associated support infrastructure. Utility authorities need to know the location of their distribution network and be able to relate this to their customer database. Other government agencies will need to identify different types of existing and potential real estate use by individuals for a variety of purposes, including the optimum use of such real estate and the establishment of appropriate systems of taxation and revenue collection (discussed further below). The cadastral system that maps real estate parcels and documents the rights in the parcels can greatly assist in providing the base information requirements for the wide variety of agencies managing land resources.

1.2.4 Taxation

In many countries it is difficult to tax personal and corporate income. There are many ways to conceal income. Real estate, particularly that which is subject to efficient real estate registration, is less easy to conceal and a broadly based tax on rights in real estate can provide a viable source of revenue for government at all levels. Tax on real estate can also be used as a policy tool to encourage productive use of land, as well as addressing problems such as land speculation. However, like any tax system, to promote social stability a tax on real estate should be broadly based and equitable, and be perceived to be so. For this to occur, reliable and up-to-date information is required on the allocation and possession of rights in land. Without this information tax avoidance is a real threat. As an example a pilot study in the mid 1980s in Bangkok demonstrated that the lack of maps in the pilot study area was a major factor in the fact that only about 30 percent of property owners liable for property taxes were on the tax roll.

A real estate registration project can be used to generate the base information for a property tax system.

1.2.5 Economic Development

The allocation of rights in real estate can be used to promote both the sustainable use of real estate and economic development, of obvious benefit to the particular country as a whole. A registered right in real estate, guaranteed to some extent by the government, increases the value of real estate and leads to greater commitment both personally by the holder and through commitment of other resources. Titled real estate is more easily transferred than undocumented real estate. The registration of rights also greatly reduces the threat of baseless eviction. The documents evidencing rights in real estate can be used as collateral to obtain institutional credit. These funds can be applied to the improvements that will increase the productivity of the real estate to the benefit of the individual and the country as a whole. The associated development of a mortgage security system, which promotes the allocation of funds to real estate development, will depend upon a real estate registration system being first established. These factors have been demonstrated in a number of studies, particularly in Thailand.

'The foregoing analyses have demonstrated that security of land ownership in Thailand has substantial effect on the agricultural performance of farmers. It was also shown that providing full legal ownership to farmers who lack such status - that is squatters - brings a very high economic return in most areas studied: the benefits far outweigh the relatively small costs of certifying legal ownership. The data also indicate that the main source of greater productivity on lands legally owned is better access to cheaper and longer-term institutional credit enjoyed by titled owners.'[1]

Over the past few decades it has been recognized that a major impediment to development in a country can be the lack of information on rights in real estate. For example, in Papua New Guinea a major cattle development with bi-lateral funding from the EEC, was held up for some years until it could be established who had the rights in the site proposed for the development. A registration project, by documenting rights in real estate, has the potential to identify suitable real estate for development and create a '*real estate bank*'.

1.2.6 Internal and External Investment

An important factor in determining the amount and type of internal and external capital which a country attracts is the security of real estate tenure granted to investors. In turn an efficient system of real estate registration, enabling the identification of real estate and grants of defined rights through a titling system, will permit security to be offered to investors.

1.2.7 Summary

The factors listed above are some of the benefits that may flow from a real estate registration project. Within the policy framework available, a project can be designed and implemented to obtain some or all of the above benefits. The project can also be implemented in a phased manner so that some of the benefits listed above are achieved early in the project implementation. These issues are discussed further in Section 1.5.7.

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[1] Feder G, Onchan T, Chalamwong Y, Hongladarom C, Land Policies and Farm Productivity in Thailand, published by the John Hopkins University Press, Baltimore, 1988.

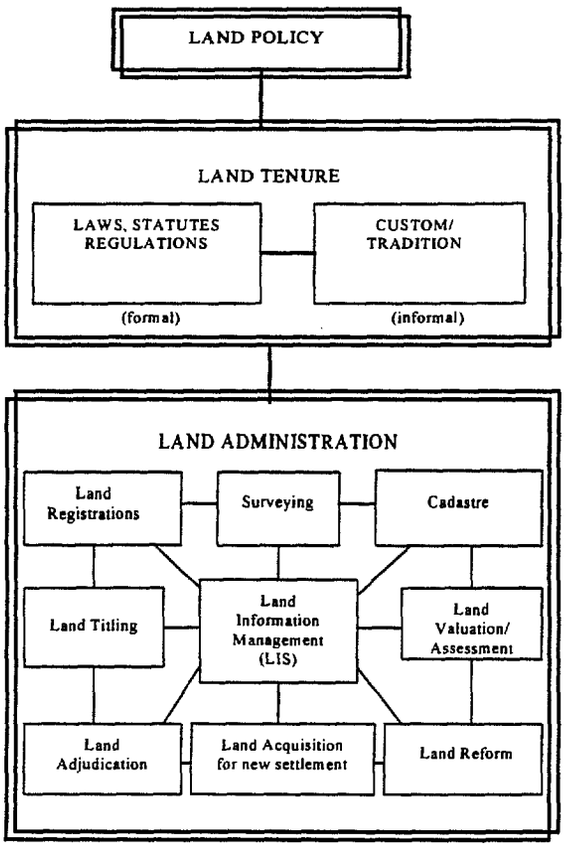

FIGURE VI. 1: COMPONENTS OF A LAND RESOURCE MANAGEMENT SYSTEM[2]

1.3 The Real Estate Titling Process

There are five major components or steps in the titling process (Dale and McLaughlin, 1988). These are:

- adjudication
- demarcation
- survey
- registration
- information management.

These five components are briefly discussed in the sections below.

1.3.1 Adjudication

"Adjudication' is the word now used in many English speaking countries to describe the process whereby all existing rights in a particular parcel of land are finally and authoritatively ascertained.'[3]

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[2]Barnes G., 1994, LIS challenge in Latin America. Proceeding of Comm. 3, XX FIG Congress, Melbourne, Australia, 303.7.

[3] Lawrance J C D, Land Adjudication, paper presented at a World Bank seminar on Land Tenure Administration, Washington DC, May 1985.

Throughout the world a range of labels are used to describe the term 'adjudication'. The label '*settlement*' is used in India, Pakistan, Sudan and the Solomon islands; the term '*first registration*' is used in England; '*bring under the Act*' is used in Australia; and '*allocation*' in Malawi.

Lawrance (1985) considered that there are five major features in an adjudication process. These are:

- the projects are carried out either systematically or sporadically
- the participation by real estate holders is either voluntary or compulsory
- disputes are settled by established courts or by the adjudication authority
- adjudication decisions are made by government officials or by committees of non-officials
- where registers of deeds exist, rights to be determined either by office conversion of the existing deeds register or by field adjudication.

Obviously there are reasons for adopting one or other of the alternatives listed in these five major features. This will be discussed further in Section 1.5 below. The process of adjudication in Russia is described in 'Privatisation of Land rights by Individuals' at Section 8.2.

1.3.2 Demarcation

Having defined the rights over the real estate parcel, there is the need to define the boundaries of that parcel. There are two basic options. The first is to place boundary markers or monuments. The second is to adopt or construct linear features such as water courses, walls, fences or hedges. There are advantages and disadvantages in each alternative.
Further options must be considered if it is decided to register rights for parts of buildings, such as apartments which may constitute a floor area on a particular level of the building.

1.3.3 Survey

The survey of defined boundaries is a major cost and time element in a real estate registration project. There are a number of underlying rationales for the survey of boundaries. These are:

- to establish a survey framework that will enable the efficient redefinition of land boundaries as required from time to time
- to gather survey information to support the registration system (for subsequent processes such as the adjudication of adjoining parcels, sub-division, consolidation, transfer or mortgage)
- to gather information for the compilation of cadastral maps, (maps showing the extent and pattern of land holdings in an area), that may be used for other purposes such as tax mapping or the control on land use.

Where a major objective of the real estate registration program is real estate administration, real estate management or tax mapping, or where there is a significant economic or social investment in the adjudication and demarcation of boundaries, then some form of survey should be implemented.

There are a number of options that can be considered for the survey of land boundaries. These are, in order of decreasing cost:

- the survey and coordination of boundary detail with reference to some national coordinate datum
- the survey of boundary detail as isolated surveys (the traditional approach in Australia and in other jurisdictions)
- the use of existing or new photo-maps or topographic maps as a map base onto which is transferred or identified the defined boundaries.

There are a number of survey techniques that are applicable to the survey of land boundaries. The most common technique is field traverses, which, with the availability of electronic distance measuring equipment, is a relatively efficient technique, but could have significant added costs if connections to a national coordinate datum are required. Recent developments in satellite positioning offer cost-effective survey procedures and connections to national data. In circumstances where boundary information appears on aerial photography, photogrammetry can be a cost-effective technique.

It should be recognized that not all real estate has equal value and it may be possible to implement survey systems where the standard and hence the cost of the survey is commensurate with the value of the real estate.

1.3.4 Registration of Rights

It is very important that rights of individuals in real estate be easily understood. A registration system to record rights will promote development of real estate and the investment of society's resources in real estate. One of the rights commonly associated with the holding of defined parcels of real estate is the right of transfer.

The transfer by way of sale, or otherwise, of real estate requires more care than the transfer of other forms of property. It demands special safeguards to ensure, first, that the real estate being transferred is unambiguously defined; secondly, that the transferor has legal possession of the real estate that he is offering for sale and has the right to transfer it; and, thirdly, that the acquirer or purchaser has knowledge of all matters affecting the real estate which may detract from the value or restrict its use.

In all developed countries, rights in real estate depend in a great measure on written documents and a purchaser looks for proof of the seller's rights of possession and transfer as well as the restrictions on use or other rights beyond the mere fact of his possession. The purchaser may be assisted in this regard by various systems of registration, of which there are two basic systems:

- registration of deeds
- registration of title.

Registration of deeds is a system whereby documents affecting real estate may be officially recorded and it is used with varying degrees of effectiveness throughout the world. Unfortunately there is a fundamental defect in this system in so far as a purchaser is concerned. A deed does not in itself prove rights of possession; it is merely a record of an isolated transaction. If properly drawn up it shows that a transaction took place, but it does not prove that the parties to the transaction were legally entitled to carry out the transaction and consequently it does not prove that the transaction was valid. Thus an investigation into its validity and effect will still be necessary before it can be relied upon. Furthermore, mere registration of documents affecting real estate does not generally provide an efficient means

whereby individuals or governments can readily ascertain all relevant information about real estate.

The system known as registration of title has been introduced in many countries to overcome the defects of registration of deeds. It enables rights to be ascertained simply and with certainty. The main characteristics of systems of registration of title are:

1. They are based on parcels of real estate(that is, the register is divided into units of property, with a record for each individual real estate parcel).
2. Transactions are set out in simple documents and are recorded with reference to the real estate parcel.
3. Registration of transactions is essential to their validity and a transaction becomes valid and effective by virtue of registration.

The title registration system known as **Torrens Title** has these characteristics and, in addition, operates on the following principles.

1. The register reflects accurately and completely and beyond all argument the current facts that are relevant to the rights of the holder of the real estate.
2. The register is the sole source of information for proposing purchasers, who can by consulting the register establish the rights of the current holder of the real estate.
3. If through human frailty the Register fails to give an absolutely correct reflection of the rights of the current holder of the real estate, anyone who thereby suffers loss is entitled to indemnity from the government.

The Torrens register may otherwise contain as little or as much information as is desired of those other matters that affect the real estate (for example, restrictions on real estate use, applicable tax rates, location of utility services, rights of access by governments or third parties, etc.).

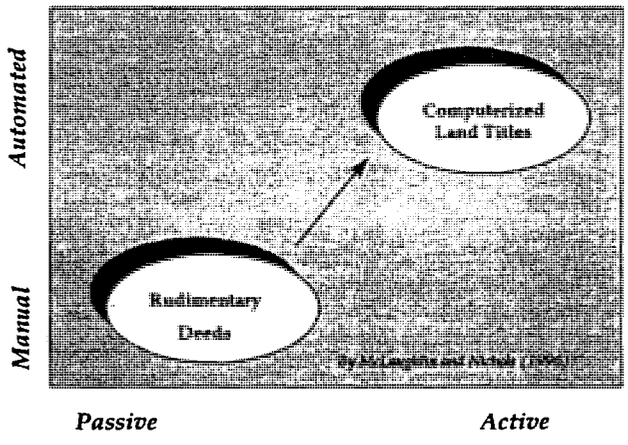

FIGURE VI. 2: REGISTRATION SYSTEM DEVELOPMENT[4]

[4] McLaughlin, Nichols, 1986, Parcel-Based Land Information Systems. University of Visconsin, Madison, Wisconsin

1.3.5 Information Management

The last major component in the titling process is the management of the information. The real estate registration project will capture a '*snapshot*' in time of the nature and pattern of rights in real estate. With the passage of time these rights will change - people die, needs for real estate change, real estate is passed from one generation to the next and people migrate. Unless sufficient resources are allocated to the establishment of systems and procedures to maintain the real estate register the usefulness of the information collated in real estate registration will quickly degrade.

A major choice here is whether to have one centralized real estate register, with or without distributed access to this central register, or to divide the register into a number of separate jurisdictions. Factors that need to be considered are:

- the size of the register itself and its geographic jurisdiction
- the nature of the existing bureaucratic and administrative structure
- the requirements for information at the central and regional level
- the desired balance between the need to serve the people and the need to ensure uniform administration and enforcement of real estate laws.

There are advantages and disadvantages in both alternatives.

1.4 Real Estate Record Systems (Cadastres)

Having reviewed the rationale for a real estate registration project and the components in the titling process, it is worthwhile briefly reviewing the history and nature of cadastral information systems.

1.4.1 Definition

During the last one or two centuries most of the developed and developing countries have established state cadastral systems of one form or another. Differences in initial conditions, development strategies and stages have given rise to substantial differences in types and organisation of these systems. This has been reflected in the variety of definitions of Cadastre.

" *Cadastre is a systematic classification and valuation of land, under the control of the central government, by means of parcels drafted on the basis of topographical surveys and recorded according to parcels in a register*".[5]

" *A cadastre is a general, systematic and up-to-date register containing information about land parcel including details of their area, value and ownership.*"[6]

" *The cadastre is a methodically arranged public inventory of data on the properties within a certain country or district based on a survey of their boundaries; such properties are systematically identified by means of some separate designation. The outlines of the property and the parcel identifier are normally shown on large-scale maps.*"[7]

"*The cadastre may be defined as a record of interests in land, providing information on: the nature of those interests; the ownership or control of the interests; and the spatial location of the interests. It is more than a map of private property or interests in surface lands. It is a record of*

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[5] Henssen, 1971

[6] Dale, P.F.,1976, Cadastral Surveys within the Commonwealth. HMSO

[7] The UN Ad Hoc Group, 1985

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land tenure, again in the broadest sense, and may include for example, information about easements and other interests, community rights such as land use zoning, etc."[8]

'In a parcel-based land information system, *or cadastre, the data is organized around the cadastral parcel. This is generally the proprietary land unit, but it can be any tract of land that is part of an estate and has a separable identity. The principal function of a cadastre is the provision of data concerning such matters* as *land ownership.'*[9]

Real estate information has two basic components: text and mapping. The various types of real estate information are linked through unique parcel identifiers (for example, document number, map number, street address, tax number etc.) or through a common series of geographic coordinates.

1.4.2 Types (legal, fiscal, multi-purpose)

There are three basic types of cadastres:

- legal; the recording of rights in real estate
- fiscal; the recording of real estate value and tax information
- multi-purpose; the combination of the legal and fiscal systems with other information such as planning and land use.

The features of the legal cadastre have been briefly discussed above in Section 1.3.4. The fiscal and multi-purpose cadastres are briefly discussed in the next two sections.

1.4.3 Fiscal Cadastre

The fiscal cadastre is the information system that collates data on real estate values and taxes. There are two basic ways of raising revenue from real estate:

- property rating systems, which raise revenue by assessing and taxing improvements such as buildings
- real estate value systems, which raise revenue on the basis of the value of the real estate itself, either in its unimproved or improved state.

Each system has its advantages and disadvantages and each will influence how real estate is used. For taxation purposes the concept of market value is generally used. There are a number of techniques that have been developed to assess market value, including techniques based upon the income producing capacity of the property.

Market value is defined as:

'...the most probable price in terms of money, which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus.'[10]

There are a number of steps in the creation of a fiscal cadastre (from Dale and McLaughlin, 1988)[11]:

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[8] Nichols, S., 1994, Managing Land Tenure Information for Sustainable development. Proceedings of Comm. 7,XX FIG Congress, Melbourne, Australia, 704.5.

[9] Dale P F, McLaughlin J D, Land Information Management - An Introduction with Special Reference to Cadastral Problems in Third World Countries, published by Oxford University Press, Oxford, 1988.

[10] Boyce B N, Kinnard W, Appraising Real Property, published by D C Heath and Company, Lexington, 1984.

[11] Dale P F, McLaughlin J D, Land Information Management - An Introduction with Special Reference to Cadastral Problems in Third World Countries, published by Oxford University Press, Oxford, 1988.

- identify and map all properties
- classify each property
- analyze market data
- value each property
- identify owners and tax payers
- prepare valuation rolls
- send out bills and collect taxes
- establish appeals procedures.

A number of the steps listed above are also common to the compilation of a legal cadastre and it is possible to generate both cadastres as part of the one program, although it is often difficult to align the areas of priority for each component. (The priority for the fiscal cadastre is usually to achieve universal cover as quickly as possible to support its special needs.)

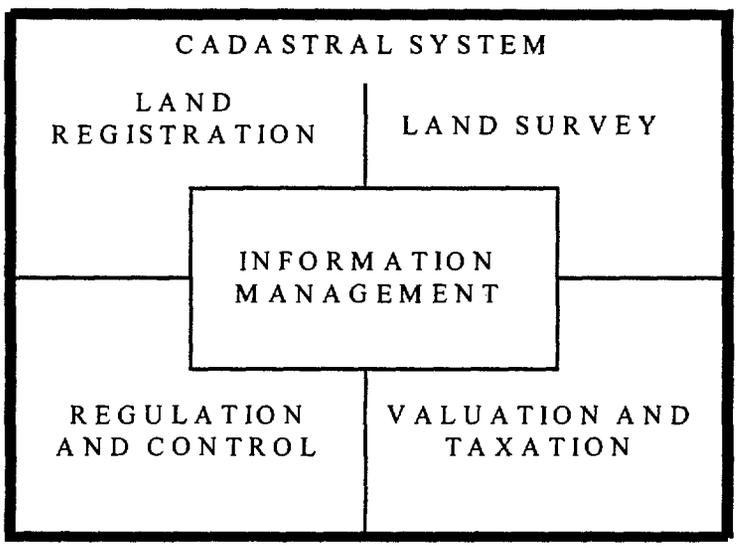

FIGURE VI. 3: A LAND ADMINISTRATION MODEL

1.4.4 The Multi-Purpose Cadastre

In many developed countries, the legal and fiscal cadastres have developed separately over an extended period of time and, in recent years, a substantial effort has been devoted in a number of jurisdictions into the merging of these systems to form a multi-purpose cadastre. This work continues today and has usually been made more difficult by the fact that the established systems are mature and often are administered by separate government authorities.

The multipurpose cadastre concept has been defined in various way, most common as large-scale, parcel-based LIS "*designed to serve both public and private organizations, as well as individual citizens by*

- *employing a property land unit (the cadastral parcel) as the fundamental unit of spatial organisation;*
- *relating series of land information records (tenure, land value, land use, etc.) to this parcel;*

- *providing a ready and effective means of access to this information.*[12]

In parts of the world where cadastres are being developed, there is the opportunity to plan earlier for the development of a multi-purpose cadastre, before the two separate components become established. Procedures to do this include:

- The adoption of a minimum number of unique identifiers, with procedures for the various agencies to maintain the cross-references between the identifiers as they are generated.
- The adoption by all parties of a common coordinate datum, and a minimum number of common map bases referenced to this coordinate datum.

1.4.5 Land Information Systems

Computer-based systems for spatial data manipulation are now topical. Database systems, Computer Aided design (CAD), Automated Mapping (AM), Geographical Information Systems (GIS) - all these software decisions are looking at different aspects of spatial information handling. On the other hand, Land Information System (LIS) concept was introduced with predominant emphasis on the organizational issues of system development.

One of the first LIS definitions was given by the XVI FIG Congress -1981 Montreux :

" *A LIS is a tool for legal, administrative and economic decision making and an aid for planning and development which consists on the one hand of a database containing spatially referenced land-related data for a defined area, and on the other hand, of procedures and techniques for the systematic collection, updating, processing and distribution of the data. The base of a LIS is a uniform spatial referencing system for the data in the system, which also facilitates the linking of data within the system with other land-related data.*"

Almost simultaneously, the Geographic Information System (GIS) concept was introduced. Initially the LIS concept was predominantly linked with the cadastre and the large scale sources of information, while GIS was considered closer to the small scale sources of information (small scale maps, remote sensing, etc.) and correspondingly less accurate applications.

Recently the term LIS has increasingly been used to describe the management of all forms of spatial data with emphasis on institutional and management problems rather than on technology, while GIS has been seen as technology to offer a possible solution. LIS has been defined as "*a combination of human and technical resources, together with a set of organising procedures, which result in the collection, storage, retrieval, dissemination, and the use of land information in a systematic manner*". Therefore, "*a LIS does not necessarily require the use of computers, it's essential element being the proper management of land information. GIS hardware and software can provide suitable tools to achieve this goal though in some circumstances manual processes may be more appropriate*" .[13]

A very great part of data in a LIS concern, or can be related to, individual property. These systems are used mainly for land administration purposes, which means

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[12] McLaughlin J.D., S.E. Nichols, 1989, Resource management : The land administration and cadastral system component. Surveying and Mapping, Vol. 49, No. 2, pp. 77-85.

[13] Dale Peter F., GIS and their role in urban development; CITIES - special feature on GIS & urban management.Vol.8,No1,Feb.1991,pp.10-16.

management of the land tenure framework (*to support transfer of rights on land, to generate revenue through taxation, to resolve property disputes, to regulate ownership and use of land, etc.*[7]). Therefore, where a cadastral system of some sort exists, it has functioned as the foundation for LIS. In that case cadastral maps can be used as geographical base-material. Property registers normally have qualities that make them attractive for administration and planning. Irrespective of the kind of project, the developers will need to have access to owners, users etc. Administrative borders are the same as cadastral borders.

However, it is important to stress that the converse does not apply, which means that a LIS is not necessarily a cadastral system and, thus, LIS is not a synonym for "the multipurpose cadastre". A multi-purpose cadastre is, however, parcel based, while a LIS can contain information relating to soils, geology, forestry, environment, etc., which does not coincide with parcel boundaries. Many agencies collect and use information about land - its ownership, value, parcel size, location, zoning, natural resources, and use for its own specific need, without knowledge of, or concern for, its potential utility to others. This results in duplication of effort, higher overall cost, and limited utility and accessibility of information to the other agencies or individual citizens. On the other hand, without a solid foundation for updating and maintenance, this real estate information cannot be an effective tool for city planning and management.

The cadastral system contains the organizational framework to ensure data quality and consistency. They are nationwide or regional. Therefore, in less developed countries, it is often the case that strengthening of the cadastral system and, in particular, the establishment of registration systems for real estate is the first step in infrastructure development and building of a LIS.

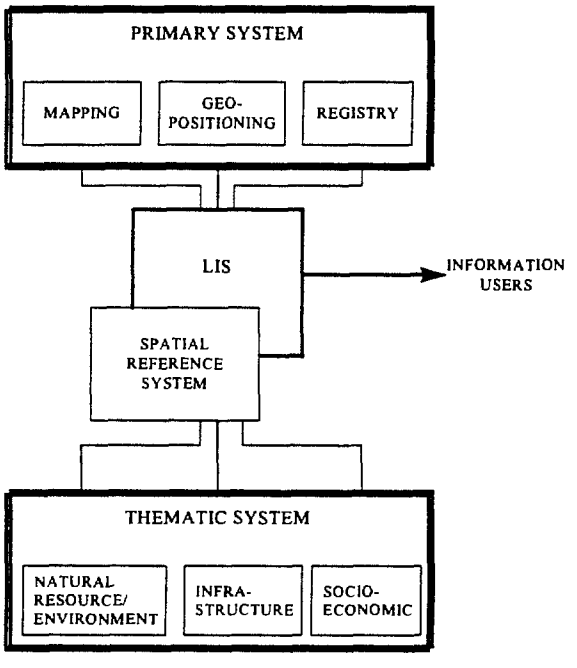

FIGURE VI. 4: A LIS INFORMATION FLOW [14]

[14] Crouse A.,Langill D., Development of a database supporting integrated access to spatial data., URISA 1993 Proceedings, Vol.2, pp.152-164.

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1.5 Design Considerations

The previous sections have reviewed the potential benefits of registration, the components in the real estate registration process and real estate record systems in general. In this section the factors that impact on the design of a real estate registration project are outlined. Many of these factors have been considered by the drafters of the Federal law 'On State Registration of Rights to Real Estate and Real Estate transactions'. Reference should be made to that law. Nevertheless, this section provides an overview of the essential rationale which must be considered as the registration system is implemented.

1.5.1 Objectives and Policy

Before commencing a real estate registration project, a number of policy issues should be addressed. The first of these is a clear statement of the project objectives. In Section 1.2, the benefits that can flow from a real estate registration project were listed. Over time many of these benefits can be achieved, however, an agency implementing a real estate registration project often does not have time and it needs to show early results. In such a situation a clear statement of objectives will greatly assist in deciding on options to implement the project through phases, either functionally or geographically.

One policy that should be established early is the real estate allocation policy. On what basis are rights in real estate to be assigned and who is responsible for deciding eligibility, (for example, will holders of real estate at the time of the introduction of the new policy be granted the real estate, but on a basis that is subject to certain pre-emptive rights). To what extent should local communities be involved in the allocation of rights and what is to be the appeal process? These issues have largely been resolved in Russia.

Another policy that should be established before a project commences is the real estate tenure policy. What rights is the State prepared to assign to the individual, and what rights does it wish to retain? For example, even where the State is prepared to grant the right of ownership, the State often retains the right to any minerals. If the State is only prepared to grant possession under the terms of a lease or in the form of license, then a policy on the duration of the lease or license and the rights of the parties at the termination of the lease or license needs to be established. What is to be the relationship between tenure and real estate use? Under what conditions can tenure be transferred? Is there to be an initial moratorium on the transfer of new rights?

A policy needs to be adopted on whether the real estate registers are to be maintained centrally or are to be distributed. If the registers are to be distributed, then procedures to ensure that policies and laws are being uniformly enforced need to be established. Policies on real estate valuation and taxation need also be adopted over time.

Lastly, policies need to be adopted assigning responsibilities for both the real estate registration activities and the on-going maintenance of the real estate records.

1.5.2 Environment (policy, legal, financial, cultural)

There are a number of very successful cadastral systems throughout the world. These systems have evolved within various different policy, legal, financial and cultural environments. Whilst there is much that can be learnt from these systems, it

is important to realize that in any real estate registration project, implementation must be adapted carefully to the local environment.

1.5.3 Role of Public and Private Sectors

The initial granting of rights in real estate is very much a public sector activity. However, as the cadastre and the overall economy develops, the private sector often plays an increasing role in the maintenance of the cadastre. In many developed countries the private sector has a major role in the real estate market, the conveyance of rights and cadastral surveys. In some jurisdictions in the US the cadastre itself is maintained by the private sector. In designing a real estate registration project the potential role of the public and private sectors should be considered, both in the initial stages and when the cadastre is in operation.

1.5.4 Scope of Change

A real estate registration project comes from the recognition that change is required. Often the scope for potential change is major, however, one usually has only few chances to implement significant change successfully. For this reason careful planning is required.

1.5.5 Extent of Existing Records (fiscal, survey, natural resources)

In planning a real estate registration project, it is important that the maximum use is made of existing records and information. As survey can be a major cost item in a real estate registration program, it is also important that the maximum use be made of existing survey and mapping information.

1.5.6 Balance between State/Individual

In the list of benefits of real estate registration listed above in Section 1.2, there is a clear relationship between benefits to the State and benefits to the individual. The State benefits through the collation of real estate records that can be used to administer and manage real estate resources and provide a basis for taxing the use of real estate. The major benefits to the individual accrue from security of tenure and the provision of documentary evidence of rights in real estate. It is important that this balance in benefits is maintained.

If the benefits favor the State too much, then there will be a lack of incentive on the part of the individual to register subsequent dealings leading to a register that does not faithfully reflect the pattern of rights in real estate.

1.5.7 Staged versus Full implementation

It was noted earlier that a real estate registration project is a major undertaking that can have impact on society in general. As such, there can be an extended project implementation period. As an example, the concept for the Thailand Land Registration Project was raised in discussions between the World Bank and the Royal Thai Government in 1981. Project identification occurred in late 1982 and early 1983 and project preparation occurred in 1983 - 1984. The World Bank loan became effective in October 1984, and the project is planned for completion in 2004. At that stage there is expected to be a register of about 20 million titles distributed in 200 to 300 Registries. Not all projects can afford this long lead time. For some projects it is imperative that some early results be demonstrated. In such

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circumstances the project implementation must be phased functionally and/or geographically.

1.5.8 Flexibility and Sustainability

Another important factor to address in the design of a real estate registration project is the requirement to ensure that the implemented system is flexible enough to handle changes in the environment, particularly the policy and economic environment.

The project should also be designed such that the real estate record systems can be maintained within the resources (staff, equipment, funding, etc.) available. Particular care has to be taken in introducing high technology and, *where it is decided that high technology is appropriate,* adequate allowance must be made for staff training.

2. Land Tenure

2.1 Legal Definition of Land

A real estate registration system is based on legal foundations that establish the priorities and requirements of a society for public and private rights to land. An initial requirement for development of the legal foundations for land rights is to establish a legal definition of land itself. In the past, Russia and the other member countries of the Commonwealth of Independent States (CIS) have had no reason to differentiate rights to land, nor to legally define land. With the transformation to market economies and the establishment of a land market, the issue of a legal definition of land becomes critical.

The standard definition of land used for international boundaries and internal subdivision of land within most countries defines land as the space created by projecting planes, starting at the center of the earth, upwards through the intersection of the land plot boundaries with the surface of the earth, and continuing upwards into the sky. Because this definition defines a volume of space, it follows that *all objects fixed or attached to land, be they natural (e.g. trees) or constructed (e.g. buildings), are included as part of the land* (see Figure VI. 5).

Land laws allow the subdivision of land parcels into smaller parcels as well as the consolidation of small parcels into larger land parcels. Condominium laws allow the subdivision of a land parcel's air space into multiple housing units or offices. Rights to that part of "land" (air space) created by a condominium subdivision can be defined by building floor plans and monumented by the walls that make up the building and contain the living space or office space. The building itself and the land on which the building stands are owned in common by each individual apartment or office owner, according to a predetermined share distribution scheme.

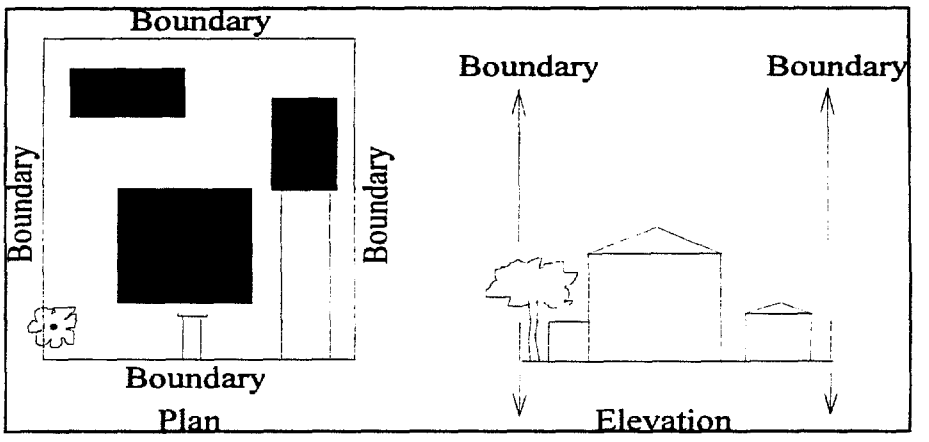

FIGURE VI. 5: BOUNDARIES DEFINING A LAND PARCEL

The international definition of land, therefore, takes into account all possible aspects of rights that can be created in real estate, from rights in the land surface to rights in the space created in a multiple housing or office building complex.

2.2 Extent of Land Tenure

Various forms of land tenure exist in Russia at present. They are described in the civil code. Each type of right and any secondary rights must be defined and documented. Further descriptions of them is expected to be provided in the forthcoming land code and registration law.

2.2.1 Types of Real Estate Rights in Russia

Current Russian legislation recognizes seven main types of right in real estate:

- **Right of ownership** - "Sobstvennost"

The right of an individual or a legal entity to possess, use and dispose of real estate (to inherit, donate or bequeath real estate, to carry out transactions with real estate, to be assured of the protection of real estate or rights to it by the state). The owner may transfer the rights of possession, use and disposal of real estate to other entities while remaining its owner; mortgage and lease the real estate or transfer it to a trust, etc.

An individual or legal entity may acquire the right of ownership to: buildings, structures and other real estate constructed by such entity for itself in accordance with legislation and regulations; real estate acquired from another through purchase, barter, donation or other transaction; inherited real estate (by a will or the law); a cooperative apartment, dacha, garage or other premises (for members of a cooperative who fully paid their share); privatized state or municipal real estate.

The right of ownership to real estate is subject to state registration.

It is expected that the new land code will finalize the rights and limitations for different types of real estate; certain limitations are possible with respect to agricultural lands, change of land use, ownership of land by foreigners, etc.

- **Lease** - "Arenda"

Granted for long (more that three years) or short period. This is the usual form of granting rights to land in Moscow and in most of the cities in Russia. Lessees of the state may have the rights to buy at some later date. The use is restricted to terms,

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stipulated in the lease contract. The lease may be inherited for remainder of its term if the lessee dies before the expiration date.

- **Right of lifelong inheritable possession** - "Pozjiznenoe Nasleduemoe Vladenie"

The right of lifelong inheritable possession of a land plot held in federal or municipal ownership is acquired by individuals as prescribed by the land law and may be bequeathed. The holder of the right can construct buildings, structures and other immovable real estate on this plot unless otherwise stipulated by law, acquiring the right of ownership to the buildings, structures, etc. The holder of the right may lease the plot or transfer it to free temporary use. Sale, mortgage or other transactions that lead or can lead to alienation of a plot **are not allowed**.

The right of lifelong inheritable possession of a land plot is subject to state registration.

- **Right of economic maintenance** - "Hozajistvennoe vedenie"

Legal entities may have the right of economic maintenance of real estate. Such right is established by a decision of a relevant federal or local authority. The real estate is owned by a different entity. The legal entity **may not** sell, lease, mortgage or in any other way dispose of the real estate to which it has the right of economic maintenance **without the consent** of the owner.

- **Right of Permanent Use** - "Bezsrochnoe Polzovanie"

The right of permanent use of a land plot held in Federal or municipal ownership may be granted to individuals or legal entities by a decision of a state or municipal authority empowered to do so. The right of permanent use of a plot (or a part) may also be acquired by the owner of a building, structure or other real estate located on a plot held by a different person. The holder of the right may independently use the plot according to its specified use which includes the right to construct buildings, structures and other real estate, unless otherwise stipulated by the law. The holder of the right of permanent use may lease the plot or transfer it to free temporary use only **with the consent** of the owner of the plot.

The right of permanent use cannot be sold or inherited.

- **Temporary Use** - "Kratkosrochnoe Polzovanie"

A form of lease, normally for a short term (three years except for certain categories of people), normally set by local authority, in some cases free of charge and subject of limitation to use only for the purpose for which granted.

- **Right of Operational Management** - "Operazionnoe Upravlenie"

A right which can be held by legal entities. Such entity is established on the basis of a decision of the Russian government for the federally owned property. The real estate of this legal entity continues to be owned by the state or municipality, and the legal entity is called a public enterprise / agency. The right of operational management is executed for the interests of the real estate owner.

2.2.2 Co-ownership

Real estate may be held by individuals or groups. In addition to individual ownership, it is possible for a number of persons to be entitled to the same interest in land at the one time, i.e. to be co-owners. There are two types of co-ownership which are recorded in most title systems:

- **Joint Ownership** - "Obshchaya sovmestnaya sobstvenost"

  Joint owners are regarded as one person. Each of the joint owners is entitled to possess the entire real estate. When one of the joint owners dies, the remaining joint owner possesses all of the real estate (provided there were only two of joint owners). This type of ownership is very common for husbands and wives regarding ownership of the family home. Joint ownership can also apply to a specified share of the real estate (see Common Ownership) which is held by the joint owners.

- **Common ownership** - "Obshchaya dolevaya sobstvenost"

  This is often referred to as an 'Undivided Share'. The real estate is owned in shares, although not physically divided. The share of the real estate can be sold, mortgaged or passed to heirs.

  Co-ownership is described more fully in Annex VI.F, Chapter 4.

2.2.3 Secondary Interests

- **Mortgage or Charge**

  The object of a charge (or mortgage) is to provide the owner of the real estate or a lessee with finance. A mortgage is a document under which the money lender (the 'mortgagee') is given rights in real estate of the money borrower (the 'mortgagor') to settle the debt in the event that the borrower fails in his obligation to repay the lender. Until the lender is repaid, the borrower is prevented from disposing of the land. As part of the title system, mortgages are registered in order to enable any person interested in the land to become informed of the existence of the debt and the fact that it has been secured by mortgage.

  The President the Russia Federation has signed a Decree "On Mortgage", which contains the main components of the draft Law on Mortgage, passed on second reading in the State Duma in December, 1995. One of the main obstacles for the banking community was the lack of provisions for eviction, which resulted in very complicated mortgage schemes. The decree now provides for eviction of family members made for construction or purchase of housing, but contradicts Section 292 of the Civil Code. Whether or not a bank could still carry out eviction may still be questionable and will be decided in the court system. In any case, the decree gives banks more legitimacy in going forward with mortgage lending programs.

- **Easement**

  An easement is a right annexed to one piece of real estate (a dominant tenement) to utilise land of another (a servient tenement) in a particular way, or to prevent the owner of that real estate from utilising his own real estate in a particular way. Examples are a right of way or rights to pass gas pipes or electricity lines through land. Such restrictions are often imposed by the state when disposing of, or authorising the use of, its land. They are also created by statutes which confer on public utilities the rights to enter land to lay and maintain pipes. An easement can be acquired by adverse possession (See Section 12.3).

- **Covenants**

  Covenants are very similar to easements, and are often said to be just 'negative easements'. However, restrictive covenants differ because they are concerned

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only with the 'servient tenement' and what the owner may *not* do with his land. They are entered into by landowners so as to regulate the use and development of land. For example, the owner of two adjoining parcels of land who wishes to sell one and live on the other may wish to ensure that any building to be erected on the land being sold does not obstruct his view. By observing certain formalities, such a covenant can be effective not only as an agreement between the original parties, but it can be made to 'run with the real estate' and be binding on the successive owners of the real estates concerned. Unlike easements, restrictive covenants cannot be acquired by adverse possession.

- **Contractual Rights**

Landholders may also create other rights, by agreement, under which land may be entered upon for the purpose of growing crops, or extracting minerals, exploiting timber or taking away some part of the soil.

⇒ Profit

A profit is a right to take part of the soil, minerals or natural produce of the servient tenement.

A profit is different from an easement because an easement must have both a dominant and servient tenement, whereas a profit needs only a servient. The owner of the "profit" may not own real estate nearby, or indeed anywhere. If so, his right exists 'in gross'.

Examples. Suppose X is the owner of the profit and Y the servient owner.

(i) X has the right to go onto Y's land and remove gravel. (He may sell the gravel to construction companies.)
(ii) X has the right to hunt and remove bears on Y's land.
(iii) X has the right to grow grass on a portion of Y's land and to remove the crop to use as winter fodder for his animals.

⇒ License

A license is a permission given by the proprietor of real estate or a lease which allows the licensee to do some act which would otherwise be a trespass.

Licenses do not need a dominant tenement and may be created informally and for short periods. Normally they do not "run with the real estate", i.e. they form a contract between individuals and are not passed on to new owners upon sale.

Examples: Let X be the licensee and Y the licenser.

(i) Y allows X to conduct a pop concert on his field between July 15 and 22 of the years 1994 to 1999.
(ii) X can not get access to his land because of the recent rains. Y is giving him temporary permission to cross his land.

- **Caveat / Caution**

It is often the case that a third party may wish to prevent the owner of real estate or a lease from dealing with the land because they have some interest against the owner.

Examples:

(i) A husband and a wife are splitting up, but the family home is registered in the husband's name. The wife can issue a 'caution' which prevents the husband from conveying the real estate without her consent.
(ii) A decorator has refurbished the house at great expense, but his invoice has not been paid. He will issue a 'caution' preventing conveyance until the bill has been paid.
(iii) A company director is under investigation for fraud. It is possible that his real estate has been illegally acquired. The investigators issue a 'caution' to prevent him from conveying the real estate until the case is resolved.

3. Title Systems

The term *'Real Estate Registration'* refers to the recording of rights to real estate. The major purpose for this recording is to provide security of real estate ownership, that is, it should protect an owner from being deprived of that ownership except by his or her own act or by the specific operation of a legal process (e.g. expropriation in case of foreclosure or debt collection). This feature simplifies transactions in real estate; allowing any person to acquire a legal interest in real estate easily, quickly, cheaply and safely. A secure and publicly accepted real estate registration procedure that is both fast and inexpensive can encourage transactions and, and at the same time, facilitates the use of real estate to raise capital. This is essential for a viable market economy.

Real estate registration can be defined as a formal and systematic process of managing information about real estate. The information relates to the legal description of property (land, building and units), the nature of the legal interests and of the people who hold those interests.

Virtually every country in the world has some system of recording these rights; whether it be for public purposes (sound land administration and collection of taxes), or for providing safe, inexpensive and quick means of conveyancing for the private individual. The most common systems are *Deeds Registration* and *Title Registration.*

See Annex VI.A for further readings concerning registration and cadastral systems in other countries. A matrix of selected information from Land titles Offices in Australia, New Zealand and Hong Kong is at Annex VI.B.

3.1 Deed Registration

Registration does not confer validity in itself; it merely makes unregistered documents inferior to registered ones. In some jurisdictions unregistered documents are considered invalid and unenforceable. In a deed registration system, the seller conveys to the buyer his *interest* (if any) in the specified real estate; there is no assurance that other parties do not have claims on the same property. There is *no guarantee* of accuracy in the system or security.

Individuals skilled in the procedures (e.g. lawyers) are required to check through the 'chain of title' as evidenced by the deeds held by the 'owner and / or held in the deeds registry. Because deeds are neither examined as to their validity nor have to be registered, it is possible that a description of the real estate, over time, can vary and the actual real estate available may be different from that described. As a result, a subsequent transaction may or may not convey the whole of the original real estate held. The single chain of title for a specific piece of real estate can break and another

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chain start. In view of this threat, people examining the chain usually search for a reliable start point from which to check in detail all the transactions to the current one. In some instances all transactions will be the checked from when the real estate was alienated from the State, a time consuming and expensive process.

3.2 Title Registration

A registration of title system is the next logical step to overcome the deficiencies of a deed registration system. Title registration provides a methodology to determine, guarantee and transfer title. Its basic principles are:

- **The Indefeasibility Principle**

  The basic aim of the Torrens system of title registration is to provide security of title to owners through the concept of indefeasibility. This means that ownership of an interest and the extent of that interest is as shown in the title register. An indefeasible title cannot be defeated, revoked or made void, and is intended to be conclusive evidence that the title holder has a right to the property. (There are some exceptions to this principle that are best described as 'overriding interests'- see Section 3.3.)

- **The Registration Principle**

  Under the deed system, title is effectively transferred by delivery of the title deed (deed for transfer of ownership) to the purchaser. One of the difficulties of this method is that the holding of the deed documents evidences ownership. To lose a title deed invites disaster.

  The principle of registration has two elements. Firstly, the Registry provides a repository of all deeds and provides access to them. Secondly, a transfer of title must occur by registration in the Registry rather than by mere delivery of the title deeds from one owner to another. Unless a transaction is registered it has no legal authority. For this purpose, a 'title register' is established which discloses *the only interests* that affect each registered title.

- **The Principle of Abolition of Notice**

  Under a deeds system, a person was considered to have knowledge of any interest concerning real estate (even if it was unrecorded or unknown to him) if the interest could have been discovered by reasonable inspection and inquiry. The Torrens system has abolished this principle, declaring that a person is deemed to have actual notice of all registered interests affecting a title as well as the registered title itself. In other words, *if the interest is not registered, it does not exist.*

  The only exception is that of fraud or forgery. Because the system is only designed to protect the honest (bona fide) purchaser, any person who participates in a fraudulent or wrongful act to obtain a registered title or who uses the system to defeat valid third party interests is not protected by registration of the interest so obtained. However, a bona fide purchaser who acquires a title from a wrong-doer and who is innocent of the fraud, will acquire a good title.

- **The Assurance Principle**

  This principle provides a facility whereby compensation can be paid to a person who is deprived of a right or interest by the operation of the Torrens system. For

example, a title obtained by fraud or forgery is not indefeasible as against the true owner. The true owner can recover his or her title against the wrong-doer. However, if the wrong-doer conveyed the title to an innocent purchaser, this purchaser *does acquire* an indefeasible title. The Torrens system compensates the original owner who cannot recover the estate or interest and allows the innocent purchaser to retain ownership of it.

Loss occasioned by negligence of the Registrar or staff is also subject to compensation. So is any loss that is based on the conclusiveness of the register. In other words, "the register is everything" and persons are entitled to rely upon its accuracy and completeness. Where a person suffers loss or damage because of that reliance, that person is entitled to compensation from the State.

Thus, the highest level of security exists if a law is enacted stating that:

- no dealing to convey any interest in land is effective until registered in the prescribed manner;
- the records in the register are conclusive evidence of interests in land; and
- the Government guarantees the accuracy of the record and will indemnify any person who suffers from inaccuracies in the record.

Within a Title registration system there is no need for the person acquiring the interest to investigate the title. The title system, by confirming both the ownership and priority of the legal interest, provides security and increases confidence. The system is relatively cheap and fast to operate and it encourage the dealing in real estate and investment.

Most major countries of the world (with the notable exceptions of the USA and South Africa*) have moved to a system of Title registration.* In a title registration system, each unit of real estate (land, building or apartment) is uniquely identified and the current legal rights are recorded against that unit. When a transaction occurs, old entries are deleted (or, if appropriate, modified) and new ones entered. All existing rights are clearly evidenced by a simple inspection of the record. The draft Land Laws under consideration in Russia use this approach. In central Europe, the record of legal interests is often recorded in a 'land book'. In this text the record is referred to as a Register, to more accurately reflect the computer environment.

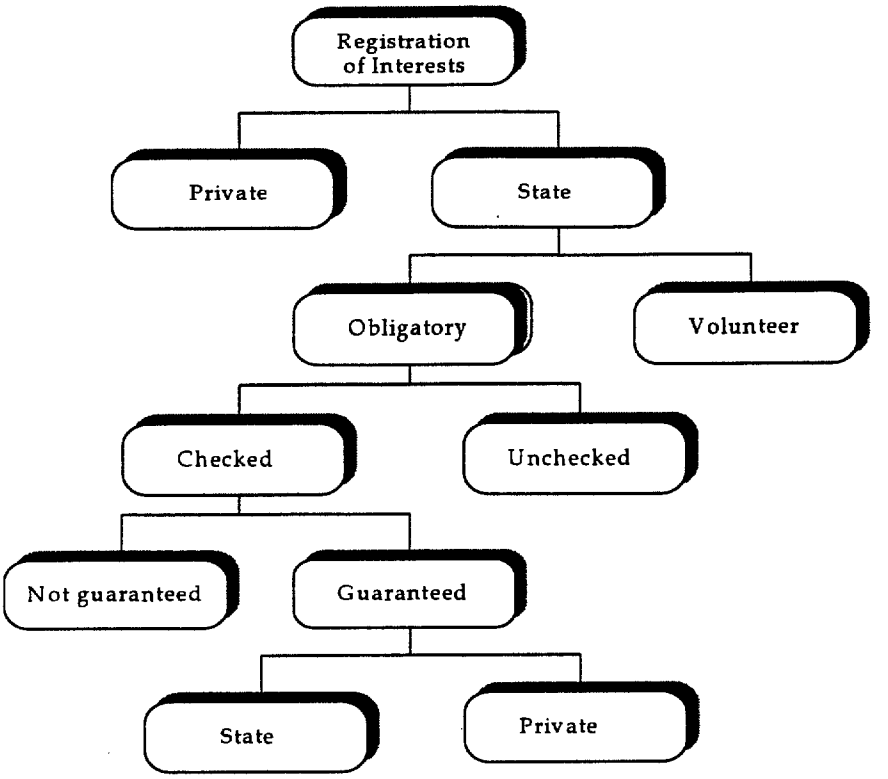

FIGURE VI. 6: IMPROVEMENT OF INTERESTS REGISTRATION[15]

3.3 Interests which may be Registered.

The decision as to what interests should be registered affects the cost of the system and the time required to have it fully operating. Essentially, there are three options:

- register only the ownership rights;
- register all interests in the specific real estate;
- register the ownership plus a list of the most common and well understood interests in land e.g. long term lease, mortgage, easement, etc.

The registration should be based upon the civil code and land law and should consider the number of interests recognized by them as well as the security which the state gives to them. There is a common understanding that it is not appropriate to register an almost undefined range of estates and interests. Purporting to register everything is likely to lead people to think that they have more protection than they can have. Thus the understanding is that registration should be extended beyond ownership (fee simple) to a limited number of interests which include life inheritable possession, lease for a period longer than three years, easements and restrictive covenants.

[15] McLaughlin, 1976, The Multipurpose Cadastre. Ph.D. Dissertation, University of Wisconsin, Madison, Wisconsin.

Overriding Interests

In addition there is a group of interests called 'overriding', whose priority is recognized regardless of the fact they are not registered. This group can include:

- interests reserved to the State, e.g. the rights reserved to the State on minerals lying below the surface of the land;
- taxes and duties levied on the basis of ownership of land or dealing with land;
- a leasehold for a term of less than three years;
- the power of compulsory acquisition given to the State and its various organs to acquire land (or interests in land) upon payment of just compensation. Such acquisition may be effected for a variety of reasons, e.g. roads, railways, etc.

> Russian Civil Code
>
> Article # 131.
>
> State Registration of Real Estate.
>
> 1. Right of ownership and other proprietary rights to real estate, restrictions of these rights, establishment, transfer and termination of these rights are subject to the state registration in the unified Registry by the bodies of the Ministry of Justice.
> The following rights are subject to the state registration: right of ownership, right of operational management, right of economic management, right of inheritable possession for life, right of permanent use, mortgage, easement, and other rights, envisaged by the present Code and other laws.

4. Real Estate Identification

4.1 Requirements

Every real estate object must have a unique means of identification. This identifier not only clearly identifies each real estate object and therefore distinguishes it from other real estate objects: it also provides certainty in the linkage between the real estate and its various ways of representation - on documents, on maps, in the legal registry, and in the supporting computer systems.

The real estate identifier also provides the capacity for broad system integration. For example, link data about land, primary and secondary objects and also enable vertical integration between different types of graphical, legal, physical data, planning and zoning data, etc.
The requirements of a real estate identification system are:

- **Uniqueness**

  Each separable real estate object should have one and only one real estate identifier, and only one real estate object should correspond to that identifier.

  If one object has more than one real estate identifier that one object will have more than one title and therefore could be subject to two or more separate transactions at the same time, clearly leading to conflicting interests.

  If many objects have the same real estate identifier, interest holders of different real estate objects could attempt to register legal interests to the same title, which will again result in conflicting interests.

- **Standard structure**

  The basic principles of constructing the identifier should be extendible to all types of real estate objects (land, buildings and units). It should be applicable to the

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whole locality, be it city or oblast. Ideally, the standard should allow the identifier to be integrated into the Russian Federation Unified System.

- **Simplicity**

  The identifier standard should be easy to understand, remember and work with, convenient for data retrieval and efficient in data manipulation.

  This criterion may lead to completely different results from the point of view of the owners/interest-holders, system developers and administrators, and public sector users. From the point of view of owners, an easy way to check for information is using the name and possibly the address; from the point of view of local administration or other institutions it could be the address or a lot and plan reference; from the point of view of computer system developers it could be a system-generated sequence number.

- **Permanence**

  Once a real estate object has been allocated a unique identifier, that identifier should not change *unless* the real estate has been subdivided into smaller parts or aggregated into a larger unit. Following a subdivision (i.e. mutation), the Registry will cancel the title for the original real estate parcel and create a new title record with the new identifier for each of the resulting parcels.

- **Flexibility**

  Construction of the identifier should facilitate the linkage of any buildings or apartments to the affected land parcel. The methodology should be easy to understand and follow pre-determined rules.

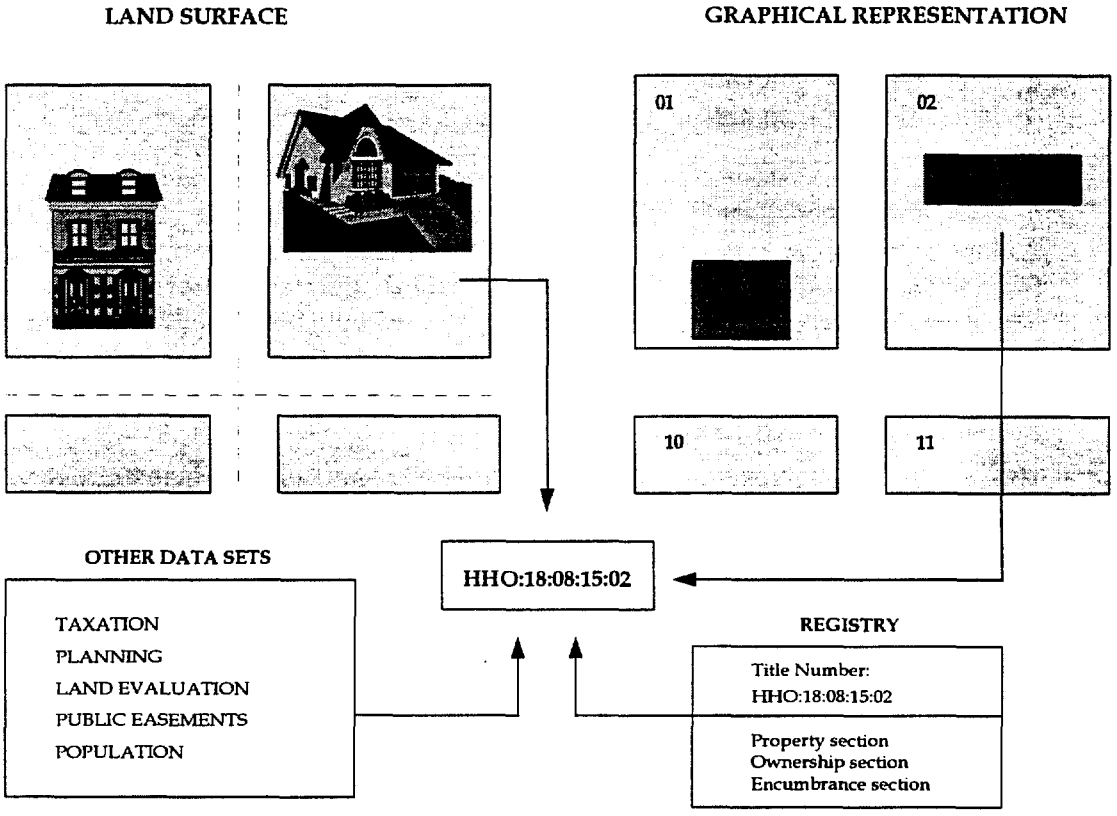

FIGURE VI. 7: THE IDENTIFIER AND SYSTEM INTEGRATION

4.2 Examples of Different Identification Systems

Over time a number of jurisdictions have developed different approaches for real estate identification. Some of these are outlined below together with a summary of their advantages and disadvantages.

- **Title Number**

  The title number can be a sequential number or a combination of digits and letters allocated to each real estate object when the first registration take place. This sequence could be a combination of the last two characters of the year of registration together with the number allocated to the transaction when it was lodged for registration, e.g. 961234, where the title is based on document 1234 lodged in the Registry in 1996.

  The identification of separate titles issued to each of several owners holding as tenants in common needs to be considered. In the above example each title could be easily differentiated by the simple addition of a numeric or alphabetic suffix e.g. 961234A, 961234B, etc.

  This approach has the advantage of being an administratively simple system, while at the same time providing a capacity to fit within a larger framework by the addition of a regional prefix.

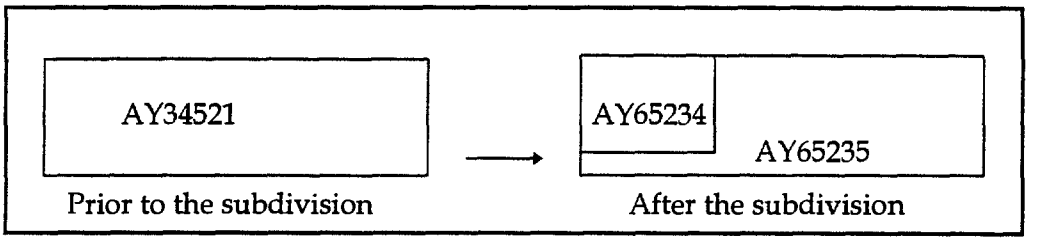

FIGURE VI. 8: SUBDIVISION AND EXAMPLE OF TITLE NUMBER

Another form of title identifier is the Volume and Folio number. This is still used in some States in Australia and is used in some other countries. The Australian system, prior to the automation of title records, held the details of each title in a page within a book. When a page became full or the parcel was subdivided, a new page was opened for each of the new parcels. The identifier became the reference to the page and book and was known as the Volume and Folio. Unless the title records in respect of a specific plan were created together the neighboring parcels would have different references.

This system has the advantage being administratively easy to allocate and use. However, the title reference is not connected to the spatial system and cross-reference indexes are necessary to move from the title reference to the real estate identifier.

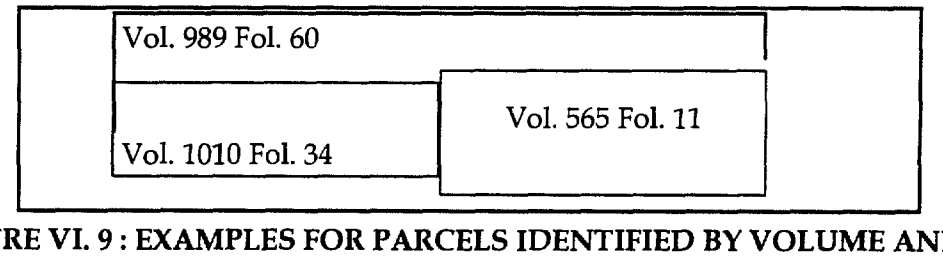

FIGURE VI. 9 : EXAMPLES FOR PARCELS IDENTIFIED BY VOLUME AND FOLIO NUMBER

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- **Cadastral Identifier**

  This approach is based on the subdivision of the city/county/territory into units i.e. cadastral blocks. A cadastral block is an homogeneous area, surrounded by streets, roads, railways, water areas, etc. and containing real estate parcels. In order to allocate the identifier it is necessary to prepare a cadastral index plan, which contains all cadastral blocks. A nation-wide cadastral number is based on a hierarchical subdivision of the country into administrative units (districts), rayons, zones, cadastral blocks, parcels, etc. Thus in contrast to the reference to title number, the cadastral number gives a certain spatial reference.

  The cadastral number provides for an easy to access and flexible access to all real estate objects within a cadastral block. However, the identifier is typically quite lengthy and difficult to remember. Alternatively, the identifier could be a combination of the lot and plan number. This system is used in states of Australia and elsewhere. The plan number in each state is unique and the lot numbers within each plan must be sequential. Thus the reference to a parcel on a cadastral map is the title identifier where, for example, title identifier 123/98765 refers to lot 123 in plan 98765.

- **Address Based Identification**

  An identification system based on the address is not commonly used, because the address is often not sufficient to uniquely identify a real estate object. It is not unusual in Russia to have more than one building with the same address, or one building with two addresses. Different agencies could have a different address for the same building. For example, the building may be on a corner or the end of a block and up to three streets could be specified. The whole issue is further complicated if the street names are changed.

  While this approach is convenient to use, it is often unsatisfactory as a unique identifier. It is difficult to standardize because it often comprises a combination of different attributes. For example, in Russia the address can contain varying combinations of attributes such as 'toponim', 'prefix', 'suffix', etc. An address-based code is cross-referenced to the title number in some title systems to facilitate and speed up access to the information for administrative or query purposes.

XXXX.XX.X.XX

- Unit number
- Building
- Parcel number
- Street code

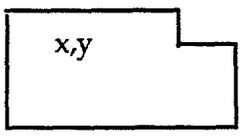
A part of the address is used in some places as part of the cadastral number.

XX.XX.XXX.XXXX.XX

- Parcel number
- Street code with indication for left or right hand side location
- Cadastral Block
- City Administrative area - Cadastral Massive
- City Code

Thus, for example, 18:22:003:1149:23 will indicate city code 18, city rayon number 22, cadastral block number 3, street with code 149, left hand side (code 1 in front), parcel number 23.

- **Centroid or Other Object Co-ordinates**



x=1 123,46
y=5 469,26

15.142639. 4266

This approach is convenient to use in graphical systems. It is not easy to allocate; not easy to work with; or easy to remember.

Some countries have established traditions to use as part of the identifier other information such as land use code, type of ownership code, type of construction and number of floors for the building identifier, etc. This makes the identifier more informative, but at the same time more difficult to use (because of the increasing length). It is also dependent on changes in all the included elements.

4.3 Current Systems for Real Estate Identification in Russia

Because there has not been a unified approach in Russia to the ownership of land, buildings (primary objects) or apartments (secondary objects), several systems have been developed for identifying real estate objects.

- **The Structure Introduced by Government Decree Number 475**

To introduce a country-wide unified real estate identification system on April 15, 1996, the Government of the Russian Federation enacted Decree Number 475 'On Real Estate Objects Cadastre Numbers Structure and on Real Estate Rights and Transactions State Registration Forms Fill-In Procedure', stipulating the following:

Cadastre number has an hierarchical structure - starting from a number of the Russian Federation subject through a number of a specific real estate object - А : Б : В : Г : Д : Е, where:

А - is a number of the Russian Federation subject, to be specified by the Committee of land resources and land use of the Russian Federation;

Б - is a number of an administrative-territorial unit being a part of the Russian Federation subject, which is to be specified by an executive body of the Russian Federation subject;

В - is a number of a zone (district, block, other unit) approved by a local self-government body;

Г - is a number of a land plot assigned based on the valid procedure of land plots registration;

Д - is a number of a building or a construction assigned based on the valid procedure of buildings and constructions registration;

Е - is a number of dwelling or uninhabitable premises assigned based on the valid procedure of dwelling and uninhabitable premises registration;

: - is a divider of parts in a cadastre number (Article 1).

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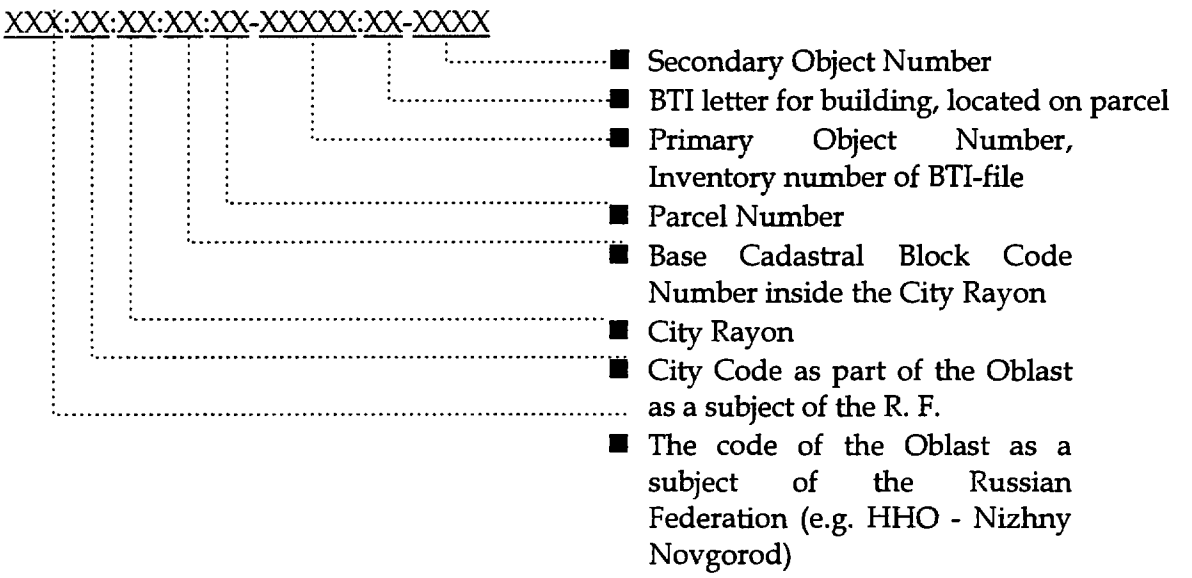
Assignment of a cadastre number is an obligatory condition for execution of state registration of rights for real estate objects and provides for exact identification of an object (Article 2).

Lack of a land plot cadastre number cannot be a reason to refuse assigning a cadastre number to a building, construction, dwelling or uninhabitable premises located on this land plot. In such a case cadastre number is formed in the following way: 0 (zero) - for a land plot number, and a number for a building, construction, dwelling or uninhabitable premises is to be assigned in a standard way (Article 4).

- **The Approaches Used by Some of the REIS Cities**

The system of cadastral identification chosen for most of the REIS cities is more or less based on the Land Committee system, with attempts to expand it to cover buildings and units. While the first section of the identifier sequence (i.e. the parcel part of the cadastral identifier) is more or less the same, the building number section often accepts the BTI file number. For a small city, this file number is normally unique.

Having a unique number for each building in the whole city allows flexibility in registering building rights before having parcels and even cadastral blocks. The linkage of the building to the parcel takes place after the parcel number is added to the correspondent part of building identifier.



In this particular example the hyphens are being used to distinguish the part related to the land, primary and secondary objects, while the colons between them are used to distinguish the different elements. In different cities different separators are used, most commonly colons.

Here are some examples illustrating the cadastral numbers which may be given to different real estate objects.

Example 1

In registration of rights on land parcel N 15, located in quarter 413 of Nizhnegorodski rayon, the parcel cadastre number will be as follows:

HHO: 18: 06: 413: 015: ++++ where,

HHO: 18	Nizhny Novgorod cadastre number
06	Nizhnegorodski rayon number
413	cadastral block number
015	land parcel number
++++	subparcel absent number.

Example 2

In the case of rights registration on a sole primary real estate object (building or premise) with inventory number 117 and letter A, which is located on the land parcel of Example 1 above, this real estate object cadastre number will be as follows:

HHO: 18: 06: 413: 015: ++++: 00117:A++

Example 3

In the case of rights registration on a building (premises) with BTI inventory number 1187 and letter A1, located on a parcel which is not registered, blanks will be left as the cadastral block parcel and subparcel numbers. Thus we have an temporary cadastre number which looks like as follows:

HHO: 18: 06: ------: ------: --------: 01187: A1+

If it is known, nevertheless, that the above premise is located in the cadastral block N 34, its incomplete (temporary) cadastre number will be as follows:

HHO: 18: 06: 034: -----: -------: 01187:A1+

Example 4

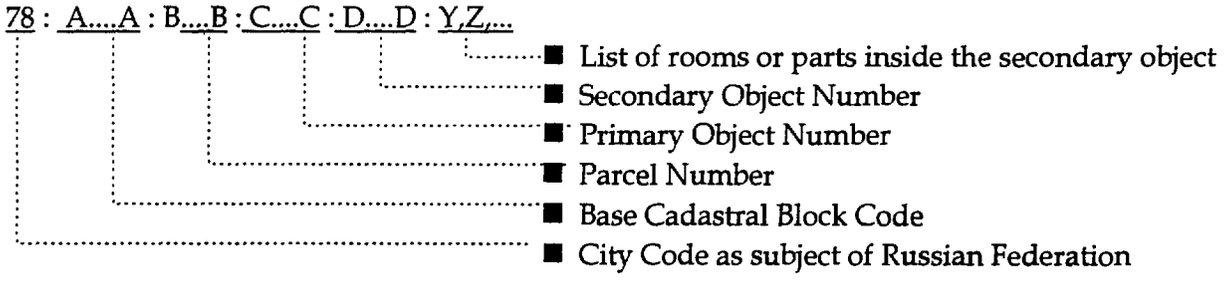
In case of secondary object rights registration, for example of apartment number 8 located in building from Example 2 above, the cadastre number will be as follows:

HHO: 18: 06:413:015: ++++: 00117: A++: 0008: ++++++
(Here 0008 is the number of the secondary object i.e. the apartment)

If in the rights registration of a secondary real estate object the base parcel rights are not recorded or registered, the secondary real estate object will be given an incomplete cadastre number:

HHO: 18: 06: _____: _____: _____: 00117: A++: 0008: ++++++

In some of the REIS cities, further subdivision of the land, primary object and secondary object was considered in establishing the structure of the real estate identifier. In Nizhny Novgorod, the parcel number is supplemented by a sub-parcel number. In the Saint Petersburg system a secondary object can be subdivided into sub-objects. Thus the structure of the Cadastral Identifier in Saint Petersburg is:



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Some examples:

78:4135A:15

refers to parcel number 15, located into the cadastral block 4135A in the City of Saint Petersburg (code 78).

78 : 4135A : 0 : 7,

refers to the rights on building number 7 as being registered and a parcel has not been allocated yet to the building. The allocation of a parcel to the building will result in replacing the zero on the parcel part with the actual parcel number i.e. 78 : 4135A : 15 : 7.

When the rights of the apartment number 8 in building number 15 are registered, the identifier will be:

78:4135A:15:7:8

If the rights are registered in two rooms of the same apartment, the identifier will be:

78:4135A:15:7:8:2,3

(Here the last part shows the list of room numbers, separated by a comma.)

No additional information should be incorporated in the identifier. In most of the current designs the cadastral book has three blocks or components - land, primary object and secondary object. If a part of the parcel is subject of an interest other than ownership, e.g. lease of part of the parcel, this should be included into the description of the legal interest.

For example, 'lease of part of the parcel with area of ... as indicated on the plan ... for the period of 2 years'. Similarly, the right of part of the apartment can be described as 'individual ownership of part of the apartment, comprising the rooms with numbers 2 and 3 as indicated on the floor plan number... (or each of them with area X and Y sq. m. located in ... part of the apartment)'.

Interests such as easements, leases, etc. can apply in various ways to the parcel and a specific description of the part affected is sufficient for the identification of their extent. For example, the notification that might be entered on the title affected by a drainage easement could precisely describe the affectation as 'Easement to drain water affecting the site shown as 1 metre wide in plan (or diagram) lodged with .. .' A separate real estate identifier should never be allocated for the part of real estate to which these interests apply.

4.4 Related Issues

- There are not always unique numbers for all the units inside a building, especially for the commercial units. A way of numbering them must be defined to avoid duplication with already existing numbers for the residential units.
- The allocation of cadastral numbers should attempt to provide for maximum possible flexibility in order to impose less changes to the existing local situation and to avoid hindering the process of registration and inventory.
- Land parcels owned by the same person but located in different cadastral blocks, or in different parts of the same cadastral block, must have different numbers.

- Neighbouring land parcels owned by the same person but under different forms of tenure (e.g. ownership, long term lease, life inheritable possession) must have separate cadastral numbers.
- A building or premise which straddles two or more neighboring cadastral blocks (for example with an arch over a passage separating those blocks), owned by one rights-holder, is given one cadastre number indicating the block with the largest or main part of the building.
- When rights are transferred to another interest-holder and / or other legal interests are recorded, the object cadastre number does not change (Decree 475, Article 7).
- In case of parcel mutations (see Chapter 10), the corresponding sections of the registration book(titles) are cancelled and new sections (titles) created. As for the unique identifiers of the new parcels created as a result of parcel division or amalgamation, it is the registry's function to formally approve the new identifiers by the act of registering the plan. It is essential that the Registry ensure that all real estate objects have a unique identifier.

  The same principles apply with the division or amalgamation of secondary objects. The superseded titles are cancelled and new titles are created for each of the new real estate objects in terms of the new unique identifiers. The records of the history of the changes of each object must be kept. (See Figures VI.10, VI.13 and VI.14.)
- When an information system is to be developed with the objective to integrate information from various sources, there will be need to analyze the existing data in all participating authorities. For some of them it will be preferable and convenient to continue using their own identifiers. For others, it will be necessary to consider the existing identifiers in order to be able to convert their information into the new format of the integrated system. Thus a cross-reference system between different identifiers (primary and secondary keys) is the basis for system integration and should be the framework of the system design.

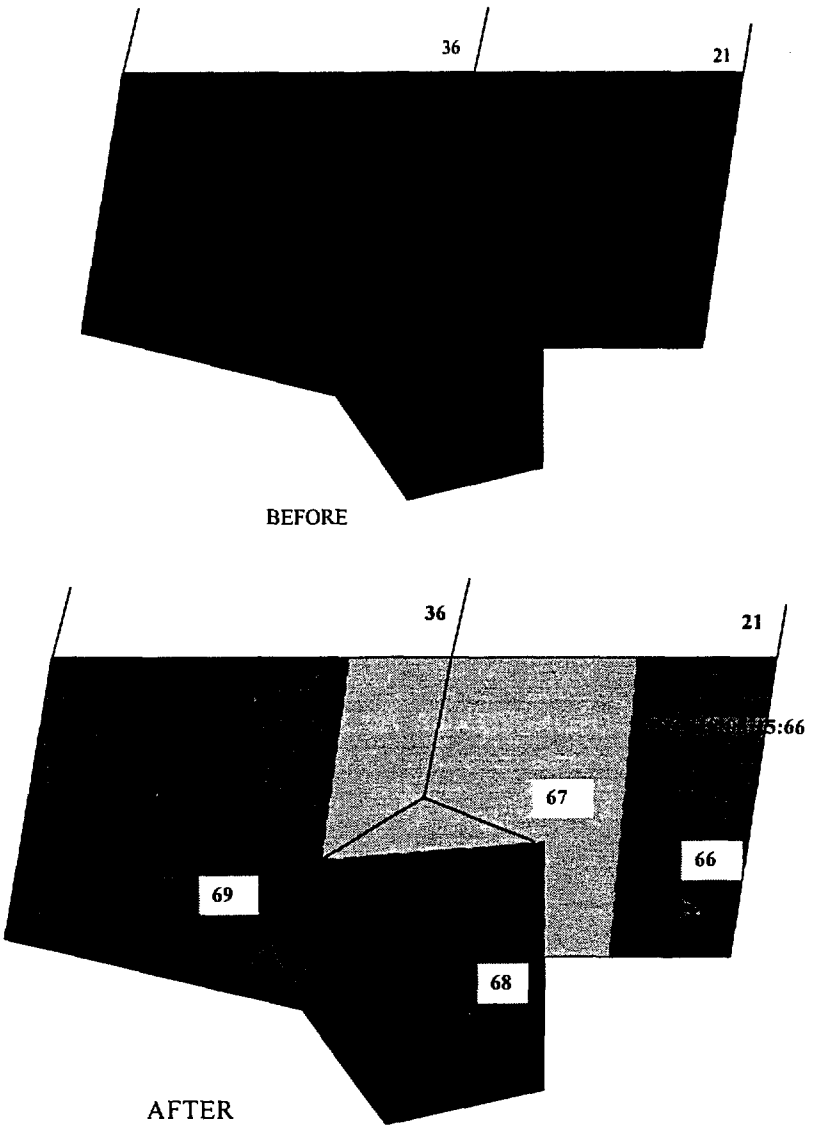

FIGURE VI. 10: PARCEL MUTATION (RE-PLANNING)

5. Description of Real Estate

A title registration system has two basic components; one is the 'text' that describes the owner, the tenure, restrictions, etc., the other is the description of the real estate to which the text applies. The real property description should unambiguously define the real estate for the purpose of land registration, show property location and boundaries and allow the re-establishment of those boundaries should that be necessary e.g. the marks disappear, boundary disputes, etc. This specificity provides a reliable base for the effective management of land information.

There are various ways of providing the real estate description:

- description by abuttals
  (Descriptions which define the real estate simply by what adjoins that property e.g. Street A on the North, Ivanov's property on the east, etc., may be helpful but they are often inconclusive and therefore unsuitable.)
- map or plans e.g. topographic maps, cadastral maps or individual plans
- description by list coordinates or survey of all parcel points

The choice of method is usually predetermined by factors such as:

- the geography of the country or area
- the patterns of land ownership
- the legal definition of boundaries
- the existing traditions of boundary demarcation (by pegs or features such as walls, hedges, fences)
- the availability, type and accuracy of survey and maps
- the availability of control network
- the availability of surveyors and the cost of surveying
- the survey regulations specifying the accuracy, methodology of work, the appropriate instruments, etc.

In England the existing large-scale topographic mapping is used to identify the property boundaries. The boundary feature is usually a physical feature that is represented on the map and the boundary is highlighted with a colored line on the map. In Australia, South Africa, Canada, East Africa and many other countries, corner monuments(e.g. pegs) are placed and accurately surveyed to fit either with current usage or with some pre-designed layout. An individual plan is then produced to represent the boundary of each of the parcels. In much of Europe the survey is carried out so that the real estate may be added to the existing cadastral mapping. Permanent monuments may, or may not, be placed. In Thailand, photo-maps are produced with overlays showing boundaries.

The three processes of demarcation, indication and survey may occur in any order, depending on the particular method being used. It should be noted that, in cases of boundary dispute, the parcel definition is evidence that is considered together with other evidence, such as verbal statements from neighbors, evidence of long-time usage, original intentions of the seller, etc.

- **Demarcation**

  In a legal sense, a boundary is a vertical surface that defines where one land owner's territory ends and the next begins. (*Strata titles* are different in that the boundary of each parcel is described in terms of encompassing walls, ceiling and floor i.e. cubic space.) The boundary surface intersects the ground along the legal boundary which is an infinitesimally thin line and therefore an abstract concept. In practice most people mark the limits of their property on the surface of the earth with linear features such as fences or hedges or point features such as wooden pegs, iron bars, or concrete marks.

  The difference between the 'de facto' and 'de jure' positions of boundaries can give rise to problems the solution of which will depend on the concept of the boundary. There are different concepts of a boundary: the main two are referred to as fixed and general. A fixed boundary is one in which the precise line of the boundary has been determined. A general boundary is one for which, so far as the Register is concerned, the precise line can only be established by adjudication on the ground. There are, however, many variations within both fixed and general boundary concepts[16].

[16] Dale P.F.,1976,Cadastral Surveys within the Commonwealth,London.

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- **Indication**

  All the interested parties should be present to point out, and mutually recognize, the boundaries on the ground. This may be necessary so that a survey can be carried out, or it may involve agreement between the parties that the position recorded on a map corresponds to the situation on the ground. A signed agreement stating that the parties agree to the boundary representation may be required.

- **Survey**

  A survey is necessary in order to represent the parcel boundaries on a map. It should have sufficient accuracy to allow re-location of the boundary feature in cases of dispute. The method of survey will vary depending on the choice of fixed or general boundaries, type of demarcation, existing mapping (the scale of the mapping is important), the cost and availability of surveyors, traditional techniques, accuracy required, and whether a sporadic or systematic approach is taken.

  A **sporadic** approach implies that the surveys are carried out as and when needed. For example, in Russia, the approach could be to survey only those pieces of real estate that are in the process of privatization. Thus surveys would be carried out, at the expense of the applicant, in different places at different times depending on the applications. However, it could be decided that every piece of real estate should be surveyed even though most of it still belongs to the state. This is the **systematic** approach. The systematic approach has the advantage that a complete map of all parcels is produced and that it is cheaper, on a per parcel basis, to survey large numbers in one location at a time. The main disadvantage is that it would have to be paid for by the state and it is expensive.
  Sporadic surveys usually have to be done by ground methods, whereas systematic surveys can use photogrammetric methods as well, to cut the cost and time involved.

6. Registry Bookkeeping

Development and documentation of standards for maintenance of registry records is essential to ensure the efficient functioning of the registration system. These standards should cover the following broad areas:

- Registration - standards for the registration book,
- Certification - certificate of title and certificate of official search,
- Administrative support - application, power of attorney, owner list, standard forms, etc.

6.1 The Content and the Form of the Register

Notwithstanding the variety of ways that title systems are implemented, they generally all share the use of maps and plans to describe real estate. All systems contain more or less the same information which is basically divided into the following three parts:

- **A property section** that provides a clear, unequivocal identification of the real estate object owned. A limited amount of supporting property information is normally provided in this section such as geographic details (e.g. rayon, oblast,

etc.), address, area of the parcel, etc. This section remains unchanged when transactions occur;

- **An ownership section** that provides information about the current legal owner/s (name, personal identification and, often, address), the reference number of the deeds giving him the title (or to the application number if deeds are stored under the application number), the date of registration and possibly the date of purchase; and
- **An encumbrances** section that lists all third party rights and interests in the real estate. This contains statements of mortgages, charges, leases, cautions or restrictions affecting the right to disposition.

The structure and the content of each of the sections varies in different countries. In some countries leasehold rights are shown as separate pages (folios) or separate sections, in others countries leases are shown in the encumbrances section. Depending on the legal definition, easements are shown in the property or encumbrances section or in both of them (in the property section of the beneficiary real estate as easement record, and in the encumbrances section of the encumbranced real estate as a record for encumbrance). Some easements (electricity cables, pipes, etc. referred to as easement in gross) can also be treated as overriding interests (see Section 3.3).

The forms of the register also vary, reflecting the existing traditions in each country for bookkeeping and considerations such as practicality, security, maintenance, efficiency, etc. The common rule is that each real estate unit has a separate folio or card. Folios are kept bound together or in loose-leaf binders. Bound folios are more commonly encountered in countries where the title number is used as a real estate identifier. In Australia, for instance, up to 250 folios (each of them with a sequential number) were traditionally bound in a volume and thus the real estate identifier is defined by the volume and folio number. An example of the register book in the Pskov City Register is shown in Annex VI.C1.

Subsequently, loose leaf systems were introduced (still referring to volume and folio numbers). The loose- leaf approach facilitates the access to the register because if one volume is in use then any one else searching another folio within the same volume is denied. However, appropriate procedures need to be implemented to ensure that there is no risk of losing a folio (e.g. not issuing original documents but photocopies only).

Loose-leaf binders are preferable where the cadastral number is used as the real state identifier. This allows more flexibility in organizing the documents (e.g. all parcels for a cadastral section held in a specified order can be reorganized, if necessary, when real estate mutations (consolidation and subdivision) take place. The choice of method for binding the Register book should also consider whether first registration is systematic or sporadic. In countries with a well-established pattern of ownership and systematic adjudication, it will be possible to assemble and bind together all pages/folios of the Register book at once. In the places when the ownership pattern will change and it is also difficult to apply systematic first registration it is probably better to keep the Register in a loose-leaf format.

A number of approaches are used to facilitate work with the Register, such as leaving the parcel number visible (e.g. Kenya), or preparing a front page with the list of all real state included in the binder.

An alternative to the volume/folios approach is evident in England where index cards are used. They are kept in drawers as this facilitates the maintenance of the records. Old cards are removed and kept in the archive. This approach is more convenient but increases the risks of losing cards.

The general tendency is to maintain a separate archive for the historical record and hold only the current information on the register. In some countries a separate file exists for each registered unit containing all deeds concerning that real estate. Other registries store all deeds in a chronological order. Since there is a reference in the registry to the deed number and / or the date for the registration, it is very simple to trace each particular document. (Often each application and all deeds related to it are given the same number, and reference is then made to this number in the register.)

There are also certain security measures undertaken to protect the register in case of fire, natural disasters or even war. The form of duplication will depend on the way the system operates (whether manual or computerized) and the funds available. In case of a manual system, microfilming is often an appropriate approach and a second copy is kept separately from the register itself, preferably in a separate building. Even when the register is not duplicated, its content can be almost entirely restored from the documents held within the community such as certificates of title, mortgages, leases, etc.

6.2 Title and Searches

In the Torrens system, the new owner is supplied with a duplicate of the Register showing its status at the date time of registration. The general rule, however, is that *only the entry in the register is the one that proves title.* The Certificate of Title is evidence of the valid entries in the Register at the time it was delivered. A sample of a Certificate of Title and a Search from the Pskov City Register is at Annex VI.C2.

There may be a number of third-party interests affecting the register between the time of the two subsequent transactions, whose registrations do not require the ownership certificate to be provided from the owner, and therefore appear on the register but not on the certificate of title. Most of the registries practice issuing certificates of official search (corresponding to the "spravka" in Russia), showing all the valid entries in the register at the time of application for such certificate. Sample certificates of title and results of search showing current and historical information are shown in Annex VI F, Appendices B, C and D.

The Certificate of Title is a legal document and is evidence of real estate ownership. The document must be produced to the Registry to support any transaction by the owner with that real estate. A new edition of the Certificate of Title will be generated by the Registry whenever a new transaction is registered affecting the ownership of the real estate contained in that Title. It is also important for a number of other reasons, such as the owner's sense of security; for promoting of the idea of registration, as well as providing the owner with the reference to both the title and the unique identifier of the real estate. This information facilitates all subsequent inquiries of the registry or the preparation of documents relating to secondary transactions.

When real estate is owned by one entity that owner receives the certificate of title. However, where the real estate is affected by a mortgage, the certificate of title is delivered by the registry to the mortgagee. When the real estate is owned by several entities and they hold *as joint tenants*, only one certificate of title exists. Where there are several owners, and they hold the real estate *as tenants in common* (i.e. shares), the registry will issue a certificate of title to each of the owners. Each title will specify the share of the respective owner.

In some countries certificates of mortgage are issued by the Registry following registration of the mortgage. In other jurisdictions the practice is to deliver the Certificate of Title to the creditor for the mortgage loan. In some cases the mortgagor lodges an original and a copy of the mortgage document - the original being held by the registry as the official document and the copy which is returned to the mortgagor after it is endorsed as being registered. When the loan has been repaid the mortgagor lodges an application with the registry together with the certificate of title for the affected real estate which has been held as security. The application formally advises the registry of the repayment and requests the registrar to remove or cancel the mortgage entry in the register. Following registration of the transaction the new edition of the certificate of title is returned to the owner by the registry.

6.3 Supporting Administrative Records

The administrative standards includes a number of books and forms that support the process of registration in general.

- **Application Book**

This book (which may also be in the form of a card index) is essential in the registry as it records the progress of all applications. An 'application' refers to any dealing in real estate, i.e. official searches, transfers, mortgages, cautions, etc. All applications are made on standard forms. When the application for registration is lodged at the registry (by hand or, in some countries, by post) it is given a sequential application number. This number is added to the book together with such other details as deemed necessary (e.g. identity of the title and / real estate affected, the date and perhaps the time of lodgment, etc.).

The application book is checked on a daily or weekly basis to ensure that all outstanding applications are being dealt with. The application book is helpful not only as a routine measure, but also for settling questions of priority. The application and all deeds relating to it are given a number, which is used to organize the storage of the deeds sequentially, and reference is subsequently made in the registry to this number. (The application book in some parts of Russia is referred to as 'kniga priema - viydachi documentov'.)

Application No.	Title Number	Details of Application	Parties/ Applicant	Date and Time	Received by	Result of Application	Date and time of Completion	Signature of Registrar
4223 /94	87:13:13: 04	49 year lease	Nevsky Const. Co. and Ivanov F. I.	Oct 11 1453	TRY	Approved	Oct 12 0942	XYZ
4224 /94	87:01:12: 06-123a-12	Transmission by inheritance	Popkov Z.T.	Oct 11 1507	TRY			
4225 /94	87:12:11: 03-34-1	Official Search/ Proposed Mortgage	Tver Universal Bank and HG Clothing Factory Ltd	Oct 12 0901	ZWT	Approved	Oct 15 1234	XYZ

TABLE VI. 1: SAMPLE OF APPLICATION BOOK

As shown by the sample forms from the Pskov City Register at Annex VI.C3, it is possible for these books to be generated by computer. The computer also provides the flexibility to specify a variety of options to both the information reported and the format of the output to suit changing requirements.

- **Owner Index**

An index cross- referencing owners with their real estate can be useful. It can assist the registry in the reconstitution of mislaid or damaged records, provide a simple mechanism to identify the real estate owned by a person or entity, etc. In Russia this appears commonly in respect to privatization. An index of the owners is therefore commonly kept in the manual systems to show all titles registered in the name of a specific owner.

The record can be in the form of cards in a manual system, sorted alphabetically according to owner names. In a computer system, a separate manual index is unnecessary since this type of inquiry is part of the query function and can be produced at any point. In addition, the computer system can produce the equivalent of a 'charge index' (maintained for example in British Columbia) which enables all the charges registered in the name of a specific person to be identified.

Name and personal identification	Title Numbers (Cadastral Id)
Andrianov Sergei Ivanovich, passport #, date, place issued	82:05:23:34
Andianov, Nikolai Nikolaiovich, passport #, date, place issued	82:8:34:16-23- 0001, 82:27:4:32:01
Blizniakova, Olga Andreovna, passport #, date, place issued	82:8:12:00-34-147

TABLE VI. 2: SAMPLE OF OWNER INDEX

- **Power of Attorney Record**

This record provides information regarding all the current powers of attorney i.e. proxies. In most registries an owner can lodge a power of attorney document, by which the owner gives someone else authority to act on their behalf in respect to certain real estate for a specified period of time and for specified activity. A power of attorney can be terminated either by expiration of the period or by request of the owner. A register of powers of attorney can be in the form of a card index or a ledger in a manual system, or in a corresponding database in a computer system. The level of detail can be the minimum needed (see example below) or with some key characteristics such as date of effectiveness, duration, date of termination, description of the powers, etc.

Entry Number and Date	Application Number	Proprietor	Attorney	Title Number(s)	Location of Document Authorizing Power of Attorney Ledger/Folio
23/94 Aug. 15	3263/94	Korolev, K. T.	Lemonov R. B.	12:3:45:67	3/42
24/94 Sept. 09	3742/94	Stavrilov, R. M.	Atimov and Sons {Legal Practitioners}	12:4:56:07-08, 12:1:23:45, 12:3:21:32-21-47, 12:4:10:20-31-15	3/157
25/94 Nov. 01	4225/94	Timakov Construction Co.	Genadiev & Partners. {Business Accountants}	12:1:56:00 - 01, 12:1:57:01- 12- 01 to 12:1:57:01 -12 -23	4/13

TABLE VI. 3: SAMPLE OF LODGER OF POWER OF ATTORNEY

- **Mark Up Book**

A mark-up process may have slightly different significance in different systems. It may be a simple entry in a property index indicating that an application has been made which may affect the title. There may also be provisions for "freezing" the register in respect of a particular title, for example to give the owner and potential purchaser time to prepare all the necessary for the transaction documents.

Title Number	Application Number	Date and Time	Expiry Date and Time	Removal of Mark By (signature)	Date and Time
12:2:47:03	4425/94	Oct. 17 0901	Oct. 27 0901	T F Karina	Oct. 18 1234
12:5:11:24-47-256	4480/94	Oct. 18 1357	Oct. 28 1357	T F Karina	Oct. 28 1357
12:1:..07:52	4552/94	Nov. 11 1116	Nov. 23 1116		

TABLE VI. 2: SAMPLE OF MARK-UP BOOK

- **Standard Forms**

As procedures are developed and refined a registry will probably introduce a number of standard forms, each for a specific type of request for registration and also for the standard types of search. Care needs to be exercised to ensure that the number of forms developed are really necessary and that they satisfy the essential needs of the registry and its clients. They need to be simple to complete, clear, concise and easily distinguishable. Sample forms illustrating these principles are shown in Annex VI.F, Appendix A.

Annex VI.D shows a sample extract from a BTI file and a Spravka illustrating the typical information available to owners of real estate and typical mortgage documents.
The key elements of each form are the real estate identifier, the parties / interest-holders, the key characteristics of the interest and the expected actions (create, terminate, modify). The forms will typically concern transactions such as:

- Sales of land / buildings / apartments
- Leases and sub-leases
- Sale of a lease or sub-lease

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- Mortgage
- Sale or transfer of a mortgage
- Exercise of a power of sale
- Sale of a share in land
- Transfer by inheritance
- Discharge of a mortgage
- Surrender of a lease
- Grant of an easement/profit/restrictive agreement
- Release of an easement/profit/restrictive agreement
- Power of Attorney
- Caveat
- Appeals to the Chief Registrar
- Requests for search
- Mutation of real estate
- Application for registration on first privatization
- Application for registration of new buildings / apartments

7. The Mechanism of Registration

Each title in a Register relates to a particular real estate and contains all legal ownership data that relate to it. It shows the unique identity of the parcel, the owner, and any other interests affecting that real estate such as mortgages, leases, restrictions and so on. The Register, typically, is a fully public document and any title may be examined by anyone.

The function of the Registry is to update the Register so that each title accurately reflects the current title details of the corresponding piece of real estate.

The Registry must be advised of all transactions affecting a registered parcel of real estate. This is done by the parties involved in the transaction completing an application and lodging that document with the Registry. When a title is updated to show the details of a transaction described in the application, then that application is said to have been registered. The process is called registration.

There are essentially three stages in registration:

- Lodgment of the application;
- Examination of the application; and
- Registration of the application and delivery of the Certificate of Title.

The following is a summary of these stages with special reference to aspects that should be considered in developing and documenting the specific arrangements that will apply in the Registry. A description of the procedures operating in Nizhny Novgorod and St. Petersburg are at Annex VI.E.

7.1 The Application

Registries typically need to develop a small range of standard forms in order to ensure the efficiency of the registration process. Initially, the Registry will only be processing a relatively few transaction types (e.g.) first registrations and change of ownership and only two types of application may be needed. However, as the needs of a maturing real estate market develop the Registry will need to look at a wider range of forms to assist in maintaining the efficiency of its operations. The Chief Registrar should have full control over the number, type and format of the forms used in the Registry and the power to change them as the requirements of the Registry change.

Full instructions to complete an application should be prominently displayed in the Registry and even (e.g.) on the reverse of the application. (Further, detailed instruction leaflets can be prepared for the real estate professionals such as notaries and lawyers.) The forms should be uncomplicated and as easy as possible for the applicant to fill out accurately. A form should be designed so that the Registry staff can quickly understand its purpose and the intent of the applicant. Often these needs can be best satisfied by structuring the forms so that the information supplied by an applicant is presented in boxes with any pre-printed detail kept separate. This approach enables the Registry staff to quickly see the information supplied and also what has been deleted or modified in the printed text of the form.

7.2 Lodgment

After completion, the application is presented for lodgment at the Registry together with the relevant Certificate of Title and any other necessary supporting documentation. At this stage the application is typically given a preliminary examination to detect any obvious problems. The clerk receiving the application (Customer Services Clerk) will be able to define whether all documents are available, whether the documents presented are appropriate for the type of transfer / disposition; whether the documents are for the real estate under question, etc. If any such problem is found, the application should be returned immediately so that it can be rectified. (The application is usually presented again at a later date with the necessary alterations made.) This preliminary examination is most desirable since the acceptance for lodgment of a faulty application into the system will absorb much time in subsequent tracking and double handling within the Registry. The lodgment of such applications needs to be minimized.

If the application is deemed to be in order, it is accepted for lodgment and a lodgment fee is payable. The person lodging the application receives a receipt which is, among other things, evidence that he or she is entitled to receive the Certificate of Title generated when the application is registered. The application is then numbered so that it can be identified and tracked in its progress through the processing stages.

Rules and procedures need to be developed and documented regarding the workflows and associated issues such as:

- the documents required to be lodged in support of an application;
- accepting documents either personally, by post or through a proxy;
- the numbering of the applications;
- the need for duplicate applications or copies;
- retention of the documents supporting the application;

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- need to number the supporting documents (e.g. a suffix to the application number);
- type of folder to hold the lodged documents while they are undergoing examination and being transported between the several work stages, etc.;
- time normally required to process an application
- the issue of a receipt for documents lodged and retained in the registry and for fees paid;
- the payment of fees and associated accounting concerns;
- office hours;
- correction of minor errors on the application (i.e.) those that do not affect the data essential to the title;
- delegations from the Chief Registrar to staff; etc.

7.3 Initial Processing

Once an application has been lodged, it is important that the Registry make a notation to that effect as soon as possible so that anyone inquiring about the affected real estate will be aware of a pending transaction. This can be achieved in several ways. In a manual system - by recording the application number on the title or on a special title index page put in the front of each Register book. The entry must be crossed out when the application is registered. In a computerized system each of the applications can be automatically linked to the title of each of the affected real estate objects.

A result of search of the current state of the Register concerning a specified real estate object should include the details of any unregistered matter. (In Australia, a certificate of official search produced by the computerized Registries is segmented into sections - firstly, a description of the real estate; secondly, a description of the owner and, if appropriate, the tenancy; and, thirdly, the encumbrances affecting the title. The search will then list any pending applications. Only the title information, however, is guaranteed.) If necessary, the Registry can provide access to the document to satisfy a legitimate inquiry so there is no need to record full particulars on the Register. This enables people involved in a transaction to check whether or not any document has been lodged in the Registry that may be prejudicial to their interest before they finalize their matter.

This information is also essential to the Registry staff. Before any application is registered the staff must examine any application held in the Registry affecting that particular real estate object and determine the priority of registration of those applications. *An application must not be considered in isolation from any others affecting the same real estate.* Where there appears to be some conflict between the applications held they must all be held in abeyance and the problems must be resolved by the parties concerned or, if necessary, by the Courts.

7.4 Examination

In this phase the application is thoroughly investigated. Essentially, this consists of comparing the information contained in the application to the relevant record in the Register to ensure that it is compatible with the current state of the affected Title. For example, in the case of a transfer of ownership, the person purporting to sell the real estate must be the same as the person shown in the Register as the owner of the real estate. Or again, if the title subject to a sale discloses a mortgage for which a discharge of mortgage has not been lodged, the transfer must acknowledge the

mortgage as an affecting interest or the matter must be otherwise resolved by the purchaser before registration can take place.

Other checks can include:

- examination of the application for originality, witnessing and other formalities;
- confirmation that each application is legally valid and can create a valid record for the interest claimed by the applicant;
- examination of the existing title to insure that a good title already exist (how the interest claimed by the applicant fit to the title);
- if necessary, examination of the instruments supporting the application and referred to in the title (for example, in case of change of the terms of lease;
- cross checks e.g. where an easement is to be registered records should appear for both the dominant and servient real estates.

> Government Decree 475 of 15.4.1996
>
> Real-Estate Rights and Transactions State Registration Forms Fill-In Procedure
>
> Documents, proving establish, termination, transfer and restriction of real estate rights, should satisfy the requirements of R F Law.
>
> Documents with non-stipulated and non-certified amendments (erasures, additions, words crossed out, etc.) are not to be accepted.
>
> Article 7

If any obstacle to registration is detected the person lodging the application should be notified in writing. The applicant should be given a specific period in which to rectify the matter. If not rectified the application should be rejected and the lodgment fee forfeited. If the application is subsequently put in order it may be lodged again as if it were a fresh application. Another lodgment fee should be paid.

A model of the type of registration practices and rules that should be considered in examining a range of applications are more fully described in Annex VI.F.

7.5 Priority

Under the Torrens system, priorities among interests are determined not by the dates of execution of the documents, but by the dates of registration in the Registry. An example; there are two mortgages registered on the same title, the owner defaulted in the payments to the lenders and the real estate was sold to satisfy the debt. If the value of the real estate was less that the amount owed under these two mortgages, the owner of the mortgage registered first would get paid first and the owner of the mortgage registered later would only be entitled to the surplus, if any such remained. The priority is defined on the basis of the 'first in registration' rule, under which an owner of a mortgage of later date could have priority over a owner of a mortgage of earlier date simply by being registered first.

Considerable time may elapse between the time an application was lodged and the time of registration. For this reason, in some countries the rule is adopted that the registration is deemed to have occurred as of the date and time the document was received for registration. In this way, the 'first in registration' rule ensures that the priorities established at the time of the application will apply.

7.6 Registration

When the application is in order, the title for the affected real estate in the Register is updated to show the transaction that has taken place. For example, in the case of a transfer, the old owners details may be deleted or shown as superseded and the new owner's name is substituted. In the case of a mortgage, a notification disclosing

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certain details of the mortgage is added to the title. Whenever the Register is updated, the number of the application which was the basis of the update should be shown.

The draft law on registration of real estate rights and transactions provides sample registry forms. For each record (no matter whether it is in ownership or encumbrance section of the Register) there are two sections - registration and termination. In each of them a reference is made to the document (name, serial number, number, issued by which authority and when) basis for registration / termination and the time of the event.

In the case of valid right/legal interest only being involved, the registration section will be completed. In case of terminated right/legal interest - both sections will be completed. For each of these actions the name of the operator (Title Examiner) is recorded.

7.7 Prevention of Registration or Search

In some circumstances, staff may commit an application to registration in the computer system and subsequently decide (on the basis of better information) that the transaction should not be proceeded with. A technique that has proved useful in some jurisdictions is to prevent the registration by the entry of a 'Registration Stopper' against the title of the affected real estate object. The device is simply a signal in the computer system that overrides the normal rules. If this approach is used, the system must report the signal to a designated person who has the responsibility of following up the amendment to the system and the removal of the stopper to allow the corrected transaction to proceed.

> Government Decree 475 of 14.5.1996
>
> Real-Estate Rights and Transactions State Registration Forms Fill-In Procedure
>
> In case of right (right share) transfer to another interest-holder, or right type, encumbrance, right validity terms change, registrar is to fill in columns "Right termination" and/or Encumbrance(restriction) termination" in relative form sections, and after that all records in columns "Right establish" and/or "Encumbrance(restriction) establish" are to be crossed out by one red line, made with ink-pen or ball-point pen.
>
> Article 17

Similarly, a second type of stopper may useful where a Registrar either knows or suspects that a registration entry is wrong. In this situation a 'Search Stopper' entered by a designated person will prevent any access to the doubtful title and allow the Registrar some time to conduct any necessary research and resolve the issue. Before applying the search stopper to a title, the designated person should print a result of search, mark it with the reason for the entry of the stopper and file it. If anyone with a legitimate interest in the real estate affected inquires, the reason for the stopper can be readily explained. It also serves as a reminder that access to the title is barred and the matter should be resolved.

7.8 Correction of Mistakes

Over time, the Registry will make some mistakes. Where these errors *are not critical* to the integrity of the Register (i.e. the error is a simple clerical error such as the transposition of a character in the area of the parcel) it is reasonable to provide the Registry with a simple recovery mechanism. Because the registration procedures requires the physical presence of a numbered application on which to act, the same authority is required to effect an amendment to a record.

> Government Decree 475 of 14.5 1996
>
> Real-Estate Rights and Transactions State Registration Forms Fill-In Procedure
>
> Ordinary technical mistakes (slips) are to be corrected by crossing out only the wrong word(words), without crossing out the whole record. Such corrections are to be stipulated in notes, approved by registrar's signature and certified by seal.
>
> Article 18
>
> In case circumstances that effect status of a registered right to real estate not known at the moment of registration have been revealed, cancellation of registration of this right is done by a court.
>
> Article 19

A straightforward way to achieve this is to allow for a special form (say a 'Registry Application') to be authorized by the Chief Registrar and lodged without fee on which the reason for the amendment can be fully explained and the corrections detailed. This application would be registered in the normal way and filed in the Registry archives for any necessary future reference by an inquirer. These amendments would not normally require the production to the Registry of the Certificate of Title because a replacement Title would not be necessary.

However, errors affecting any information critical to the integrity of the register such as a difference in the name of the owner, tenancy, share, right of ownership, etc., must have the authority of the owner and the production of the issued Certificate of Title. If the Registry caused the error, the amendment should be made for no fee. In this situation, a replacement Certificate of Title would be generated and issued to the owner.

7.9 Delivery of the Certificate of Title

When registration is complete, the Certificate of Title showing the current state of the title is delivered to the person who lodged the application. This delivery function should include the return of any documents lodged in support of an application and no longer required by the Registry.

7.10 The Computerized Register as a Tool to Efficiency

Within a computerized Registry it is possible to amalgamate certain activities described above. Over time, as staff become more confident and competent in Registry activities, it is possible to re-arrange the lodgment, examination and registration functions so that they can be carried out by one person at a computer terminal. Obviously the staff require extensive training to perform the several functions but the savings in time and money can be considerable and the service offered to the public very much improved. Naturally this approach depends on the degree of computerization of the Register itself.

8. Procedures for First Registration of Real Estate

The term 'First Registration' can apply to transactions affecting both existing rights converted into the new system and those rights registered for the first time following privatization or State allocation.

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The registration of these and other transactions within a REIS cannot be accomplished without considering some organizational and procedural issues such as:

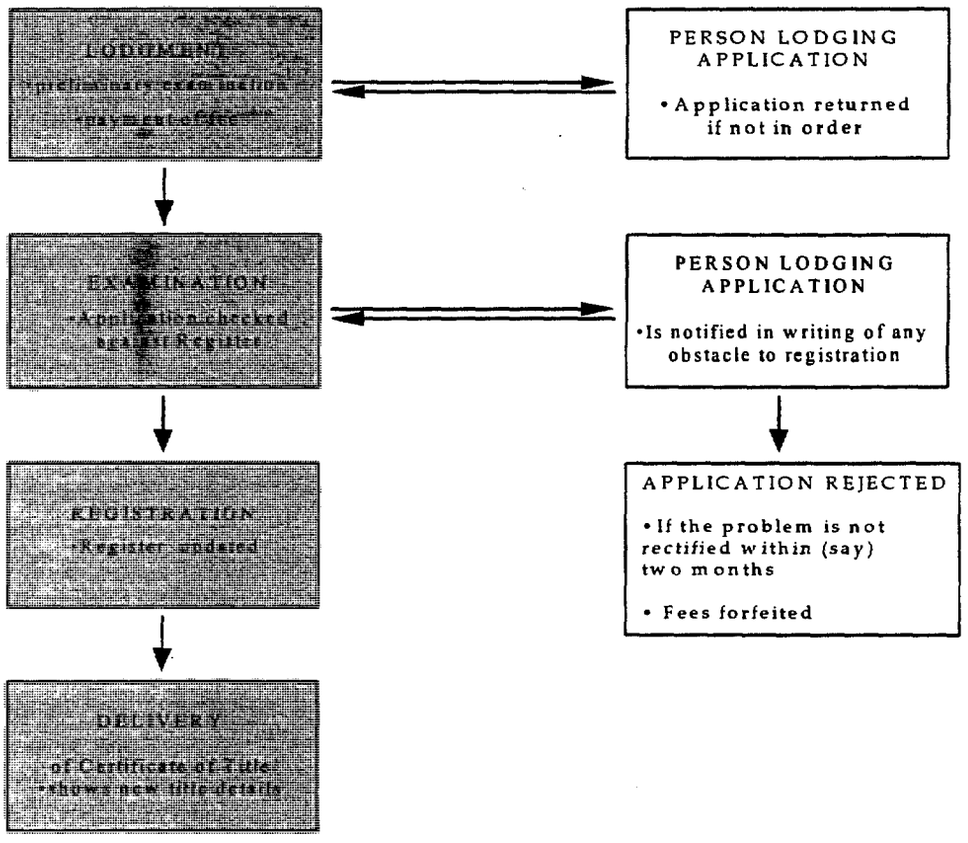

FIGURE VI. 11: DOCUMENT REGISTRATION FLOW

- Determining whether to create the REIS within a new organization or use technology to link the separate organizations that currently register rights.
- Developing and documenting the rules and procedures to be followed in effecting the first registration.
- Reaching agreement between the interested parties regarding the exchange of information once the system is in place. This agreement needs to cover such issues as overall system administration, system standards, security, fees, etc.

These issues are discussed more fully in Volume II

8.1 Approaches to First Registration (Adjudication) in Other Countries

When real estate is first registered it is important to ensure that the person registering has a rightful claim. The registrar will require all pertinent documents and other evidence to be presented for examination before registration of the interest can be accepted. This examination is necessary in a title registration system because of the guarantee regarding the accuracy of the records.

The process by which rights in land are finally and authoritatively ascertained in nature, location and extent is referred to as adjudication. *It is a cardinal principle of adjudication that it does not, by itself, alter existing rights or create new ones. It merely*

establishes with certainty and finality what rights exist, by whom they are exercised, and to what limitation, if any, they are subject.

Essentially, there are two alternatives in compiling a registry; adjudication by either a sporadic or a systematic method. The needs and the budget of a particular jurisdiction may give rise to a mixture of the two. For example, gradually building the register as the transactions occur and, subject to funds and resources, adopting a systematic approach in respect to targeted areas such as new housing developments where there is expected to be a high level of activity.

- **Sporadic Adjudication**

  This is the 'cheap and slow' method of adjudicating rights. If a country already has a long history of recording rights in real estate, but wants to convert to the more efficient system of Title Registration, the cost of conversion can be high. In order to minimise these costs some countries e.g. England, have taken the approach of adjudicating rights when a transaction occurs.

  A lawyer would normally require all the necessary historical documentation for a client when a transaction is taking place. The chain of title would be examined to determine whether the transaction is in order or not. The Registry then re-checks the documentation when it is lodged and, if in order, registers the transaction. The client is charged for the service. Attempts to have all owners pay these costs of conversion on a *voluntary* basis have always failed (both in England and the USA). Some form of compulsion is necessary; either through the law or by the owner recognising that conversion provides both security and economic advantages. Typically the costs of conveyancing under a title registration system are significantly less than with other systems. Further, if the law states that registered titles are guaranteed, but unregistered titles have no guarantee then there is a good reason to register the title. This is a *conducive* method.

  In order to make the register complete and conclusive evidence of all rights, it is necessary to make registration *compulsory* by stating that unregistered rights are ineffective. Experience in countries such as England and Australia has shown that compulsion is necessary to complete the register within a reasonable time frame. Normally the cost of the sporadic adjudication is covered by the applicant.

- **Systematic Adjudication**

  With this method the area undergoing adjudication is divided into a series of blocks or sections. One section is declared to be subject to adjudication and every piece of real estate within the section is demarcated and, and if necessary, surveyed and the validity of title and other rights are examined. Once a section is completed the results are typically put on public display so that objections to the accuracy of the record can be lodged. When the period for objections is completed, the whole section is considered finalized. Once one section is completed another can commence. (It is normal to have adjudication sections running concurrently.) Special legislation is usually enacted to allow for this process as it is, of necessity, compulsory for all parties to participate. In order to cover the entire area, the adjudication must be compulsory and the cost is usually met by the State.

  If the funds and the resources are available. systematic adjudication is preferable. The systematic approach means that, when adjudication is completed for a given locality, all real estate is registered. Systematic registration is preferable when the

objective is to include the Registry as a part of a multipurpose system or create a multipurpose system on its basis.

- The systematic approach has been used in countries where the existing records are poor and there are not vast numbers of titles to consider e.g. some of the Caribbean Islands, Seychelles and some areas of Africa. The cost for other countries has proved prohibitive and the sporadic approach has been used. In England and Australia this sporadic adjudication has been in process for more than one hundred years. However, in recent years, Thailand has successfully embarked on a systematic adjudication involving twenty million parcels of land over a twenty year period. The project began in 1984 and is planned to be completed in 2004.

- **Conversion of old Registers**

  Many countries wishing to introduce a reform of the registration system already have existing land and real estate recording systems in operation. The process is therefore one of converting one system to another. The new Register can be compiled by extracting the necessary details from the old records. This is a relatively simple clerical process and therefore is quicker and less expensive than the systematic adjudication described above. Adjudication may be involved when the existing records are in a deed registration system.

  In this case, the Registry will need to re-organize the existing archive. (For example, designate a unique identifier of each real estate unit and create separate folio/ index card / page in the land book or computer record for each of those units.) After that a systematic examination of the existing deeds (documents) is carried out in the Registry. The process can be initiated by the Registry (as systematic or gradual process) or by the owner (sporadic). In both cases the Registry serves a notice to the owners / interest-holders, giving them the opportunity to examine the information held and object within specified period of time. This form of adjudication is often referred to as 'deeds conversion'.

There is no clear either / or choice between field adjudication and adjudication by conversion. The choice will depend on number of factors such as the type of registration records, their legal validity and the availability and the completeness of maps for the real estate affected. The conversion can be facilitated by the availability of a complete and reliable real estate inventory that may have been established for tax purposes.

The availability of information for all registrable legal interests which exist in respect to a real estate object also affects the speed of compiling the Registry and the time and resources needed for this. Many countries have adopted a system of issuing QUALIFIED or LIMITED titles when the Registry is unclear about the ownership following adjudication or the extent of the land parcel. This may be because:

- documentary evidence of ownership is lacking, either because the root of title is inadequate or the deeds evidencing ownership have been lost;
- the evidence is not complete with respect to the legal description e.g. there is no precise survey but the owner is occupying a demarcated plot of land;
- the original owner cannot be found;
- the land is possessed by someone other than the legal owner (a squatter).

This device of providing 'provisional' titles enables the Register to be completed despite having legal issues unresolved or boundaries not accurately surveyed. In implementing this approach, mechanisms need to be developed (and supported with legislation) to allow the title limitation to be removed. Rules need to be defined such as removal of the limitation after e.g. 6 years from the sale of the real estate for valuable consideration to a third party who is at arms length to the owner. If there is no such sale, a period of e.g. 12 years (or some other time period as required under a statute of limitation), might be appropriate to enable conversion of provisional title to a clear title. If the provisional title was given to a person in occupation, despite having no legal claim to the real estate, they are considered to have a 'prescriptive' right. Subject to legislation, this could also become a clear title after a set period of limitation. Qualified and limited Titles are discussed more fully in Annex VI G.

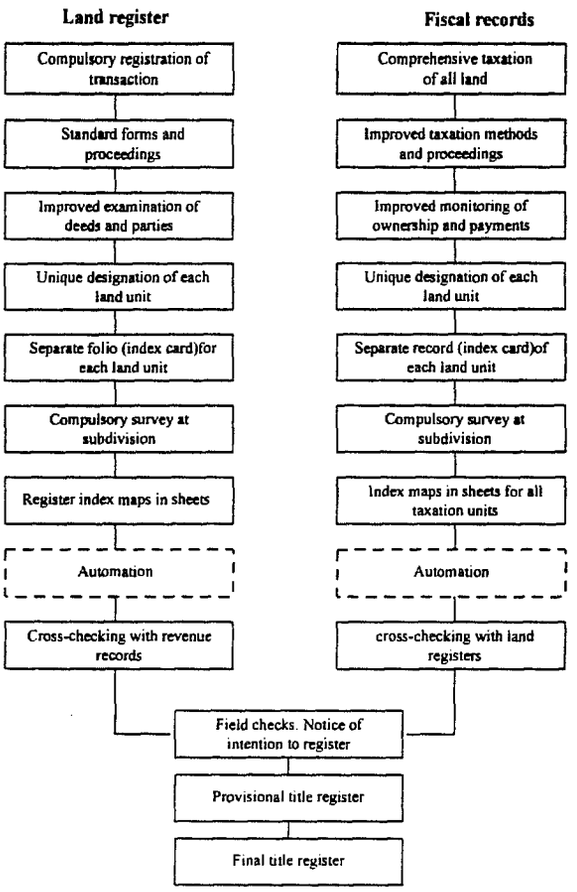

FIGURE VI. 12: STEPS FOR IMPROVEMENT AND CONVERSION OF LAND RECORDS[17]

8.2 The Process of Adjudication in Russia

Adjudication in Russia can be viewed as an element of the privatization process, during which the existing occupation rights granted to individuals are legally framed and supported. The role of adjudication is to determine the following; the current rights, their extent (location, size, etc.), the current right-holders, the legal

[17] Larsson G., Land Registration and Cadastral Systems, 1991

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basis for the occupation and rights to privatize. These are a basis for any decision on privatization.

Currently there are different institutions and different procedures applicable to the privatization of different types of real estate - land, building and units. There are also differences in the procedures as they apply for different types of legal interests - ownership, life inheritable possession, long term lease or short term lease.

Until recent times there was only State and private ownership of real property. This has now this has been extended to:

- The Russian Federation;
- Subjects of the Russian Federation (89);
- Municipal ownership (approx. 2 500); and
- private ownership.

- **Privatization of Land Rights by Individuals**

  The allocation of land parcel rights normally requires an Order from the Head of Local administration. The applicant lodges a form with the Local Administration, regarding the requested form of tenure (i.e. ownership, "life inheritable" possession, long term lease), purpose (i.e. housing development, agriculture, commercial, etc.) and area needed. According to the local provisions each family has right to be allocated a garden plot with area of 600 to 1200 sq. m. Statements of Compliance are required from all city authorities involved (in most circumstances involving the Department of Architecture and Town Planning). For other purposes, the Department of Architecture defines the parcel size and location according to the planning obligation. The Department of Architecture prepares a Resolution which is then signed by the Head of the City Administration.

  A cadastral survey is usually required and this is financed by the applicant and normally is undertaken by one of the local licensed companies. The survey is carried out according to the Regulations laid down by the Russian Land Committee. If the applicant wants to receive a legal document for a parcel already occupied, there is no requirement for survey until the secondary transaction. In case of a new parcel, an adjudication procedure follows which requires the presence of the neighbors and a boundary agreement document between all of them being signed. (The legal value of this agreement - whether it imposes financial obligations for fixing the boundary or any other legal obligations- is not clear. The effect of the adverse possession on this agreement is not yet defined.) The result of the survey is a final plan with coordinates, bearings and distances.

  On the basis of the Resolution, the Land Committee allocates a unique identifier to each of the new land parcels, prepares a cadastral / land file containing all survey information, a graphic representation of the parcel, all the primary certificates (right establishing documents), and a table indicating any use restrictions (such as environmental, conservational and historical). The owner is provided with the original of the ownership Certificate and a copy is held in the Land Committee. Currently, a Certificate is given to each share holder.

  The City Administration does not participate in secondary transactions. If a plan is not prepared at the adjudication stage, it is required for the secondary transaction stage.

- **Privatization of Land Rights by Enterprises (Presidential Order 1535)**

  The transfer in private ownership of enterprise real estate is undertaken by the Property Fund. (In some places the application is lodged with the Property Committee.) The applicant provides copies of the Charter; constituent documents; registration certificate for the Juridical Entity (notarized or verified by the registration agency); Privatization Plan; Certificate on the State share (only those enterprises which have more than 75% of the shares privatized can purchase land); purchase-sale agreements or any other documents for the ownership of the buildings on the enterprise territory; decision by authorities on parcel allocation (area, location, plan) or boundaries draft (from Architectural Committee); and Land Committee's parcel plan. If the plan is not available at the first stage, it is possible to sign a preliminary agreement which is finalized when the plan is available. All legal documents are provided to the Land Committee for the legal registration pursuant to Presidential Order 1767. The Land Committee also registers all subsequent transactions.

- **Privatization of Apartment Rights**

  The privatization of an apartment normally involves the Bureau of Technical Inventory (BTI) because they provide the necessary technical description of the apartment; the Local Administration (who makes the decision regarding privatization and prepares the appropriate documents) and the notary. The applicant presents certificates bearing the residency permit (issued by the Passport Office) and confirmation on the number and names of the current occupiers, , passports, and children's birth certificates. A Privatization Contract is drafted by the City Administration for the transfer of the apartment to the private owner and this is notarized. The agreement contains the description of the apartment,(i.e. address, and number of rooms), and a list of owners. A copy of the agreement is filed with the local administration, and the owner keeps the original. The document is registered in BTI as a 'right establishing document'. The secondary transactions involve only a notary and the BTI.

- **Privatization/Lease of Commercial Premises**

  The transfer in private ownership / lease of non-residential buildings requires an application to the Property Committee (PC). The applicant provides copies of Charter; constituent documents; registration certificate for the Juridical Entity (notarized or verified by the registration agency) or Certificate of individual entrepreneur registration for physical entity; administrative or legal documents on the basis of which the lease / sale agreement is concluded; copy of the technical passport from BTI; conclusions of the Architectural Committee (on the planning status); and the authorities for monument preservation (on the historical status).

  The application is reviewed by a PC Commission. Based on the decision of the Commission, the Head of the Administration will issue an Order. The sale of non-residential, municipally-owned premises takes place via auctions or other forms of public sales. Once the buyer is defined, a document (sale or lease contract) is drafted by and signed by the PC and the purchaser and it is registered in the Registration Department of the PC. In some of the localities there is a requirement to register building/ commercial unit rights in BTI, in other places the PC registers not only the sale contract, but all subsequent transactions with the commercial premises.

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8.3 First Registration in Russia

It is obviously desirable to have both real estate registration law and regulations in place before commencing 'first registration' activity. However, it may or not be desirable to have a single approach to the first registration for all cities in Russia. It is therefore important that each city allow a certain level of flexibility within the framework of the registration law and create their own short and long term policies within the budgets and resources in which they operate.

A unified approach to first registration for the Russian Federation will depend on factors such as:

- The population and the number of land parcels and apartments.

  For big cities almost the only economically and organizationally feasible approach to first registration is on a sporadic basis. For the small cities the process can be undertaken systematically in parallel with land parcel or building inventory.

- The institutional arrangements.

  The rearrangements underway in some of the cities aiming to unify all registration activities, can place considerable demands on the existing organizations prior to effecting the first registration. The issues include the introduction of unified standard forms, procedures, certificates, preparation of the archive, office reorganization, accommodation, training, etc. The unification, however, is expected to substantially reduce the time and cost of the secondary transactions once the fist registration is undertaken. If there are numbers of institutions retained in the registration process, the first registration will remain much the way it is. However, there will be a need for much better coordination between the institutions involved for the efficient registration of secondary transactions.

- The status of ownership / possession information and real estate inventory.

  Provided there are current, reliable and complete ownership records, the first registration can be a straight-forward clerical process. In some countries, for instance, the parcel inventory is taking place systematically. For a given area, all parcels are surveyed and cadastral identifiers are allocated. This information can be used for the creation of entries in the Register and, therefore, is available for the registration of any secondary transactions.

- The availability and degree of computerization.

  Data are the most expensive component of any information system (paper or computer based). Provided there are current computerized records relevant to the technical description or legal status, they can be used to support the compilation of the Registry. The conversion of the existing records from one format to another can be applied as a single step or a periodic process, depending on the number of institutions involved in the registration process and their responsibilities.

- The number of privatized units and the speed of privatization and the activity of the secondary market.

Legal registration in Russia is driven by the privatization of real estate together with the need to provide secure title to the new owners and the need for a cheap, efficient and reliable way for undertaking secondary transactions. In the localities with higher activity of the privatization and secondary market, there will be a higher pressure on the Registry to ensure that all elements (staffing, organization of public space, preparation of forms and registry books and files, etc.) are efficient.

The development of an approach to the registration of real estate can follow one of several paths.

8.3.1 Compulsory Sporadic Registration

Compulsory sporadic registration requires that all real estate objects sold after the enactment of the appropriate law to be registered. This also implies that all subsequent transactions with these units will be registered. Most of the temporary provisions require such registration.

DECREE
of the Head of Nizhny Novgorod city Administration

Date: July 11, 1995
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...
8. State registration is a mandatory process of establishing, changing, terminating a right to real estate, except for the cases, specified by the Law.
Absence of registration of rights to real estate might lead to the consequences specified by the civil legislation. In accordance with Article # 165 of the Civil Code of the Russian Federation breach of the requirements to register a transaction shall mean that such transaction shall not be valid.
....
12. All rights to real estate certified by the documents after this ordinance entered into force are subject to mandatory registration.
Rights to real estate existing before this temporary ordinance shall be legally valid if they are not registered . Registration of such rights is done upon right-holders' wish.

There are currently no time requirements for registration. To guarantee the implementation of the law in most of the countries introducing title systems there are stronger requirements stipulating that any transactions not registered within a specified period of time is not valid. (This period may be, for example, from two to six months.) This requirement for compulsory registration can be extended to also include the real estate privatized after the enactment of the registration law. Currently in St. Petersburg the owners of the privatized apartments do not receive any documents before the legal registration in Municipal Bureau of Registration of Rights (MBRR).

8.3.2 Gradual Systematic Registration

Systematic registration can be applied in two stages:

- Systematic (i.e. area by area) compilation of the Register with some basic real estate information as the basis for registration e. g. real estate/cadastral identifier, address, type of use, area, etc.

This work can be justified even for sporadic registration in order to prepare the Registry books, avoid possible mistakes in real estate identification and speed up the

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first registration process. This mechanism can also facilitate the establishing of the basis for a taxation system and the efforts of the involved authorities can be consolidated. The process will involve the following stages:

a) Define the area. An area consisting of a few blocks will allow rapid completion.

b) Verify on the map whether all current parcels and buildings are shown. At this stage buildings can be simply indicated on the map - there is no need for them to be accurately delineated.

c) Allocate or finalize *unique* cadastral identifiers. Where available, cadastral identifiers can be allocated to both the parcel and any building on that parcel. Where there a number of parcels, a temporary cadastral identifier can be given (See Sec. 4.3) The building without a parcel will bear the temporary parcel identifier plus the building number.

d) Create an index cross-referencing the cadastral identifier with the address.

e) Compile the necessary pages for the Register.

f) Create an entry for each real estate object including the main descriptive information such as land use, area, etc. This work can be undertaken as part of the next stage or on a sporadic basis. It can, however, be justified if the efforts are merged for both fiscal and legal purposes. (There is, for instance, a process of systematic entry of the above listed data in Tver which will benefit both the tax and legal registration system in the future.)

- Systematic registration of some areas where market activity is expected to be high, such as individual housing areas and commercial or industrial areas where enterprises operate.

This can be an extension of the previous stage with the conversion of the already existing legal records. It can be recommended for cities with a high level of reliability and completeness of the real estate inventory or with resources to undertake this work in the future on systematic basis (area by area). The process may involve the following steps:

a) Defining the area.

b) Appointing officials and making regulations to oversee the process.

c) Collecting all the relevant data from the Committees that hold the information.

d) Assessing the validity of the data and resolving doubtful points.

e) Checking whether parcel boundaries conflict with building position or with the neighbouring parcels. If there is a problem some survey work may be required. It may also be advisable to issue *limited* titles that specify that the title is only conclusive with regard to ownership, but not as to area or boundaries. Public utilities and pipes can be declared as overriding interests (see Sec. 3.3) to obviate the need to record those rights.

f) If the name of the 'owner' has simply been extracted from existing records that may be unreliable and the name cannot be confirmed at this stage, a *provisional* title could created for each affected privatized real estate object. (A publicity campaign should be considered to inform all concerned parties of the new registration process and the stature of the issued titles.)

The title remains provisional until either a specified period of time elapses following public announcement of the period and an invitation to inspect the record; or owners bring their documents to the Registry to prove their Title. (This will occur automatically when a transaction occurs.). Letters should be sent to all known owners requiring them to check the details registered in addition to the publicity campaign mentioned above. However, it should be clearly stated in the letters and publicity that responsibility lies with the owner to ensure facts are correct and not with the Registry.

g) Letters should be sent to banks and other creditors requiring them to check whether mortgage information is correct. However, it should be clearly stated in the letters and publicity that responsibility lies with the lending agency to ensure facts are correct and not with the Registry.

h) A means of adjudicating disputes should be established. There should be both a simple administrative procedure using appointed staff to resolve the issue and an opportunity to appeal to the courts if dissatisfied with the outcome.

i) It may be an opportunity to privatize properties at the same time, on a large scale rapid basis. This initiative can only be implemented in liaison with those organizations which allocate tenancy or land use rights or privatize real estate.

j) All organizations who originally kept the records in respect to those areas undergoing or which have undergone systematic registration must be informed.

The systematic compiling of the Registry is a labor intensive activity. Additional resources (computers and staff) from other departments should be co-opted to do this as quickly as possible. Once the proposed mechanisms have been developed for a systematic approach they should be tested in a pilot area to show the possible advantages and disadvantages of the suggested forms, real estate identification system, standard documents, procedures, etc.

The systematic approach in the construction of the records helps to eliminate errors. Because all the real estate in a particular area is dealt with at one time, the interests of all parties can be considered together and no person or group gets priority. Associated concerns with this approach are the costs, the resources and the organizational work needed to undertake the task.

The time involved in surveying and the checking of documents builds up very rapidly. It is important to keep in mind the speed, and therefore cost, of privatization and subsequent registration. Simple arithmetic calculations relating the cost and time taken to privatize, register or validate a transaction with the total number of expected transactions will bring realism to the situation. It will be possible to project whether the current procedures will cope with the expected workload. A balance has to be reached between time and cost involved in first registration and risk involved in relaxing those procedures or limiting the data entry. *If the current methods cannot cope with expected workloads they need to be changed.*

In introducing a Registry, the process of First Registration is the most complicated and expensive part. Once this is done, the actual functioning of the Registry is straight forward. Security of title encourages the land market and a well managed Registry not only satisfies the needs of the community - it will also be a profitable enterprise.

9. Access to the Register

Registries are normally *open* to the public. This means that all the records (including the title register and any filed supporting documents) are available to any person. Usually a fee is charged for the service. This access is an important feature of the 'abolition of constructive notice' principle on which the Torrens system is based. In order to have actual notice of a competing claims or a prior interest, it is necessary to know what that claim or interest is. For example, an inspection of a title will show a list of any registered charge or encumbrance such as a mortgage, easement, etc. However, the title will not disclose the terms of these interests. For this, it is necessary to examine the document that created the mortgage or other charge. The open access principle applies also to plans where they are stored in the Registry.

In the initial stages of Registry operation, the demand for information by members of the public and others may not be high. In these circumstances the information required might be extracted from the Register by the staff and transcribed onto a 'Result of Search' form. In some circumstances, the Registry may allow searchers to access the Title records directly so that they extract the details required. Alternatively, the Register may be held in a format which allows the title information to be easily photocopied and this copy can be endorsed with a Registry seal and recognized as an official record of the status of a title at a specific date.

However, as the Registry grows and the volumes of inquiries increase, the simple manual systems of extracting the information or even photocopying the title and/or the supporting documents held in the Registry will not be sufficient. In order to facilitate the effective retrieval of title information, different methods and technologies will need to be examined such as microfilming or converting the Register (by either scanning or by a manual entry of data) to an electronic format.

At a future date it is likely that real estate agents, notaries and banks will want to be connected 'on-line' to the system. They may make both unofficial and official inquiries. Their needs will also impact on a registry's future development of procedures and technologies. In addition, departments within the City Administration may want to charge each other for data supplied. A pricing policy and method of invoicing for data used would then need to be devised by a registry.

9.1 Form of Inquiry

To facilitate the efficient processing of requests for information, a Registry should consider the use of a specific inquiry form. The form essentially needs to describe the specific real estate that is to be the subject of the inquiry together with such other detail as required by the Registry. The most effective descriptor or access key is the official identifier of the real estate.

However, it is likely that this information may not be readily available to an inquirer and other forms of identification may be necessary (e.g. the Title reference number, owner's name, street address, etc.) In some Registries these details may be usable as direct access keys. In other Registries an inquirer may have to determine the appropriate access key through one or more cross-reference indexes developed for the purpose.

The operational needs of the Registry may require that all applications for title information should specify the purpose of the search and that they be kept as a permanent record of the inquiry. In Russia, there is a general understanding that information will be provided under certain circumstances - for instance after an

inquirer includes in an application his or her personal identification details, the description of type of information required, the purpose of the inquiry then and a declaration that the information will not be used for any other purposes In these circumstances, the applications may need to be numbered (to assist in retrieval as necessary) and that number noted in a special record created for the purpose. See Volume II, Table II.2 for a brief summary of the approaches used in several cities.
A distinction may be made between the type of information drawn from the Registry (e.g. general information such as the name of the owner only or full title particulars) and this may affect the fee charged and / or the retention or otherwise of the search application. If the Registry chooses to make these distinctions it should, for administrative convenience, consider separate applications for the different search types Ideally, the outputs might be limited to, for example, two types of inquiry (name of owner only or a full title search) and thereby facilitate the development of standard operating procedures for their processing.

The form may also be imprinted with a cash register receipt and used as permanent record of the fee payment. If the system cannot produce a result of search while the applicant waits, the form could be designed to provide a 'tear-off' receipt which could be given to the applicant. This receipt would be the authority to the Registry to deliver the search result to the applicant. In this circumstance the form of application may need to be numbered to facilitate the retrieval of the completed output from the file of searches awaiting delivery.

9.2 Search Output

The format of the result of search may be handwritten, typed, photocopied from the title or generated by the computer from the automated Register. The issued document should bear some statements as to the authority and source of the particulars, the date and, if appropriate, the 'life' of the information. For example, a title search may be deemed to be effective or guaranteed for a certain number of calendar days, or specify an expiry date (..valid until 6 p.m. on .. ..), etc.

Where the output is in respect of a full title search and therefore guaranteed by the Registry, consideration might be given to printing the output on specially printed paper so that subsequent unauthorized alterations can be readily detected.

The Registrar should consider the feasibility of having the content and format of the full title search replicating the content and format of the Certificate of Title. This will help users to readily compare the two documents at a settlement between a seller and a buyer. The colors and the names of the documents should, however, be distinctive so that there is no chance of confusing the two. In a computerized system this is not only feasible but probably desirable in that only one print routine is necessary.

9.3 Official Search

Prior to a sale, mortgage or lease an inquirer needs to ascertain the full title particulars of a specific real estate object i.e. the rights of the current owner and all affecting encumbrances, etc. The result of search generated is often known as an 'Official Search' and the document produced is similar to the 'Spravka' currently issued by many of the BTI offices when a request from a notary is received.

In some access models a registry may want to 'freeze' the Register whenever an Official Search or 'Spravka' is generated to support a transfer of real estate. Within a computerized system, the time and date of the inquiry could be automatically recorded and the details noted in a computer file. This recording can cause a 'flag' to be then placed on the title of the affected real estate object. This flag could operate to prevent the lodgment of any application unless the initial Spravka is produced. Any subsequent official search made during the life of the Spravka could then show that there is a prior action and the prospective buyer or mortgagee is alerted.

Flags might remain for a specified period of time, say, 10 days. The Spravka could be dated and specify that the details are only accurate for the specified period. Anyone relying on the data after that period would so at their own risk. Flags could be removed after the approved application has been registered. If the transaction did not progress, perhaps because the purchaser was not satisfied with the situation following a review of the Official Search, the flag could be deleted and the application record closed. A new official inquiry could then be made. This approach gives rise to some difficulties in a situation where real estate is offered for sale at an Auction and a number of people want to make inquiries.

The registry in Nizhny Novgorod provides two types of outputs. One (for the owner) contains full details; another (for an inquirer) contains all of the above information *except* for the names of the owner. Official inquiries would normally be made by the prospective purchaser or his lawyer. A city might decide to introduce a different scale of fee for simple inquiries and Official Searches. A Spravka could be issued automatically at the counter without having to get details from the BTI or KomZem files, or checking by senior personnel if the data is readily available in computer format. The Spravka would require an official stamp.

Most people inquiring of a registry are seeking title information to support a conveyancing transaction (e.g. sale, lease, etc.). Their needs are satisfied by the registry issuing a document (certificate) fully detailing the current title particulars of the specified real estate. They are entitled to rely on this certificate and do not need to know the history of transactions leading up to the present position. In fact, people requesting the history of transactions probably should be discouraged in some way (e.g. the applicant must have a sound reason and the certificate might attract a higher fee than the standard certificate of only current information.

Notwithstanding this, the registry should provide a mechanism to generate a 'Historical Search'. The information contained in this certificate could be a very basic index of transactions that have been registered on the title for the specified real estate. Experience in other countries suggests that, if an applicant can be given access to the registered documents, this index can simply be the date of the event; the identifying number of the transaction; the type of transaction registered (e.g. sale, will, change of name, etc.); and an indicator as to whether or not a new edition of the certificate of title issued following transaction registration.

9.4 Other Searches

Inquiries may be made by individuals or organizations for a number of reasons but, as they do not ultimately affect the data in the register they may be considered as 'unofficial searches'.

For example, an individual may require information on:

- The cadastral identifier and address of a particular real estate object;

- The form of ownership (state or private) of a particular real estate because they are interested in commercial leasing from the municipality;
- Any mortgages or arrests (court prohibitions or liens) on a particular real estate because they are going to start negotiations on the terms of long term lease contract with the owner;
- Are there any minors registered as owners of a real estate;
- Their own title particulars;
- The Registry index map;
- Who owns the parcel / building (to resolve maintenance problems).

Civil authorities may require information on:

- Which properties are owned by an individual (and they may need a map locating the properties);
- How many mortgages have been issued by a certain bank that may be under investigation;
- Data for statistical analysis; or
- Data for collection of taxes.

These inquiries may require information connected with the technical description (legal description) of the real estate or require a very generalized answer in regard to the legal matters (yes or no answer or number - e.g. number of owners, type of ownership, number of mortgages, number of leases, the number of minors registered, etc.).

When the conveyancing market matures it is probable that a variety of users will be connected to the Registry via a network. These users will be able to directly access the Title and other information that they require and they will pay fees for the service. The access might be through a third party provider or direct to the Registry.

In the early stages of the REIS, most users will only require access on an ad hoc basis to limited and specific information. They will not have a need for a direct connection nor would their demands justify the likely costs of such a service. A facility to satisfy this need could be in the form of an information service by phone.

An outline:

1. Client information needs should be well researched and details such as the information to be made available, its format, access rules and procedures, fees to be charged, turnaround times for information, etc., need to be developed and documented.

2. Initially, the information supplied should probably be restricted to one, or at most, a few types of standard inquiry, e.g. a generalised legal status query regarding information such as the type of ownership, number of owners, number of leases, the number and type of restrictions, etc.

3. The facility must be adequately staffed with trained operators and the appropriate number of telephones, fax machines, etc.

4. Suitable arrangements need to be made for the collection of fees (e.g. credit card, specific clients only, pre-paid accounts, monthly billing, etc.).

5. The inquirer should have all the appropriate information available to readily access the system e.g. the reference to title, the unique identifier of the real estate, etc. (Once the service has been in place for a while this requirement could be relaxed to provide a more general search service. Care, however, should be

exercised if the service becomes more general because it could adversely affect the capacity of the staff to respond quickly to an inquiry. For this type of service to be successful, clients typically want a rapid response.)

6. Subject to user requirements the inquiry could be responded to over the phone or by Fax with the original documents sent by post.

10. Real Estate Mutations

In some countries the cadastral map is compiled and maintained by the Registry. It is common, however, to have the map base maintained by a separate institution such as a Survey Department. In these instances, a copy of the cadastral map is made available to the Registry for the use of office staff and clients. The changes affecting parcel boundaries are often referred to as mutations.

As a mutation affects the Register, (i.e. the title of the parcel that is being mutated will no longer exist once the plan is registered) the plan must be authorised by the Registrar before the cadastral map is formally changed. Typically this authorisation will be in the form of an official seal and / or signature on the registered plan and that plan becomes the property of the Registry. *Without this sanction the plan is not a legal document and should not be acted on in any real estate transaction.* The functionary responsible for maintaining the currency of the cadastral map (Registrar or a Survey Department) will then update the cadastral map to show the correct line or position of any boundary change together with the unique identifier of each of the new real estates. Where the Registrar does not have prime responsibility to update the maps, the Registry will ordinarily update its copy to ensure that current information is always available to staff and clients. Over time these amendments will be incorporated into the base map by the responsible authority and replacement copies issued by that authority.

When a plan is lodged with a Registry for registration it must show the unique identifiers of each of the new real estates and be accompanied by:

- approval by any appropriate authority (e.g. those responsible for the provision of roads, water, sewerage, electricity, drainage, etc.) as evidence that the authorities' requirements have been complied with. These requirements may include concerns such as minimum land size, quality of survey, street access for each of the new parcels either directly or by the intention to create appropriate easements, etc.;
- the Certificate of Title for each real estate affected;
- a request by each of the owners to register the plan (this may simply be in the form of a signature on the form or the Registry may require the completion of a formal application); and
- the consent of any mortgagee and / or long term lessee and, if necessary, of all adjoining owners. (This consent could be by signature on the plan or on separate documents which would be retained by the Registry.)

Whenever the boundary of a parcel or the layout of a commercial or residential unit is altered by the registration of a plan showing the mutation, the title of the affected real estate must be cancelled by the Registrar and new titles created for each of the new real estates specified in the plan. Each of the new parcels will refer to the unique cadastral number allocated by e.g. the Land Committee. This will usually be the next in sequence for the section. (Some registries prefer to retain the original

parcel number and give each subdivision a sub number or letter. This can create confusion when land has been subdivided several times.)

As with the registration of other documents (e.g. transfers, mortgages, leases, etc.), fees are normally charged for these plan registration services.

10.1 Types of Mutations

10.1.1 Division

This is the break-up of one or more existing real estates into a larger number of real estates. Typically this division is normally of land parcels but conceptually, it is possible to also divide buildings and apartments and create more new real estate objects. The most simple division is the break-up of a single land parcel owned by one entity into one or more new parcels. The complexities of multiple land parcels and multiple owners (private and corporate) do not change the principles of division.

In some countries, the title may only extend to the surface. In others the title extends to the air above it and the earth below. The latter may have exceptions of certain general or specified minerals. Subject to the local requirements it may be possible, therefore, for a division to be of stratum either above or below the land surface. When the plan of division is accurate enough to allow the real estate to be relocated at any time in the future (and this may require a plan of survey), the necessary approvals are obtained and the real estates are uniquely identified, titles can be created for each of those new stratum real estates.

Once a title for a particular cadastral identifier has been cancelled following the registration of a plan of mutation, that previous description must not be adopted again. If in the future, a decision is made by an owner to adopt the previous boundary, a new plan must be lodged for registration. This plan will show the new cadastral identifier, and as described above, be endorsed with the appropriate approvals to the 'mutation', etc.

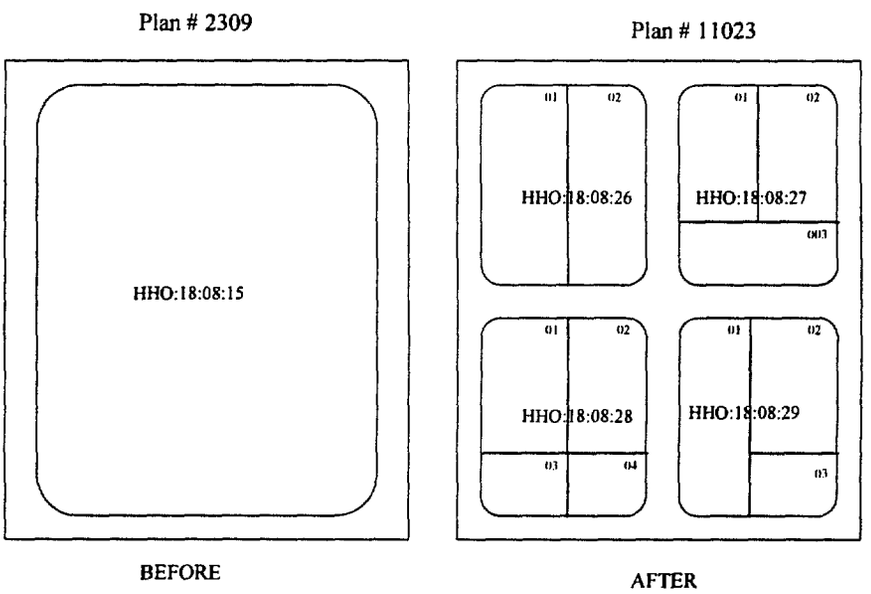

FIGURE VI. 13: DIVISION OF CADASTRAL BLOCK

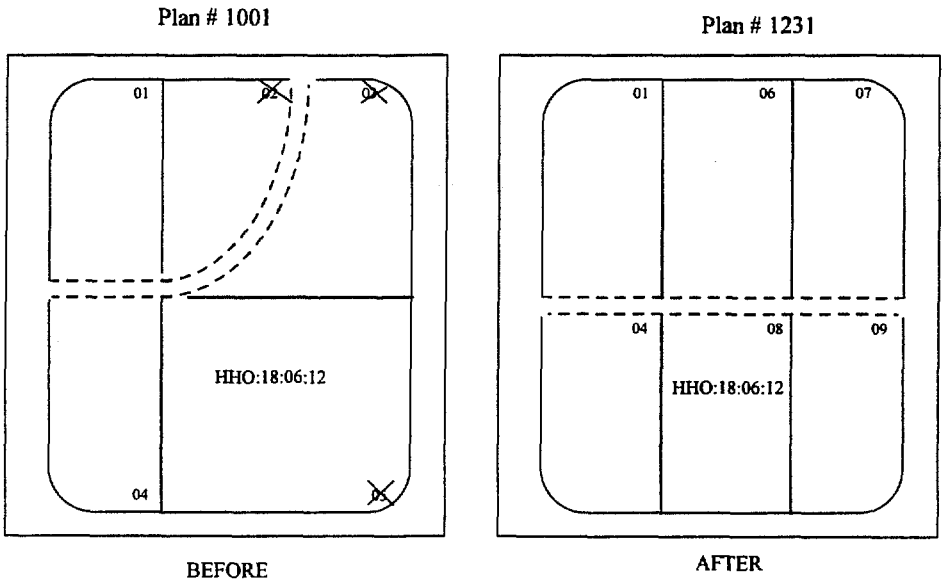

FIGURE VI. 14: PARCEL MUTATION

10.1.2 Consolidation

Contiguous real estate objects, whether owned by the one or several owners, may be combined into a new, single real estate following registration of the plan. The Registrar may or may not require that all the affected real estates are subject in all respects to the same rights and obligations. Following registration of the plan, the affected titles will be cancelled and a new title created for the new real estate.

The registration of a plan of consolidation involving several owners will require the usual approvals and documents to be produced. Typically this type of plan is registered because the intention is for one of the existing owners or a completely different owner to acquire the real estate for developmental purposes. In some jurisdictions the parcels to be consolidated must be in the one ownership before the plan is lodged for registration.

These types of mutation may require the owner to coordinate with or obtain the approval of the authority regulating on the appropriate size and shape of the real estate from point of view of the land use. Such approvals should be lodged with the plan when it is presented for registration.

If the plan of survey which created the original real estate is deemed to be of sufficient quality and accuracy, the Registrar or the responsible authority may not require the new plan to be a survey. In this case, the owners (or, if required, a surveyor) could prepare a plan 'compiled' from the original and so save on survey fees.

10.1.3 Change of Boundaries

In some jurisdictions the Registrar may allow simple, minor amendments to be made to an adjoining boundary when the two owners (and any affected lessee and / or mortgagee) agree. To differentiate this minor change in a boundary from a formal parcel division, which will probably require a plan of survey, the rules need to be developed and documented in conjunction with the authority responsible for examining and approving plans. Consideration might be given to issues such as: limiting the adjustment in urban areas to a relatively small amount (e.g. allow a bend in an internal boundary to avoid a corner of a shed that overlaps the original boundary by centimeters); not allowing any movement of the boundary at its extremities; accepting a compiled plan rather than requiring a plan of survey; etc.

Changes of this nature will not result in the creation of new parcels (the change registered is more in the nature of a re-definition) and, as such, the original titles will not be canceled. However, the titles for the affected parcels should be endorsed with a notification alerting persons subsequently dealing with those parcels as to the identity of the plan that needs to be inspected for details of the re-defined parcels. Provision should be made for the Registrar to refuse to register such a plan where, in his opinion, the proposed charge of boundaries involves substantial changes of ownership which should be effected by a plan of division. In this instance the issue can be resolved between the owners by way of formal cross transfers.

Detailed mutation procedures may differ considerably from country to country depending on such factors as:

- number of authorities involved and their specific requirements;
- whether private or state surveyors are used;
- the survey standards, and the approval processes required to the survey work;
- the method of survey;
- the type and requirements of boundary monumentation; and
- Registry practices and requirements regarding (e.g.) approvals of concerned authorities and affected parties, format and specific information shown on the plan, certification by the surveyor, the plan form, size, pre-printing, etc.

Figure VI. 16 shows an example of one of the ways possible of organising the mutation procedure in the case of separate survey and registration authorities.

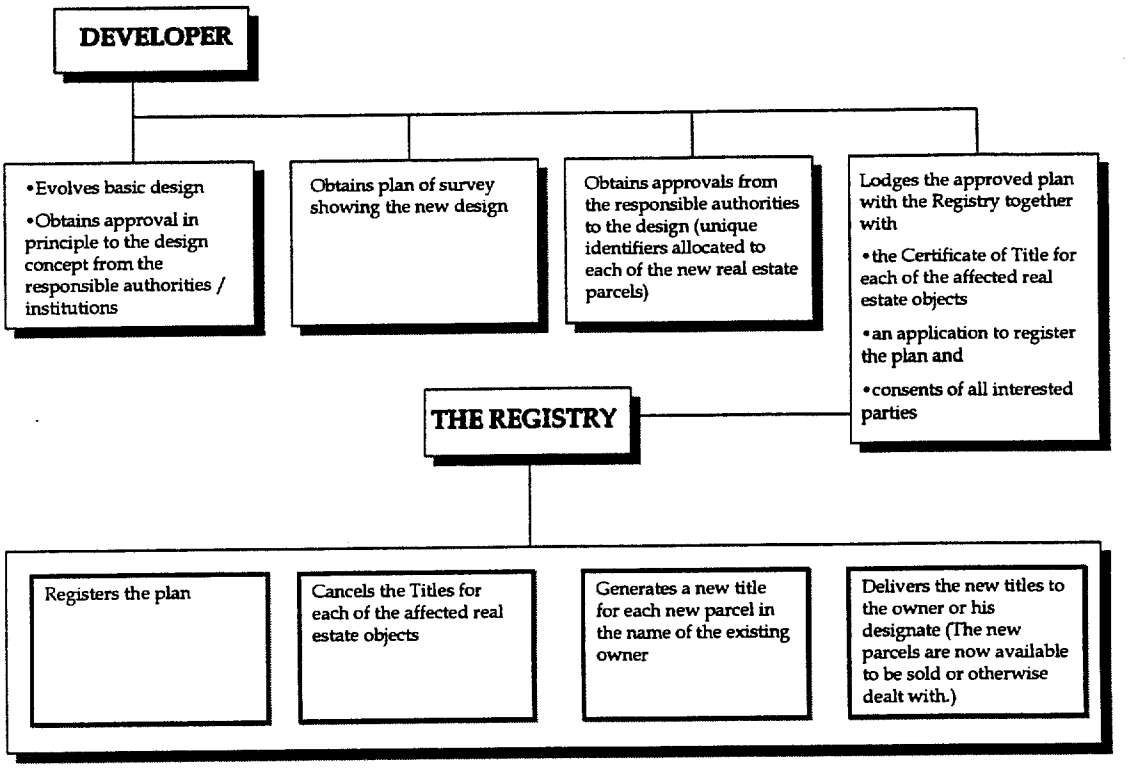

FIGURE VI. 16: PLAN REGISTRATION AND TITLE CREATION

10.2 Situation in Russia

Currently there is not much experience in land parcel mutations. Individuals are allocated rights to small (mainly garden) plots. If a developer needs land, he has to buy it either on the secondary market from individuals, who have already privatized their parcels, or from the municipality. In the latter case, the municipality auctions the land. It appears that developers are conscious of the possibility of acquiring land in other ways. For example, purchase a building and in this case the parcel rights go with the building rights. No guarantees exist in terms of permission for developing and redeveloping. Presently there is no zoning system and any planning decisions are taken in regard to the real estate in question. Developers are also looking to buy land from the parcels privatized by enterprises. These may be large plots and generally vacant. More efficient means of production often means that previous need for (e.g.) warehouse space is reduced and the associated land is surplus to requirements.

10.2.1 Mutations

The mutation process involves authorities such as the Land Committee and the City Administration through the Department of Architecture and Town Planning. Applications are lodged with the City Administration and Land Committee for the preparation of the materials needed for the mutation. Resolutions are required by the Land Committee and the Architectural Department. (The Committee of City Planning and Architecture in St. Petersburg states that when the zoning system is available, they will be able to define the zones for which mutation planning will require coordination with them and those zones for which this coordination will not be necessary.) The Land Committee is expected to stipulate the parcel size, but there are no provisions on the size which is appropriate from the point of view of specified

land use. The mutation plan is prepared by one of the licensed surveying companies. The control of the survey is undertaken by the Land Committee (or by the Geodetic Department). After the survey is done and checked, the Land Committee undertakes all necessary changes of cadastral files, cadastral numbers and prepares new Certificates of Title (if land transfer is involved).

All changes to the quantum of real estate must be registered. This avoids the potential for subsequent legal conflicts. In some cities building, commercial and residential units are subdivided with a subsequent transfer which is not registered. (In Saint Petersburg the Registrars of the Land Committee's Department on Registration often have to deal with new BTI certificates showing changes in the area of previously registered real estate, but those changes are not reflected in the Register and there is no apparent justification for the change.) This contradiction results in legal complication and creates conflict between the owners and the Registry.

10.2.2 Development of Real Estate

The process of gaining planning permission requires an application to be made to, for example, the Department of Architecture (this function may have different name in different places). The authority prepares a planning assignment and defines the size of the parcel which will be needed for the particular development, (the procedure is defined according to the previous system when municipalities were allocating parcels for all developments) and provides a project-plan of parcel boundaries.

The procedures for obtaining planning permission were developed during the previous system under which the State allocated land for all purposes and stipulated the size and the location of the parcel. Parcel rights were not registered before the erection of the building. With this approach there was little, if any, security for the private investors during the development phase.

The developer provides the development design. The coordination of the project involves number of authorities such as fire, utilities, architecture, etc. (up to 17 in Pskov). The final decision is taken by the responsible authority and building permission is given to the applicant. The developed building is accepted by a commission. (In Pskov this authority is called the Independent Interagency Commission; in Saint Petersburg it is The Inspection for State Architecture and Development Control and by an Interagency Commission; in Tver it is the State Architectural and Building Committee.)

Once the development is finalized, the BTI undertakes the technical inventory and prepares the technical passport for the building and the developer provides an executive / final survey. The accuracy of the survey is sufficient for registration purposes. (In some places the developer is required to provide another cadastral plan.) The plan requires the approval of the Land Committee and new land certificates are issued by them. Where the building is residential the ownership rights for the building will be registered in the BTI. It appears that the processes of registering privately developed commercial buildings are still being evolved. In some places it is expected that the building rights be registered by the Property Committee (KUGI), in other cities the registration of commercial premises takes place in the BTI.

Mutation procedures must be clearly-defined and coordinated with the existing authorities responsible for registration of mutations involving both parcels and buildings already registered to ensure sufficient final boundary control exists after the development. In the cities where new unified registration authorities exist, most of the procedures still function the same way they did prior to their establishment. The focus of these authorities, therefore, is the registration of first and secondary transactions with residential premises.

Care must be taken by the Registry to ensure that the development process and the associated mutation procedures are fully developed and coordinated with the existing authorities.

11. The Registry

Each jurisdiction will have its own needs and requirements of its registry. However, the following may assist in focusing the attention of all participants in what could be regarded as the essential roles and functions of a registry.

11.1 Mission and Objectives

Mission of the Registry:

To satisfy community needs and expectations for certainty of title to real estate, while operating as an efficient business enterprise.

<u>The major functional objectives of the Office are:</u>

- To provide the community with a secure real estate titling system through accurate, prompt and cost effective registration services;
- To ensure the correct definition of the boundaries of land titles;
- To provide the community with essential real estate information concerning property ownership and title content;
- To develop and maintain a sound legislative foundation for a system of real estate ownership consistent with Government policy;
- To operate as a financially self-sufficient government business enterprise and optimize economic returns to the State;
- To promote efficiency, effectiveness and accountability in the management of human, financial and material resources and assets; and
- To develop and multi-skill the employee workforce to maximize the efficiencies presented by technological advancement.

In very simplistic terms, the Registry achieves these goals through legally supported and documented procedures which facilitate: the generation of new title records following the registration of a plan which creates new real estate objects; the cancellation of the titles for the superseded real estate objects; and the update (by the modification or deletion) of information held in the Register following the registration of transactions affecting the titles of specified real estate objects.

The end result is a single entity who is both *capable* and *authorised* to certify;

WHO owns
WHAT real estate and
WHAT easements / encumbrances (if any) affect that real estate.

11.2 Registry Personnel

The following is a summary of the types of personnel required to staff a Registry. It includes an outline of the major functions to be undertaken. Further information is available in Volume II, Chapter 6.

- **Chief Registrar of Titles**

  Responsible for the efficient and effective management of the Registry. The occupant should have demonstrated management skills and experience. It may be an advantage if the occupant also has knowledge of the legal system generally and real property law specifically.

- **Deputy Registrar**

  Provides day-to-day supervision of the registration process. In the absence of the Chief Registrar, the occupant is expected to undertake the functions and duties of that position. The Deputy is also the first line staff supervisor and is responsible for training, staff development, and assisting the Chief Registrar in developing, documenting and monitoring Registry procedures and quality assurance programs.

- **The Title Examiner**

  The Title Examiner makes the final decision on behalf of the Registrar concerning the registrability of an application. While matters of law will be referred to the appropriate authority (i.e. a jurist or, if qualified, the Registrar or Deputy), the Title Examiner is capable of finalizing, by actual registration, most applications. The Examiner's prime functions include the examination and registration of title documents and the registration of survey plans that are deposited in the Registry. In all cases, the Examiner follows guidelines and procedures specified by the Registrar.

- **Customer Service Clerks**

  These positions provide services to members of the public and other customers who attend at the Registry. These services range from the provision of title information to the acceptance of documents for registration. These duties may include the assigning of a number to each application for registration and inquiry, and issuing the appropriate receipts in accordance with standard operating procedures.

- **Administrative Clerks**

  These positions perform general administrative tasks such as typing, filing, proof-reading and photo-coping documents, etc.

- **Cashiers**

  The cashier collects the fees for the services provided. This function may include breakdown of the fees received by search or registration category and assisting in the assembly and analysis of statistical information concerning the operation of the Registry.

11.3 Fees for Services

The Registry is the title registration authority for the specified administrative unit. Its operations may be fully or partially funded by the budget (State or local), or the Registry may be required to be fully self-sustaining. The adoption of a particular

model of funding may significantly affect the approach taken in the establishment of the fee structure for the range of services provided. Any need to provide revenue to support an assurance fund may also affect the fee structure.

If the Registry is to be responsible for the full cost of implementation, consideration will need to be given to factors such as the cost of compiling the Registry and the cost of providing for its day-to-day operation.

Compilation

Title systems reduce the cost of dealing in real estate by eliminating any retrospective investigation of title. The cost of compiling the registry and the examination of documents prior to effecting a first registration can be expensive. The question arises as to who should meet this cost - the State (i.e. all taxpayers) or the individual owners concerned. As discussed in Chapter 8, this will partly depend on the approach to first registration - whether systematic or sporadic. As a rule, the cost of sporadic registration is paid by the individual owners. In this case it takes much longer to compile the Register and take full advantage of its operation. Because the systematic process is typically undertaken to satisfy the needs of the broader community and/or the State, the costs associated are usually met by the state.

Set up costs

These costs are both tangible and intangible. The direct costs of setting up the Registry (e.g. acquisition of building, staff cost, equipment and facilities) can be easily identified. For other expenditures, e.g. the cost of compiling and maintaining the cadastral map which can serve many users and purposes with different accuracy requirements, it is difficult to produce any meaningful figures.
The Registry is the title registration for the city and its operations may be fully or partially funded by the city or, alternatively, the Registry may be required to be fully self-sustaining. The adoption of a particular model of funding may significantly affect the approach taken in establishment of the fee structure for the range of services provided. Approaches used for setting the fees for registering transactions include:

- **Fixed fees:**

  Fixed fees are based on the principle that the cost of registration is the same for any real estate, regardless of the type of transaction or the value of the real estate. These fees are simple to calculate and administratively most convenient.

- **Fees based on the value of the property being registered:**

  The principle behind this approach is the higher the value of the real estate being dealt with, the higher the registration fee. The fee may be a percentage of the market value. This percent can vary depending on the type of transaction lodged for registration. For example, the rate could be different for a transfer of ownership, a lease, a mortgage a discharge of mortgage, etc.

  Another way of applying value-based charges is by defining value-based scales and the correspondent fees. For example, in England a Land Registration Fee Order defines four value scales which regulate the fees payable for various types of applications for registration. The fees increase with the value of the transaction until a certain upper limit is reached, after which there is no increase.

Table VI. 8 shows some examples of the approaches used in different countries. The costs quoted are provided for illustration only and should not be directly compared. These costs are varied from time to time and could be out of date. Furthermore, without appropriate knowledge of the economy of each of the countries and an understanding of the factors which might have influenced the fee (e.g. pressure for high efficiency, computerization, or other auxiliary services), a comparison can be misleading.

Juris-diction	System	Survey Work[1] A	Legal Work[2] B	Regist-ration/Re-cording[3] C	Warranty[4] D	Fee[5] to Record		Fee Covers[6]
						Type	Amount US$	
Australia	Title	Private	Private	State	State	Set/AV	$27-177	C,D
Brazil	Deeds	Private	Private	Private	Private	AV	Varies	C
Canada, B.C.	Title	Private	Private	State	State	Set	$29	C,D
Canada, P.E.I.	Deeds	Private	Private	State	Private	AV	$105	C
Hong Kong	Deeds	Private	Private	State	Private	AV	Varies	C
Indonesia	Title	State	State[7]	State	Private	Set	$5	B,C
Ireland	Title	Private	Private	State	Private	Set	$206	C
(Rep.)	Deeds	Private	Private	State	Private	Set	$28	C
Nether-lands	Deeds	State	Private	State	Private	Set	$159	C
New Zealand	Title	Private	Private	State	State	Set	$24	C,D
Philippines	Title	Private	Private	State	State	AV	Varies	C,D
"	Deeds	Private	Private	State	Private	AV	Varies	C
Scotland	Deeds	Private	Private	State	Private	AV	22%	C
"	Title	State[8]	Private	State	State	AV	22%	C,D
Sweden	Title	State	N/A	State	State	Set	$91	C,D
Thailand	Title	State	State[7]	State[9]	Staff[10]	AV	2%	B,C
Turkey	Deeds	Private	Private	State	N/A	AV	1.50%	C
USA	Deeds	Private	Private	State	Private[11]	Set	$8-25	C

TABLE VI.8: GOVERNMENT INVOLVEMENT IN LAND REGISTRATION AND RECORDING[12]

[1] The measurement and reporting of property boundaries by field survey.
[2] The offering of legal advice as to title and contractual matters.
[3] The authority which undertakes the responsibility of registration or recording real property transactions.
[4] The guarantee of entries of registered or recorded information.
[5] Fees: AV = ad valorem - percentage of the property value.
Set = the fee is set by regulation.

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[6] Indicates which of the four functions in the previous columns covered by the registration or recording fee.
[7] Legal fees for purchaser and seller are included in registration fee.
[8] Original survey by Ordnance Survey, thereafter by private sector.
[9] Initial registration is subsidized at about US $40 per parcel.
[10] The risk is borne by the Director and stuff of the land registry agency.
[11] Warrant may be purchased by the individual owner through a title insurance company.
[12] Compiled by G. Jeffress in 1989.

11.4 Training

The topic of Training is dealt with more fully in Volume V. The following is an overview of the specific education and training programs that are essential to the successful implementation of a Registry.

Immediate education needs include:

- building an understanding and commitment among the staff regarding the significance of a unified registration system and the need for and benefits of change. These awareness programs, which should be available to the general population, should also be directed to those specific communities associated with the real estate industry and the related academic institutions;
- ensuring that all management and operations staff involved in the registration have a basic understanding of the concept of property rights, tenure and real estate registration;
- ensuring that all Registry personnel are aware of their roles and responsibilities and provided with the skills that they need to effectively perform the full range of their duties.

Selection of appropriate staff and the delivery of cost-effective, high-quality training is critical to the successful implementation of a Registry. The following topics should be included in a training program:

- Real estate systems and concepts
- The role of the Registry
- Registry procedures
- Real estate formation and registration
- Real estate law: contract, conveyancing, lease, mortgage, etc.
- Records management
- Information technology
- Management
- Communications
- Ethics

See Annex V.B for a training program covering 'The Principles of Real Estate'.

The training programs should be periodically evaluated to ensure that they are truly satisfying the needs of the Registry and that they are cost-effective. A mixture of the formal and the informal approaches to training can be effective. For example:

- A series of formal lectures can be delivered on important issues such as property rights and tenure, property law, etc.;
- Set times can be set aside so that staff can analyze the current and proposed regulations affecting the Registry in the context of their day to day activities. In

Tver, for instance, time is allocated for the key personnel to read, discuss and analyze the existing and pending legal provisions and plan the for their practical implementation.

- On-the-job training programs. There are no academic courses giving degrees in real estate registration. In the Tver Registration and Licensing Chamber, each of the Title Examiners is required to record in detail over a two-week period any problems that had to be resolved in the registration of a particular transaction. The experience is analyzed and compared to the existing procedures and, if appropriate, incorporated into those procedures.
- 'Train the trainers' programs help to ensure that the training developed in-house to satisfy specific needs is effective. (See Annex V.F for an outline of a 'Train the Trainer' course.)
- Visits to and the study of practices and procedures in other Registries can be invaluable in gaining experience and providing a basis for examination and improvement of one's own methods. (See Annex VI.I for a schedule of contacts available in other Russian cities.

Over the long term, in conjunction with the evolving needs of the city administration, education and training goals can focus on the establishment of real estate management programs with academic institutions and permanent training centers. As the real estate market matures and a city decides to extend the breadth of its real estate management system, the training will need to cover a number of related disciplines, such as registry and cadastral services, appraisal, valuation, taxation, property management, surveying, and LIS/GIS.

11.5 Office Layout

In summary, secure space is required for:

- the clients - one copy of each standard form should be on display on a notice board together with full instructions as to completion, the fees applicable and the method of payment and lodgment; space to complete forms, etc.;
- the staff - processing multiple documents as well as access to the computer system. Their activities will require a careful analysis of work areas and the flow of work;
- the computer installation;
- the Registry records.

Regard should be had to workflows, access to records, frequency of transactions, protection of records and computing resources from damage. See also Volume II, Chapter 7.

12. Other Initiatives

Initially the primary focus of the Registry will be the registration of privatisations and secondary transactions. Over time other issues will arise concerning (e.g.) condominium developments, compensation for error, the provision of new services, etc.

These types of initiatives are summarised below.

12.1 Extension of the Torrens System to Other Types of Ownership

12.1.1 Introduction

Over the years there have been a number of devices employed to give people occupation of parts of multi-storey buildings.

One was the 'tenancy in common' scheme under which a number of persons who held interests in land as tenants in common each relinquished their right to occupy the whole of the land (and building) concerned in return for the exclusive right to occupy a particular part of the building (e.g. a residential apartment). Under a variant of this scheme the tenants would grant rights of occupancy to each other under leases of particular parts of the building.

Much more popular was the 'home unit company' form of ownership. The land and building were owned by a joint stock company incorporated for that purpose. The companies 'articles of association' , or charter, conferred on the owner of a specified number of shares in the company, the exclusive right to occupy a particular part of the building (e.g. an apartment).

Typically, purchasers and financiers did not favour this type of ownership because:

- the company had the right under the law to restrict the right to transfer shares; and
- often the articles prohibited a lease of any part of the building without the consent of the directors of the company.

12.1.2 Strata Titles

Since the early 1960's a novel approach has been taken to the problems of apartment ownership and legislation has been enacted in a number of jurisdictions to provide for a separate Torrens title for individual parts of a building (i.e. apartments). Each such part is a 'lot' in a 'strata plan'. The plan is a series of floor plans showing the lots in relation to the whole building. Whatever does not comprise these lots is called 'common property' which vests in a 'body corporate' as agent for the various lot owners of which it is comprised. The body corporate holds the common property in shares proportional to the members' 'unit entitlement'. The unit entitlement is based on site values and it determines the voting rights and the contributions of the individual owners to maintenance levies. The body corporate acts through a council elected by the lot owners and its operations are governed by by-laws some of which cannot be changed or repealed.
Typically a three tiered system exists for the resolution of disputes. The first being a 'commissioner' or individual appointed for the purpose; the next maybe a Board or a magistrate; and the last a Court which determines appeals on matters of law.

12.1.3 Community Titles

This development in the legislation enables the creation of common property within conventional subdivision of land and provides for the development of planned communities of any type where the use of some of the land is shared. It enables development of non-stage schemes or of schemes comprising several stages over an unlimited time frame. It permits projects ranging in size from small groups of

houses clustered around common open space to large communities with shared roadways and facilities based on commercial, sporting, recreational or agricultural features.

As is the case with strata legislation, common areas within the development is owned and managed by a body corporate comprising all lot owners. The legislation typically provides the machinery for flexibility in the management and administrative arrangements operating within the scheme. This necessary degree of flexibility is achieved by providing for a multi-tiered management concept and by permitting a management statement to be prepared for each scheme setting out the rules and procedures relating to the administration of and participation in the scheme.

These extensions to the Torrens system are described more fully in Annex VI. G

12.2 Compensation for Error

The Torrens system provides a State guarantee of the owner's title to land. It is an essential feature of the system that a person who is deprived of land or an interest in land by reason of some act, omission or mistake in the operation of the Register has the right to claim compensation.

12.2.1 Rectification

Most of the functioning registration statutes provide that the Register may be corrected i.e. 'rectified'. In some jurisdictions the Registrar is authorised to make corrections in minor matters which do not affect anything of substance in the 'title' and no interest is prejudiced. (An outline of the procedures involved is at Section 7.7) The Register may be also be rectified by a direction from the court.

Registration of title systems assures that 'no rectification can be allowed against a bona fide purchaser for value who is in possession of the land and had no knowledge of the omission, fraud or mistake upon which the claim for rectification is based'[18]. Simpson points to this as the great advantage of the registration of title system over any insurance scheme. 'Under the insurance scheme a bona fide purchaser in possession may receive compensation for the land he loses as a result of a judgment against him, but only a State system of registration of title can insure that he actually retains the land itself.' In the English system for instance, the Register cannot not be rectified against a bona fide purchaser in possession unless the immediate disposition to him was void in which case the owner is entitled to compensation.

12.2.2 Indemnity

Under a deed system, a person who was deprived of land by the operation of a forged or otherwise invalid instrument could recover the land from the would-be owner. However, the person recorded as the proprietor of land in the Torrens register is in an almost unassailable position. This means that the person who has lost, or who has been deprived of the interest, cannot displace the recorded owner unless the recorded owner has personally been involved in the fraud or illegality.

The Torrens system replaces the deed system right to recover the land with a right to recover monetary damages. Because the State guarantees title under the Torrens

[18] Simpson, Land Law and Registration, pg. 179

system, an action for compensation also exists against the Chief Registrar, as nominal defendant, in certain circumstances where the claim cannot be pursued against the wrongdoer or where a loss occurs as a result of an error by one of the Registry staff. This right of compensation backs up the State guarantee of title by providing monetary compensation for those persons who have been deprived of land as a result of the operation of the Torrens system and who would otherwise have no remedy.

The Torrens system recognized from the very beginning the need for compensation and an assurance fund was established in South Australia in 1858. In England, however, there were no provisions for indemnity and compensation in their Act. It was presumed that the extensive deed examination preceding the first registration would preclude mistakes. In 1897, when compulsory registration was introduced an assurance fund was established and the power of rectification was given to the court. The fund was built up by the allocation of a proportion of the registration fees. It operated as a separate fund until 1936 when it was surrendered to the Treasury. Since 1925, the amount paid out of the fund has not exceeded 100,000 British pounds.

In New South Wales, Australia, the assurance fund was established by the Real Property Act in 1863. It was funded by the levying of fees when land was bought under the Torrens system by Crown grant or by specific application by the owner. In 1921, amending legislation was passed to provide that, if the fund was insufficient to meet any claim, such claim was charged directly to the State. By 1940 the level of the assurance fund far exceeded the potential claims (by 1939 slightly less than A$21 000 had been paid out of the fund) and the Real Property Act was amended to abolish further contributions to the assurance fund.

The assurance funds, where they operate, are able to provide for compensation when the circumstances require and even generate some income. There may be some risk at the initial stage of introducing assurance before the fund has time to build up and it may require initial support of the State. The time of building up a viable assurance fund will depend on the type of first registration - systematic or sporadic. *The risks of claims are less in the systematic approach.* A limited or qualified title can be a way of speeding up the process and gradually introducing guarantee. The guarantee can apply only to those titles which have all legal evidence supplied or for those qualified titles after the expiration of the specified period of qualification.

There are also a number of well operating title systems which do not provide for a assurance fund. Examples include Germany (and most Continental systems), Sudan, Malaysia, Fiji, etc.

There are number of issues to consider in regard to the operation of the fund:

- Procedures to appeal

Most statutes in countries operating an assurance fund have procedural provisions allowing claim first to be made the Chief Registrar who attempts to resolve the dispute within the Registry before taking the matter to the court. Often different jurisdictions have different procedures in resolving disputes which allows them to react in a flexible way to the existing local circumstances. The statutes however provide for the opportunity to appeal to the courts and find justice regarding the amount of compensation. It should be also provided that the State may recover its loss from the person who actually caused it. In New South Wales, the person suffering loss is required to undertake action for its recovery against the person

causing that loss and only if this action fails can a claim be made against the assurance fund. Claims also include the associated legal costs.

- Amount of compensation

If the mistake, omission or fraud resulted in loss of the legal interest, the amount of compensation should not exceed the value of that legal interest. If a legal interest became less valuable as a result of the mistake, omission or fraud the amount of compensation should not exceed the depreciation. There are no compensations for other economic loss if they are not connected to the cost of real estate. Normally the loss is calculated as at the time of the appeal rather that at the time of loss.

- Financing the compensation

Financing can be from a separate fund or from the Treasury. In the original Torrens system there were two types of fees - one being the administrative charge for the registration and searching services and the other being the contribution to the assurance fund. Now normally one charge is collected which includes both amounts.

- Appeal period

The original Torrens legislation restricted the claimant to appear within a specified period after the act of mistake, omission, fraud, etc. (This may be unacceptable from the point of view of social justice because the period may expire before the claimant finds out about the deceit or error.) In some jurisdictions the period starts after the person finds out.

<u>An example of the Functioning of an Assurance Fund (New South Wales, Australia)</u>

The Land Titles Office, which carries out the functions of the Registrar General, has, since July 1, 1988, operated commercially as a self-supporting government trading enterprise. Under the guidelines for its commercial operation, the Land Titles Office was required to provide for the payment of any compensation resulting from errors made by its staff, while the State remained liable for claims resulting from fraud.

The Land Titles Office budgetary provision for claims for office errors now forms the basis of the new fund while the ongoing financing of the fund will be by a $1 levy on transactions lodged for registration. The Torrens Assurance Fund, which is held in the accounts of the Land Titles Office at the State Treasury, is directly administered by the Registrar General to provide for the efficient processing and, if appropriate, the payment of all claims for compensation under the Real Property Act.

Any compensation or legal costs payable by the Registrar General and any legal costs incurred by the Registrar General are paid by the Registrar General out of the Torrens Assurance Fund.

Similarly, any fees payable to any consultant retained by the Registrar General to advise on any claim or on the administration of the fund, are paid out of the fund. It has, for many years, been the practice of the Registrar General, acting on the advice of counsel, to recommend to the Minister that appropriate court cases be settled by the filing of a consent order. In this way the Registrar General has been able to avoid unnecessary legal costs.

In recent times this process has been taken one step further by allowing the Registrar General to settle claims without the need to commence litigation. This further

reduced legal costs, delays and the number of matters that had to be determined by the court.

Of course, where the Registrar General's liability is unclear or a settlement cannot be negotiated, the matter still needs to be litigated. To this end the Registrar General has been empowered to settle claims for compensation and provide that ministerial approval is required to settle a claim over certain specified amounts.

It is impossible to accurately predict the potential compensation that the Torrens Assurance Fund will be required to pay in any given period and, although the balance of the fund is constantly monitored to attempt to avoid a deficiency, it is possible that a claim, or series of claims, may exceed the balance of the fund at a particular time.

It is also important to remember that in New South Wales, the Torrens Assurance Fund stands behind the State guarantee of title. Accordingly, any deficiency in the fund is met, if necessary, by the State and that the amount of any such advance is repaid by the Torrens Assurance Fund.

12.3 Adverse Possession

The law of adverse possession presents one of the oldest aspects of the concept of property. It allows rights in land to be extended to those who actually occupy the land, and thus differs markedly from any form of acquisition by conveyance or transfer. The essential feature of acquisition by adverse possession is the idea that if the owner of property fails within a certain period to secure the eviction of a squatter or trespasser from his land, his own title is extinguished and he is thereafter statutorily barred from recovering possession of the land. The intruder has the right to acquire a title which enables him to remain in possession.

There does not appear to be an established standard for the period that a person has to be in hostile occupation before a right of adverse possession is recognised. Some jurisdictions require as much as 30 years occupation with claims against the State requiring 50 years. Some will not allow adverse possession at all against *part* of a Torrens Title. The Limitation Act 1980 in England lays down as a general rule that 'no action shall be brought by any person to recover any land after the expiration of twelve years from the date on which the right of action accrued to him'.

12.4 Property Information Inquiry Service

The core information held within the Registry places that organization in a good position to examine the feasibility of developing and introducing a range of new services to satisfy the needs of a growing real estate market. Before introducing any such services the needs of the clients must be thoroughly researched and the services provided matched with those requirements. One such opportunity might exist with a 'Property Information Inquiry Service'

Persons or agencies wishing to find out all the non-registerable affectations on real estate are typically required to spend a considerable amount of time and effort in making inquiries of a number of sources. For example, real estate affected by construction restrictions, monument protection, restrictions in land use, underground pipes or cables, etc. Fees are usually charged for these inquiries.

It is possible to build a simple mechanism to provide this information relatively cheaply and quickly while at the same time maintaining revenues to the

participating agencies. The mechanism could be further developed over time to provide other information such as municipal or privately owned real estate for sale and / or lease, etc.

Essentially the establishment of this type of service requires the co-operation of each agency holding information in identifying the real estate that they have an interest in and providing that data to the Registry. (This data need not be held in the computerized Register and, indeed, probably should be held in a separate data base.) With the unique identifiers of each piece of real estate in which an agency has an interest available in this central database, the Registry is in a position to initially process all the inquiries presently referred to the separate agencies and provide a 'one stop shop' service to the conveyancing community. The Registry, as the collector of all fees on behalf of the contributing agencies, plus a 'service fee', would be responsible for the distribution of the moneys received. The service fee wound need to be set to cover the Registry costs in providing the service and, if appropriate, provide a margin for additional returns to fund or enhance other activities.

An outline of the process:

1. Collect and assemble the information from the contributing agencies regarding the real estate objects that they have an interest in. (A cross-reference index connecting the unique identifier with a street address as an alternative access key may be necessary.)
2. Negotiate an arrangement or contract whereby the agencies set their fee for a fixed period of time and agree to only alter those fees after giving adequate notice to the Registry. Administratively, the ideal would be for all agencies to co-ordinate their fee setting arrangements so that they all update at the same set time. This allows the Registry to receive adequate notice of the changes and update the application forms and alert its clients.
3. Design a standard form of application listing all the agencies involved, the information available and the fee charged. The form should include a checklist for clients and the service fee to be paid to the Registry providing for the applicant's reference and postal address..
4. The Registry staff would inquire of the data base regarding the real estate identifier supplied and when a match is not made, the system would generate a 'nil response' which would be sent to the applicant by the Registry. (It is expected that most inquiries will produce a zero response.) Where a match is made, the Registry would refer the inquiry and applicant particulars directly to the agency concerned. *That agency would then respond to the applicant with full particulars of their interest.*
5. The application form, together with the total fees charged by the agencies on which inquiries were to be made and the Registry service fee would be lodged with the Registry.
6. At the end of each settlement period (say monthly), the Registry would transfer the fees received by it on behalf of each agency inquired upon by the applicants.

Advantages of a Property Inquiry Information Service

- the Registry receives a fee sufficient to cover costs and (if necessary) provide a margin for other activities;

- each agency participating in the service receives the same fee that they would have received if they had processed each application themselves;
- the agencies only have to process those applications where the system has signalled a 'match' - not the expected majority of non matching applications;
- agencies will have the opportunity to re-allocate their staff resources to other meaningful work due to the lower level of applications to be processed;
- the clients receive a more efficient and effective service in that they only have to make one inquiry to one location with one form of payment with search results received much more quickly.

13. Measurement of Efficiency and Productivity within the Registry

13.1 Introduction

Essentially business indicators should provide the Registry management with information that can be ready and reliably compared over time. The iterative process of setting targets, the subsequent monitoring of those targets against actual performance and the setting of new targets on a regular basis is an essential management activity.

Indicators can address a variety of aspects of the business. They should be readily understood and meaningful to both the business and clients and they should focus on core business activities. They should be clear, unambiguous, relevant to the business and be capable of consistent application. They should be communicated to all staff and be made known to client groups. In fact, client groups should be included in the discussions regarding the establishment of performance indicators to help ensure that they are relevant.

The process enables targets to be set and monitored over time with a view to driving change and thereby increasing effectiveness and efficiency. (Effectiveness is whether or not the function should be performed at all; efficiency is a measure of how economically a service can be provided.) For example, a service that was costing more to provide than the fees received might be reviewed as to whether it should be continued, whether fees should be increased and/or the process streamlined to reduce the operational cost.

Indicators selected could include:

- Output per staff member per day either on an individual or group basis (the latter is preferable) for each function performed or service provided; and/or for the whole Registry.
- The time taken to process the various transactions lodged, e.g. applications for search, documents for registration, etc.
- The percentage of actions complete or not completed within a specified time or within a target cost.
- Financial indicators such as profit margin on each registration or search transaction; income received by the Registry per full time staff member, etc.
- Percentage change in the volume of business.

Once measures have been identified and implemented they should be closely monitored to ensure that they are providing the information that is required and that

the time and effort required to collect and analyze the information is worthwhile. The Registry must be prepared to collect data for a reasonable time. Until a significant base of information becomes available it will be somewhat unreliable. Nevertheless the exercise of setting targets and monitoring them as a basis for setting new targets (productivity or financial) is essential.

The following is a simple methodology for setting and measuring standards of performance. Any standards developed should be embodied in the Registry's Business Plan. Performance can then be monitored and evaluated against these standards which are addressed from two aspects:

- the number of units produced per employee; and
- the costs associated with producing those units.

In addressing both aspects it is acknowledged that productivity improvements need not necessarily be commensurate with cost savings achieved through application of technology. This outline sets out the preliminary steps which can be taken by the Registry in seeking to develop suitable means for measuring organizational performance.

13.2 Productivity indicators

This process involves identifying all the operational staff involved in each core activity in a given period and dividing this number into the number of units processed in the same period; the measure being the number of units processed per person per day.

Registry productivity measures could be calculated for a base year in respect of e.g.:

1. Privatisations

2. Secondary Applications registered involving:
   - land
   - building
   - apartments

3. Searches processed:
   - current information only
   - historical information

An example of a calculation of productivity in processing applications to register secondary transactions concerning apartments:

Total registered from July to November 1996	=	2768
Total actual man days engaged in dealing process	=	242
Productivity for application registrations	=	$\frac{2768}{242}$
	=	11.4

The establishment of benchmarks (i.e. base standards or norms) for comparing future productivity levels of specific core business activities also provides the Registry with the opportunity to develop a model from which general productivity within the organization may be monitored.

This model involves accepting the benchmark productivity measures for the individual core business activities and converting these measures to a standard unit measurement based on the productivity for dealings (i.e. 11.4 units per person per

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day). This involves calculating productivity conversion factors to convert searches, other Registry activities, etc. into standard units of applications.

The conversion factors are calculated as follows:

Benchmark productivity		Conversion factor
Applications		
• apartments	11.4	11.4 / 11.4 = 1
• buildings	10.13	11.4 / 10.13 = 1.125
• land	0.43	11.4 / 0.43 = 26.512
Privatisations	4.06	11.4 / 4.06 = 0.548
Searches	20.80	11.4 / 20.8 = 2.808
Copies of documents	75.35	11.4 / 75.35 = 0.151

These conversion factors are then applied to the output of the appropriate core activities in any review period to obtain a total of 'standard units' produced. By dividing this total by the productivity figure for the 'standard unit' (i.e. 11.4) the number of man days required can be calculated to achieve this output for a datum productivity level e.g. 1996.

The calculated number of man days is then compared with the total actual days worked (operational staff) in the review period to determine the change in Registry productivity level from the base year of 1996.

The following is an example of calculating Office productivity for a sample month.

Applications	Monthly Output	Conversion Factor	Monthly Total x Factor (Standard Units)
• apartments	520	1	520
• buildings	28	1.125	24.89
• land	80	26.512	3.02
Privatisations	360	0.548	656.93
Searches	120	2.808	42.74
Copies	200	0.151	1324.50
		Total standard units	2572.08

Divide standard units by Office benchmark productivity (11.4)

Required days at 1996 productivity levels = 226

Total days actually worked in review period = 213

Change in Office productivity level from base year = $\frac{(226-213)\times 100}{213}$

= 6.10%

The calculations are based on the number of days of actual staff attendance. This allows the change in efficiency to be calculated more accurately if the productivity is monitored regularly (say monthly) as the measurement will not be affected through staff being absent over holiday periods. Overtime, if any, would be converted to equivalent full time days worked.

13.3 Financial indicators

In conjunction with the models developed to establish productivity measures, the Registry should consider developing a financial model to calculate costs of producing core business products based on part or, if deemed appropriate, full cost recovery.

Financial data for the model is likely to be obtained from monthly financial statements. The model involves allocating salaries and overheads of the various Office cost centers to the appropriate core activities according to the number of staff engaged in those activities. Overheads are allocated to the core activities according to the percentage of total salaries of operational staff involved in each activity.

From the output figures, production costs per unit including overheads can then be calculated for each core activity. These production costs can be calculated monthly but are generally calculated quarterly.

The financial model should prove to be a valuable management tool as it allocates total expenditure across the spectrum of Office activities, thereby providing the means to identify the true costs of individual operations.

Both these productivity and financial models apply to performance of systems and not to the efficiency of individual employees within the system. In terms of targets within the Office's Business Plan, the productivity and financial indicators will facilitate assessment whether annual increases in productivity and reductions in real cost of services by some forecast % are achieved.

13.4 Example Performance Indicators

Assumptions-

Transactions:

Total 22 000 transactions per annum
- Land related transactions: 5 000
- Flats/building transactions: 17 000

Staff:

Total 11 people
- One Title Examiner processing land transactions
- Two Title Examiners processing flats/building transactions

Annual costs / revenues

Salary: 20 000 000 Rbls.
Revenue 552 000 000 Rbls.

Some sample measures-

Overall Registry Productivity Factor:

22 000 transactions processed by 11 staff - 2 000 transactions per person p.a.

Total Registry Cost Factor:

20 000 000 Rbls per 11 staff - 909 Rbls per transaction

Title Examiner (Land Transactions) Productivity Factor (@ 250 work days per year):

5000 transactions processed by 1 person - 20/day

Title Examiner (Flat/Building Transactions) Productivity Factor:

17 000 transactions processed by 2 persons - 34 /day

Revenue Factor:

552 000 000 Rbls. received at a cost of 20 000 000 Rbls. - 27.6 times salary cost

14. Management and Administrative Practices

14.1 General

A registry should adopt and maintain:

- management structures and practices which ensure that senior staff are held properly responsible and accountable for their performance and the use of public resources;
- management information systems which facilitate effective monitoring of the utilization of public resources and ensure proper accountability;
- management systems which enable managers within public authorities to monitor and measure performance against agreed objectives/outcomes; and
- an effective system of internal control over the financial and related operations of the authority.

14.2 Policies

A registry should adopt policies which set out the general approach to be followed in (at least) each major area of activity for which they are responsible.

Such policies should include the objective of the policy and the criteria which are to be used in decision-making to help ensure that:

- all relevant legal requirements are complied with;
- all relevant factors are considered by decision-makers;
- there is consistency in decision making; and
- the decision-making process is open and accountable.

Criteria to be used in decision-making should be:

- clear;
- unambiguous;
- relevant; and
- capable of objective application so that decisions are not made on an inconsistent, ad hoc or subjective basis.

Policies adopted by a registry should be communicated to relevant staff and members of the public. Appropriate action should be taken by the registry to ensure that its staff understand the policies relevant to their areas of work.

It is important that a registry ensures that its policies are regularly reviewed to ensure that they are complete, accurate, up-to-date and appropriate in the light of changing circumstances.

14.3 Administrative Practices

Administrative practices should be adopted by a registry (and implemented by its officials) which ensure that:

- compliance with applicable procedures and practices is effectively monitored;
- a reasonable degree of care and diligence is exercised in the implementation of powers and the discharge of duties;
- functions are performed efficiently, effectively and without undue or avoidable delay;
- activities are carried out in 'ways which are fair, reasonable and professional; and
- any administrative oversights or errors, once identified, are promptly rectified.

Written guidelines should be developed by the registry setting out the procedures to be followed by staff in (at least) each major area of activity. Such guidelines could cover such things as:

- general procedures to be followed;
- duties and responsibilities in relation to particular matters or circumstances;
- arrangements in the event of staff absences;
- checklists;
- criteria for decision-making and prioritizing action; and
- relevant deadlines and target dates.

A registry has an obligation to provide, make available or facilitate necessary training for its staff to enable them to properly perform their duties.

14.4 Inquiries To Establish Facts

Prior to statements of opinion or recommendations being made, either verbally or in a report, it is important that adequate inquiries have been made to:

- obtain all relevant information;
- ensure that the available information is factually correct; and
- establish that any applicable preconditions have been met.

All information obtained from such inquiries should be properly documented.

14.5 Proper Exercise Of Powers

Delegated authority and discretionary powers should be exercised:

- promptly;
- appropriately, given the circumstances of each particular case;
- reasonably;
- without prejudice; and
- only in ways which are lawful and, where relevant, authorized by the instrument of delegation.

In exercising delegated authority or discretionary powers, registry officials should not:

- take into account irrelevant considerations;
- fail to take into account relevant considerations;
- exercise the power for purposes other than for which it was conferred (i.e. improper purpose);
- exercise the power in a way that constitutes abuse of the power;
- exercise the power at the direction of another person (i.e. act under dictation);
- exercise the power in accordance with a rule or policy without regard to the merits of the particular case (e.g. fetter discretion);
- act in bad faith;

- act in a way that would clearly be regarded as unreasonable by most people; or
- exercise the power in such a way that the result is uncertain.

The registry management should not dictate how delegations of authority or professional judgment are to be exercised in specific circumstances. Each case should be examined on its merits.

Wherever any delegated authority or discretionary power is exercised, this fact and the nature of the decision made should be recorded in writing on the relevant file or in an appropriate register.

14.6 Procedural Fairness

There is a presumption that the rules or principles of procedural fairness (i.e. natural justice) must be observed in exercising statutory power which could affect the rights, interests or legitimate expectations of individuals. One should be sensitive to the need for flexibility in the application of the rules, depending on the circumstance of each individual case.

Depending on the circumstances which apply, procedural fairness may require that registry officials:

- inform people against whose interests a decision may be made of the substance of any allegations against them or grounds for adverse comment in respect to them;
- provide people with a reasonable opportunity to put their case, whether in writing, at a hearing or otherwise;
- hear all parties to a matter and consider all submissions;
- make reasonable inquiries before making a decision;
- ensure that no person decides his or her own case or a case in which they have a direct interest; and
- act fairly and without bias in making decisions.

14.7 Notification Of Rights Of Objection, Appeal Or Review

Individuals should be adequately informed of any rights of objection, appeal or review (including avenues for pursuing a complaint) where they are adversely affected by a decision, or a decision is otherwise one which they potentially might wish to challenge. Such information should be supplied in a timely and appropriate (i.e. comprehensible) fashion to ensure that rights of objection, appeal or review are not lost.

14.8 Resolution Of Disputes

Registry officials should seek to resolve difficulties, disagreements or disputes by discussion or negotiation in the first instance, wherever this is appropriate. Formal action should only be taken when it is clear that informal attempts at resolution are not working.

14.9 Avoidance Of Delay

Decisions should be implemented and statutory obligations carried out without undue delay.

What constitutes delay will depend on the particular circumstances of each case. In the absence of any legislative requirements, registry officials should determine their

own service standards, as far as possible based on public expectations of what is reasonable in the circumstances.

Where time periods are specified in legislation, registry officials should meet such deadlines.

Registry officials need to ensure that systems or procedures are put in place for ensuring that decisions are implements, and implemented correctly, within the specified or decided time period.

14.10 Record keeping

Registry officials create and maintain records as evidence of business activities and transactions. This evidence, which comprises the corporate memory of the organization and its narrative history:

- supports policy formulation and managerial decision-making;
- enables the organization to meet legislative and regulatory requirements;
- protects the interests of the State and of the organization and the rights of employees, clients and citizens;
- supports better performance of business activities throughout the organization;
- provides protection and support in litigation, including the better management of risks associated with the existence or lack of evidence of organizational activity;
- supports consistency, continuity and productivity in management and administration;
- documents organizational activities, development and achievement; and
- supports research and development activities.

Registry officials should keep full and accurate records which document their operations and activities. They should make such records, and ensure their capture into Record keeping systems, such as file systems, routinely in the course of their duties. That is, record keeping should be seen as a normal and natural part of work. A registrar should formally assign appropriate record keeping responsibilities to officials in their employ.

Records should be made, maintained and managed systematically. To facilitate the organization-wide adoption of systematic, accountable and consistent record keeping and records management practices, registrars should establish and maintain an identifiable corporate records management program.

Recordkeeping and records management practices in a registry should comply with national best practice and include relevant Russian standards and codes of best practice for record keeping.

15. Glossary

Adjudication	The process whereby the ownership and rights in land are officially determined
Adverse possession	The occupation of land inconsistent with the rights of the true owner.
Cadastre	An inventory of the land in an area by ownership, description and value.
Cadastre Index Plan/Map	A map showing the legal property framework of all land within an area including property boundaries,

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	administrative boundaries, parcel identifiers, (and sometimes the area of each parcel,) road reserves and administrative names.
Cadastre Plan/Map	A plan, similar to the above, but often showing more details including the dimensions of parcels. It may also show buildings.
Cadastral Survey	A survey of boundaries of land parcels.
Caveat	A document legally forbidding certain action pending judicial determination. Sometimes called a Lien.
Certificate of Title	A certificate issued by the registry to an owner confirming that the entity named is the owner of the defined real estate. The certificate typically describes the real estate, owners' names, tenancy and shares, and the interests and encumbrances affecting the real estate.
Chain of Title	The series of deeds and documents evidencing title to land held under Common Law title - like any chain, it is no stronger than its weakest link.
Consolidation	The planning and redistribution of land into units of more economic and rational size, shape and location.
Contract	An agreement enforceable by law.
Conveyance	A method whereby rights in land are transferred from one owner to another. The rights may be full ownership or a mortgage, charge or lease, etc.
Covenant	Generally a mutual agreement between two or more parties to do or refrain from doing certain acts in relation to real estate. See 'Positive Covenant' and 'Restrictive Covenant'
Demarcation	The marking out of the boundaries of each land parcel on the ground.
Discharge of mortgage	An acknowledgment in writing by the Mortgagee that a loan secured by a mortgage has been repaid.
Easement	A right enjoyed by one landowner (the dominant tenement) over that of another (the servient tenement), for instance, a right of access or for the passage of water or electricity.
Estate	In legal terms, an interest in land. The term is also used to refer to the physical land and other real property to which that interest relates.
Encumbrance	A judgment, mortgage or lien or any other claim which is registered against the title to land.
Fee simple	The legal term for the maximum interest in land available to a person, or the maximum of legal ownership. Equivalent in many ways, for practical

	purposes, to absolute ownership (see freehold) and is characterised by inheritability - i.e. being passed to heirs and/or assigned forever.
Fiscal Cadastre	A cadastre compiled for purposes of taxation.
Fixed boundary	The legal boundary of a property where the precise line has been agreed and recorded.
Freehold	A free tenure, distinct from leasehold, in which the owner has the maximum rights permissible within the tenure system.
Folio of the Register	The record of title and interests in respect of a parcel of real estate, kept as part of the Register - it may be either a 'manual' folio or a 'computer' folio.
General Boundary	A boundary for which the precise line on the ground has not been determined.
Joint Tenancy	A form of co-ownership of a parcel of land by two or more persons jointly with vesting of the interest of a deceased proprietor in the survivor(s).
Land Administration	The process of determining, recording and disseminating information about the ownership, value and use of land and other real property when implementing management policies.
Land Information Management	The managing of information about land and other real estate.
Land Information System	A system for acquiring, processing, storing and distributing information about land and other real estate.
Land Management	The activities associated with the management of land and other real property as a resource both from an environmental and an economic perspective.
Land Register	An official record of rights in defined units of land, buildings or apartments.
Land Surveyor	Generally one who measures land. In some countries the term is used specifically to refer to surveyors licensed to do title surveys.
Lease	An instrument, creating an interest in land or property for a fixed term, in consideration of payment of rent.
Legal Cadastre	A cadastre compiled so that the State may have a record of ownership of all land parcels.
Limitation	A recording in a folio of the Register to the effect that the description of the land in the folio has not been investigated by the registry
Limited Folio	A folio of the Register in which is recorded a limitation - see Limitation.

Mortgage	A charge on land created for securing a loan.
Mortgagee	The proprietor of a mortgage, i.e. the party lending the money.
Mortgagor	The proprietor of land, or any estate or interest in land, pledged as security for a debt.
Mutation	A change in the boundaries of a parcel of registered land. See Subdivision.
Overriding Interest	Interest which 'override' the register (i.e. have legal force though not entered in the register).
Positive Covenant	A condition imposed by, or for the benefit of statutory bodies or local municipalities binding the owner of land to perform a specified act e.g. to maintain a building and its foundations to ensure the safe working of a railway passing below it, or to erect a habitable dwelling upon the land within a specified period of time.
Profit a Prendre	A right to enter the land of another and to remove therefrom part of the soil or its produce e.g. gravel or timber. Sometimes simply called a 'Profit'.
Qualified Folio	A folio of the Register in which is recorded a 'qualification' or 'caution' that has not been canceled. A caution warns persons dealing with the registered proprietor that the land is held subject to 'subsisting' interests (if any), which are not noted on the Register.
Qualified Title	A title registered subject to certain restrictions or limitations as indicated in the notified qualification.
Real Estate Parcel	An area of real estate under homogeneous property rights and unique ownership.
Real Estate Registration	The process of recording rights in real estate either in form of registration of deeds or else through the registration of title to land and other real property.
Real Property	Land and any things attached to the land including buildings, apartments and other construction and natural objects such as trees.
Register of Titles	An official record of the rights in defined parcels of land and other real estate.
Registered Plan	A plan defining land boundaries approved by the registry.
Registration of Title	A system whereby a register of ownership of 'land' is maintained based upon the parcel rather than the owner or the deeds of transfer.
Registry Index Map	A map showing all land that has been registered within a given area.

Restrictive Covenant	An agreement whereby one landowner agrees to restrict certain ways in which the land might be used for the benefit of another.
Resumption	The compulsory taking of land or an easement by the State or a statutory authority under an Act of the State.
Strata Plan	A plan lodged with and approved by the registry defining lots by cubic space(s) with the facility to provide common areas, subdivision, consolidation, etc.
Strata Title	Title to real estate which is not necessarily divided horizontally, such as in high-rise buildings.
Subdivision	The process of dividing a land parcel into smaller parcels. See Mutation.
Survey	A document prepared by a professional land surveyor that shows the boundaries of a parcel or parcels of land and the locations of all buildings, utilities, and roads on the land.
Systematic Adjudication	The determination of rights in land on a regular and systematic basis, for example, within one area at one time.
Tenancy in Common	A form of co-ownership of a parcel of land by two or more persons in unity of possession but each as to an undivided share, whether equal or unequal, each undivided share being capable of separate disposition.
Title	The evidence of a person's right to property.
Title Plan	A plan especially drawn to show the boundaries of land parcels.
Title Register	The registry record of ownership, restrictions and encumbrances affecting real estate.
Title Search	In a deeds system, a review of all recorded documents affecting a specific piece of property to determine the present condition of title. In a Title Registration system, it is an extract of the register.
Torrens or Torrens Land Registration System	Refers to a system of land registration in which the state guarantees the accuracy of the title system shown in the registry (insures against mistakes), and in which unregistered transactions generally have no effect against people who are not parties to the transactions.
Torrens Title	A term used to describe the system of title registration devised by Robert Richard Torrens in South Australia in 1858
Transfer	The passing of an estate or interest in land

Volume VI Annexes

Annex VI.A

FURTHER READINGS CONCERNING REGISTRATION AND CADASTRAL SYSTEM IN OTHER COUNTRIES

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Latin America
Lima - Peru

1. Developing of market economy - need for official registration of real estate rights and objects.
2. Brief historical information on development of proprietary rights in different countries (Germany, Europe).
3. "Black market", "illegal towns", lack of any legal basis for land relations in Latin America.
4. Bureaucracy in Latin America.
5. Conclusion: It's necessary to have a good registration system in order to successfully develop market economy.

476

Systematic Analysis
of the Cadastre

1. Systems Analysis (Approach) as a good tool for any research.
2. Systems approach to cadastre analysis of different components (example, Kenia).

47C

"Declaration" on Cadastre:
Suggestions of the Working Group
of the 7th Committee -
Cadastre & Management of the
Agricultural Land

1. Land resources & land info.
2. Cadastre specialists.
3. Cadastre issues (documentation, different approaches).
4. Development & management of a cadastre system.
5. Cadastre and land policy.
6. Data access.

477

Sources of Cadastre

1. Development of cadastre in different countries.
2. Abstract from the article "Necessity for multy-purpose cadastre".

478

Land Registration
in English-speaking Countries

- England
- Australia, Torrens system
- Kenia
- Canada
- USA

479

H.M. Land Registry:
Registration of Property Rights
to Land in England & Wales

480

Cadastre Land Systems
of Registration in Europe

1. Western Europe: France, Germany, Austria, Switzerland, the Netherlands.
2. Northern Europe.
3. Southern Europe.
4. Eastern Europe.
5. Main trends of development
6. Experience of European countries.

461

Swedish System
of Land Data Base

1. Real estate registration.
2. Land registration.
3. Automated registration: general info, data base, GIS, equipment.
4. Land registration in Sweden (legal basis, data access, data base structure, details, changes).

482

Examples of Automatization:
Sweden and Canada

1. Swedish system of Land data base.
2. Land Registration & Information system in Canada.

483

Cadastre Land Information System
in the Nehterlands

1. General info.
2. Cadastre agencies & public registries.
3. Automated Cadastral registration system.
4. Charts.

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DATA MATRIX LAND TITLES OFFICES

ITEM	SOUTH AUSTRALIA	WESTERN AUSTRALIA	NEW SOUTH WALES	VICTORIA	QUEENSLAND	NORTHERN TERRITORY	ACT	TASMANIA	NEW ZEALAND	HONG KONG
No. of Registries	1	2	1	1	14	2	1	2	12	9
Head Office	Adelaide	Midland (outside Perth)	Sydney	Melbourne	Brisbane	Darwin	Canberra		Wellington (No reg'n function)	1
Regional	No	2 (Perth central business dist., &Bunbury 170 km south	N/A	N/A	13 (currently)	1 Alice Springs	No	1	12	9 (8 in New Territories)
Staff (App No.)										
* Titles	142 Registration	1.4 Executive	10 SES	255 Titles	212	7	25 Staff	45.7 Titles	13 Div.Executive	4 Directorate
* Drafting	77 Survey	88.5 New Titles Service	15 Professional	126 Drafting	38 (Records:ATS)	6	1 Drafting	26 Drafting	10 Legal	89 Land Rtg'n Officers
* Support	19 System	80.3 Registration	710 Titles Officers	14 Support	9 (Corp110)	1		10 Support	291 Clerical (inc. typing, data entry, support)	4 Solicitors
* Others	12 Admin	75.2 Client Services 17 Land Register Services 6.6 Executive support	16 Others	36		2 (Executive)		5 Others	45 Office Assistants	668 Gen. grade (exec.clerical support)
* Total	250	269	751	431	279	16	26	86.7	349	765
Administration										
Minister	Environment and Natural Resources	Lands	Land & Water Conservation	Attorney General	Lands	Attorney General	Attorney General	Environment and Land Management	Justice	Planning, Environment & Lands
Department	Environment and Natural Resources	Land Administration	Conservation & Land Management	Justice	Lands	Law	Attorney General's	Environment and Land Management	Justice	Land Registry (independent dept. Trading Fund)

ITEM	SOUTH AUSTRALIA	WESTERN AUSTRALIA	NEW SOUTH WALES	VICTORIA	QUEENSLAND	NORTHERN TERRITORY	ACT	TASMANIA	NEW ZEALAND	HONG KONG
Other functions of department	Conservation & Land M'gnt Environmental Protection, Water Resources, Botanic Gardens, Recource Information	Mapping & MappingCrown Land Administration Legislation International Corporate ServicesWA Land Information (WALIS)	Crown Lands Service Valuer Generals Office Land Information Center Soil Conservation Office of Land Information Policy & Coordination Office of Forestry Office of Water	Corrections, Courts Management, Births Deaths & Marrieges Public Advocate EEO Commission Police	Crown leasehold, Survey, Mapping, Valuations, IT & Aboriginal & Islander Interests	Legal Services Public Trustee Births, Deaths & Marriages Courts System Public Trustee Community Advocate	Legal Affairs Consumer Gambling Control Births, Deaths & Marriages Courts System Public Trustee Community Advocate	Survey Valuation Mapping Planning Environment Property Parks & Wildlife	Commercial Affairs (Companies), Birts, Deaths and Marriagies Motor Vehicles Security Courts &Tribunals (inc. Maori Land Court),Law Reform, Waitangi Tribunal, Treaty Settlement, Criminal Justice Development	Registration of owners / corporations of multi-storey buildings
Instruments (pa)	210.000	355.149	790.550	594.000	699.884	24.000	276	100.000	863.743	400.000
Plans (pa)										
* Strata	515	2.486 (8.781)	3.113	N/A		91	276	250	)	N/A
* Surveys	2400	913 (16.979 lots)	)	5.65 Subdivision	B72	193	238	1.500	)16.019	
* Other	1600 Dac plans 600 GKO plans for leasing	2,495 diagrams (5,353 lots)	) 11,030	700 consolidation	34	N/A	161 Sublease Plans	1,000	)	
New Titles Issued	21,000	40,030	59,000	35,100	35,623 (includes Deeds of Grant)	10,000	5,088	15,000	42,947	N/A
Unregistered Dealings										
* Volume	18.000	14,000	1243	73,115	30,000	Nil	S(X)	1,500	14,000	7,500 -10,000
* No. work days	20	5	5	Nil	10	Nil	3	4	6 days	3 - 21 days
Microfilm										
* Titles	No	Nil	Yes, cancelled titles	Nil	No	Nil	90,000 not maintained used as back up	Cancelled paper folios only	No	No

ITEM	SOUTH AUSTRALIA	WESTERN AUSTRALIA	NEW SOUTH WALES	VICTORIA	QUEENSLAND	NORTHERN TERRITORY	ACT	TASMANIA	NEW ZEALAND	HONG KONG
* Plans	Yes	All Crown surveys & field notes (no freehold plans)	Yes	Nil	All	All	All DP's and St. plans	No	All plans, all types	6,210.00
* Instruments	Yes until August 1994	At to 13.10.1991	Yes	100,000 (approx.)	All	Nil	Nil	Yes	No	
Optical Disc Storage										
* Titles	Diagrams only	All	No	Nil	2 million	All computerised titles	Nil	No (digital)	No	No
* Plans	Conversion contract let for pilot (diagram books)	All freehold	Yes, exel. Crown	166,000 (350k pages)	450,000	All unit (strata)	DP's only	Yes	No	No
* Instruments	Yes, since September 1994	All from 14.101991	In development stage	220,000 (510K pages)	Pilot near falure	Discharged mortgages	Nil	No	No	No
Conversion Processes										
* Titles	In-house	N/A	No		Priorrity logdements	On search/lodgement	Nil	To digital data	N/A	No
* Plans	Bureou	N/A	1,000.000 converted	New plans on reg'n	80% converted	N/A	DP's scanning completed	Yes back conversion	N/A	No
* Instruments	No		Selection of conversion subcontractors in progress	Back conversion info	At logdement	N/A	Nil	No, still microfilmed	N/A	No
Are Registred Instruments Destroyed?	No	Yes (except coloured evidence)		No	Yes	Yes (discharges etc.)	No	Yes	No	If computerised method, microfilm & return to client. If manual, keep 1 & return 1 to client
* After what period?	N/A	6 years			2 Months after m/filmed	After 5 years (1996 first year of destruction)	N/A	Immediately	N/A	

ITEM	SOUTH AUSTRALIA	WESTERN AUSTRALIA	NEW SOUTH WALES	VICTORIA	QUEENSLAND	NORTHERN TERRITORY	ACT	TASMANIA	NEW ZEALAND	HONG KONG
* Are they micofilmed or imaged?	Imaged since August 1994	Yes combination of both		Yes high access (5%)	Microfilmed	No. Possible image	No	Microfilmed	No	
File of Admin Interests	Yes, Section 90 Land Agents. Brokers & Valuers Act		Yes	In Database	Yes - in database	In place - computerised	No (however under Crown 1 ease hold system, many "admin" notations are included in or subsequently added to title)	No	No	No
LIS Relationship	Yes - major contractor DENR is lead agency		Notice of Sale. General Register of Restrictions, Cadastral Plan File. Property Information Inq'y Service	Lan data distributed data via network LTO a main contribution	Under development	Integrated	No	Yes Title/ownership	General Index for LIS being built in Auckland, Govt to advise on nationwide implementation or stop	No
Panel Forms										
* Are they used?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes with effect from 1.4.1995	Yes
* Supplied through LTO?	No	Yes (and Gov Stationer)	Yes	Yes	Yes	Yes	Yes	Yes	No. Licenced printers	
* Are non-standard forms registrable?	Yes, letter of explanation required	Yes (if approved)	Yes	Yes (if pre-dated May 1985)	No (generally)	Yes	Yes subject to approval	No	Yes, one year transition	No
* Penalty for non-standard forms	No	No	No	Yes (sealing Fee)	No	$15	$60 if unapproved prior to lodgement	Refused	No	N/A

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ITEM	SOUTH AUSTRALIA	WESTERN AUSTRALIA	NEW SOUTH WALES	VICTORIA	QUEENSLAND	NORTHERN TERRITORY	ACT	TASMANIA	NEW ZEALAND	HONG KONG
* Which documents?										
Customer Training	Yes	Yes	Yes	Yes	Yes	RG Consultative Committee,	Yes	Yes	Yes	No
* What does it consists of?	Client advice, seminars, publications etc.	Client Service Seminars and regular information Bulletins	Training seminars, handbooks, Office info Bulletins	Bulletins, seminars, articles in legal journal, practice notes, lodgin manual, consultative committee	Customer Service Bulletins, Information sheets, seminars etc.	operator manuals	Practice Notes and "in-house" informal instructions	Newsletters, circulars. Practice Book, "Hands-on" training to remote access users	Bulletins, circulars, seminars, legal publications. Roadshows for new forms	
Assuarance Fund	No	Yes	Yes	Yes	Yes	No	No separate fund but indemnified by Gvernment	Yes	No	No. Being Considered
* Contribution collected		Yes	Yes ($1/dealind)	Nominally				No	Theoretically from	
* Payments from fund or consolidaed revenue		Consolidated Revenue	LTO Fund	Consolidated Revenue	Consolidated Revenue	Consolidated Revenue	Consolidated Revenue	Fund	Consolidated Revenue actually from operational vote.	
Credit Facilities	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
* Searches	Yes	Yes - 85% of business	Phone search and remote ALTS access	Yes	No	Yes	Yes, one month accounts	30 dy a/c computer access clients only		Other Govt. departments only
* Lodgement	No	Yes - survey plan No - document registration	No	No	No (EFT -large client)	Yes	Only for Govt. agencies	No		
Lodgement Practice										
* Criteria	LTO assessment			Yes		Exam.& data entry at lodgement	Full examination & payment of fee	Examination after lodgement		Examination after lodgement
* Is there a	Documents, yes	Self assessment	Yes, pre-check &	Cursory exept for	Basic - later	No	Full examination	No	In some smaller	No

ITEM	SOUTH AUSTRALIA	WESTERN AUSTRALIA	NEW SOUTH WALES	VICTORIA	QUEENSLAND	NORTHERN TERRITORY	ACT	TASMANIA	NEW ZEALAND	HONG KONG
pre-check?	Plans, cursory		pre-lodgement exam. of plans available	plans	exam				offices only	
Postal lodgement * Any restrictions? *Any additional fees?	Yes Outside Metro Adelaide No	Yes No No	At discretion Private only No	Yes No $4 per instrument	Yes Outside Metro $20(4 return if required	Yes No No	No	Yes Outside M No	No (Proposed in introduce in the future)	Yes New Territories Registries only No
Postal Searches *Any restrictions? * Anny additional fees?	Yes Outside metro Adelaide No	Yes No & 6.50 admin & handling fee	Yes No No	No	Yes Outside Metro $ 2 return	Yes No No	Yes Only for law en-force agencies No	Yes Not in Metro area No	Yes Titles only Self addressed envelope	No
Remote orders *Volumes/What?	Yes 80% of Register Searches by auto fax for TATS titles Plan and document searches	Yes 1.600 jobs/days avg. 11.000 A4 pages per day	Yes 36.3%. 111 single clients, 3 network operations Average 4.163 per day	Yes Less than 5%	Yes 20K/month Titles & plans	Yes 10% Fax/dial up	Yes No remote on-line access. 90% of all searches are satisfied by 'Dial-a-Search ' fax service.	Yes Automated Point from "TASFOL" Imaged diagrams from "Title plan" to remote access clients via data-base fax	No (pilot under-way)	Yes 250 clients on-line 2.000 per day
Core Type Projects Being Undertaken (e.g. Automated Titling/imaging)	Improved TATS conversion strategy. Integrate data entry. Priority Notice System	Electronic docu-ment endorsement-EDE	**A** Integration of core systems (ALTS & BOS). Continuing pro-jects: **B** DCDB - computerized cadastral index, **C** Central Register of Restrictions, **D** Imaging	ALTS title text on relational data-base Imaging system for diag-ram & Instru-ments. On-line updating for computer folios of plans	ATS - Title imaging DISP - Image plans ATS - pilot doc. image	Administrative Interests Compu-tarisation of the General Registry Imaging of can-celled titles and survey plans Audit trial for changes to Register	Conversion of manual folios to computer folios Plan imaging	Conversion of paper titles to digital TASFOL. Conversion of survey diagrams to image	Awaiting decision from Govt. whether to proceed with full automation of titles and conver-sion of titles and plans with PRA project.	**A** Computeriza-tion of registers in 8 New Territories registries **B** Image all land records **C** Replace existing deeds reg'n system with title reg'n system.

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ITEM	SOUTH AUSTRALIA	WESTERN AUSTRALIA	NEW SOUTH WALES	VICTORIA	QUEENSLAND	NORTHERN TERRITORY	ACT	TASMANIA	NEW ZEALAND	HONG KONG
Development Methodology	In-house		dealings Spectrum	In-house	LDMS Systems engineer	In-house	*Automated Register:* Joint applications design *Imaging:* Co-operative with Dept. of Lands		In-house for maintenance projects	In-house with other Govt. Dept's
Development Staff			A B D							
* Number	13	17 Land Register Services	11 2 2	36	2 (+4 User Team)	1 (contract)	2.5	1	2 through bureau and 2 in HQ	10 approx.
*Who has control?	Director Land Services	Land Titles	A/DrA/DrA/Dr	Manager ALTS	Principal Advisor	Registrar General	Manager, Corporate Services	Department	CEO	Business Manager
* Consultants	As needs basis	No	3 as req'd as req'd	No	5 contractors	As required (NTLIS)	Oracle	No	No	As needs basis
Time to Satisfy Search										
* Manual Title										
-peak time	2 hours	30 min	20 min - remote	1 day	NA	on request	10 min	15 min local	<5 min	30 min
-average time			12 min - in-house	1 day				2 days mail		10 min
* Computer Title										
-peak time	immediate	30 min	immediate - remote	1 min	10 min	instant	10 min	1 min	<5 min	30 min
-average time			12 min - in-house	1 min	2 min					20 min
* Plan copy										
-peak time	60 min	30 min	15-20 min	4 min	10 min	N/A	10 min	20 min paper	<5 min	30
-average time	20 min	30 min		2 min	2 min			10 min paper image		20
* Document copy										
-peak time	24 hours for remote orders	30 min	120 min-manual	N/A Accessed by customers	24 hrs	<5 min	10 min	5 min	<5 min	30
-average time	Varies as to what media document	30 min	60min-automated		2 hrs					25

ITEM	SOUTH AUSTRALIA	WESTERN AUSTRALIA	NEW SOUTH WALES	VICTORIA	QUEENSLAND	NORTHERN TERRITORY	ACT	TASMANIA	NEW ZEALAND	HONG KONG
	is stored in									
Fees * Standard fee for document reg'n	$66	$62	$50	$59	$87	$85	$60	$70	$25 (GST incl.)	11K$90-$530 Avg. 11K$530
* Ad valorem on transfers? and rate(if applicable)	Yes $77 up to $20K $87 up to $40K $39 per $10K over $40K	Yes $62 up to $85K $72 up to $120K $93 up to $200K (plus $20 for every $100K over $200K	No	Yes $2.46 per K Max fee $1,320	Yes $20per $10K over $170K	No	No	Yes $70less than $60K $130 over $60K	No	Yes ($11K) $90 up to $100K $260up to $750K $550 over $750K
* Date of last fee increase	18 July 1994	August 1992	1 July 1994	December 1993	July 1993	1 January 1992	July 1994	20 August 1993	1.2.1994 decrease in most fees	1.1.1995
* Criteria for increase	CPI plus cost recovery	CPI	Cost recovery within CPI	Cost recovery	CPI	CPI & cost recovery	CPI, Cost Recoverv & nari-ty with NSW	Cost recovery & surplus	To reflect cost $90 additional fee to fund survey system (DoSLI)	Inflation & recovery of development cost
Development Levy * How much/ Levied on?	No	Yes $6 per registration (dealing) $1 per search	No	Yes $2.81 per search $1.92 per dealing	No	Yes $5 per document	Yes $5 dealing $1 search	Yes $10 dealing (Sele-cted dealings)	No	Yes $ not defined. Incorporated in reg'n & search fees
Search/Copy Fee (What does it include?)	$10 Search of Register title, free check searches, $4.50 copy of document $4.5 copy of plan	$4 search of indices $8 Register, instrument or survey	$3.80 (per plan dealing or folio)	$7.50 search Search receipt with unreg'd details computer search statement or copy of paper title plus instruments	$10 title print or plan, $16 document	$5 Copy plus conveyancing information	$5 Copy of Crown Lease/Title, unlimited free check searches, computer folio printout	$12 copy of survey diagram & unregistered dealing report	$5 title search (copy), $5 plan copy, $5 Journal print - view $ Nil, $10 guaranteed search includes Journal print	11K $10-$30 per search, inc. computer print-out. 11K $5 per page copies of paper register.
Requisition Fee	No	Yes	No	No	Yes	Yes	No	Yes	No	Yes

ITEM	SOUTH AUSTRALIA	WESTERN AUSTRALIA	NEW SOUTH WALES		VICTORIA	QUEENSLAND	NORTHERN TERRITORY	ACT	TASMANIA	NEW ZEALAND	HONG KONG
* Dealings * Plans		$31 $63				$25 $50	$20 N/A		$24 $30		$150
Power of Rejection	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes in most offices in	No
Is it used?	Yes	Yes	Yes		Yes	Yes	No	Yes	Yes	of requisition system	
* After what time lapse?	4 months	21 days, 7 days for caveats	88 days, for forfeiture of all fees		60 days	4 weeks	7 days	2 months from date of requisition	3 months	Immediate if not requisitioned	
*Lodgement fee after rejection	Full registration fees	Half registration fee	Standard fee		Standard fee	Half normal fee	N/A	Yes	Half fees refunded	Fees available for 2 months after rejection	
Computer Type					AI.TS:						
*Mainframe/other	Unisys mainframe	HDS (change to client/server architecture in 3 years)	Pyramid (in-house integ'n)	Fujisu	Unisys	ATS-Sequent 790/490 In-house	IBM 3090/4005	Sun Spare 20	Sun Spare 10/51--4 processor unit	Unisys A15	Ibm 3290
* Bureau			No	1st State Computering			Yes	Yes	In house	Bureau (EDS)	Bureau
* Owned/Shared	Owned by Dept. Shared with other Dept. groups.	Owned	Owned	Shared	Shared	Owned	Shared	Facilities provided thru service level agreement	Owned	Shared	Shared
* Relational/ Otherwise	otherwise	Relational	Relational	Hierarchical	Relational	Relational	Relational	Relational	Relational	Hierarchical	Relational
Database											
*Database Management System	DMS2	DBMS - IBM DB2	Oracle	IMS. ADABAS	DMS II	CA - Ingres	IMS	Oracle	Ingress	DMS II	DB2 V2.3
* Programming Language (4GL7)	COBOL (not4GL)	3GL (Cobol &PLI)	Ocre (oo)	CICS Cobol/ Natural	Cobol		PLI	SQL	Ingress	LINC	VS/Cobol II V3.2
* Operating	MCP	MVS/ESA	Unix V		MCP	Unix	MVS (CICS)	Unix (Sularis)	Unix	A series MCPAS	MVS

ITEM	SOUTH AUSTRALIA	WESTERN AUSTRALIA	NEW SOUTH WALES	VICTORIA	QUEENSLAND	NORTHERN TERRITORY	ACT	TASMANIA	NEW ZEALAND	HONG KONG
System			(AT&T)							
Imaging System * Brand name	Yes Computer Manufacture V Design (CMAD)	Yes Kodak	Yes Intergraph	Yes Olivetti/Filener	Yes Kodak	No	Yes Watermark software on 486/DX2	Yes Intergraph	No	No
Computer Title Folio ID	Volume & Folio	Volume Folio	Volume Folio & Lot/Plan	Volume Folio	8 digit Title Ref.	Volume Folio	Volume Folio/ Edition number	Lot on Plan	N/A	Property address
Separate Title for Common Property? What is contained?	Yes Easements, Rights	No	Yes Address for notices, unit entitlement endorsements	Yes (Body Corp.) Caveats, encumbrances cavenants	No	Yes Owner details Easements	Yes All area not in unit titles. Easements . Any special resolutions.	No Legislation to allow being drafted.	Yes Easements, etc.	N/A
Diagrams on new titles * Computer * Manual	Yes Yes	Yes Yes	No No	No No	No No	Yes Yes	No No (some new Crown leases contain easement diagram	No No	N/A Yes	No
Paper Register Title Loose Leaf or Bound?	Both	Loose	Both	Loose	Converted to image	Both	Older titles bound newer titles loose leaf	Loose	Loose	Bound
Size of Register (No./%) * Current loose titles * Current bound titles * Current deeds * Cancelled titles	200,000 (27%) 290,000 (40%) 7,5M current & cuncelled 650,000	850,000 Nil unknown 650,000	)) 68,000+) unknown unknown	2,300,000 800,000	1.100.000 600,000	Nil Nil Total 323,075 48,158	60,000 53,000 35,000	25,000 remaining Nil 250,000	1,765,000 Nil Nil 1,153,000	Nil 880,000 properties N/A N/A

ITEM	SOUTH AUSTRALIA	WESTERN AUSTRALIA	NEW SOUTH WALES	VICTORIA	QUEENSLAND	NORTHERN TERRITORY	ACT	TASMANIA	NEW ZEALAND	HONG KONG
* Computer titles	250,000 (33%)	1,500,000	2,814,321	565,000	1,000,000	47,698 (all text plus 31K out of 40K diags)	54,000	245,000	Nil	1,166,000
Old System Parcels (No/%?)	Number unknown less than 1%	Number unknown less than 1%	34,000	60,000		Nil	Nil	3,000 parcels remain	Number unknown less than 1%	N/A
Conversion Process	Compulsory process	No	Mass conversion project. Development stage only.	Yes	Nil	N/A	N/A	Compulsory on lodgement	N/A	N/A

Annex VI.C.

Sample Computerized Registry Forms (available in Russian copy)

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Annex VI.D.1. Present Standard Registration Forms

Annex VI.D.2. Present Mortgage Documents

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Land Titles Office use only

Form number:
97-01T
Licence number:
10V/0096/95

TRANSFER

Real Property Act 1900

Office of State Revenue use only

(A) **LAND TRANSFERRED**

Show no more than 20 References to Title.
If appropriate, specify the share transferred.

(B) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone REFERENCE (max. 15 characters):

(C) **TRANSFEROR** .....

.....

(D) acknowledges receipt of the consideration of .....

and as regards the land specified above transfers to the Transferee an estate in fee simple

(E) subject to the following **ENCUMBRANCES** 1. ..... 2. ..... 3. .....

(F) **TRANSFEREE**

T TS (s713 LGA) TW (Sheriff)	**TENANCY:**

(G)

(H) We certify this dealing correct for the purposes of the Real Property Act 1900. **DATE** .....

Signed in my presence by the Transferor who is personally known to me.

.....
Signature of Witness

.....
Name of Witness (BLOCK LETTERS)

.....
Address of Witness

.....
Signature of Transferor

Signed in my presence by the Transferee who is personally known to me.

.....
Signature of Witness

.....
Name of Witness (BLOCK LETTERS)

.....
Address of Witness

.....
Signature of Transferee

NB: if applicable, indicate that the signatory is the transferee's solicitor and show the solicitor's full name.

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only) .....

OLT961O

97-10CN

Land Titles Office use only

Application to Record

CHANGE OF NAME

Real Property Act 1900
Crown Lands Consolidation Act 1900
Western Lands Act 1901

(A) **LAND**
Show no more than 20 References to Title.

89/768123

(B) **REGISTERED DEALING**
If applicable.

(C) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone
239X	EASTPACK BANK LTD 77 CASTLEREAGH ST. SYDNEY 2000. REFERENCE (max 15 characters):

(D) **REGISTERED PROPRIETOR**
whose name is to be changed.

YVONNE MILLIE JONES

(E) **NEW NAME**
In full.

CN YVONNE MILLIE BRAYMORE

(F) I, the Registered Proprietor, apply to have my New Name recorded in the Register in respect of the above Land/~~Registered Dealing~~.

(G) **STATUTORY DECLARATION BY THE APPLICANT**

I, *[New Name]* YVONNE MILLIE BRAYMORE, solemnly and sincerely declare that

1. I am identical with the Registered Proprietor referred to above;
2. On 22ND DAY OF DECEMBER 1993 at ARMIDALE in the State of NEW SOUTH WALES I married ATHOL BRIAN BRAYMORE;
3. .....

I make this solemn declaration conscientiously believing the same to be true and by virtue of the Oaths Act 1900, and I certify this application correct for the purposes of the Real Property Act 1900.

Made and subscribed at SYDNEY in the State of NEW SOUTH WALES on 10TH FEBUARY 1994 in the presence of

Signature of Witness

KEVIN KOSNER
Name of Witness (BLOCK LETTERS)

55 MITCHELL ST CLAYMORE J.P.
Address and Qualification of Witness

Signature of Applicant

CHECKED BY (office use only)

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INSTRUCTIONS FOR COMPLETION

1. This Application may be used for individuals or corporations.

2. It must be completed clearly and legibly in permanent, dense, black or dark blue non-copying ink. If using a dot-matrix printer the print must be letter-quality.

3. Do not use an eraser or correction fluid to make alterations: rule through rejected material. Initial each alteration in the lefthand margin.

4. If the space provided at any point is insufficient, you may annex additional pages. These must be the same size as the form; paper quality, colour, etc, must conform to the requirements set out in Land Titles Office Information Bulletin No. 19. All pages of any annexure must be signed by the Applicant and the attesting witness.

5. The following instructions relate to the marginal letters on the application.

(A) LAND

Show the number of the Certificate of Title for the Land in regard to which the Registered Proprietor's name is to be changed, for example, "1/723456" or "Volume 12345 Folio 111". If there are more than twenty show none in this panel. Place ALL of them on an annexure (see 4 above) with twenty per sheet.

(B) REGISTERED DEALING

Show the registration number of any lease, mortgage or charge to which the Application relates.

(C) LODGED BY

This section relates to the person or firm lodging the Application at the Land Titles Office.

LTO Box If the person or firm lodging has a Land Titles Office Delivery Box, show the number; if not, leave this panel blank.

Name, Address or DX and Telephone Show the name, full address and daytime telephone number.

Reference (max. 15 characters) This is optional. Any slashes, dots, blank spaces, etc, will be counted as characters.

(D) NAME TO BE CHANGED

Show the name in full. Address and occupation need not be shown.

(E) NEW NAME

14

Show the name in full. Address and occupation need not be shown.

(F) LAND/REGISTERED DEALING

Amend as appropriate, for example, if applying only in regard to land delete "Registered Dealing".

(G) STATUTORY DECLARATION BY THE APPLICANT

The Statutory Declaration must be completed and signed by the Applicant in the presence of a prescribed functionary, i.e. a justice of the peace, practising solicitor, notary public, commissioner of the court for taking affidavits or any person authorised to administer an oath.

In the case of a corporation the Applicant must be a responsible officer of the corporation. Where appropriate the Declaration should include a statement that the new name has been registered in accordance with the provisions of the Companies Act 1961.

If the change of name was effected by marriage complete clause 2 and delete clause 3. If by other than marriage delete clause 2 and declare all the facts relating to the change at clause 3.

If signed outside New South Wales delete reference to the Oaths Act and substitute a reference to the local Act.

The completed Application must be lodged by hand at the LAND TITLES OFFICE, Queen's Square, Sydney (near the Hyde Park Barracks) together with the relevant Certificate of Title (see 5(A) above) and a completed Notice of Sale (obtainable from the Land Titles Office).

If you have any questions about filling out the form, please call 228-6666 and ask for our Customer Services Branch.

500

Form number: 97-07L
Licence number: 10V/0252/95

LEASE

Real Property Act 1900

Land Titles Office use only

Office of State Revenue use only

(A) **PROPERTY LEASED**

Show no more than 20 References to Title.
Specify the part or premises if appropriate.

(B) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone REFERENCE (max. 15 characters):

(C) **LESSOR** .....

.....

(D) The lessor leases to the lessee the property described above subject to the following **ENCUMBRANCES**

1. ..... 2. ..... 3. ..... 4. .....

(E) **LESSEE**

L

(F) **TENANCY:**

(G) 1. **TERM:**

2. **COMMENCING DATE:**

3. **TERMINATING DATE:**

4. With an **OPTION TO RENEW** for a period of set out in

5. With an **OPTION TO PURCHASE** set out in

6. Together with and reserving the **RIGHTS** set out in

7. Incorporates the provisions set out in **ANNEXURE** hereto.

8. Incorporates the provisions set out in **MEMORANDUM No.** filed in the Land Titles Office.

0396LTO

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only)

601

DATE ..... We certify this dealing correct for the purposes of the Real Property Act 1900.

Signed in my presence by the lessor who is personally known to me.

.....
Signature of Witness

.....
Name of Witness (BLOCK LETTERS)

....
Address of Witness Signature of Lessor

Signed in my presence by the lessee who is personally known to me

.....
Signature of Witness

.....
Name of Witness (BLOCK LETTERS)

....
Address of Witness Signature of Lessee

STATUTORY DECLARATON

I solemnly and sincerely declare that the time for the exercise of the Option to Renew/Purchase in expired lease No..... has ended and the lessee under that lease has not exercised the option.

I make this solemn declaration conscientiously believing the same to be true and by virtue of the Oaths Act, 1900.

Made and subscribed at ..... in the State of ..... on ..... 19.....

in the presence of

.....
Signature of Witness

.....
Name of Witness (BLOCK LETTERS)

....
Address and Qualification of Witness Signature of Lessor

502

97-07SL

SUB-LEASE

Real Property Act 1900

Land Titles Office use only

Office of State Revenue use only

(A) **HEAD LEASE**

E900001

(B) **PROPERTY SUB-LEASED**

Show no more than 20 References to Title.
Specify the part or premises if appropriate.

175/730761, part being lock-up shop No 10, Lemon Arcade, 27 Green st, Mosman

(C) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone
232X	GLEN RICH PTY LTD DX 11782 SYDNEY 228 7100 REFERENCE (max. 15 characters): AG/7170

(D) **SUB-LESSOR** DAVID ADAM BROWN

(E) The sub-lessor leases to the sub-lessee the property described above subject to the following **ENCUMBRANCES**

1. ..... 2. ..... 3. ..... 4. .....

(F) **SUB-LESSEE**

SL NEWTECK INDUSTRIES LTD. ACN 811000 1

(G) **TENANCY:**

(H) 1. **TERM:** Two (2) years

2. **COMMENCING DATE:** 1/1/94

3. **TERMINATING DATE:** 31/12/95

4. With an **OPTION TO RENEW** for a period of Six (6) months set out in clause 20

5. Together with and reserving the **RIGHTS** set out in

6. Incorporates the provisions set out in **ANNEXURE** ONE (1) hereto.

7. Incorporates the provisions set out in **MEMORANDUM No.** filed in the Land Titles Office.

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only)

803

DATE 1 1.12.93 We certify this dealing correct for the purposes of the Real Property Act 1900.

Signed in my presence by the sub-lessor who is personally known to me.

1 M. Skase

Signature of Witness

MARY-ANNE SKASE

Name of Witness (BLOCK LETTERS)

21 MONEY ST, NEWBANK

Address of Witness

1 D. A. Brown

Signature of Sub-Lessor

Signed in my presence by the sub-lessee who is personally known to me

Signature of Witness

1 COMMON SEAL

1

Name of Witness (BLOCK LETTERS)

DIRECTOR

L. Kowa

SECRETARY

Address of Witness

Signature of Sub-Lessee

(J) I solemnly and sincerely declare that the time for the exercise of the Option to Renew in expired lease No. .....
has ended and the lessee under that lease has not exercised the option.
I make this solemn declaration conscientiously believing the same to be true and by virtue of the Oaths Act, 1900.
Made and subscribed at ..... in the State of ..... on ..... 19 .....
in the presence of

14

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address and Qualification of Witness

Signature of Sub-Lessor

504

RP99

VARIATION OF LEASE

Real Property Act, 1900

Land Titles Office use only

Office of State Revenue use only

(A) **TITLES AFFECTED**
Show no more than twenty.

175/730761

(B) **HEAD LEASE AFFECTED**
If applicable.

(C) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone	
232X		Glen Rich Pty. Ltd. DX 11782 SYDNEY 228 7100
	REFERENCE (max. 15 characters):	AG/7171

VL

(D) **LESSOR** JOHN MARK FULLER

(E) **LEASE VARIED** E900001

(F) **LESSEE** DAVID ADAM BROWN

(G) 1. The rent is increased/~~reduced to~~ to TWO HUNDRED & FIFTY dollars and FIFTY cents ($ 250.50) per week on and as from 1st Feb 1993.

2. The term is increased/~~reduced~~ to Four (4) years Six (6) months so as to expire on 31st May 1997

3. The provisions of the Lease are ~~varied/omitted~~/added to as set out in Annexure one (1) hereto.

☞ INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only)

605

97-01TL

TRANSFER OF LEASE MORTGAGE OR CHARGE

Real Property Act, 1900

Land Titles Office use only

Office of State Revenue use only

(A) **LEASE/MORTGAGE/CHARGE**

(B) **TITLE**

Show no more than twenty.
If appropriate, specify the share transferred.

(C) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone REFERENCE (max. 15 characters):

(D) **TRANSFEROR** .....

.....

(E) acknowledges receipt of the consideration of .....

and transfers to the transferee all the transferor's estate and interest in the registered dealing specified above

(F) subject to the following **ENCUMBRANCES** 1. ..... 2. ..... 3. .....

(G) **TRANSFEREE**

TL TM TC	
	TENANCY:

(H)

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only)

506

(I) We certify this dealing correct for the purposes of the Real Property Act, 1900 **DATE** .....

Signed in my presence by the transferor who is personally known to me

.....
Signature of Witness

.....
Name of Witness (BLOCK LETTERS)

.....
Address of Witness

.....
Signature of Transferor

Signed in my presence by the transferee who is personally known to me

.....
Signature of Witness

.....
Name of Witness (BLOCK LETTERS)

.....
Address of Witness

.....
Signature of Transferee

807

RP20

SURRENDER OF LEASE

Real Property Act, 1900

Land Titles Office use only

Office of State Revenue use only

(A) TITLES AFFECTED
Show no more than twenty.

175/730761

(B) HEAD LEASE AFFECTED
If applicable.

E900001

(C) LODGED BY

L.T.O. Box	Name, Address or DX and Telephone	GLEN RICH PTY. LIMITED DX 11782 SYDNEY	DL
232X		228 7100	
	REFERENCE (max. 15 characters):	AG/7190	

(D) LESSOR DAVID ADAM BROWN

(E) LEASE SURRENDERED

E927000

(F) LESSEE NEWTECK INDUSTRIES LTD ACN8000700

(G) In consideration of $ 1.00 , receipt of which is hereby acknowledged, the lessee surrenders all the lessee's estate and interest in the lease referred to above so far as it affects the ~~land~~/head lease specified above.

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only)

508

4TG

TRANSFER
GRANTING EASEMENT

Real Property Act 1900

Land Titles Office use only

Office of State Revenue use only

(A) **LAND**
Show no more than 20 References to Title

SERVIENT TENEMENT (Land Burdened)	DOMINANT TENEMENT (Land Benefited)
17/217852	18/217852

(B) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone	
727L	NILE CONVEYANCE CO. 17 CAIRO ST MOOREBANK REFERENCE (max. 15 characters): ASP/1	TG

(C) **TRANSFEROR**
(Registered Proprietor of servient tenement)
CLEOPATRA EMBALMING SERVICES LTD
ACN 8353611

(D) acknowledges receipt of the consideration of $5,000

(E) and TRANSFERS and GRANTS An easement for drainage and sewer lines over that part of the servient tenement shown as "Easement for drainage & Sewer lines 1 metre wide" on the plan annexed hereto marked 'A'
out of the servient tenement and appurtenant to the dominant tenement, to the TRANSFEREE.

(F) **TRANSFEREE**
(Registered Proprietor of dominant tenement)
ASP PEST CONTROL PTY LTD ACN 8575445

(G) subject to the following **ENCUMBRANCES** 1. T817506 2. 3.

(H) We certify this dealing correct for the purposes of the Real Property Act 1900.

DATE

Signed in my presence by the Transferor who is personally known to me.

THE COMMON SEAL OF CLEOPATRA EMBALMING SERVICES LTD WAS AFFIXED IN THE PRESENCE OF:

COMMON SEAL

H. Zutenkhamen DIRECTOR

E. Taylor SECRETARY

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

Signature of Transferor

Signed in my presence by the Transferee who is personally known to me.

THE SEAL OF ASP PEST CONTROL PTY LTD ACN 8575445 WAS AFFIXED BY:

COMMON SEAL

F. Ant DIRECTOR

B. Spider DIRECTOR

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address of Witness

Signature of Transferee

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE GIVEN ON THE BACK

CHECKED BY (Office use only)

609

INSTRUCTIONS FOR COMPLETION

NOTE: Registered mortgagees, lessees and chargees of the servient tenement should consent to the grant of easement; otherwise, the mortgage, lease or charge should be noted as a prior encumbrance (see note 4(G) below).

1. The Transfer must be completed clearly and legibly in permanent, dense, black or dark blue non- copying ink. If using a dot-matrix printer the print must be letter-quality.
2. Do not use an eraser or correction fluid to make alterations. Rule through rejected material and initial each alteration in the left-hand margin.
3. If the space provided at any point is insufficient, you may annex additional sheets. These must be the same size as the form. Paper quality, colour, etc, must conform to the requirements set out in Land Titles Office Information Bulletin No. 19. The first and last pages of any annexure must be signed by the parties and any attesting witness.
4. The following instructions relate to the marginal letters on the form:

(A) LAND

Show the current Reference to Title for both the dominant and servient tenements, for example, "1/723456" or "Volume 12345 Folio 111". If there are more than 20, show none in this panel. Place ALL of them on an annexure (see 3 above) with 20 references per sheet.

(B) LODGED BY

This section is to be completed by the person or firm lodging the dealing at the Land Titles Office.

LTO Box If the person or firm lodging has a Land Titles Office delivery box, show the number here; if not, leave this panel blank.

Name, Address or DX and Telephone Show the name, full address and daytime telephone number.

Reference (max. 15 characters) This is optional. Any blank spaces, slashes, dots, etc, will be counted as characters.

(C) TRANSFEROR

Show the full name of the Transferor.

(D) CONSIDERATION

Show the consideration here.

(E) TRANSFERS/GRANTS

State the nature of the easement (note section 181A of the Conveyancing Act 1919) and accurately describe the site of the easement. The transfer and grant must comply with section 88 of the Conveyancing Act 1919.

(F) TRANSFEREE

Show the full name of the Transferee.

(G) ENCUMBRANCES

Show the dealing number only of any mortgage, lease, charge or writ which affects the servient tenement (see **Note** above).

(H) EXECUTION

The Transfer must be executed by or on behalf of all parties to the Transfer.

By a Party Personally The Transfer must be executed in the presence of an adult witness who is not a party to the dealing and who knows the party executing personally. The witness should complete the appropriate section of the form.

By an Attorney The Power of Attorney must be registered in the General Register of Deeds at the Land Titles Office and the registration number must be quoted when executing the dealing. The execution should take the form, "AB by her attorney XY *[full name]* pursuant to Power of Attorney Book 1234 Number 567".

Under Authority If executing the Transfer under a statutory, judicial or other authority, except a Power of Attorney (see above), the nature of the authority must be disclosed.

By a Corporation under Seal The execution should either include a statement that the seal has been properly affixed, for example "...pursuant to a resolution of the board of directors ...", or all those attesting the affixing of the seal must state their position in the corporation.

By a Solicitor on behalf of the Transferee The solicitor must state that the Transfer has been thus executed and must print or type her/his full name. The signature need not be witnessed.

The completed dealing must be presented to the Office of State Revenue, STAMP DUTIES DIVISION, for assessment or marking then lodged by hand at the Land Titles Office, Queen's Square, Sydney (adjacent to the Hyde Park Barracks) and must be accompanied by the Certificate of Title for the servient tenement. Lodgment of the Certificate of Title for the dominant tenement is optional.

If you have any questions about filling out this form, please call (02)228-6666 and ask for Customer Services Branch.

510

97-01TR

TRANSFER
RELEASING EASEMENT

Real Property Act 1900

Land Titles Office use only

Office of State Revenue use only

(A) **LAND**
Show no more than 20 References to Title

DOMINANT TENEMENT (Land Benefited)	SERVIENT TENEMENT (Land Burdened)
231/735176	230/735176

(B) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone	
4Q	A. MOORE & CO. 2/71 SMITH ST BRONTE REFERENCE (max. 15 characters): AM	TR

(C) **EASEMENT**

Number	Nature of Easement
DP 724976	EASEMENT FOR SEWERAGE

(D) **TRANSFEROR**
(Registered Proprietor of dominant tenement)

GEORGE MOORE

(E) acknowledges receipt of the consideration of $1.00 and as registered proprietor of the dominant tenement TRANSFERS and RELEASES the above mentioned Easement to the TRANSFEREE as registered proprietor of the servient tenement.

(F) **TRANSFEREE**
(Registered Proprietor of servient tenement)

MELISSA KING

(G) We certify this dealing correct for the purposes of the Real Property Act 1900. DATE .....

Signed in my presence by the Transferor who is personally known to me.

Signature of Witness

ADRIAN MOORE (SOLICITOR)
Name of Witness (BLOCK LETTERS)

2/71 SMITH ST, BRONTE
Address of Witness

George Moore
Signature of Transferor

Signed in my presence by the Transferee who is personally known to me.

Signature of Witness

ADRIAN MOORE (SOLICITOR)
Name of Witness (BLOCK LETTERS)

2/71 SMITH ST BRONTE
Address of Witness

M. King
Signature of Transferee

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE GIVEN ON THE BACK

CHECKED BY (Office use only)

671

INSTRUCTIONS FOR COMPLETION

NOTE: The consent of any mortgagee, chargee or lessee of the dominant tenement whose dealing was registered after the instrument creating the easement, and of any consenting party contemplated by that instrument, should be furnished.

1. The Transfer must be completed clearly and legibly in permanent, dense, black or dark blue non- copying ink. If using a dot-matrix printer the print must be letter-quality.
2. Do not use an eraser or correction fluid to make alterations: rule through rejected material. Initial each alteration in the left-hand margin.
3. If the space provided at any point is insufficient, you may annex additional sheets. These must be the same size as the form. Paper quality, colour, etc, must conform to the requirements set out in Land Titles Office Information Bulletin No. 19. The first and last pages of any annexure must be signed by the parties and any attesting witness.
4. The following instructions relate to the marginal letters on the dealing form:

(A) LAND

Show the current Reference to Title for both the dominant and servient tenements, for example, "1/723456" or "Volume 12345 Folio 111". If there are more than 20, show none in this panel. Place ALL of them on an annexure (see 3 above) with 20 references per sheet.

(B) LODGED BY

This section is to be completed by the person or firm lodging the dealing at the Land Titles Office.

LTO Box If the person or firm lodging has a Land Titles Office delivery box, show the number here; if not, leave this panel blank.

Name, Address or DX and Telephone Show the name, full address and daytime telephone number.

Reference (max. 15 characters) This is optional. Any blank spaces, slashes, dots, etc, will be counted as characters.

(C) EASEMENT

Show the registered number of the easement, for example, Q345678 or DP723456, in the first panel. Show the nature of the easement, for example, Easement for Drainage, in the second panel. If only part of the easement is being released, accurately describe the part being released.

(D) TRANSFEROR

Show the full name of the Transferor.

(E) CONSIDERATION

Show the consideration here.

(F) TRANSFEREE

Show the full name of the Transferee.

(G) EXECUTION

The Transfer must be executed by or on behalf of all parties.

By a Party Personally The Transfer must be executed in the presence of an adult witness who is not a party to the dealing and who knows the party executing personally. The witness should complete the appropriate section of the dealing.

By an Attorney The Power of Attorney must be registered in the General Register of Deeds at the Land Titles Office and the registration number must be quoted when executing the dealing. The execution should take the form, "AB by her attorney XY *[full name]* pursuant to Power of Attorney Book 1234 Number 567".

Under Authority If executing the Transfer under a statutory, judicial or other authority, except a Power of Attorney (see above), the nature of the authority must be disclosed.

By a Corporation under Seal The execution should either include a statement that the seal has been properly affixed, for example "... pursuant to a resolution of the board of directors ...", or all those attesting the affixing of the seal must state their position in the corporation.

By a Solicitor on behalf of the Transferee The solicitor must state that the dealing has been thus executed and must print or type her/his full name. The signature need not be witnessed.

The completed dealing must be presented to the Office of State Revenue, STAMP DUTIES DIVISION, for assessment or marking when lodged by hand at the Land Titles Office, Queen's Square, Sydney (adjacent to the Hyde Park Barracks) and must be accompanied by the Certificate of Title for the dominant tenement. Lodgment of the Certificate of Title for the servient tenement is optional.

If you have any questions about filling out the form, please call (02)228-6666 and ask for Customer Services Branch.

512

POSITIVE COVENANT

PURSUANT TO SECTION 88E (3), CONVEYANCING ACT, 1919
REAL PROPERTY ACT, 1900
(See Instructions for Completion on back of form)

PC | of | $

DESCRIPTION OF LAND Note (a)

Torrens Title Reference	If part only, delete Whole and give details
16/19564	WHOLE

Note (b) BOTANY MUNICIPAL COUNCIL
Coward St, MASCOT

a PRESCRIBED AUTHORITY within the meaning of Section 88E(1) of the Conveyancing Act, 1919, hereby imposes on the land above described the positive covenant which is set out overleaf, and applies to have such covenant recorded in the Register.

OFFICE USE ONLY

Note (c) The Registered Proprietor of the land above described is ESSO HOLDINGS LIMITED, 29 Benzene Rd, MASCOT ACN 888770

Note (d) The mortgagee/lessee/chargee/covenant chargee of the land above described is AMERICAN OIL CO. PTY. LIMITED 192 Elizabeth St, SYDNEY ACN 8100101

DATE 22nd Sept. 1992

EXECUTION Note (e)

We hereby certify this dealing to be correct for the purposes of the Real Property Act, 1900.

Signed in my presence by an authorised officer of the Prescribed Authority

Signature of Witness

Name of Witness (BLOCK LETTERS)

Address and occupation of Witness

BOTANY MUNICIPAL COUNCIL

R. Cutter - Town Clerk

S. Satery - Mayor

Signature of authorised officer

Signed in my presence by the registered proprietor of the land who is personally known to me.

Signature of Witness

Alice Petrol
Name of Witness (BLOCK LETTERS)

29 Benzene Rd, Mascot Bowsor Attendant
Address and occupation of Witness

Esso Holdings Limited
by its Attorney G. Sump
pursuant to power of attorne
No. 777 Bk. 6666

Signature of registered proprietor

Notes (e) and (f) Signed in my presence by the registered proprietor MORTGAGE Z869107 who is personally known to me

The Common Seal Of THE
AMERICAN OIL CO. was affixed
in the presence of

Signature of Witness
Name of Witness (BLOCK LETTERS)
Address and occupation of Witness

AMERICAN OIL CO. PTY. LIMITED ACN 8100101

Director

Secretary

Signature

TO BE COMPLETED BY LODGING PARTY

Notes (g) and (h)

LODGED BY
Super & Standard
27 Oil St
Cronulla

Delivery Box Number 478L

LOCATION OF DOCUMENTS		
CT	OTHER	
		Herewith.
		In L.T.O. with
		Produced by

OFFICE USE ONLY

Checked	Passed	REGISTERED - -19	Secondary Directions	
Signed	Extra Fee		Delivery Directions	

L 613

97-12PV

Land Titles Office use only

Application for

NEW CERTIFICATE OF TITLE

Sections 38(2) and 111 Real Property Act 1900

(A) **CERTIFICATE OF TITLE REQUIRED**
Show no more than 20.

(B) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone REFERENCE (max. 15 characters):	PV

(C) **REGISTERED PROPRIETOR** .....

.....

(D) **APPLICANT** .....

(E) In consequence of the loss of the Certificate of Title referred to above I, the Applicant, apply for the issue of a new Certificate of Title. In support of this Application I lodge herewith the following documents:

1. Statutory declaration by me stating
   - details of the loss of the Certificate of Title;
   - particulars of all easements and encumbrances affecting the land in the Certificate of Title;
   - the name and tenancy of each person in possession of the land;
   - that the Certificate of Title is not held by any person or corporation as security for a loan or for any other purpose whatsoever;
   - that the Registered Proprietor has never been bankrupt or insolvent and has not assigned her/his estate for the benefit of creditors.
2. Statutory declaration by ..... corroborating the evidence as to loss.
3. The current local government rate notice or a certificate issued pursuant to section 160 of the Local Government Act 1919, or a copy of such notice or certificate, together with a statutory declaration identifying the land in the notice or certificate with the land in the Certificate of Title and, if applicable, stating that the copy of the notice or certificate is a true copy.
4. .....

(F) Certified correct for the purposes of the Real Property Act 1900. **DATE** .....

Signed in my presence by the Applicant who is personally known to me.

.....
Signature of Witness

.....
Name of Witness (BLOCK LETTERS)

.....
Address of Witness

.....
Signature of Applicant

CHECKED BY (office use only)

514

INSTRUCTIONS FOR COMPLETION

1. The Application must be completed clearly and legibly in permanent, dense, black or dark blue non-copying ink. If using a dot-matrix printer the print must be letter-quality.

2. Do not use an eraser or correction fluid to make alterations: rule through rejected material. Initial each alteration in the lefthand margin.

3. If the space provided at any point is insufficient, you may annex additional sheets. These must be the same size as the form; paper quality, colour, etc, must conform to the requirements set out in Land Titles Office Information Bulletin No. 19. The first and last pages must be signed by the person executing the Application and any attesting witness.

4. The following instructions relate to the marginal letters on the Application.

(A) CERTIFICATE OF TITLE REQUIRED

Show the number only, for example, "1/723456" or "Volume 12345 Folio 111".

(B) LODGED BY

This section relates to the person or firm lodging the Application at the Land Titles Office.
LTO Box If the person or firm lodging has a Land Titles Office Delivery Box, show the number; if not, leave this panel blank.
Name, Address or DX and Telephone Show the name, full address or DX number and daytime telephone number.
Reference (max. 15 characters) This is optional. Any slashes, dots, blank spaces, etc, will be counted as characters.

(C) REGISTERED PROPRIETOR

Show the name in full. Address and occupation need not be shown.

(D) APPLICANT

Show the full name and, if the Applicant is not a Registered Proprietor, the capacity in which the Applicant is applying.

(E) EVIDENCE

All evidence must be by way of statutory declaration. Altogether it must trace the Certificate of Title step by step from the Land Titles Office to the last person known to have possessed it. Unless the latter fully declares the circumstances of the loss or destruction of the Certificate of Title the evidence may not be considered sufficient to justify the issue of a replacement. Where possible corroborative evidence should be furnished. All declarants must state the source of their information.
If the Certificate of Title is thought to have been lost in the post inquiries must be made of Australia Post and the replies lodged as corroborative evidence.

(F) EXECUTION

The Application must be executed or on behalf of the Applicant.
By the Applicant Personally The Application must be signed in the presence of an adult witness who is not an Applicant and who knows the Applicant personally. The witness should complete the appropriate section of the form.
By an Attorney The Power of Attorney must be registered in the General Register of Deeds at the Land Titles Office. The execution should take the form, "AB by her attorney XY *[full name]* pursuant to Power of Attorney Book 1234 Number 567".
Under Authority If the Application is made pursuant to an authority other than a Power of Attorney (see above) the nature of the authority should be disclosed.
By a Corporation under Seal The execution must either include a statement to the effect that the seal has been properly affixed, for example, " ... pursuant to a resolution of the board of directors ... ", or disclose the positions within the corporation of all those witnessing the affixing of the seal, for example, "director" or "secretary".

The completed Application must be lodged by hand at the LAND TITLES OFFICE, Queens Square, Sydney (adjacent to the Hyde Park Barracks).

If you have any questions about filling out the form, please call 228-6666 and ask for our Customer Services Branch.

616

Land Titles Office use only

Form number: 97-05M
Licence number: 10V/0261/95

MORTGAGE

Real Property Act 1900

Office of State Revenue use only

(A) **LAND MORTGAGED**
Show no more than 20 References to Title.

(B) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone REFERENCE (max. 15 characters):

(C) **MORTGAGOR** .....

.....

mortgages to the mortgagee all the mortgagor's estate and interest in the land specified above and covenants with the mortgagee

(D) that the provisions set out in { Annexure ..... hereto / Memorandum No. ..... filed in the Land Titles Office } are incorporated in this mortgage

(E) subject to the following **ENCUMBRANCES** 1. ..... 2. ..... 3. .....

(F) **MORTGAGEE**

M	
	TENANCY:

(G)

(H) We certify this dealing correct for the purposes of the Real Property Act 1900. **DATE** .....

Signed in my presence by the mortgagor who is personally known to me.

.....
Signature of Witness

.....
Name of Witness (BLOCK LETTERS)

.....
Address of Witness

.....
Signature of Mortgagor

Signed in my presence by the mortgagee who is personally known to me.

.....
Signature of Witness

.....
Name of Witness (BLOCK LETTERS)

.....
Address of Witness

.....
Signature of Mortgagee

0296LTO

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only)

516

Form number: 97-05DM
Licence number: 10V/0275/95

Land Titles Office use only

DISCHARGE OF MORTGAGE

Real Property Act 1900

(A) **LAND AFFECTED**
Show no more than 20 References to Title.

(B) **REGISTERED DEALING AFFECTED**
If applicable.

(C) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone REFERENCE (max. 15 characters):

(D) **DM** **MORTGAGE DISCHARGED**

(E) **MORTGAGEE** .....

(F) **MORTGAGOR** .....
(Complete only if discharging less than the mortgagor's whole estate or interest in the mortgage; see Instructions, note (F))

(G) The mortgagee discharges the mortgage referred to above so far as it affects the **land/registered dealing** specified above.

(H) Certified correct for the purposes of the Real Property Act 1900. **DATE** .....
Signed in my presence by the mortgagee who is personally known to me.

.....
Signature of Witness

.....
Name of Witness (BLOCK LETTERS)

.....
Address of Witness

.....
Signature of Mortgagee

0196LTO

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only)

617

Real Property Act 1900

Office of State Revenue use only

(A) **TITLE**
Show no more than twenty.

2/1170

(B) **REGISTERED DEALING**
If applicable.

(C) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone	
971B	LAWMAC CONVEYANCES 72 Bridge Street SYDNEY 2000 2761792 REFERENCE (max. 15 characters): L/C 7/6	VM

(D) **MORTGAGOR** PAUL HOGAN and LINDA HOGAN

(E) **MORTGAGE VARIED** Z912738

(F) **MORTGAGEE** BIG CROC HANDBAGS PTY. LIMITED A.C.N. 282 235 478

(G) 1. The **rate of interest** is increased/~~reduced~~ to 27 % per annum (subject to reduction to 25 % per annum on payment within 30 days of the dates provided by the mortgage for payment of interest).

2. The **principal sum** is increased/~~reduced~~ to TWO HUNDRED & FIFTY THOUSAND DOLLARS

3. The **term or currency** is ~~shortened~~/extended to 20-1-2020

4. The **provisions** of the mortgage are varied/~~omitted/added~~ to as set out in Annexure "A" hereto.

☞ **INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE**

CHECKED BY (office use only)

518

(H) We certify this dealing correct for the purposes of the Real Property Act 1900. DATE 1

Signed in my presence by the mortgagor who is personally known to me.

Paul White
Signature of Witness

PAUL WHITE 1
Name of Witness (BLOCK LETTERS)

317 Black St., Blacktown
Address of Witness

7
L. Hogan A. Hogan
Signature of Mortgagor

Signed in my presence by the mortgagee who is personally known to me.

Signature of Witness

1
Name of Witness (BLOCK LETTERS)

Address of Witness

B. Adams

7 BRIAN ADAMS
~~Signature of~~ Mortgagee
Solicitor for the

6A

97-05PM

POSTPONEMENT OF MORTGAGE

Section 56A Real Property Act 1900

Land Titles Office use only

(A) **TITLE**
Show no more than 20 References to Title

16/814792

(B) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone	
787P	WINNING PTY LTD 15 HUNTER ST PARRAMATTA PH. 6497587 REFERENCE (max. 15 characters): 6/723	PM

(C) **MORTGAGOR** GEORGE BUSH

(D) MORTGAGE No E723194 is postponed in its entirety so that the priority of the mortgages shall be as if they had been registered in the order stated below.

(E) 1. MORTGAGE No E978230 dated 1.1.1992 to WESTPAC BANKING CORPORATION

(F) LIMITED (ACN 8711194)

2. MORTGAGE No E723194 dated 2.8.1991 to AMERICAN MORTGAGE LIMITED (ACN 81081101)

(G) 3.

4.

(H) We certify this dealing correct for the purposes of the Real Property Act 1900. DATE 2.2.1994

Signed in my presence by the Mortgagee who is personally known to me.

Eva Brown
Signature of Witness

EVA BROWN BANK OFFICER,
Name of Witness (BLOCK LETTERS)

21 MARTIN PL. SYDNEY 2000
Address of Witness

M. B. Jackson
MICHAEL B. JACKSON, AN AUTHORISED OFFICER UNDER POWER OF ATTORNEY BOOK 5675 No. 172
Signature of Mortgagee under Mortgage No E978230

Signed in my presence by the Mortgagee who is personally known to me.

THE SEAL OF THE AMERICAN MORTGAGE LTD (ACN 81081101)
Signature of Witness
WAS DULY AFFIXED IN THE PRESENCE OF:

Name of Witness (BLOCK LETTERS)

Address of Witness

COMMON SEAL

DIRECTOR SECRETARY

Signature of Mortgagee under Mortgage No E723194

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE GIVEN ON THE BACK

CHECKED BY (office use only)

620

INSTRUCTIONS FOR COMPLETION

NOTE: Any intervening Mortgagees must consent to the Postponement.

1. This form is not appropriate without amendment where the mortgages to be postponed are sub-mortgages. Upon request the Land Titles Office will advise of the amendments necessary in such cases.
2. This form must be lodged in triplicate when two mortgages are affected. An extra copy is required for each additional mortgage involved in the postponement except where the Mortgagees are the same.
3. The form must be completed clearly and legibly in permanent, dense, black or dark blue non-copying ink. If using a dot-matrix printer the print must be letter-quality.
4. Do not use an eraser or correction fluid to make alterations. Rule through rejected material and initial each alteration in the left-hand margin.
5. If the space provided at any point is insufficient, you may annex additional sheets. These must be the same size as the form. Paper quality, colour, etc, must conform to the requirements set out in Land Titles Office Information Bulletin No. 19. The first and last pages of any annexure must be signed by the parties and any attesting witness.
6. The following instructions relate to the marginal letters on the dealing form:

(A) TITLE

Show the relevant Reference to Title, for example "1/723456" or "Volume 12345 Folio 111". If there are more than 20, show none in this panel. Place ALL of them on an annexure (see 5 above) with 20 references per sheet.

(B) LODGED BY

This section is to be completed by the person or firm lodging the dealing at the Land Titles Office.

LTO Box If the person or firm lodging has a Land Titles Office Delivery Box, show the number here; if not, leave this panel blank.

Name, Address or DX and Telephone Show the name, full address and daytime telephone number.

Reference (max. 15 characters) This is optional. Any blank spaces, slashes, dots, etc, will be counted as characters.

(C) MORTGAGOR

Insert the full name of the mortgagor.

(D) MORTGAGE POSTONED

Show the number of the mortgage being postponed.

(E) Show particulars of the mortgages in the new order of priority.

(F) Insert "as varied by Variation of Mortgage No..... (or dated .....)" if appropriate.

(G) If more than two mortgages are affected insert details beside number 3 (and 4 if appropriate).

(H) EXECUTION

The dealing must be executed by or on behalf of all parties to the dealing

By a Party Personally The dealing must be executed in the presence of an adult witness who is not a party to the dealing and who knows the party executing personally. The witness should complete the appropriate section of the form.

By an Attorney The Power of Attorney must be registered in the General Register of Deeds at the Land Titles Office . The execution should take the form, "AB by her attorney XY *[full name]* pursuant to Power of Attorney Book 1234 Number 567".

Under Authority If the Application is made pursuant to an authority other than a Power of Attorney (see above) the nature of the authority should be disclosed.

By a Corporation under Seal The execution should include a statement that the seal has been properly affixed, for example "... pursuant to a resolution of the board of directors ...", or those attesting the affixing of the seal must state their position in the corporation for example, Director or Secretary.

By a Solicitor on behalf of a Mortgagee gaining the benefit of the Postponement The solicitor must state that the dealing has been thus executed and must print or type her/his full name. The signature need not be witnessed.

All copies of the completed dealing must be lodged by hand at the Land Titles Office, Queen's Square, Sydney (adjacent to the Hyde Park Barracks) and must be accompanied by all relevant Certificates of Title (see 6(A) above).

If you have any questions about filling out the form, please call (02) 228-6666 and ask for Customer Services Branch.

621

97-05ML

MORTGAGE OF LEASE
MORTGAGE OR CHARGE

Real Property Act, 1900

Land Titles Office use only

Office of State Revenue use only

(A) ~~LEASE~~/MORTGAGE/~~CHARGE~~

E 237980

(B) TITLE

Show no more than 20 References to Title.

683/245175

(C) LODGED BY

L.T.O. Box	Name, Address or DX and Telephone
4Q	AIR FRESH SERVICES 40 MACQUARIE ST SYDNEY 2000 REFERENCE (max. 15 characters): L/F/L

(D) MORTGAGOR LAND FILL HOLDINGS LTD (ACN 800000)

(E) mortgages to the mortgagee all the mortgagor's estate and interest in the registered dealing specified above and covenants with the mortgagee that the provisions set out in **Annexure** ..... hereto and **Memorandum No.** ..... filed in the Land Titles Office are incorporated herein subject to the following **ENCUMBRANCES**

1. ..... 2. ..... 3. ..... 4. .....

(F) MORTGAGEE

~~ML~~ SM ~~MC~~	GREENHOUSE GAS CO. PTY LTD. & OZONE AIR CORPORATION LIMITED ACN 64674747 & ACN 7363647 TENANCY: AS TENANTS IN COMMON IN EQUAL SHARES

☞ INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only)

522

(I) We certify this dealing correct for the purposes of the Real Property Act, 1900 DATE 11. 1. 1994

Signed in my presence by the mortgagor who is personally known to me

COMMON SEAL

.....

Signature of Witness

.....

Name of Witness (BLOCK LETTERS)

.....

Address of Witness

J. Marshall. DIRECTOR

D. Hayward. SECRETARY

.....

Signature of Mortgagror

Signed in my presence by the mortgagee who is personally known to me

.....

Signature of Witness

.....

Name of Witness (BLOCK LETTERS)

.....

Address of Witness

A Webbs

Signature of Mortgagee's SOLICITOR

ANDREW WEBBS

523

97-05ML

MORTGAGE OF LEASE

~~MORTGAGE OR CHARGE~~

Real Property Act, 1900

Land Titles Office use only

Office of State Revenue use only

(A) LEASE/~~MORTGAGE/CHARGE~~

E623158

(B) TITLE

Show no more than 20 References to Title.

192/528106

176/701923

(C) LODGED BY

L.T.O. Box	Name, Address or DX and Telephone
481L	MARIOTT & CO. D.X. 2367 BURWOOD REFERENCE (max. 15 characters): MAC

(D) MORTGAGOR CAIRO CARPET CO PTY. LIMITED A.C.N. 043 8054 646

(E) mortgages to the mortgagee all the mortgagor's estate and interest in the registered dealing specified above and covenants with the mortgagee that the provisions set out in **Annexure** ..... hereto and **Memorandum No.** ..... filed in the Land Titles Office are incorporated herein subject to the following **ENCUMBRANCES**

1. ..... 2. ..... 3. ..... 4. .....

(F) MORTGAGEE

ML ~~SM~~ ~~MG~~

PYRAMID BANKING CORPORATION LIMITED
A.C.N. 895 678 650

(G) TENANCY:

☞ INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only)

524

(I) We certify this dealing correct for the purposes of the Real Property Act, 1900 DATE 16. 1. 1994

Signed in my presence by the mortgagor who is personally known to me

COMMON SEAL

The seal of CAIRO CARPET CO, PTY. LIMITED

Signature of Witness

was affixed by:

Name of Witness (BLOCK LETTERS)

Director

Director S. Farouk.

Address of Witness

Signature of Mortgagror

Signed in my presence by the mortgagee who is personally known to me

J. Little

Signature of Witness

JEANIE LITTLE

Name of Witness (BLOCK LETTERS)

37 Forest Road, Arncliffe 2205.

Address of Witness

A. Abdul

A. ABDUL under Power of Attorney No. 876 Book 6678 on behalf of PYRAMID BANKING CORPORATION LIMITED

Signature of Mortgagee

625

Annex VI.E.

Registry Forms. Examples from St.-Petersburg (available in Russian copy)

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Annex VI.F

GUIDE TO PRACTICE

for the Registration of Real Estate Transactions

627

Introduction

This 'Guide to Practice' has been prepared for the guidance and training of Registry staff and to facilitate the development of practices within the environment of a Torrens Title Land Registry. The types of transactions described are not exhaustive. They are, however, typical of what might be lodged for registration in an evolving real estate market. It is expected that this document will form a reliable platform for Registries to develop their own practices to suit their specific circumstances and needs and changing legislative requirements.

The Guide covers:

- A brief commentary on a range of specific types of transaction with real estate;
- Suggested examination requirements for each type of transaction;
- Actions to be taken following acceptance of a document for registration; and, in appropriate cases,
- Sample forms of notification to be entered in the Register.

The focus of this Guide is the registration practices and procedures operating within the Land Titles Office in New South Wales, Australia - probably the largest centralised Torrens registry in the world. The procedures described are for information purposes only. They may or may not be applicable to a registry in Russia. However, the principles behind those procedures and practices may be of some value in assisting in the development of appropriate local practices.

When a registry has identified its procedures they should be documented in an 'Instruction Manual' for staff. All staff should be familiar with the contents of that Manual.. Any comments or suggestions for updating the Manual regarding procedures and practices should be referred to the Head of the Registry. These comments will enable the development and documentation of precedents for future reference within the Registry and facilitate the development of effective staff training programs.

It is expected that the development of the principles outlined in this Guide to suit local requirements will assist in ensuring uniformity in examination and registration procedures, increase the efficiency and professionalism of staff and increase accuracy in the work.

August, 1996

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1. The Real Estate Registration System

The real estate registration system may be either a stand alone system or it may be a subset of a generalised Real Estate Information System (REIS). In either case, the system will have been developed to facilitate the lodgment and registration of all Real Estate transactions in one city location.

For a primary transaction, i.e. the registration of a privatization, Registry information is drawn from the data held by the appropriate authority and the properly completed right establishing documents presented to the Registry. Following a primary registration, a Certificate of Title is issued to the owner. In a secondary transaction (e.g. sale, mortgage, lease, etc. of privatized Real Estate), the applicant presents the document to be registered together with the Certificate of Title to the Registry. Following registration of the transaction, the Registry will destroy the Title lodged and issue a replacement Certificate of Title showing the current status of the Register.

Clients desiring to register a real estate transaction must complete an application form and lodge it, together with transaction documents for registration (see Appendix A for sample forms for the range of transactions referred to later in this Guide). This application may be made either personally to the Registry or through a proxy. If the document is in order for registration, the Registrar will open the automated system and the computer will, typically, allocate a lodgment number to each of the documents to be registered. Documents lodged purely as evidence will not be numbered. The Registrar will then begin the collection of data to enable registration to proceed. Where documents are not in order for registration they will be handed back to the client and no data will be entered into the computer system.

2. The Certificate of Title

The Certificate of Title is a legal document and is evidence of real estate ownership. It specifies:

- the real estate that is the subject of the Title - real estate may be a land parcel, a building or a flat;
- the rightholder(s) or owner(s) together with any rights as to ownership and details of any related tenancies and shares held; and
- all other rights and encumbrances that relate to the specified real estate.

The Certificate of Title (see examples at Appendix B) must be produced to the Registry to support any transaction *by the owner* with that real estate. The information contained in the Certificate of Title reflects the registration data held in the Register as at the date of Title issue. A new Certificate of Title will be issued by the Registry following the registration of any transaction affecting the ownership of the real estate contained in that Title. In dealing with *interests other than those of the owner*, the Certificate of Title need not be produced to allow the application to be registered. Consequently, a replacement Title will not be issued following the registration of transactions affecting those other interests, e.g. the interest of a

mortgagor or a lessee *unless the Title was produced.* For these reasons, when checking the correctness or otherwise of an application lodged for registration, the examining officer must check the Register and not simply rely on the information contained in the Title.

Each Certificate of Title is uniquely known by a title identifier. That identifier is a sufficient description of the land, building or flat specified in that title in documents lodged for registration in the Registry.

When real estate is held by several owners in shares, i.e. as Tenants in Common (see Co-owners at Ch. 4), a separate Title will issue to each of the owners. The Title held by each owner should be uniquely identified by, for example, the addition of an alphabetic suffix to the title identifier.

2.1 Searching the Land Titles Register

To access the Register, a searcher will need to know a key such as:

- the identifier of the Certificate of Title;
- the cadastral number of the land;
- the cadastral number of the land together with the file number from the BTI for the building or flat;
- the name of the owner; or
- the street address.

The usual result of a Title search will disclose the current state of the Register only (See Appendix C). It will not contain information in respect of any superseded transactions. The latter information, which will be only available in a Historical Search, should include summarised details of all previous registrations and indicate the identity of the Certificates of Title issued (See Appendix D).

3. Estates in Land

3.1 General

The following summary refers to the several forms of land ownership in the Torrens Title system within New South Wales, Australia. It is outlined here for information purposes only.

Technically, all land belongs to the State and subjects of the State hold only estates or interests in the land. Estates are either in fee simple or for life or for years.

Generally there are four types of estates in land:

- estate in fee simple,
- estate for life,
- estate in remainder, and
- leasehold estate.

3.2 Estate in Fee Simple

An estate in fee simple is the highest form of estate and it is the closest estate one can hold to absolute ownership. Any other form of estate is termed a lesser estate.

Absolute ownership may be defined as having the following characteristics:

- possession of infinite duration,
- a right to maintain and recover possession, and
- a right of free disposition, i.e. the land may be freely transferred, devised or inherited.

The use of property held in fee simple is subject only to zoning regulations, easements and restrictive covenants. Continued ownership is subject only to mortgages, resumptions, possessory or bankruptcy applications.

3.3 Life Estate

The owner of an estate in fee simple may create a lesser estate known as a life estate. This estate operates for the life of a specified person and it is not an estate in fee simple. This type of estate is often created from the settlement of a will, whereby the deceased has provided a life estate for his/her spouse or another family member.

A life estate may be created to terminate on the death of a specific person or on some other event, whichever will happen first. For example, an estate for life granted to **A** 'during her widowhood' is a life estate, even though it will terminate during **A**'s lifetime should she re-marry.

An estate for life may be created upon the registration of a notice of death or by a transfer by the registered owner. To create the life estate, the document lodged for registration must include defining words such as 'for life', 'for the term of his/her life', etc. The registered owner of a life estate cannot mortgage, lease or in any way encumber the real estate for a longer period than the life estate. That is, on the death of a person holding a life estate all mortgages, leases, etc. will be canceled.

A life estate may be created for the life of an independent person. For example, **A** transfers to **B** a life estate for **C**'s life. In this case **B**'s occupancy will terminate on the death of **C**.

3.4 Estate in Remainder

An estate in remainder becomes an estate in fee simple upon termination of the life estate. An estate in remainder is what remains after the creation of the life estate.

For example:

1. **A** transfers to **B** an estate for life and to **C** an estate in remainder.

In this case, **A** created a life estate for **B** and transferred the potential fee simple to **C**. Therefore on the death of **B**, **C** will become the new registered owner of the fee simple.

2. **A** transfers to **B** an estate for life.

   In this case, **A** has the estate in remainder and **B** has a life estate. On the death of **B** the fee simple reverts to **A**.

An estate in remainder is said to be either *vested* where it is dependent upon the death of the life estate, or *contingent* where other events may terminate the life estate, such as marriage or bankruptcy. In either case the remainder persons become registered as the owners of an estate in fee simple upon cessation of the life estate. This is achieved by lodgment with the Registrar of a notice of death together with appropriate evidence.

3.5 Leasehold Estate

Leasehold estates are either perpetual or for a term, i.e. the leasehold is either unlimited or limited in time.

3.5.1 Perpetual Leasehold Estates

Perpetual leasehold estates are in respect of State owned land for which a lease was granted prior to about 1990. A perpetual lease runs forever or until an event such as forfeiture to the State for non-payment of annual rental or failure to comply with other conditions of the lease. Either results in the lease being terminated. A perpetual lease may also terminate on conversion of the lease to a fee simple estate upon purchase. Generally, perpetual leasehold titles show the words - 'Estate: Perpetual Leasehold' and describe the lessee as the owner.

Perpetual lessees pay a yearly rental as well as other rates and taxes. They exist in both rural and residential areas.

3.5.2 Term Leasehold Estates

Those leases which affect State owned land have the lease conditions recorded on the Register. All other leases have the conditions of the lease contained in the lease document.

4. Co-owners

It is possible for a number of persons to be entitled to the same estate or interest in real estate at the one time. There are two types of co-ownership, tenancy in common and joint tenants.

4.1 Tenancy in Common

Under this class each 'tenant in common' owns a separate or discrete interest in the land. This does not mean that the owner concerned has a separate physical part of the land. Rather, the tenant in common has the full use and enjoyment of the whole of the real estate / interests which together make up ownership of the whole, i.e. an "undivided" share in the land. Tenants in common may hold in equal or unequal shares.

On the death of a tenant in common, their share vests in the persons entitled to their property as they direct in their will. In the absence of a will the share vests in the persons entitled to their property under the rules of intestacy.

4.2 Joint Tenants

For two or more persons to hold an estate or interest as joint tenants each tenant must:

- be entitled to the possession of the whole of the estate or interest;
- have the same estate or interest;
- be registered on the title by means of the same transaction; and
- have an estate for the same time.

Each joint tenant has an equal right, shared with the other co-tenants, to the whole of the property.

Corporations may hold as joint tenants with other corporations or natural persons.

On the death of a joint tenant or the dissolution of a corporation which is a joint tenant, the estate or interest passes to the surviving joint tenant. This right of survivorship cannot be defeated by the joint tenant attempting to devise their interest by will.

The transfer of a joint tenant's interest will sever the joint tenancy and the oncoming party will hold as tenants in common with the remaining joint tenants. The tenancy/shares between the other joint tenants not involved in the transfer is not altered.

4.3 Principles of Co-Ownership

The following principles apply in general to ownership of land and interests in the land, i.e. mortgages and leases.

1. Each co-tenant while living, is entitled to full use and enjoyment of the property as though absolute owner, irrespective of the nature of the tenancy or value of the share held.

2. A joint tenant or a tenant in common can deal with the property independently of the other co-tenant, i.e. transfer, mortgage or lease.

3. A transfer of a joint tenant's interest will not sever the joint tenancy estate held by the remaining joint tenants. It will however, result in the creation of tenancy in common estates between the oncoming owner and the remaining joint tenants.

4. A joint tenancy estate can only be created between oncoming owners. A co-tenant therefore, whose interest or share is not being transferred cannot acquire a joint tenancy estate with an oncoming owner.

5. A joint tenant possesses an interest in the whole of the land. A tenant in common, however, possesses a share in the whole of the property.

6. Joint tenants, however numerous, hold the one estate as co-tenants.

7. Tenants in common hold 'in severalty', i.e. each co-tenant owns an individual estate for a particular share.

Examples of Transfers with Co-tenants

Case 1: A & B hold as joint tenants and A transfers to C.
Result: B & C then hold as tenants in common in equal shares.

Case 2: A, B & C hold as joint tenants and A transfers to D
Result: B & C then hold as joint tenants in 2/3 share and D in 1/3 share as tenants in common.

Case 3: A, B & C hold as tenants in common in equal shares and A transfers to B.
Result: B then holds a 2/3 share and C holds a 1/3 share as tenants in common.

Case 4: A holds a 1/2 share with B & C as joint tenants in the other 1/2 share and A transfers to B & C as joint tenants.
Result: B & C then hold as joint tenants.

Case 5: A holds a 1/2 share and B & C hold the other 1/2 share as joint tenants and A transfers the 1/2 share to B.
Result: B then holds a 1/2 share and B & C (together holding as joint tenants) a 1/2 share as tenants in common.

Case 6: A & B hold a 1/2 share as joint tenants and C & D hold the other 1/2 share as joint tenants and A transfers to C.
Result: B then holds a 1/4 share, C a 1/4 share and C & D (holding as joint tenants) in 2/4 share as tenants in common.

Case 7: A & B hold as joint tenants a 5/6 share and C a 1/6 share and A & B together transfer 1/2 of their joint interest to D & E as tenants in common in equal shares.

Solution:

As A & B have joined in the transfer, the remaining half of their joint tenancy is not severed.

To calculate the share being transferred, i.e. 1/2 of 5/6, multiply the two fractions together.

Thus 1/2 x 5/6 = 5/12

D & E will therefore hold a 5/12 share as tenants in common in equal shares while A & B will retain the remaining 5/12 share as joint tenants.

As the share held by D & E cannot be held in common, calculate each tenant's individual share, i.e. 1/2 of 5/12. Multiply the two fractions together.

1/2 x 5/12 = 5/24

D & E therefore each hold a 5/24 share. This results in the following:

A & B (holding as joint tenants) in 5/12 share,
C in 1/6 share,
D in 5/24 share, and
E in 5/24 share.

Now convert all shares to the lowest common denominator. The denominator is the bottom number of the fraction and the numerator the top. Before this can be done, however, it is usually necessary to simplify all fractions/shares to their simplest form, e.g. 2/4 would become 1/2.

The shares in this case do not need further simplification; proceed to calculate the lowest common denominator of 5/12, 1/6, 5/24 and 5/24.

Calculate the smallest number into which all the denominators will divide evenly. In this case it is 24. Now convert all the numerators (the top number of the fraction) in line with the common denominator, for example:

5/12 becomes 10/24,
1/6 becomes 4/24,
5/24 remains 5/24, and
5/24 remains 5/24.

Now that the shares have been calculated and converted to the lowest common denominator construct the notification to be recorded on the Register:

Result: **A & B** in 10/24 share as joint tenants, **C** in 4/24 share, **D** in 5/24 share and **E** in 5/24 share as tenants in common.

5. Change of Ownership

5.1 General

The ownership of real estate may be changed in several ways, for example:

- transfer by way of sale or gift;
- death of an owner - as a surviving joint tenant;
- death of an owner - as devised by will;
- transferred by morgagee under power of sale where a mortgagor fails to honour the mortgage contract;
- foreclosure by a mortgagee, i.e. where the mortgagee is unable to sell the real estate of a mortgagor who has failed to honour the mortgage contract; or
- resumption by the State, i.e. where the State requires to resume real estate for use as say a road, railway or for some other government use.

Each transaction type is unique and has certain requirements that must be adhered to.

5.2 Transfer by Sale

Real estate may be transferred from one person to another in several ways. The most usual is by way of sale. By registering the transfer document, the oncoming owner receives a new edition of the Certificate of Title and gains the advantage of guaranteed ownership. A form of transfer is shown at Appendix A 1.

Real estate can be subdivided in either the vertical or horizontal planes and a transfer document may only affect part of the real estate in a Title. In this situation the part being sold must be uniquely defined in a plan of subdivision approved by the Head of the Registry.

5.2.1 Document examination requirements.

1. The Certificate of Title must be produced to the Registry to allow the document to be registered.

2. The full name of the registered owner (the transferor) must be stated. The transferor must be identical with the registered owner as shown on the Register.

3. The full name of the oncoming owner (i.e. the transferee) must be stated. Where there is more than one transferee, the tenancy and, as necessary, the shares must be specified.

4. The estate being transferred must be clearly defined, e.g., share, Life Estate, Estate in Remainder, Right of Family Inheritance, Right of Open End Use, etc.

5. If the transfer is to be subject to any currently registered mortgage or lease then those encumbrances must be acknowledged in the transfer document.

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6. The document must be signed by or on behalf of the transferor and transferee and the operative words 'do hereby transfer to' must be included between the names of the transferors and the transferees.

5.2.2 Action to be taken

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter the details of the new registered owner(s) to show the name, right, share and tenancy of the new owner(s).

3. Issue a Certificate of Title to the new owner.

5.3 Death of an Owner - Surviving Joint Tenant

5.3.1

Following the death of one party in a joint tenancy, the surviving joint tenant(s) may request that the Register be updated to reflect the current ownership.

5.3.2 Document examination requirements

1. The Certificate of Title must be produced to the Registry to allow the document to be registered.

2. Evidence of death must be produced, i.e. a Death Certificate or such other evidence as required by the Head of the Registry. This evidence will be returned to the Applicant.

3. The application form must show the full name of the deceased joint tenant and that name must be identical with the name shown on the Register.

4. Full names of the surviving joint tenant(s) must be stated. Tenancy cannot be changed as regards the survivorship nor may new parties be added.

5. The document must be signed by or on behalf of the applicant.

5.3.3 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter details of the surviving owner(s) on the specified Title in the Register.

3. Issue a new Certificate of Title.

5.4 Death of an Owner - Claim by a Beneficiary, etc.

On the death of a sole owner or co-tenant holding as a tenant in common, an executor, trustee, beneficiary, etc., may apply to become registered as the owner.

5.4.1 Document examination requirements

1. The Certificate of Title must be produced to the Registry to allow the document to be registered.

2. The application must be accompanied by such evidence as specified by the Head of the Registry, e.g. a copy of the will, declarations, etc. That evidence must indicate to whom and in what capacity the applicant is to hold the real estate. A Death Certificate alone is not acceptable evidence as the document does not indicate the claiming capacity of the applicant.

3. The full name of the deceased registered owner must be stated and be identical to the name shown on the Register.

4. The full name of the applicant must be stated. The capacity in which the applicant is entitled to apply must be stated (e.g., executor, devisee, etc.) and the applicant must claim in one capacity only.
    - Applications by trustees, executors and administrators must hold as joint tenants, therefore the tenancy need not be stated.
    - Applications by beneficiaries, devisees and next of kin must indicate the shares to be held and the tenancy.

5. The document must be signed by or on behalf of the applicant.

5.4.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter details of the new registered owner on the specified Title in the Register.

3. Issue a new Certificate of Title.

5.5 Transfer by Mortgagee Under Power of Sale

A mortgagee has the power to sell the real estate of a mortgagor who has breached a mortgage contract. The Registry procedures may require the property to be

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submitted to Public Auction and if sold, an application to transfer the real estate can be lodged. (See also Foreclosure at 6.8).

5.5.1 Document examination requirements:

1. The Certificate of Title must be produced to the Registry to allow the document to be registered.

2. The registered number of the mortgage under power of sale must be stated.

3. The full name of the transferor must be stated and be identical to the name of the mortgagee shown on the Register.

4. The mortgagee / transferor must be registered as proprietor of the mortgage under which the power of sale is being exercised.

5. The full name of the transferee must be stated and the tenancy (and shares as necessary) must be stated for more than one transferee.

6. All current mortgages and leases registered prior to the subject mortgage of the transfer under power of sale must be acknowledged in the transfer.

7. The document must be signed by or on behalf of the transferee and transferor.

5.5.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter details of the new owner on the specified Title in the Register.

3. The mortgage notification under which the sale is made will be canceled.

4. All mortgages recorded after the subject mortgage will be canceled.

5. Issue a new Certificate of Title.

5.6 Change of Name

A document evidencing a change of name (see Appendix A 2) should be lodged in the following circumstances -

- change of name by marriage;
- adoption of another name by an individual or a Juridical Entity; and
- alteration or addition to a name on the Register, e.g. where a real estate transaction has been inadvertently drawn in an incorrect name and has been registered.

In each of the above cases, the Head of the Registry may authorize an amendment or update of the Register when an application or request is lodged together with the appropriate evidence, e.g., a declaration.

5.6.1 Document examination requirements:

1. The Certificate of Title must be produced to the Registry to allow a change of name of the registered owner to be registered. It is **not** required if the change of name affects a mortgage or a lease.

2. If the change of name affects a mortgagee or a lessee the number of the registered mortgage or lease must be stated.

3. The name to be changed must be shown in full and be identical to the name shown on the Register together with details as to whether the change concerns the owner, a mortgagee or a lessee.

4. The new name of the registered owner must be stated in full.

5. The document must be signed by or on behalf of the applicant.

5.6.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter details of the new name on the specified Title in the Register.

3. Issue a new Certificate of Title **if** the change of name affected the registered owner.

5.6.3 Notification Form (if the change of name is *other than the Owner*):

Example of change of name of mortgagee by registration of 9507:

1. 9506 Mortgage to Tver Trading Company
   9507 Change of Name. Mortgagee now XYZ Holding Company

NB: When a change of name affects a mortgage or a lease interest only, the notification of registration is entered under the affected mortgage or lease notification. It is a 'sub-level' notification. These sub-level notifications cannot exist by themselves and should be automatically removed when the prime notification is removed.

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6. Mortgage Transactions

6.1 Mortgage

A mortgage is a contract which uses real estate or an interest in real estate to secure the repayment of a loan. Thus it is possible to mortgage a lease or to mortgage a mortgage (that is, a sub-mortgage.) The mortgage contract empowers the mortgagee with the right to sell or take possession of the mortgaged property if the mortgagor defaults or breaches a term in the contract. On registration of a mortgage, the Certificate of Title is ordinarily deposited with the mortgagee until the debt is repaid. When the mortgage is discharged, the Certificate of Title is returned to the owner. During the period of the mortgage the mortgagor is allowed enjoyment of the real estate (i.e. the right of possession) but must abide by the terms of the mortgage agreement. A form of mortgage is shown at Appendix A 3.

6.1.1 Document examination requirements

1. The Certificate of Title must be produced to the Registry to allow the document to be registered.

2. The document must have the operative words 'mortgages to .. .. ..'.

3. The mortgage must clearly specify whether it affects the whole or part of the real estate in the title or affects a share or interest only.

4. The full name of the mortgagor(s) must be stated and be identical with the registered owners as shown on the Register. (If a discrepancy exists, the mortgage must be accompanied by an application to record a change of name.)

5. The full name of the mortgagee must be stated.

6. If there is more than one mortgagee, the tenancy and, if appropriate, the shares must be indicated on the mortgage document. (The Register will not show the tenancy or shares.)

7. Any currently registered mortgages or leases must be acknowledged in the document lodged for registration.

8. The mortgage must be signed by or on behalf of the mortgagor and mortgagee.

6.1.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter details of the mortgage on the specified Title in the Register.

3. Issue a new Certificate of Title.

6.1.3 Notification details:

Examples: (1) Following registration of Mortgage 9501

1. 9501 Mortgage to Tver Universal Bank.

(2) Mortgage of a share or interest

1. 9702 Mortgage to XYZ Bank of the share held by Ivanov Ivan Ivanovich

6.2 Discharge of Mortgage

A discharge of mortgage document (see Appendix A 4) is lodged when a mortgagor has satisfied the terms and conditions of the mortgage.

A mortgage may be discharged:
- as to the whole or part of the real estate in the mortgage;
- or as to the share or interest of a mortgagee or mortgagor.

Care must, therefore, be taken to ensure that the *intention* of the discharge is clearly stated.

6.2.1 Document examination requirements

1. The Certificate of Title must be produced to the Registry to allow the document to be registered. (Note: It is not required to discharge a mortgage of a mortgage i.e. sub-mortgage or a mortgage of a lease.)

2. Where the mortgagee is discharging a mortgage of a mortgage or a lease, the registered number of the relevant mortgage or lease must be shown.

3. The number of the mortgage to be discharged must be shown.

4. The full name of the mortgagee must be shown and be identical to the name shown on the Register.

5. The mortgagee must indicate whether the discharge affects the real estate or a registered interest, e.g., mortgage of a mortgage (sub-mortgage) or mortgage of a lease.

6. The discharge must be signed by or on behalf of the mortgagee. Where the discharge of mortgage has been signed by an executor, etc. of a deceased mortgagee, evidence of the authority of the signee must be supplied to the Registry.

7. If it is intended to discharge the mortgage as regards the interest of only one mortgagor, the discharge application must be amended to show its intention. For

example, ".. .. do hereby discharge the mortgage as regards the interest of Igor Ivanovich Ronskov".

NOTE: A sub-mortgagee may discharge the sub-mortgage alone or discharge the principal mortgage. In the latter case the sub-mortgage will be removed simultaneously from the Register. A discharge of the principal mortgage signed by the mortgagee of that mortgage, must be accompanied by a discharge of the sub-mortgage signed by the sub-mortgagee.

6.2.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Remove details of the discharged mortgage from the specified Title in the Register.
   (Note: When discharging the share or interest of a mortgagee or mortgagor a sub-level notification will be entered under the mortgage stating, e.g., (Discharge number) Mortgage discharged as regards the interest / share of (name the mortgagee or the mortgagor).

3. Issue a new Certificate of Title to replace the Certificate lodged.

6.3 Variation of Mortgage

A variation of mortgage (see Appendix A 5) provides a mechanism to register changes to the terms in the mortgage, for example:

- the rate of interest may be increased or reduced;
- the amount secured may be increased or reduced;
- the term or the duration of the mortgage may be shortened, extended or renewed; and / or
- the provisions of the mortgage may be varied.

A variation of mortgage may not be used to change the names of the parties or the shares held by the parties to a mortgage.

6.3.1 Document examination requirements:

1. The Certificate of Title is **not** required to be produced to the Registry to allow the document to be registered.

2. If the variation affects a mortgage of a mortgage or a mortgage of a lease, the registered number of the principal mortgage or lease must be shown.

3. The full name of the mortgagor must be shown and be identical with the name of the registered owner as shown on the Register.

4. The registered number of the mortgage being varied must be shown.

5. The full name of the mortgagee must be shown and be identical with the name shown on the Register.

6. The variation of mortgage must be signed by or on behalf of the both mortgagor and the mortgagee.

6.3.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedure and rules).

2. Enter a sub-level notification of the variation of mortgage on the specified Title in the Register.

3. A new Certificate of Title will **not** be issued.

6.3.3 Notification details:

Examples -

(1) Variation of mortgage 9506 following registration of 9507.

1. 9506 Mortgage to Tver Trading Company
   9507 Variation of Mortgage

(2) Variation of sub-mortgage 9508 following registration of 9509.

1. 9506 Mortgage to Tver Trading Company
   9508 Mortgage of Mortgage to ABC Holding Company
   9509 Variation of Mortgage 9508

6.4 Postponement of Mortgage

A postponement of mortgage occurs when the mortgagees involved in a number of registered mortgages agree among themselves to re-establish the order of priorities of those mortgages. A form of postponement of mortgage is shown at Appendix A 6

6.4.1 Document examination requirements

1. The Certificate of Title must be produced to the Registry to allow the document to be registered.

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2. The full name of the mortgagor must be stated and must be identical with the name of the registered owner.

3. The number of the mortgage(s) being postponed must be shown.

4. The mortgage number and the name of the mortgagee must be shown for all mortgages affected by the postponement. This includes those mortgages changing priority and any intervening mortgages. These mortgages must also be listed in their ***new*** order of priority. Any mortgages not affected by the postponement must not be shown.

   For example, mortgages **A**, **B** and **C** are registered in that order. If **A** is postponed in favor of **C**, the intervening mortgage **B** is affected by the postponement and must be included in the postponement. If **C** is postponed in favor of **B**, mortgage **A** must not be included in the postponement.

5. Where a mortgage affected by a postponement has been varied, the words "as varied by Variation of Mortgage No....." must be included in the postponement. In addition, the words "as varied by No....." must be included in the notification of registration.

6. The postponement must be signed by or on behalf of all the mortgagees affected by the postponement, including any intervening mortgagees.

6.4.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter details of the postponement on the specified Title in the Register.

3. Issue a new Certificate of Title.

6.4.3 Notification details:

Example -

Registration priority before the postponement

1.	9506	Mortgage to Tver Trading Company
2.	9510	Mortgage to ABC Holding Company
3.	9612	Mortgage to XYZ Company

Priority after registration of postponement 9644 giving priority to 9510

1. 9506	Mortgage to Tver Trading Company
2. 9510	Mortgage to ABC Holding Company
3. 9612	Mortgage to XYZ Company
4. 9644	Postponement of Mortgage. Priority now 9510, 9506, 9612

Postponement involving a varied mortgage.

Registration priority before postponement.

1. 9506	Mortgage to Tver Trading Company
2. 9510	Mortgage to ABC Holding Company 9622 Variation
3. 9612	Mortgage to XYZ Company

Priority after registration of postponement number 9645 giving priority to 9510 and 9612

1. 9506	Mortgage to Tver Trading Company
2. 9510	Mortgage to ABC Holding Company 9622 Variation
3. 9612	Mortgage to XYZ Company
4. 9645	Postponement of mortgage, priority now 9510 as varied by 9622, 9612, and 9506

6.5 Mortgage of a Mortgage (Sub-Mortgage)

When a mortgagee borrows money on the security of a mortgage instead of an interest in the real estate it is commonly called a sub-mortgage. In this circumstance the powers of the original mortgagee regarding the real estate are assigned to the sub-mortgagee. Any transaction dealing with the head mortgage must be made by or be consented to by the sub-mortgagee. A form of sub-mortgage is shown at Appendix A 7.

6.5.1 Document examination requirements:

1. The Certificate of Title is **not** required to be produced to the Registry to allow the document to be registered.

2. The registered number of the principal mortgage must be stated.

3. The full name of the mortgagor must be stated. The mortgagor must be identical to the mortgagee of the principal mortgage.

4. Prior transactions affecting the registered mortgage such as a variation of mortgage or another sub-mortgage must be acknowledged in the document lodged for registration.

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5. The full names of the mortgagees must be stated. If there is more than one mortgagee then the tenancy and share must be stated. The Register will not refer to any tenancy or share.

6. The mortgage must be signed by or on behalf of the mortgagee and the mortgagor.

6.5.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter details of the sub-mortgage on the specified Title in the Register

3. A new Certificate of Title will **not** be issued.

6.5.3 Notification details:

Example - Mortgage of mortgage 9506

1. 9506 Mortgage to Tver Trading Company
   9508 Mortgage of Mortgage to ABC Holding Company

6.6 Mortgage of a Lease

Mortgage of a lease occurs when a registered lessee offers the lease document as a security for a loan. A form of mortgage of a lease is shown at Appendix A 8.

6.6.1 Document examination requirements:

1. The Certificate of Title is **not** required to be produced to the Registry to allow the document to be registered.

2. The registered lease affected by the mortgage must be current.

3. The registered number of the lease being mortgaged must be stated.

4. The full name of the mortgagor must be stated. The mortgagor must be identical with the lessee shown on the Register.

5. The full names of the mortgagees must be stated. Tenancy and / or shares must be stated where there are two or more mortgagees. The Register will not refer to any tenancy or share.

6. Prior transactions affecting the registered lease such as a mortgage of a lease, variation of lease or sub-lease must be acknowledged in the document lodged for registration.

7. The mortgage must be signed by or on behalf of the mortgagee and the mortgagor.

6.6.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter details of the mortgage on the specified Title in the Register.

3. A new Certificate of Title will **not** be issued.

6.6.3 Notification details:

Example - Mortgage of Lease 9506

1. 9506	Lease to Tver Trading Company	
	9508	Mortgage of Lease to ABC Holding Company

6.7 Acquisition of Mortgaged Property by the Mortgagee

An automatic merger will not occur on the union of the owner of the real estate and the mortgage interest.

Where the mortgagee acquires the ownership of the real estate, a request may be lodged with the Head of the Registry to have the mortgage removed from the Register. The mortgage will only be removed on specific application. There is no automatic removal of the mortgage by the mere union in one person of two registered interests. Until the application is registered, the mortgage will continue to exist as a pre-existing interest and it must be acknowledged in any transaction lodged for registration.

6.7.1 Document examination requirements

1. The Certificate of Title must be produced to the Registry to allow the document to be registered.

2. The registered owner must hold both estates in the same capacity.

3. The consent of any mortgagee is required to the merger.

4. Where the whole of the real estate is not affected by the request, the part of the real estate must be fully described.

5. The registered number of the mortgage affected by the union of interests must be stated.

6. The full name of the registered owner of the real estate and the mortgage must be stated. The registered owner's name must be identical to the name shown on the Register.
7. The request must be signed by or on behalf of the registered owner.

8. There must be a specific request to join the interests.

6.7.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Remove the affected mortgage from the specified Title in the Register.

3. Issue a new Certificate of Title.

6.8 Foreclosure of Mortgage

When an owner defaults in the payment of the principal and / or interest due under a registered mortgage, the mortgagee usually sues the mortgagor to obtain repayment of the money borrowed or sells the mortgaged real estate by exercising their power of sale. (See Transfer under Power of Sale at 7.5.) Where the real estate is not sold at Auction, foreclosure provides another remedy. On foreclosure, the mortgagee becomes the registered owner of the real estate in full satisfaction of all moneys owing under that mortgage and the mortgage is removed from the title.

6.8.1 Document examination requirements:

1. The Certificate of Title must be produced to the Registry to allow the document to be registered.

2. Evidence is required that the foreclosure requirements have been complied with.

3. The Head of the Registry may;
   - require other evidence to support the registration of the mortgagee as the owner of the real estate, e.g., declarations,
   - serve written notice on the mortgagor (and all subsequent mortgagees) of the intention of the mortgagee to apply for registration of a foreclosure, and
   - and for good reason only, consider the need to require the applicant to again offer the real estate for sale.

4. The registered number of the mortgage must be stated and be identical to that shown on the Register.

5. The full name of the mortgagor must be stated and be identical to the name of the registered owner shown on the Register.

6. The full name (and tenancy / share if more than one) of the mortgagee must be stated and be identical to that shown on the Register.

7. The document must be signed by or on behalf of the applicant.

6.8.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Change the name of the registered owner to that of the applicant.

3. Remove the mortgage from the specified Title in the Register.

4. Issue a new Certificate of Title.

6.9 Transfer of Mortgage

A transfer of mortgage transfers the ownership of a registered mortgage to another party. A form of transfer of mortgage is shown at Appendix A 12.

6.9.1 Document examination requirements:

1. The Certificate of Title is **not** required to be produced to the Registry to allow the document to be registered.

2. The registered number of the mortgage being transferred must be stated.

3. Prior transactions affecting the registered mortgage such as a sub-mortgage or a variation of mortgage must be acknowledged in the document lodged for registration.

4. The full name of the transferor must be stated and be identical to the name of the mortgagee as shown on the Register.

5. The full name of the transferee must be stated. Tenancy and shares must be specified where there is more than one transferee. Reference to the tenancy and shares will not be recorded on the Register.

6. The transfer must be signed by or on behalf of both the transferee and transferor.

6.9.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter details of the transfer of mortgage on the specified Title in the Register.

3. A new Certificate of Title will **not** be issued.

6.9.3 Notification Form:

Example (a) - Transfer of mortgage 9510 following registration of 9511

1. 9510 Mortgage to Tver Trading Company
   9511 Transfer of Mortgage Mortgagee now ASD Holding Company

Example (b) - Transfer of sub-mortgage 9508 following registration of 9509

1. 9510 Mortgage to Tver Trading Company
   9508 Mortgage of Mortgage to ABC Holding Company
   9509 Transfer of Sub-Mortgage 9508 Mortgagee now XYX Company

6.10 Death of a Mortgagee

Following the death of mortgagee holding as a joint tenant, the surviving joint tenant(s) may request that the Register be updated to describe the current mortgagees.

6.10.1 Document examination requirements

1. The Certificate of Title is **not** required to be produced to the Registry to allow the document to be registered.

2. Evidence of death must be produced, i.e. a Death Certificate or such other evidence as required by the Head of the Registry. This evidence may be returned to the Applicant.

3. The application must show the full name of the deceased and that name must be identical with the name shown on the Register.

4. Full names of the surviving joint mortgagees must be stated. Tenancy cannot be changed as regards the survivorship nor may new parties be added.

5. The registration number of the mortgage must be stated.

6.10.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter details of the surviving mortgagees on the specified Title in the Register.

3. A new Certificate of Title will **not** be issued.

6.10.3 Notification details:

Example - Registration of 9811 recording the death of a mortgagee in registered mortgage 9510.

1. 9510 Mortgage to Ivanov Ivan Ivanivich and Ivanova Irena Ivanivich
   9811 Notice of Death Mortgagee now Ivanova Irena Ivanivich

7. Lease Transactions

7.1 Lease

A lease is a contract by which the owner of real estate (the lessor) agrees to let another (the lessee) have the use of it for a fixed money payment (called rent) for a fixed period of time. A form of lease is shown at Appendix A 9. Prior to registering a lease consideration might be given by the Registry to:

- only require the registration of lease which is for a period exceeding some significant period, e.g. 3 years; and
- require the registration of a plan of subdivision to be registered where the lease is for part of a real estate parcel and is for a period exceeding some significant period of time, e.g. 25 years; and
- limiting the period of a lease by a life tenant or a person holding the real estate in trust.

A lease may be for the whole of the real estate specified in a Certificate of Title, a part of the property (as defined, for example, in a plan annexed to the lease document) or a lease of premises which might be a shop, office or factory which is a part of the property in the Certificate of Title but is identifiable by means of walls or a definable space and has a unique name or number. For example;

shop 12, 142 Spartak Street, Moscow; or
Office 32 Level 6 Milicich House, Spark Street, Moscow

Term

The commencement and end of a lease must be fixed.

If the term of the lease is referred to in whole months or years, the terminating date is one day less than the commencing date. For example, a lease for 1 year commencing on 18th March 1995 terminates on 17th March 1996.

Option to purchase

It is possible for a lessee to be granted an 'option to purchase' the real estate within a time specified in the lease. The discretion to exercise the option to purchase lies with the lessee. When registering a lease with an option to purchase, details of the option should be recorded in the lease notification shown on the Register and the Certificate of Title.

Option of renewal

An option of renewal clause gives the lessee the right to negotiate a new lease for a specified period. The option can only be given its full effect by registration of a fresh lease. On registration of the new lease, the former lease (if expired) will be removed.

When registering a lease containing an option of renewal, details of the option will be recorded in the lease notification shown on the Certificate of Title. If the lease contains further successive options, the lease notification must refer to the further options, e.g. 'Option of renewal 5 years with two further periods of 5 years'.

Carry over term

A carry over term is where a lease includes, as part of the term expressed on the lease document, a provision which extends the lease beyond the stated date of expiration by a periodic term, (e.g. for a term commencing on 1.1.1996 and terminating on 31.12.1999 and thereafter from year to year). In such cases the lease notification will not include the date of expiration but will state: '.. .. Expires - see Lease'.

7.1.1 Document examination requirements:

1. The Certificate of Title must be produced to the Registry to allow the document to be registered.

2. The reference to that title must be stated in the lease document. In addition, where the lease affects part of the parcel, then the affected real estate being either land or premises must be fully described. For example:

   - 'part being lot A in attached hereto or in the registered plan numbered.. .. ..'; or
   - 'part being (describe by full postal address of the premises, e.g. Flat 3, ...)'

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3. The full name of the lessor must be stated and be identical to the registered owner as shown on the Register.

4. Any current mortgage or lease affecting the title must either:
   - be discharged or withdrawn;
   - be acknowledged in the document lodged for registration; or
   - have the consent of the mortgagee endorsed on the lease or on an annexure to the lease.

5. The full names of the lessees must be stated. Trade names will not be entered, e.g. Ivanov Ivan Ivanovich trading as 'Ivanov Ivan Ivanovich's Book Shop' will be registered in the name of Ivanov Ivan Ivanovich.

   Where there is more than one lessee the tenancy and, if appropriate, the shares must be stated but they will not be entered on the Register.

6. The date of commencement and termination of the lease must be stated.
7. A lease will not be registered if the term of the lease has expired. This applies regardless of:

   - the lease being lodged before the expiration date;
   - a transfer of lease being lodged for registration; or
   - the lease containing an option to purchase and/or renew.

   If the term of the lease conflicts with a current registered lease, the applicant will be asked how it is proposed to justify the subject lease.

8. Any option to purchase or to renew must be set out clearly in the lease document.

9. A lease may grant to the lessee or reserve to the lessor certain rights, e.g. use of stairways, car spaces, right of entry, etc. The rights will not be referred to in the lease notification on the title in the Register.

10. Annexes attached to the lease must be appropriately identified. The pages must be numbered and the clauses must be in numeric or alpha sequence. The first and last annexure pages must be signed by all the parties to the lease and any alterations or additions must be verified by all involved.

11. A lease of part of land, i.e. the description refers to a lot in a diagram annexed to the lease, may require some formal approval from municipal authorities where the term together with any option of renewal exceeds (say) 5 years. A lease of premises exceeding some significant period (say) 25 years may need to be formalized by the appropriate authority and the registration of a plan of subdivision. (See the preamble to this Section.)

12. The lessor and lessee or authorized person must sign the document.

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7.1.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)
2. Enter details of the lease on the specified Title in the Register.

3. Issue a new Certificate of Title.

7.1.3 Notification details

Examples -

(a) Lease of the whole of the real estate in the Certificate of title together with an Option to Purchase and an Option of Renewal for 5 years

1. 9511 Lease to (name of lessee). Expires (enter date) Option to purchase, Option of renewal 5 years.

(b) Lease of premises together with Options

1. 9512 Lease to (name of lessee) of (description of premises, e.g. that part shown as shop 4 in the diagram attached to the lease, - it may be useful to include the address of the building if there is some doubt as to the premises). Expires (enter date). Option to purchase, Option of renewal ('n') years

7.2 Sub-Lease

A sub-lease is a lease granted by a lessee of the same property to another person for a shorter term. The sub-lease may be for the whole or part of the land or premises contained in the head lease. A form of sub-lease is shown at Appendix A 10.

The general requirements that apply to a normal lease are also applicable to a sub-lease. In addition, the following conditions apply to sub-leases:

- The sub-lease must terminate at least one day before the terminating date of the head lease. This is known as the period of reversion. An option of renewal in a sub-lease must terminate at least one day before the terminating date of the head lease or any option of renewal contained in that head lease.

- A sub-lease will not be registered after the expiration date of the head lease.

- The sub-lease must acknowledge those registered dealings which affect the head lease, such as a mortgage of lease, sub-lease of the same land or premises or a variation of lease.

7.2.1 Document examination requirements:

1. The Certificate of Title is **not** required to be produced to the Registry to allow the document to be registered.

2. The registration number of the head lease affected must be stated and must be identical with that shown on the Register.

3. The name of the sub-lessor must be stated and must be identical with the name of the lessee in the head lease as shown on the Register.

4. Registered transactions affecting the head lease such as a variation of lease or sub-lease of the same land or premises must be acknowledged in the sub-lease. A mortgage of the head lease must be either similarly acknowledged or the mortgagee must signal his consent to the sub-lease.

5. The full names of the sub-lessee(s) must be stated. Trade names must not be entered. Tenancy and, if appropriate, shares must be stated but will not be shown on the Certificate of Title.

6. The date of commencement of the lease must be shown.

7. The sub-lease must terminate at least one day before expiration of the head lease. The terminating date is not essential providing it can be determined when the sub-lease will end.

8. Annexes attached to the lease must be appropriately identified. The pages must be numbered and the clauses must be in numeric or alpha sequence. The first and last annexure pages must be signed by all the parties to the lease and any alterations or additions must be verified by all involved.

9. If the sub-lease affects other than the whole of the real estate in the Certificate of Title or the whole of the head lease registration may proceed providing the part affected by the sub-lease has been fully defined by the head lease, e.g. a sub-lease for shop 2 may be registered where the head lease is for shops 1, 2 and 3, as shop 2 is fully defined in the head lease.

10. The document must be signed by or on behalf of the sub-lessee and sub-lessor.

7.2.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter details of the lease on the specified Title in the Register.

3. A new Certificate of Title will **not** be issued.

7.2.3 Notification details :

Example - Sub-lease 9516 (together with an Option of Renewal) affecting lease 9515

1. 9515 Lease to Tver Holding Company of rooms 1, 2, and 3 of (address). Expires 30.4.1999. Option of renewal 3 years
   9516 Sub-lease to Ivanov Ivan Ivanivich of room 2 of (address). Expires 29.4.1999. Option of renewal 2 years.

7.3 Variation of Lease

A variation of lease enables the lessee and lessor to vary the terms and provisions of a registered lease. The lease may be varied in relation to the rent, the term of the lease or other provisions including options. The lessor, lessee and land or premises affected by the lease may not be varied. A form of variation of lease is shown at Appendix A 11.

7.3.1 Document examination requirements

1. The Certificate of Title is **not** required to be produced to the Registry to allow the document to be registered.

2. A variation of lease to extend the term will be accepted provided the lease to be varied is still noted on the Register.

3. Where the term of the lease is varied the following matters must be considered:
   - if the term of the lease is extended, a plan may be required; and
   - a reduction in the term of the lease or option of renewal period may affect the terms and options in registered sub-leases.

4. The consent of the mortgagee of the lease being varied is required where the variation reduces the term and / or, where the interest of a mortgagee of a lease or a sub-lease is adversely affected by the variation.

5. A variation of a sub-lease must specify the number of the registered head lease. The number must be identical to that shown on the Register.

6. The full name of the lessor must be stated and be identical to the name shown on the Register.

   - If a variation of a lease of real estate, the lessor must be identical to the registered owner of the real estate.
   - If a variation of a sub-lease, the lessor must be identical to the registered owner of the head lease.

7. The registered number of the lease being varied must be stated.

8. The full name of the lessee must be stated and be identical to that shown on the Register.

9. A lease may be varied as to rent, term or other provisions including options. The real estate affected by a lease may not be varied.

10. The document must be signed by or on behalf of the lessor and the lessee.

7.3.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter details of the lease on the specified Title in the Register.

3. A new Certificate of Title will **not** be issued.

7.3.3 Notification details:

Examples:
(a) Variation of Lease 9506 following registration of 9507

1. 9506	Lease to Tver Trading Company	
	9507	Variation of Lease OR
	9507	Variation of Lease Expiration date now .. .. ..OR
	9507	Variation of Lease Option of renewal .. .. years

(b) Variation of sub-lease 9508 following registration of 9509

1. 9506	Lease to Tver Trading Company	
	9508	Sub-lease to ABC Holding Company
	9509	Variation of Sub-lease 9508 ;OR
	9509	Variation of Sub-lease 9508 Expiration date now .. ..; OR
	9509	Variation of Sub-lease 9508 Option of renewal .. .. years

7.4 Transfer of Lease

A transfer of lease transfers the ownership of a registered lease to another party. A form of transfer of lease is shown at Appendix A 12.

7.4.1 Document examination requirements

1. The Certificate of Title is **not** required to be produced to the Registry to allow the document to be registered.
2. A transfer of the lease will not be registered where the affected lease has expired regardless of any options to purchase or renew.

3. The registered number of the lease being transferred must be stated.

4. The full name of the transferor must be stated and be identical to the name of the lessee as shown on the Register.

5. Prior transactions affecting the registered lease such as a mortgage, a sub-lease or a variation of lease must be acknowledged in the document lodged for registration.

6. The full name of the transferee must be stated. Tenancy and shares must be specified where there is more than one transferee. Reference to the tenancy and shares will *not* be recorded on the Register.

7. The transfer must be signed by or on behalf of the transferor and the transferee.

7.4.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter details of the transfer of lease on the specified Title in the Register.

3. A new Certificate of Title will **not** be issued.

7.4.3 Notification details:

Examples -

(a) Transfer of lease 9510 following registration of 9511

1. 9510 Lease to Tver Trading Company
   9511 Transfer of Lease Lessee now ASD Holding Co.

(b) Transfer of sub-lease 9511 following registration of 9512

1. 9510 Lease to Tver Trading Company of flats 1 and 2 (description of the building and or the address)
   9511 Sub-Lease to ABC Holding Company of flat 1 (address etc.)
   9512 Transfer of Sub-Lease 9511 Lessee now XYX Company.

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7.5 Death of a Lessee (as a Joint Tenant)

Following the death of a lessee holding as a joint tenant, the surviving joint tenant(s) may request that the Register be updated to reflect the current lessees.

7.5.1 Document examination requirements:

1. The Certificate of Title is **not** required to be produced to the Registry to allow the document to be registered.
2. Evidence of death must be produced, i.e. a Death Certificate or such other evidence as required by the Head of the Registry. This evidence may be returned to the Applicant.

3. The application must show the full name of the deceased and that name must be identical with the name shown on the Register.

4. Full names of the surviving lessees must be stated. Tenancy cannot be changed as regards the survivorship nor may new parties be added.

5. The registered number of the lease must be stated.
6. The lease must still be current (regardless of any options to renew or to purchase).

7.5.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Enter details of the names of the current lessees on the specified Title in the Register.

3. A new Certificate of Title will **not** be issued.

7.5.3 Notification details:

Example - Registration of 9811 recording the death of a joint lessee in registered lease 9510

1. 9510	Lease to Ivanov Ivan Ivanovich and Ivanova Irena Ivanivich	
	9811	Notice of Death Lessee now Ivanov Ivan Ivanovich

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7.6 Expired Lease

Before removing an expired lease from the Register sufficient evidence should be supplied to satisfy the Head of the Registry that any current options in the lease to renew or purchase will not be exercised.

7.7 Surrender of Lease

1. By formal application.

   A surrender of lease occurs when the lessor and the lessee of a registered lease agree to terminate the lease and request the Head of the Registry by lodging an appropriate form to remove the lease from the Register. A lessor and lessee can also surrender options contained within a lease. A form of surrender of lease is shown at Appendix A 13.

2. By lodgment of a new lease.

   Where a current registered lessee accepts a new lease of the same land or premises an implied surrender of the current lease can be presumed. The new lease is registered and the existing lease is removed. (An additional lodgment fee may payable for the removal of the lease.)

3. Vacation of the land or premises by the lessee.

   Where a current registered lessee has vacated the real estate and the lessor has taken possession on the basis of a surrender, the signature of the lessee may be unobtainable on a formal application. In this circumstance, the Head of the Registry may consider a request to remove the lease from the Register. The following written evidence may be sufficient:

   - a statement of an intention on the part of the lessee to give up the premises and on the part of the lessor to accept the statement on the basis of the surrender;
   - resumption of possession by the lessor;
   - the lessee was not, by reason of any encumbrance on the lease, incompetent to surrender the lease on the relevant date; and
   - that it is impracticable, owing to inability to locate the lessee or otherwise, to obtain a surrender in writing.

7.7.1 Document examination requirements

1. When a formal application is lodged the Certificate of Title must be produced to the Registry to allow the surrender of a head lease to be registered. It is **not** required for the surrender of a sub-lease.

2. A surrender of part of the land or premises in a registered lease must be checked to ensure that the description of that part is adequate.

3. Where a sub-lease is being surrendered, the number of the head lease must be stated. The number must be identical to the registered number of the head lease recorded on the Register.

4. The full name of the lessor / registered owner must be stated. A surrender of a sub-lease must show the full name of the lessee of the head lease and be identical to the name shown on the Register.

5. The number of the lease being surrendered must be stated and must be identical to the registered number recorded on the Register.

6. The full name of the lessee must be stated and must be identical with the name of the lessee recorded on the register.

7. The document must be signed by or on behalf of both the lessor and the lessee. (Note that the Lessee's signature may not be available where the Lessee has vacated the premises.)

8. The consent of any mortgagee of the lease is required.

7.7.2 Action to be taken

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Remove the surrendered lease from the specified Title in the Register.

3. Issue a new Certificate of Title to replace any Certificate lodged in support of the Application.

7.8 Termination of Lease by Re-entry

Where a lessee has breached a covenant or term of a lease, the lessor who has re-entered and recovered possession of the leased land or premises, may request the Head of the Registry to remove the lease on the basis of that re-entry.

7.8.1 Document examination requirements:

1. The Certificate of Title must be produced to the Registry to allow the document to be registered where the request for re-entry affects a head lease. It is **not** required for a sub-lease.

2. Where the whole of the real estate is not affected by the request, the part re-entered must be fully described. The land or premises affected by the request must be identical to or be contained within the land or premises affected by the lease.

3. The registered number of the lease must be stated.

4. The full name of the applicant, i.e. the registered owner of the land or premises of the sub-lease must be stated and be identical to the name shown on the Register.

5. The request must be accompanied by evidence stating:

    - the lessor, or agent of the lessor, had on a specified date, peaceably and lawfully re-entered and recovered possession of the real estate;
    - a specific covenant or term within the lease must be named as having been broken by the lessee; and
    - some time has elapsed between the date of the breach and the date of re-entry.

7.8.2 Action to be taken

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Remove the lease from the specified Title on the Register.
3. Issue a new Certificate of Title to replace any Certificate lodged

7.9 Acquisition of Leased Property by the Lessee

Where the lessee acquires the ownership of the land or premises, a request may be lodged with the Registry to have the lease removed from the Register. Until such a request has been registered, or until the lease has been expired or surrendered it should be treated as a pre-existing interest on the Register. There is no automatic removal of the lease by the mere union in one person of two registered interests.

As the registered lease is deemed to be a pre-existing interest, a transfer of ownership will not be accepted unless:

- the lease is acknowledged in the request document lodged for registration;
- the transfer is accompanied by a surrender of lease;
- the transfer is accompanied by evidence that any option to re-new contained in the lease, if expired, has not been exercised; or
- the transfer is accompanied by a request to join the interests of the lessee and the registered owner.

7.9.1 Document examination requirements

1. The Certificate of Title must be produced to the Registry to allow the document to be registered.

2. Where the whole of the real estate or leased premises is not affected by the request, the part of the real estate or the leased premises must be fully described.

3. The registered owner must hold both estates in the same capacity.

4. The registered number of the lease affected by the union of interests must be stated.

5. The full name of the registered owner of the real estate and the lease must be stated. The registered owner's name must be identical to the name shown on the Register.

6. The request must be signed by or on behalf of the registered owner.

7. There must be a specific request to join the interests.

8. The consent of any mortgagee of the lease is required.

7.9.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Remove the affected lease from the specified Title in the Register.

3. Issue a new Certificate of Title.

8. EASEMENTS

An easement is a right annexed to real estate to utilize other real estate of different ownership in a particular manner not involving the taking of any of its produce or soil, or to prevent the owner of such other land from utilizing the land in a particular manner.
The land benefiting from the easement is called the dominant tenement and has an 'appurtenant' notification recorded on the Register. The land burdened by the easement is called the servient tenement and has an 'affecting' notification recorded on the Register.

An easement may be created by:

- Express Grant - this may be incorporated in a Transfer, Mortgage or Lease;
- Resumption or Acquisition - government authorities may acquire interests in land, including easements; or
- *with appropriate legislation*, following the registration of a Plan of subdivision.

Some examples of easements are:

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Right of Carriageway
Right of Footway
Easement to Drain Water
Easement to drain Sewage
Easement for Transmission Lines
Easement for Support.

8.1 Transfer Granting Easement

A Transfer may grant, i.e. create, an easement without involving the transfer of real estate. A form of transfer granting easement is shown at Appendix A 14.

8.1.1 Document examination requirements:

1. The Certificate of Title for the servient tenement must be produced to the Registry to allow the document to be registered.

2. The reference to title for the servient tenement (land burdened) and dominant tenement (land benefiting)must be stated. An easement in gross (see page 38) does not have a dominant tenement.

3. The full name of the transferor must be stated and be identical to the name of the registered owner of the servient tenement as shown on the Register.
4. The particulars of the easement must be stated, e.g., the type of easement and the site affected.

5. The full name of the transferee must be stated and be identical to the name of the registered owner of the dominant tenement as shown on the Register.

6. Mortgages and leases affecting the servient tenement must be acknowledged in the creating document or the consent of the mortgagee or lessee must be given either on the transaction document or attached thereto.

7. The document must be signed by or on behalf of the transferor and transferee.

8.1.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. The easement will be recorded on the affected Titles in the Register.

3. Issue a new Certificate of Title for the servient tenement.

8.1.3 Notification form:

Examples - Transfer 9522 creates an easement to drain water.

(a) Servient Tenement (Note that the site affected by the easement must be fully described.)

1. 9522 Easement to drain water affecting the site designated (A) in the title diagram.

or

1. 9522 Easement to drain water affecting the strip of land 1 metre wide along the southern boundary of the lot.

(b) Dominant Tenement

1. 9522 Easement to drain water appurtenant to the land above described.

8.2 Transfer Including Easement

Unlike a transfer granting an easement where the sole function of the transaction is to create an easement, this transaction involves the transfer of land in addition to the creation of an easement. Following registration, the owner will be changed, and the number of the transaction, the type of easement and the description of the site affected will be shown on the Register.

- Where the land being transferred is to have the benefit of the easement, the transferor is said to grant an easement.

  Example:
  Petrov owns adjacent lots 1 and 2. Ivanov offers to buy lot 1 on the condition that Petrov grants him a right of access through lot 2.

- Where the land being transferred is burdened by an easement, the transferor is said to reserve an easement.

  Example:
  Petrov owns adjacent lots 1 and 2. Petrov offers to sell lot 2 to Ivanov on the condition that he (Petrov) reserves unto himself a right of access through lot 2.

8.2.1 Document examination requirements:.

1. Where the easement is being granted, the Certificates of Title for both the real estate being transferred and the servient tenement must be produced to the Registry to allow the document to be registered.

2. Where the easement is being reserved, the land transferred comprises the servient tenement. Consequently only that Certificate of Title is required.

3. The reference to title for the land being transferred must be stated.

4. The reference to title for the land burdened by the easement (servient tenement) must be stated.

5. The reference to title for the land gaining the benefit of the easement (dominant tenement) must be stated.

6. The full name of the transferor must be stated and be identical to the name of the registered owner as shown on the Register.

   - Where the transferor is granting an easement, the transferor must be the registered owner of the servient tenement and the transferee must be the registered owner of the dominant tenement.

   - Where the transferor is reserving an easement, the transferor must be the registered owner of the dominant tenement and the transferee must be the registered owner of the servient tenement.

7. Any mortgages and leases affecting the land transferred must be acknowledged in the transfer document. Where the servient tenement is not the land being transferred, affecting mortgages and leases must be acknowledged or consent of the mortgagee or lessee given.

8. The transfer must be signed by or behalf of both the transferee and the transferor.

8.2.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. The affected Titles in the Register will be updated to record:

   - the new registered owner and
   - the easement on both the dominant and servient tenement.

3. New Certificates of Title will be issued to replace those Certificates lodged.

8.3 Easement in Gross

An easement in gross is one without a dominant tenement and created in favor of the State or any public or local authority. For example, an easement for transmission lines in favor of State Rail Road. Such an easement may burden hundreds of lots with no lots gaining benefit from the easement.

A dealing document creating an easement in gross must be examined in a similar manner to a Transfer Granting Easement but will not refer to the dominant tenement (see 8.1).

8.4 Transfer Releasing Easement

The owner of the dominant tenement, usually at the request of the owner of the servient tenement, may agree to release the easement. On registration, the easement will be removed from the Register. See form of Transfer releasing an easement at Appendix A 15.

8.4.1 Document examination requirements:

1. The Certificate of Title for the dominant tenement must be produced to the Registry to allow the document to be registered.

2. The reference to title for the land benefited by the easement (dominant tenement) must be stated.
3. The reference to title for the land burdened by the easement (servient tenement) must be stated.

4. The full name of the transferor must be stated and be identical to the name of the registered owner of the dominant tenement as shown on the Register

5. The full name of the transferee must be stated and be identical with the name of the registered owner of the servient tenement as shown on the Register.

6. The nature and particulars of the easement being released must be stated.

7. The consent of any mortgagee or lessee of the dominant tenement must be furnished where the mortgage or lease was registered after the easement was created.

8. The transfer must be signed by or on behalf of the transferor and transferee.

9. Caution must be exercised where an easement affecting or benefiting more than one parcel of real estate is subsequently released in respect of some of those parcels.

   For example, an easement to drain water affects lots 1 and 2 and benefits lots 3 and 4 and the owner of lot 4 releases the easement as regards lots 1 and 2. In this case the appurtenant notification will be removed from the Title for lot 4 and a notification will be entered on the Titles for lots 1 and 2 to indicate that the easement is released as regards lot 4.

   Example notifications resulting from such an action shown on the Titles for lots 1 and 2

   1. 9506 Easement to drain water 1.5 wide affecting the part

shown so burdened in plan with 9506.
9612 Released as regards lot 4.

8.4.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Remove the easement from the specified Title of the Register.

3. Issue a new Certificate of Title to replace that lodged by the dominant tenement.

8.5 Cancellation of Recording of Easement

An easement is not automatically extinguished upon the union of the servient and dominant tenements. Where the registered owner of one tenement acquires ownership of the other, application may be made to the Registry to cancel the recording of the easement. On registration of the transaction the easement will be removed from the Register.

The application is also appropriate for the cancellation of an easement in gross. As the proprietor of the servient tenement is not required to be a party to the application, this procedure provides an expedient means of releasing easements which affect several parcels of land. In addition, a prescribed authority may make application where the authority, being the owner of the easement in gross acquires the servient tenement.

8.5.1 Document examination requirements:

1. The Certificate of Title for either the servient or dominant tenements is **not** required to be produced to the Registry to allow the document to be registered.

2. The reference to title for the land benefited by the easement (dominant tenement) must be stated. Where the application affects an easement in gross, no reference will be made to the dominant tenement.

3. The reference to title for the land burdened by the easement (servient tenement) must be stated.

4. The applicant must be the registered owner of the easement, i.e. the dominant tenement or, in the case of an easement in gross, the prescribed authority.

5. The full name of the applicant must be stated and must be identical with the name of the registered owner of the easement, i.e. the dominant tenement.

6. The registered number of the instrument creating the easement and a brief description of the easement must be stated.

7. The full names of parties having a registered interest in the land benefited by the easement (i.e. the dominant tenement) and particulars of the interest must be shown, e.g. mortgagees and lessees. e.g. Westpac Banking Corporation - Mortgage 95801.

8. The consent of any person having a registered interest in the dominant tenement is required where the interest is registered after the easement.

9. The application must be signed by or on behalf of the applicant.`

8.5.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Remove the specified easement from the Title.

3. New Certificates of Title will **not** be issued.

9. Covenants and Restrictions

9.1 General

A covenant is an agreement creating an obligation contained in a document lodged for registration. It may be:

- restrictive - forbidding the commission of some act, such as the construction of a two story dwelling; or

- positive - stipulating the performance of some act or the payment of money, e.g. an obligation to repair or insure a building.

9.2 Restrictive Covenants

Ordinarily, a restrictive covenant will be created by a transfer of ownership document. The types of covenant may include fencing and/or buildings. For example, the owner of lots 1 and 2 in deciding to sell lot 1 may not want to contribute to the cost of any dividing fence between the two properties. He could therefore create a covenant in the transfer document binding the transferee to pay the full cost of any fence between the two properties. Similarly, he could restrict the number of buildings to be erected, their height or size, or the building materials to be used.

9.2.1 Document examination requirements:

1. The Certificate of Title for the servient tenement is required for registration of the covenant and the references to title for the servient and dominant tenements must be stated in the transfer document.

2. The covenant must comply with the following essential requirements:

    - it must restrict the user of the land,
    - it must be negative or partly negative, i.e. not involve the covenantor in any expenditure to comply with it, and
    - it must indicate the land benefited and the land burdened.

3. Covenants may burden either the transferee or the transferor.

    - In transferee covenants the burden of the covenant is placed on the real estate being transferred, with words such as '.. .. and the transferee covenants with the transferor .. ..'. The covenant will be noted on the Register and the issued Certificate of Title for the transferee only.

    - In transferor covenants the burden is placed on other real estate owned by the transferor for the benefit of the real estate being transferred, with words such as ' and the transferor covenants with the transferee .. ..' The covenant will be noted on the Register and the issued Certificate of Title for the transferor only.

    - The Certificate of Title for the servient real estate must be produced to the Registry to allow the covenant to be registered.

    - A transferor's covenant must have the consent of any person or entity who has a registered interest in the servient real estate.

4. All parties to the transaction must sign the document immediately below the covenant details. The parties may state that some other person or authority has the power to release or vary the restrictions in the covenant. This is merely optional. In addition, all persons with a registered interest in the servient tenement, i.e. the land burdened by the covenant, must consent to the covenant, e.g. mortgagee, lessee, etc.

9.2.2 Action to be taken:

Following the registration of the change of name of the owner the specified Title will be endorsed with the covenant notification.

9.2.3 Notification details:

Example -

> **A** owns the real estate comprised in Certificate of Title 9633. **B** agrees to buy the land and to enter into a covenant with **A** that any building to be erected on the land will be of no more than two stories high and it will be built substantially of brick. The transfer document is lodged and numbered as 9777.

On registration of the transfer document:

A new Certificate of Title will be issued in the name of the new owner and numbered as 9777.

That Title will be endorsed with a notification in the form:

3. 9777 Covenant

Because the terms of a covenant may often be lengthy, the details are not specified on the Register. A searcher requiring full details of the covenant has to inspect the document that created the restriction.

9.3 Positive Covenant

A positive covenant must stipulate the performance of an act rather than non-performance. For example, a positive covenant might stipulate that a structure must be built from brick, whereas a restrictive or negative covenant would stipulate that the structure must not be built of any material other than brick. A positive covenant must be created by an authority, i.e. the State or a public or local authority such as a City or Municipal entity. A form of positive covenant is shown at Appendix A 16.

Public positive covenants include obligations requiring :

- the carrying out of development on or with respect to the land,
- the provision of services on or to the land or other land within its vicinity,
- the maintenance, repair or insurance of any structure or work on the land.

9.3.1 Notification form:

1. 9888 Positive covenant

10. Issue of Replacement Certificate of Title

The Registry needs to provide for a new Certificate of Title to be issued to replace a lost, damaged or destroyed Title. A form of application is shown at Appendix A 17.

As stated previously, the Certificate of Title is a legal document and it is evidence of real estate ownership. Because it is such an important document, its loss has to be treated most seriously by the Registry and the utmost care needs to be exercised to ensure that the case presented for the replacement is reliable. Following an examination of the request (which should be in the form of a declaration) and the supporting evidence, the Head of the Registry may authorize the issue of the replacement title.

The replacement Title will be endorsed with a notification to the effect that it has issued pursuant to the reported loss or damage to the original title (which must be specified). The Register will also need to be updated to reflect that the original title was replaced. These steps will ensure that, if the original title was subsequently lodged in support of a transaction, the Registry staff would be put on notice of its replacement and they could take appropriate action.

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10.1.1 Document examination requirements:

1. More than one Certificate of Title may be included in the request - provided that they stand in the name of the same registered owner and that they were lost, misplaced or destroyed in the same circumstances.

2. The request may be made by the registered owner or by a registered mortgagee.

3. The full name of the registered owner must be stated and be identical to the name of the registered owner as shown on the Register. If the present name of the registered owner differs from that shown on the Register, an application to record a change of name must be also be lodged.

4. Evidence satisfactory to the Head of the Registry (including, for example, a declaration) must be supplied by the applicant and also by any other person having a direct interest in the real estate, e.g. the mortgagee, which must be annexed to the request.

5. Additionally, a declaration by some one prepared to substantiate the evidence might be required and the consents of any mortgagees must be furnished.

6. The evidence must include the following and the particulars supplied must agree with the Register:

    - an account of the events leading up to the loss or destruction of the title. Where destruction cannot be positively proven, details of the usual safe custody of the document must be supplied. If lost in the Post, details of inquiries made with the Postal authorities must be supplied;
    - the details of all current easements and other encumbrances affecting the land; and
    - the full names of all registered owners and the tenancy held.

7. The applicant must declare that:

    - the Certificate of Title has not been lodged with any other person or corporation as security for a loan or any other purpose; and
    - the registered owner has never been bankrupt or insolvent, nor assigned the real estate for the benefit of creditors.

8. The application must be signed by or on behalf of the applicant.

9. The Head of the Registry (or a delegate) must authorize the issue of the replacement Certificate of Title.

10.1.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Issue the replacement Certificate of Title.

10.1.3 Notification details:

Example -

On the Register for the replacement Certificate of Title. (Note that this Title will have the number of the Request as its identifier, e.g. 9712).

3. 9712 This Certificate of Title has issued owing to the reported loss (or destruction) of Certificate of Title 9523.

On the Register for the real estate contained in the lost / destroyed Title 9523

5. 9712 Replacement Certificate of Title issued (date) following the reported loss (or destruction) of this Title.

11. Possessory Applications

A Possessory Application allows persons who are in possession of real estate to apply to be registered as the owner of that real estate. Possessory applications are not necessarily based on possession which commenced as 'squatting' on another person's real estate. Applications may be lodged where:

- the applicant actually purchased the real estate but no formal transfer was completed;
- the transfer was lost and not registered; or
- the applicant may be entitled to the real estate under a succession of wills but for some reason no formal application was made to register the change of ownership.

11.1.1 Document examination requirements:

1. The Certificate of Title is **not** required to be produced to the Registry to allow the document to be registered.
2. The application must be for whole real estate parcels.
3. The reference to the Certificate of Title for the real estate must be stated.
4. The full name of the current registered owner must be stated and be identical with the name shown on the Register.
5. The full name and address of the applicant must be stated. If there is more than one applicant then the tenancy and shares, if applicable, must be stated.

6. The registered number of any mortgage or lease which is to be canceled and not carried forward on the title must be stated. The application must be accompanied by evidence sufficient to establish that the title to any such interest has been extinguished.

7. The application must be accompanied by :
   - a declaration by the applicant,
   - declarations by disinterested witnesses.

8. The application must be signed by or on behalf of the applicant.

9. A survey of land may be necessary to adequately define the parcel. Adequacy of the evidence may need to be determined by the Head of the Registry.

11.1.2 Action to be taken:

1. If no other documents are awaiting registration against the subject title, registration can proceed. (Note: Consideration must always be given to any relevant entries on the Register and current Registry procedures and rules.)

2. Record the name of the applicant as the registered owner of the specified Title in the Register.

3. Issue the new Certificate of Title.

12. Appendices

F.1. DEALING FORMS (AVAILABLE IN RUSSIAN COPY)

F.2. CERTIFICATES OF TITLE (AVAILABLE IN RUSSIAN COPY)

F.3. CURRENT SEARCHES OF THE REGISTER

F.4. HISTORICAL SEARCHES

COMPUTER FOLIO SEARCH

NEW SOUTH WALES

Issued pursuant to the Real Property Act, 1900, and certified overleaf

LAND TITLES OFFICE

No. B500

Search certified to:
Date 22 Feb 1994 Time 8.00AM

TORRENS TITLE FOLIO IDENTIFIER	
CP/SP45525	
EDITION No. & DATE OF CURRENT CERTIFICATE OF TITLE	
1	9 Dec 1993

LAND

THE COMMON PROPERTY IN THE STRATA SCHEME BASED ON STRATA PLAN 45525 WITHIN THE PARCEL SHOWN IN THE TITLE DIAGRAM

AT EPPING
LOCAL GOVERNMENT AREA: PARRAMATTA
PARISH OF FIELD OF MARS COUNTY OF CUMBERLAND
TITLE DIAGRAM: SHEET 1 SP45525

FIRST SCHEDULE

THE PROPRIETORS - STRATA PLAN NO. 45525
ADDRESS FOR SERVICE OF NOTICES:
53 BRIDGE STREET
EPPING, 2121

SECOND SCHEDULE
---
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

SCHEDULE OF UNIT ENTITLEMENT (AGGREGATE: 1000)

STRATA PLAN 45525

LOT	ENT	LOT	ENT	LOT	ENT	LOT	ENT
1	93	2	82	3	89	4	72
5	89	6	71	7	82	8	93
9	75	10	89	11	75	12	90

NOTATIONS

UNREGISTERED DEALINGS: NIL

-- END OF SEARCH --

22 Feb 1994 B500

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* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE
WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER

LAND TITLES OFFICE
NEW SOUTH WALES

COMPUTER FOLIO SEARCH

Issued pursuant to the Real Property Act, 1900, and certified overleaf

No. B4

Search certified to:
Date 5. 7.1995 Time 8.00AM

TORRENS TITLE	
FOLIO IDENTIFIER	
9/A/6747	
EDITION No. & DATE OF CURRENT CERTIFICATE OF TITLE	
1	9.12.1992

LAND

LOT 9 OF SECTION A IN DEPOSITED PLAN 6747
LOCAL GOVERNMENT AREA: LAKE MACQUARIE
PARISH OF COORUMBUNG COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM: DP6747

FIRST SCHEDULE

MICHAEL HUGH VALLELY (TA E963556)

SECOND SCHEDULE
---
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2. H142004 COVENANT
3. T696491 MORTGAGE TO NATIONAL AUSTRALIA BANK LIMITED

NOTATIONS

UNREGISTERED DEALINGS: NIL

* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE.

COMPUTER FOLIO SEARCH

Issued pursuant to the Real Property Act, 1900, and certified overleaf

LAND TITLES OFFICE
NEW SOUTH WALES

TORRENS TITLE

FOLIO IDENTIFIER	
12/SP45525	
EDITION No. & DATE OF CURRENT CERTIFICATE OF TITLE	
2	23 Dec 1993

No. B500

Search certified to:
Date 22 Feb 1994 Time 8.00AM

LAND

LOT 12 IN STRATA PLAN 45525
AT EPPING
LOCAL GOVERNMENT AREA: PARRAMATTA

FIRST SCHEDULE

SHAWKI HANNA GAD
LILY AZIZ GAD
AS JOINT TENANTS (T I903585)

SECOND SCHEDULE
---
1. INTERESTS RECORDED ON REGISTER FOLIO CP/SP45525

NOTATIONS

UNREGISTERED DEALINGS: NIL

-- END OF SEARCH --

22 Feb 1994 B500

580

* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE
WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER

COMPUTER FOLIO SEARCH

Issued pursuant to the Real Property Act, 1900, and certified overleaf

LAND TITLES OFFICE
NEW SOUTH WALES

TORRENS TITLE

FOLIO IDENTIFIER	
1/SP45525	
EDITION No. & DATE OF CURRENT CERTIFICATE OF TITLE	
2	29 Dec 1993

No. B500

Search certified to:
Date 22 Feb 1994 Time 8.00AM

LAND

LOT 1 IN STRATA PLAN 45525
AT EPPING
LOCAL GOVERNMENT AREA: PARRAMATTA

FIRST SCHEDULE

SOBHY JEAN NICOLA
CECILE NAKHLA NICOLA
AS JOINT TENANTS (T I911471)

SECOND SCHEDULE
---
1. INTERESTS RECORDED ON REGISTER FOLIO CP/SP45525
2. I911472 MORTGAGE TO AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED

NOTATIONS

UNREGISTERED DEALINGS: NIL

-- END OF SEARCH --

22 Feb 1994 B500

581

* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE
WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER

501/828236

28. 2.1994 8.00AM 1 19. 2.1993

LAND

LOT 501 IN DEPOSITED PLAN 828236
AT EPPING
LOCAL GOVERNMENT AREA: PARRAMATTA
PARISH OF FIELD OF MARS COUNTY OF CUMBERLAND
TITLE DIAGRAM: DP828236

FIRST SCHEDULE

EISSA SOLIMAN TADROS & AFAF TADROS AS JOINT TENANTS IN 5/12 SHARE. SOBHY JEAN NICOLA & CECILE NAKHLA NICOLA AS JOINT TENANTS IN 2/12 SHARE & SHAWKI HANNA GAD & LILY AZIZ GAD AS JOINT TENANTS IN 5/12 SHARE AS TENANTS IN COMMON

SECOND SCHEDULE
---
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2. E977977 MORTGAGE TO ESANDA FINANCE CORPORATION LIMITED
3. SP45525 ********** FOLIO CANCELLED **********

NEW FOLIOS HAVE BEEN CREATED FOR LOTS 1-12 & COMMON PROPERTY IN SP45525

582

LAND TITLES OFFICE
NEW SOUTH WALES

HISTORICAL TITLE SEARCH

Certificate issued under Section 96G of the
Real Property Act 1900

No. B500

Search certified to:

Date 10 Jul 1996 Time 8.00AM

Computer Folio Reference: 501/828236

First Title(s): OLD SYSTEM
Prior Title(s): 1/6229 1/304233

Recorded	Number	Type of Instrument	C.T. Issue
19 Feb 1993	DP828236	DEPOSITED PLAN	FOLIO CREATED EDITION 1
7 Dec 1993	1844323	WITHDRAWAL OF CAVEAT	
9 Dec 1993	SP45525	STRATA PLAN	FOLIO CANCELLED

-- END OF SEARCH --

583

PRINTED ON 10 Jul 1996 B500

The Registrar General certifies that at the date and time specified above the information set out in this search constitutes the historical record of all dealings recorded in or action taken in respect of the mentioned title which is required to be kept by the Registrar General under Section 32(7) of the Real Property Act 1900.

Registrar General

HISTORICAL TITLE SEARCH

LAND TITLES OFFICE
NEW SOUTH WALES

Certificate issued under Section 96G of the
Real Property Act 1900

No. B500
Search certified to:
Date 10 Jul 1996 Time 8.00AM
Computer Folio Reference: CP/SP45525

First Title(s): OLD SYSTEM
Prior Title(s): 501/828236

Recorded	Number	Type of Instrument	C.T. Issue
9 Dec 1993	SP45525	STRATA PLAN	FOLIO CREATED EDITION 1
29 Jul 1994	U479445	DEPARTMENTAL DEALING	

-- END OF SEARCH --

584

PRINTED ON 10 Jul 1996 B500

The Registrar General certifies that at the date and time specified above the information set out in this search constitutes the historical record of all dealings recorded in or action taken in respect of the mentioned title which is required to be kept by the Registrar General under Section 32(7) of the Real Property Act 1900.

Registrar General

HISTORICAL TITLE SEARCH

LAND TITLES OFFICE
NEW SOUTH WALES

Certificate issued under Section 96G of the
Real Property Act 1900

No. B500

Search certified to:

Date 10 Jul 1996 Time 8.00AM

Computer Folio Reference 12/SP45525

Recorded	Number	Type of Instrument	C.T. Issue
9 Dec 1993	SP45525	STRATA PLAN	FOLIO CREATED EDITION 1
23 Dec 1993	1903584	DISCHARGE OF MORTGAGE	
23 Dec 1993	I903585	TRANSFER	EDITION 2

-- END OF SEARCH --

585

PRINTED ON 10 Jul 1996 B500

The Registrar General certifies that at the date and time specified above the information set out in this search constitutes the historical record of all dealings recorded in or action taken in respect of the mentioned title which is required to be kept by the Registrar General under Section 32(7) of the Real Property Act 1900.

Registrar General

HISTORICAL TITLE SEARCH

LAND TITLES OFFICE
NEW SOUTH WALES

Certificate issued under Section 96G of the
Real Property Act 1900

No. B500

Search certified to:

Date 10 Jul 1996 Time 8.00AM

Computer Folio Reference: 1/SP45525

Recorded	Number	Type of Instrument	C.T. Issue
9 Dec 1993	SP45525	STRATA PLAN	FOLIO CREATED EDITION 1
29 Dec 1993	I911470	DISCHARGE OF MORTGAGE	
29 Dec 1993	I911471	TRANSFER	
29 Dec 1993	I911472	MORTGAGE	EDITION 2

-- END OF SEARCH --

686

PRINTED ON 10 Jul 1996 B500

The Registrar General certifies that at the date and time specified above the information set out in this search constitutes the historical record of all dealings recorded in or action taken in respect of the mentioned title which is required to be kept by the Registrar General under Section 32(7) of the Real Property Act 1900.

Registrar General

Qualified and Limited Titles

Background

Prior to the enactment of legislation in 1862 giving rise to the Torrens system in Australia, all real estate granted by the Crown was done in accordance with the old English law. Conveyancing was therefore effected on the basis of the traditional deeds system. With the enactment of the Torrens system of title registration, mechanisms were provided to allow the conversion of the 'old system' real estate to Torrens title. The original methods required a plan of survey and the production of the full chain of title as evidence of ownership. Both the chain of title and the plan were rigorously examined to ensure that the title was 'clear' and that the real estate described was available and no real estate owned by another was included. These stringent requirements (and the associated costs of legal search and survey) meant that an owner was often content to leave the title in the old system. (In New South Wales, Australia, this voluntary conversion has, after 130 years, brought most of the state under Torrens title. However, about 1-2% of land parcels remain outside the Torrens system.)

In an attempt to facilitate the conversion of all old system (OS) real estate the enabling legislation has since been amended to provide new and efficient methods of conversion to Torrens title. These methods have now been adopted in a number of countries.

Qualified Title

Unlike the issue of a fully fledged Torrens title following an exhaustive examination of the title documentation, the concept of a qualified title provides for the creation of a full title in two stages. Initially, the owner's protection from certain interests outside the Register is *'qualified'* only. Complete indefeasibility is conferred later and it is only at that stage that the protection becomes absolute

Subject to the qualification described below, a qualified title is evidence as to ownership in all respects as if it were an ordinary title

The important *qualification* inherent in the name given to this form of Torrens title is that such a title is subject to every 'subsisting interest' in the real estate whether recorded in the Register or not. A subsisting interest is defined as:

- any contingent or vested estate or interest in the real estate that was in existence at the date on which the qualified title was created and would have been enforceable against the person for the time being registered in that qualified title as the owner had that qualified title not been created; and

- any estate or interest in the real estate arising by prescription or under any statute of limitations that was in existence or in the course of being acquired at the date on which the qualified title was created.

In essence, a registered owner's qualified title is subject to interests that would have been enforceable against it had the real estate remained outside the Torrens system.

When creating a qualified title, the Registrar must record in it any subsisting interest then apparent to him, but need not search or inquire about whether such interests exist. Further, the Registrar must record a 'caution' in the title, warning persons dealing with the registered owner that the real estate is subject to any subsisting interest whether recorded or not.

The Registrar may also include in the caution, a notation that;

- documents evidencing the title to the land indicated that the real estate was conveyed otherwise than for value, and / or
- the title depended on the operation of a statute of limitations.

Each jurisdiction must develop its own rules and procedures to allow the qualification to be removed. For example, where real estate is bought for value and the qualified title is issued on the basis of that transaction and it is subsequently sold again for value to another also at arm's length consideration could be given to the removal of the qualification some time after that second transaction. The assumption being that a buyer, who is not connected with the owner, and who is prepared to pay a normal market price for the real estate would have made a reasonably extensive range of inquiries and been satisfied that the actual real estate exists and that the reputed owner appears to have a good title. On the basis that two buyers were prepared to invest their funds on the real estate, there is little (if any) need for the Registry to examine the title further. Another basis for the removal of a qualification might be the application of appropriate provisions of the Statute of Limitations. In some areas this will allow the removal after 12 years.

Limited Title

Although it was a major initiative in the conversion of land from old system to Torrens Title, the qualification of titles did not, and was not intended to, provide a comprehensive scheme. It could not, for example, accommodate conversion of real estate where the boundaries of the parcel were not satisfactorily defined by a plan of survey on public record. A further step towards complete conversion was taken with the introduction into the legislation, of a scheme for the conversion of those parcels which lacked adequate boundary definition.

The essential ingredient of this scheme is the creation of '*limited*' folios of the Register for such real estate. The identity, location, size and shape of the parcels comprised in these titles are known, although the boundaries are uncertain in the sense that further survey information will ultimately be required for precise definition. The folios may remain limited indefinitely but, so long as they remain limited (and they may remain limited although no longer qualified), the titles are not conclusive as regards the position of the boundaries.

Action in respect of qualified and limited titles is similar. Where the boundaries of land comprised in the registered deed are not sufficiently defined to enable the Registrar to create a qualified folio of the Register or an ordinary Torrens title, the Registrar may create such qualified or ordinary folio respectively as a limited title.

Limited titles are often created following the lodgment of a transaction for registration. When lodged for registration, the documents should be accompanied by a statement setting out all particulars known by the owner regarding the real estate. Conversion activity must be at the discretion of the Registrar.

Real estate comprised in a limited title should be dealt with in the same manner as land comprised in an ordinary title.

Removal of the limitation is effected by the lodgment of a plan of survey defining the boundaries of the land comprised in the limited title. Removal of the limitation makes that title conclusive as regards the position of the boundaries. This action may be taken at any time after the creation of the limited title, irrespective of whether the folio is qualified or unqualified.

COMPUTER FOLIO SEARCH

NEW SOUTH WALES

Issued pursuant to the Real Property Act, 1900, and certified overleaf

CALM LAND TITLES OFFICE

No. 15

Search certified to:
Date 28. 4.1994 Time 8.00AM

TORRENS TITLE

FOLIO IDENTIFIER	
28/779285	
EDITION No & DATE OF CURRENT CERTIFICATE OF TITLE	
2	8.11.1988

LAND

LOT 28 IN DEPOSITED PLAN 779285
AT TERARA
LOCAL GOVERNMENT AREA: SHOALHAVEN
PARISH OF NUMBAA COUNTY OF ST VINCENT
TITLE DIAGRAM: DP779285

FIRST SCHEDULE

RHODERICK GAVIN RAMSAY MCGHEE
JACQUELINE GAYE MCGHEE
AS JOINT TENANTS

SECOND SCHEDULE
---
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2. QUALIFIED TITLE. CAUTION PURSUANT TO SECTION 28J OF THE REAL PROPERTY ACT, 1900. ENTERED 3.5.1988 (BK 3724 NO 793)
3. LIMITED TITLE. LIMITATION PURSUANT TO SECTION 28T(4) OF THE REAL PROPERTY ACT, 1900. THE BOUNDARIES OF THE LAND COMPRISED HEREIN HAVE NOT BEEN INVESTIGATED BY THE REGISTRAR GENERAL.
4. X965329 MORTGAGE TO AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED

NOTATIONS

UNREGISTERED DEALINGS: NIL

2. КВАЛИФИЦИРОВАННЫЙ (ВИДОИЗМЕНЕННЫЙ) ТИТУЛ.
ПРЕДОСТОРОЖЕНИЯ В ВЕДЕНИИ И ИСПОЛНЕНИИ ДЕЛА, СОГЛАСНО РАЗДЕЛА 28 J АКТА ПОДЛИННОГО ВЛАДЕНИЯ 1900 ГОДА, ВОШЕДШИЕ В ДЕЙСТВИЯ 3.5.1988 г. (КНИГА УЧЕТА 3724 ЗА № 793).

3. ОГРАНИЧЕННЫЙ ТИТУЛ
ОГРАНИЧЕНИЯ В ИСПОЛНЕНИИ ДЕЛА СОГЛАСНО РАЗДЕЛА 28Т(4) АКТА ПОДЛИННОГО ВЛАДЕНИЯ 1900 ГОДА. ИССЛЕДОВАНИЕ ГРАНИЦ ЗЕМЛИ НЕ БЫЛИ ПРОИЗВЕДЕНЫ ГЛАВНЫМ РЕГИСТРАЦИОННЫМ УПРАВЛЕНИЕМ.

RGJK 28. 4.1994 15

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* ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE
WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER

Extension of the Torrens system to other Types of Ownership

Strata Titles

Just over a hundred years after Torrens introduced his system of title registration in South Australia, a legislative scheme was introduced in New South Wales to regulate the disposition of subdivided premises into strata lots having separate statutory titles.

It has always been permissible at common law for owners to divide their land into its various mineral components or to divide it horizontally into two or more strata and severally dispose of each component or stratum. The legislation did not alter this. A certificate of title may issue for minerals only, or for a particular mineral, such as coal. Or, it may issue for the soil below a specified depth from the surface or for the column of all space above a specified height. The same freedom of disposition could lead to separate titles issuing for apartments in a building, so long as it did not involve, in New South Wales, any vertical subdivision of the surface of the soil in contravention of the local government legislation. But, the involved legal consequences of direct severance of premises into home units, however desirable for developers, made such a step unattractive to prospective purchasers and their mortgagees.

Various private attempts were made to get around these difficulties. The two more prominent of these attempts are presently known as the Company Titles and Tenants in Common Titles. The Company Titles are managed on a corporation basis. The developer forms a company and each tenant buys proportionate shares which entitle that tenant to exclusive occupation of a specified apartment or unit, subject to certain conditions as are provided in the company's articles of association. The building is managed by a board of directors. Under the articles of association, the transfer of shares may require the consent of the directors. While this restriction may be seen as a bonus by some, it is generally regarded as a disadvantage by purchasers and mortgagees.

Where only two to four units are involved, the Tenants in Common system is a cheaper alternative. It does not require the formation of a company. Each unit owner is issued with a share as a tenant in common in the property, proportionate to the value of his or her apartment. The management of the property is covered by an agreement, to which all the unit owners are required to be parties. This system, however, becomes increasingly cumbersome and impractical when the apartments are more numerous.

The *initial strata titles legislation* [cited as the Conveyancing (Strata Titles) Act] was introduced in 1961 and *was without precedent elsewhere in the world.* It was subsequently adopted in all the other Australian States and in many other jurisdictions. Practical experience in the operation of the Act revealed a need for the introduction of an improved form of the legislation. This was done with the Strata Titles Act 1973.

The popularity of the Strata title system stems partly from the fact that a strata lot can be freely disposed of and is an *acceptable security* to lending bodies. Another reason for the systems popularity is the range of developments it permits. These developments include home unit buildings, villa homes, town houses, free standing dwellings, mixed commercial and residential strata buildings, industrial strata units and marina lots.

Under the Strata Titles Act 1973, land, including part only of a building, may be subdivided into lots or into *lots* and *common property* by the registration of a strata plan. The land capable of strata subdivision is limited to Torrens title land, held in fee simple (other than land comprised in a qualified or limited certificate of title - see sec. 8.1 and Annex VI. H). A plan cannot be registered as a strata plan unless it consists of a location plan and a floor plan in respect of the land to subdivided. The *location plan* is to delineate the perimeter of the land and, in relation to that perimeter, the location of any building erected on that land and of any proposed lots or part of proposed lots not within any building. A building is only to be depicted on the location plan if it contains a proposed lot or part of a proposed lot.

The *floor plan* may consist of one or more sheets, which separately illustrate the whole or part of one or more strata of land. The floor plan is required to define, by lines, the base of each vertical boundary of every cubic space forming a proposed lot, within any stratum. The floor plan is also to show the floor area of each such cubic space and the aggregate of the floor areas of every cubic space that forms part of the proposed lot. Except where no part of the land is to be common property, there is no requirement that a Strata plan comprise more than one stratum. The location plan must bear a certificate by a registered surveyor certifying as to the existence of the structural features shown on the plan and any encroachments beyond the parcel boundary.

Where part only of a building is to be comprised in a strata scheme, the surveyor's certificate is to the effect that:

- part only of a building is included in the proposed stratum parcel;
- the proposed stratum parcel and the building are wholly within the perimeter of the site of land, except as regards permitted encroachments; and
- the proposed lots and common property are wholly within the stratum parcel, except as regards permitted encroachments.

When lodged for registration, a strata plan is required to show in respect of each lot the *unit entitlement* and *aggregate unit entitlement*. These are normally allocated by the surveyor and are intended to reflect the values of lots at the time the plan is registered. Unit entitlements are used as a basis for assessing rates and taxes on lots and to determine a lot owner's levies, voting rights and share in the common property.

The legislation in Australia also enables a developer in the course of preparing a strata plan and a strata plan of subdivision, by a single instrument to create easements and restrictions as to use benefiting or burdening some or all of the lots shown in that plan, or benefiting or burdening contiguous land held by the developer.

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'Lot' is defined as to embrace any cubic space of any shape, provided it is defined by reference to floors, walls and ceilings. Unless a floor plan otherwise specifies, the boundaries of a strata lot are the internal surfaces of the floors, walls and ceilings surrounding that lot. As a result, the substance floors, walls and ceilings automatically becomes common property vested in the body corporate, and that body corporate assumes responsibility for maintenance and repair. In addition, the definitions of 'structural cubic space' and 'lot' exclude from a strata lot any cubic space occupied by a vertical structural member, not being a wall of a building, and pipes, wires, cables or ducts in or outside a building not for the exclusive enjoyment of one lot, and any cubic space enclosed by a structure enclosing any such pipes, wires, cables or ducts. These become common property, and the body corporate is responsible for their repair and maintenance. *Common property* is so much of the parcel as *is not comprised in any lot*

Lots or common property, or lots and common property together, may be subdivided by the registration of a plan as a *strata plan of subdivision*. Two or more lots may be consolidated into one lot or the conversion of one or more lots into common property. Any construction or demolition which could render ambiguous the definition of the boundary of an existing strata lot should be illustrated in a new registered plan.

A strata plan, as with any other plans lodged for registration, must have the signatures and consents normally required by the Registry.

Upon registration of a strata plan, *any common property vests in the body corporate* and *a certificate of title issues* in the name of the body corporate. The body corporate holds the common property as agent for the proprietors. The certificate of title is also a medium for recording the schedule of unit entitlement, alterations of by-laws and various orders made by a Strata Titles Board. The legislation authorises a body corporate to acquire, by transfer or lease, adjoining land or an interest therein for the purpose of creating additional common property. Such an acquisition may only be undertaken by a unanimous resolution of the body corporate. If acquisition of additional land is effected by transfer, it must be preceded by registration of a deposited plan, showing as a single allotment the original parcel plus the newly acquired land.

In any dealing relating to a lot, a reference to a lot includes a reference to the share of the owner of that lot in common property. A body corporate may, pursuant to a unanimous resolution, transfer or lease common property.

The legislation provides for the staged development of a strata scheme. Such development includes the progressive construction of building and works on 'development lots', together with the subsequent subdivision of each such lot and a consequential adjustment of the unit entitlement in the scheme. Development lots may be situated wholly or partly above, below or alongside the building to which the strata scheme initially relates. Thus, it is possible to strata subdivide a building as additions are made horizontally or vertically

Community Titles

Legislation has been designed to fill the vacuum between conventional subdivision and strata subdivision which were previously the only methods of subdividing land in some countries. The effect of the legislation is to enable *common property* to be created within conventional subdivisions.

In addition to extending the concept of the shared use of common facilities to subdivisions which might consist of no more than vacant blocks of land, the legislation also provides for the development of planned communities of any type where the use of some land is shared. It enables development of non-stage schemes or of schemes comprising several stages over an unlimited time frame, and will permit projects ranging in size from small groups of houses clustered around common open space to large communities with shared roadways and facilities on commercial. sporting, recreational or agricultural features.

As is the case with the strata legislation, common areas within a development can be owned and managed by a body corporate (known as an association) comprising all let owners. The association owns the common areas, referred to as association property, as agent for its members in shares proportional to the members' unit entitlement, based on site values, which determines voting rights and contributions to maintenance levies.

However, as a means of overcoming the limiting effect of strata legislation, which typically does not facilitate the promotion of theme developments or mixed developments containing separate areas for residential, commercial, recreation and industrial uses, community titles provides the machinery for flexibility in the management and administrative arrangements operating within a scheme. This necessary degree of flexibility is achieved by providing for a multi-tiered management concept and by permitting a management statement to be prepared for each scheme, setting out the rules and procedures relating to the administration of and participation in, the scheme.

Community style subdivision can be used as a legislative framework for medium density housing and also facilitates the construction of major resort developments.

The concept contains a number of significant features to permit its application to a wide variety of developments and to provide sufficient flexibility to maximise its use by developers. The features are as follows:

1. Staged Development of Schemes

Community land development permits community schemes to be completed in stages. This has several advantages:

- initial development costs are lower because one stage can be used to finance the construction of later stages;
- higher density may be achieved;

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- with an amalgamated site, greater flexibility of design permits the more appropriate siting of buildings in sympathy with each other and with the environment. The development thus promotes the more effective use of land than existing forms of subdivision;

- purchase prices should be lower if the initial development costs are reduced.

Because staged projects may be completed over a period of several years, developers are given flexibility to alter schemes to adapt to changing social and economic circumstances. The legislation does not require a developer to provide full details of a completed scheme at the outset of a community development. There is provision for a developer to make optional disclosures in the form of a development contract lodged with the community plan. The development contract is discussed below. It is possible for a developer to amend a scheme prior to completion and this is referred to in greater detail below in paragraph headed 'flexibility of development'.

2. Non-stage Development

The legislation permits developers to undertake a non -staged subdivision by registration of a neighbourhood plan. Upon registration of the plan, a body corporate known as a neighbourhood association is created.

A developer undertaking a neighbourhood scheme is required to disclose at the outset whether facilities are to lie constructed on the association property (known as neighbourhood property). The disclosure is contained in a development contract which accompanies the neighbourhood plan when lodged for registration and which is binding on the developer and subsequent purchasers.

3. Management Structures

The multi-tier management concept is regarded as a key feature of the legislation. Experience has shown that the management and related provisions of the strata legislation are inadequate to cope with the management of large scale developments. The concept is designed to overcome these deficiencies by enabling promoters to develop large scale schemes in the knowledge that there is adequate statutory support to ensure that the schemes are effectively managed in the future.

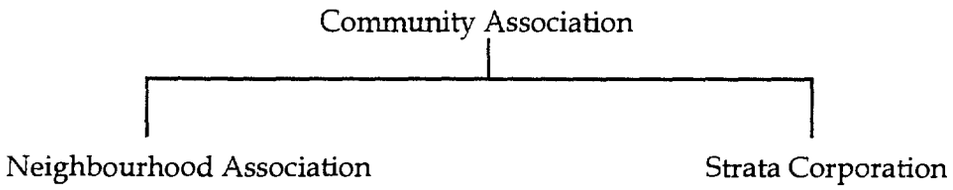
The multi -tier management concept applies only to schemes which are developed in stages. Accordingly, only one level of management is permitted in a non-stage scheme. It is left to the discretion of the developer to determine whether a scheme should be developed in stages and, if so the resulting management structure which should apply.

A two tier or the maximum three tier management structure applies where a stage development is undertaken. The first plan to be lodged for registration in a stage scheme is a community plan, and upon registration of the plan a community association comes into existence. It is entrusted with the first tier of management and exercises 'umbrella' control over matters concerning the community as a whole. For example, the community association may be concerned with maintenance of the overall community theme, architectural guidelines, security, road network and landscaping.

In a proposed two tier managerial structure, the second tier of management is created by registration of a neighbourhood plan subdividing a community development lot in a community plan into lots for separate use or disposition known as neighbourhood lots. The neighbourhood scheme is administered by a neighbourhood association which automatically becomes a member of the community association. Alternatively, development lots may be subdivided by strata plans, in which case the strata body corporate created upon registration of the strata plan (known as a strata corporation) becomes a member of the community association and constitutes the second level of management.

The resulting levels of management are as follows:

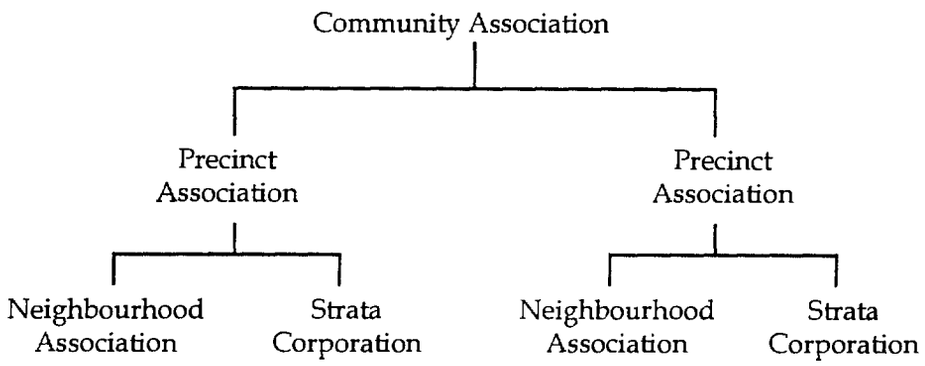
Two Tier Scheme



In certain instances a developer may wish to introduce a third tier of management into a scheme. A three tier scheme is available simply as an option and might be used in a. particularly large scheme or where a variety of uses are mixed within the one development.

Where a developer wishes to create three levels of management, this may be done by interposing a precinct association between the community association and any neighbourhood association or strata corporation as follows:

Three Tier Scheme



Thus the three tier management structure is created in the following way: a community plan divides land into development lots and community property, giving rise to a community association. A precinct plan is then prepared, subdividing one of the development lots into precinct lots and precinct property. Upon registration of the precinct plan, a precinct association comes into being. A

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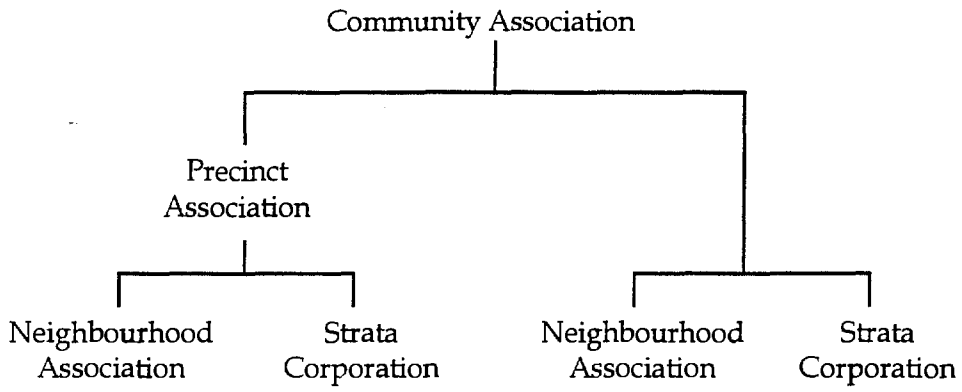
precinct lot is then subdivided by a neighbourhood plan or a strata plan, giving rise to a neighbourhood association or strata corporation, the third tier of management.

It is not necessary in a three tier scheme that each community development lot be subdivided by a precinct plan. The management structure could, for example, be as follows:

Three Tier Scheme



4. Management Statement

Because the common areas are owned and managed by proprietors of lots in a community scheme, the legislation gives statutory recognition to the need for adoption of management rules and conditions that are especially relevant to the particular development concerned. The legislation recognises that the management provisions essential to the effective administration of, for example, a retirement scheme, would be substantially different from those applying within a rural community or a scheme established for special sporting or recreational activities.

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