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**LAND AND PROPERTY TAX ADMINISTRATION:
A PROTOTYPE MANUAL
FOR THE
REPUBLIC OF ARMENIA**

October 1994

An ICMA Report

**Prepared for the Office of Housing and Urban Programs
Agency for International Development**



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Prepared for the U.S. Agency for International Development,
Bureau for Europe and the New Independent States,
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By

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ABSTRACT

This report and its companion, "Land and Property Tax Administration: A Prototype Manual," comprise the main products of the author's third TDY assignment in the Republic of Armenia. This report presents the author's recommended strategy and work plan for creating a modern fiscal cadastre and for implementing land and property taxes in the Republic.

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EXECUTIVE SUMMARY

This report and its companion, "Land and Property Tax Administration: A Prototype Manual," comprise the main products of the author's third short-term technical assistance assignment in the Republic of Armenia, which took place in July. This report presents the author's recommended strategy and work plan for creating a modern fiscal cadastre and for implementing land and property taxes in the Republic. It has three main parts: (1) an overview (chapter I); (2) a part that addresses the things the government must do to create an environment for success (chapters II through V); and (3) a part that outlines a training strategy (chapter VI). The companion report addresses the major components of a general system for land and property tax administration in the Republic of Armenia.

As political and economic circumstances in Armenia dictate an evolutionary development of cadastral record and property tax systems, my recommended plan visualizes three broad phases: (1) an initial phase, (2) a transitional or developmental phase, and (3) a mature operational phase. The State Tax Inspectorate has a complementary view of tax system development.

Phase 1, the initial phase, would begin in 1994 and would end in 1995 or 1996. It has three main objectives: (1) secure the commitments discussed in chapter II, (2) implement the land tax and the property tax as envisaged in the current land tax law and in the draft property tax law (discussed further in chapter III), and (3) plan for phase 2, during which a modern computerized cadastral system would be designed and a preliminary version of the cadastre completed.

The goals of phase 2, the transitional or developmental phase, would be to (1) broaden coverage of the land and property taxes (2) refine valuation procedures (to the extent that market conditions permit), and (3) create a first-generation fiscal cadastre. Phase 2 can be anticipated to require a minimum of three years, and five years would be more realistic. Phase 2 will require establishment of institutions capable of maintaining the fiscal cadastre and carrying out an ongoing valuation program.

During phase 2, phase 1 property tax systems would continue in operation. Refinements should be designed to improve equity and efficiency and to smooth the transition to a cadastre-based system with more realistic valuations.

Development of the fiscal cadastre would consist of compiling cadastral maps, implementing a cadastral numbering system, and creating the following registers: a taxpayer register, a land register, a building register, a movable property register,

and a sales register (the prototype manual discusses technical requirements further).

The development of the valuation program will be an out-growth of market monitoring. From observations of market data, better valuation methods will be developed. It will be necessary to specify valuation methods and prepare manuals, forms, and the like covering agricultural land, urban land, buildings, and other taxable property (business movable property).

Phase 3, the "mature" or operational phase, would begin when the modern fiscal cadastre is complete, probably not before the year 2000. Each year in this phase, records created during the transitional phase would be updated as necessary. Records on newly privatized land and property would be added. New information on market values would be analyzed, and value estimates would be updated regularly. Additional information needed for better valuations may be added. Responsibilities may be reassigned.

Chapter II discusses the high-level political commitments that will be required to ensure the successful creation of a fiscal cadastre and introduction of taxes on land and property. Political support will be needed to:

- Establish a proper legal framework (chapter III)
- Erect a workable institutional structure and resolve bureaucratic problems as they arise (chapter IV)
- Allocate sufficient resources (chapter V)
- Ensure openness, system integrity, and credible enforcement of taxes (chapter VI)

Initial commitments will need to be made at the outset of phase 1 of the implementation plan. Commitments will need to be renewed in phases 2 and 3. Actions already made by government officials is encouraging. However, some fear that the cost of implementing urban land and property tax systems may be an obstacle for Parliament, as previously all taxes have produced revenues in excess of implementation costs. I believe the creation of a cadastre should be viewed as an investment in the future, although some benefits from the investments will begin to flow immediately.

Chapter III addresses the legal framework for taxing land, buildings, and other property in Armenia. Section A reviews the Law on Land Tax passed by Parliament in April 1994 and the preparations for implementing it made by the State Tax Inspectorate. Section B discusses the proposed Law on Property Tax. Section C discusses related legal issues. In my opinion, steady

progress is being made in erecting a workable legal framework that generally advances the goals of a market economy. The State Tax Inspectorate continues to demonstrate high quality work.

Chapter IV addresses the institutional structure needed for successful introduction of broad-based taxes on land and other property, specifically responsibility for valuation and coordination of the various agencies with an interest in cadastral record systems and taxation of land and other property. I recommend that the State Tax Inspectorate be made responsible for valuation, although I acknowledge that other assignments would be reasonable. I also recommend an interagency coordinating committee composed of representatives of the agencies with interests in cadastral data.

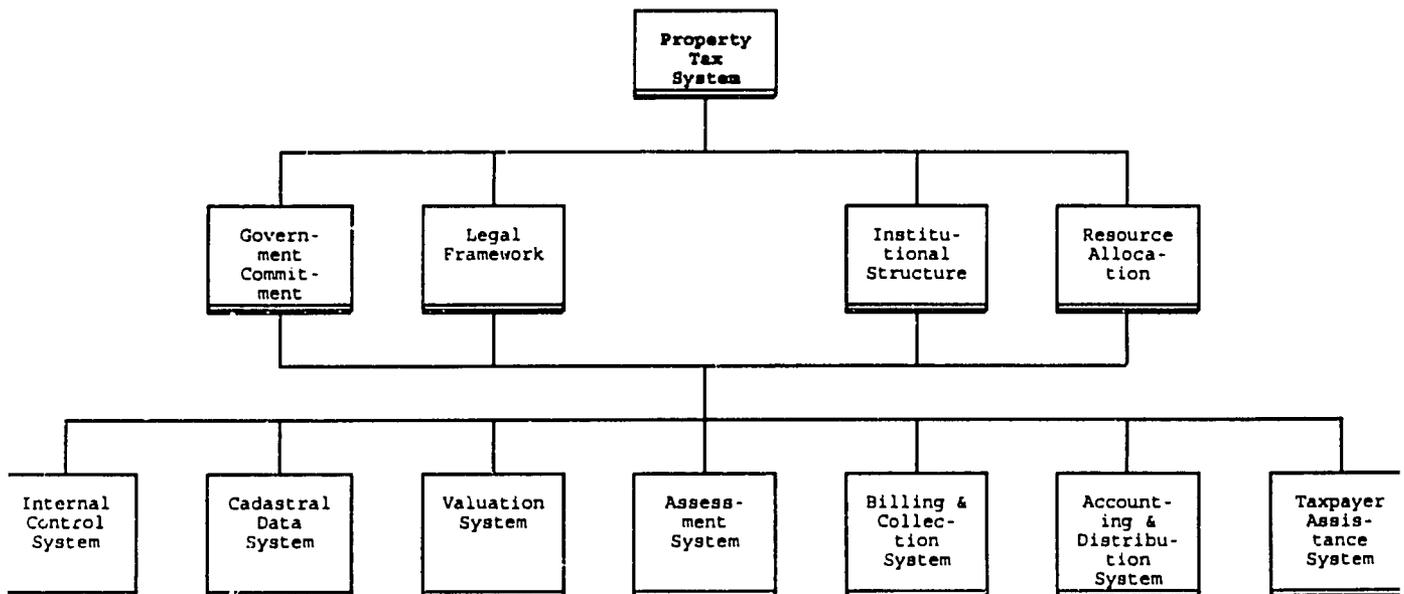
Chapter V addresses the funding, staffing, computing, and other resources that will be needed to create a fiscal cadastre and introduce taxes on land and other property successfully. Chapter VI sketches a training strategy

I. PLAN OVERVIEW

This report presents my recommended strategy and work plan for creating a fiscal cadastre and for implementing land and property taxes in the Republic of Armenia. It expands on the plan presented in my earlier report, "Implementing Land and Property Taxes and Creating a Fiscal Cadastre in the Republic of Armenia" (Almy 1994a).

This report essentially has three parts: (1) this chapter (an overview); (2) chapters II through V, which address the things the government must do to create an environment for success (the second tier of exhibit 1); and (3) chapter VI, which outlines a training strategy. A companion report, "Land and Property Tax Administration: A Prototype Manual," addresses the major components of a general system for land and property tax administration in the Republic of Armenia (the third tier of exhibit 1).

Exhibit 1: Major components of a property tax system



Political and economic circumstances in Armenia dictate an evolutionary development of cadastral record and property tax systems. ("Property" is broadly defined here to include land, buildings, and certain movable property.) For this reason, both the strategy and work plan and the prototype manual should evolve as progress is made and as decisions are made by the government. To manage the changes better, I recommend a strategic planning approach (see section VI,B,1).

My recommended plan visualizes three broad phases: (1) an initial phase, (2) a transitional or developmental phase, and (3) a mature operational phase. The State Tax Inspectorate has a complementary view of tax system development. Phase 1 would see the normative basis to implement existing tax system being put into place, and problems with the existing system would be solved in phase 2 (such as a better mechanism for collection) through revised legislation and normative acts. Phase 3 would be a market economy phase (with fiscal cadastre).

Each phase will have common tasks, such as planning and budgeting (estimating work loads, production rates, and available and needed resources). A major task will be scheduling—dividing the overall project or process into smaller tasks and activities, noting dependencies, and graphing for clarity.

A major developmental activity will be the design of systems and procedures. This work involves identifying needs, evaluating alternative solutions, and choosing the best solution in the circumstances. The best solution often will not be the most technically sophisticated. In addition to design activities, manuals and forms must be prepared.

A. INITIAL PHASE

The initial phase of the recommended implementation plan would begin in 1994 and would end in 1995 or 1996. It has three main objectives: (1) secure the commitments discussed in chapter II, (2) implement the land tax and the property tax as envisaged in the current land tax law and in the draft property tax law (discussed further in chapter III), and (3) plan for phase 2, during which a modern computerized cadastral system would be designed and a preliminary version of the cadastre completed. The plan for completing the transitional phase should be made early in phase 1 (see section B, below). The plan should consider resource requirements. Initial organizational commitments involve assignment of responsibilities and creation of a multi-agency working group. There is a need to secure ongoing high-level political support, backed by resource commitments. There is a need to develop an institutional culture that emphasizes openness and encourages cooperation. Technical assistance commitments also should be obtained.

B. TRANSITIONAL PHASE

The goals of phase 2, would be to (1) broaden coverage of the land and property taxes (2) refine valuation procedures (to the extent that market conditions permit), and (3) create a first-generation fiscal cadastre (as previously mentioned). Phase 2 can be anticipated to require a minimum of three years, and five years would be more realistic. Phase 2 will require

establishment of institutions capable of maintaining the fiscal cadastre and carrying out an ongoing valuation program.

1. Refining Phase 1 Systems

During phase 2, phase 1 property tax systems would continue in operation. Refinements should be designed to improve equity and efficiency and to smooth the transition to a cadastre-based system with more realistic valuations (see chapter III for some recommendations).

2. Development of the Fiscal Cadastre

The fiscal cadastre would consist of cadastral maps, a cadastral numbering system, and the following registers: a taxpayer register, a land register, a building register, a movable property register, and a sales register (the prototype manual discusses technical requirements further).

a. Cadastral Maps: The first step in the compilation of non-agricultural cadastral maps would be to acquire a set of working base maps. Step two would be to delineate parcels on work maps. A field canvass would be required to complete the cadastre. Recent work by inventory offices and Armgyprozyom should not be duplicated.

b. Cadastral Numbering System: The cadastral numbering system should be adopted before delineation of parcels on maps begins. As each parcel is delineated, a unique cadastral number would be assigned. That number would be used to link information in the various registers (that is, that identify parcels, buildings, and interests in property).

c. Data Registers: During phase 2, it will be necessary to build and maintain complete owner and user registers. As preliminary steps to building land and building registers, it will be necessary to (1) further evaluate valuation data requirements and define data elements (continuing AURI research); (2) define new data files; and (3) prepare coding and valuation manuals and forms. The major activity would be to convert existing data files and to collect additional data. Change-handling procedures will need to be developed and put into operation to renew cadastral records as new privately owned plots of land are created; as buildings are constructed, renovated, and demolished; and as land and buildings are bought and sold.

Data collection activities will evolve as the fiscal cadastre is developed. A field canvass will be necessary to ensure that every building and assessable improvement is located on the correct parcel and is accurately described.

3. Development of the Valuation Program

The development of the valuation program will be an out-growth of market monitoring. From observations of market data, better valuation methods will be developed. It will be necessary to specify valuation methods and prepare manuals, forms, and the like covering agricultural land, urban land, buildings, and other taxable property (business movable property).

C. MATURE PHASE

The "mature" or operational phase would begin when the modern fiscal cadastre is complete, probably not before the year 2000. Each year in this phase, records created during the transitional phase would be updated as necessary. Records on newly privatized land and property would be added. New information on market values would be analyzed, and value estimates would be updated regularly. Additional information needed for better valuations may be added. Responsibilities may be reassigned.

If they are not produced in phase 2, digital cadastral maps should be produced in phase 3.

II. GOVERNMENT COMMITMENT

The creation of a fiscal cadastre and the successful introduction of taxes on land and property are difficult, complex tasks. Although technical experts will be responsible for most of the work, achieving project objectives will require high-level political support to create an environment for success. Without sufficient political support, the work of technical experts will count for naught. Political support is needed to:

- Establish a proper legal framework (see chapter III)
- Erect a workable institutional structure and resolve bureaucratic problems as they arise (chapter IV)
- Allocate sufficient resources (chapter V)
- Ensure openness, system integrity, and credible enforcement of taxes (chapter VI)

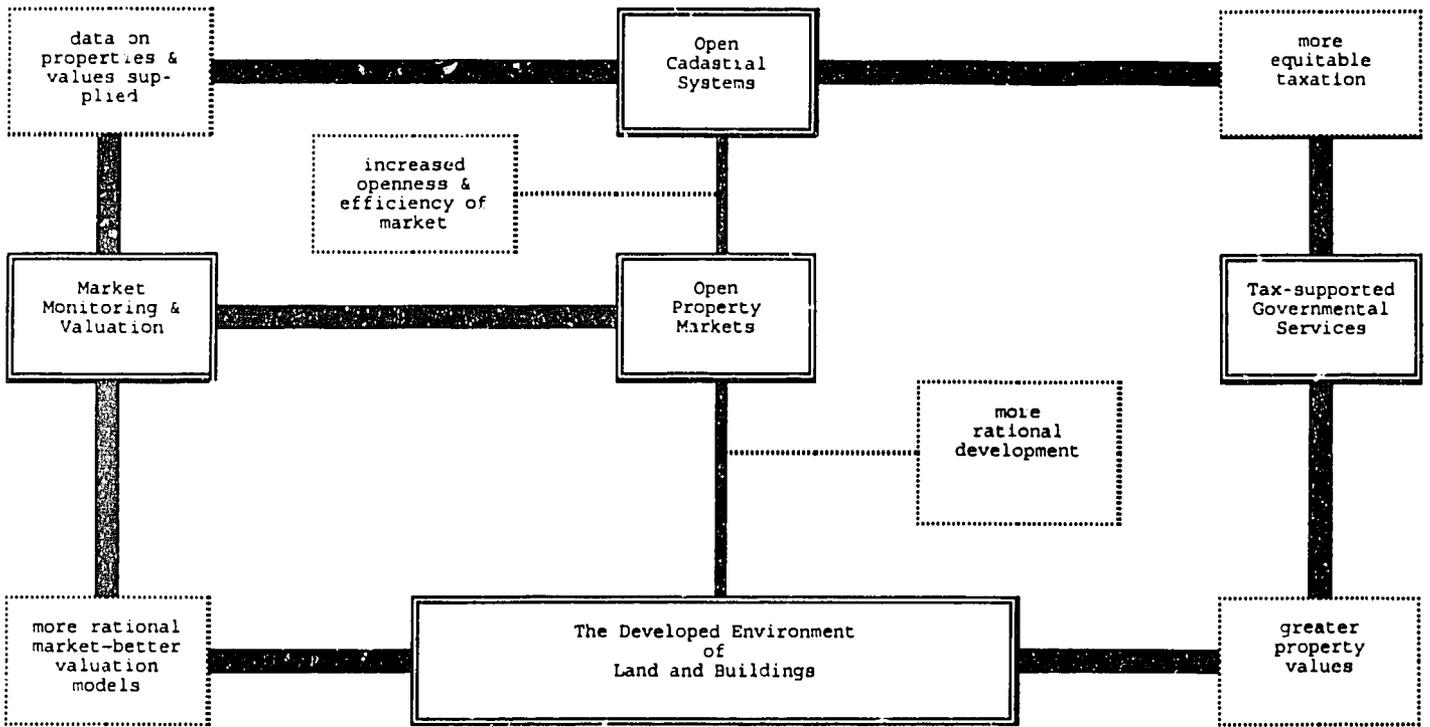
As to the last point, openness is a characteristic of democratic government and well-functioning immovable property markets. Ownership records in the legal cadastre should be public and readily accessible. Declared prices should be public, even if they are inaccurate. Immovable property tax valuations and tax assessments should open for general public inspection. Openness provides two types of benefits. Errors and questionable practices are more easily detected and corrected. Fairness and correct practices can be more easily demonstrated.

Active measures to ensure system integrity and to guard against corrupt practices will be needed. On a high plane, these include the establishment of a strong judiciary and a free press. On a lower plane, these include the internal controls discussed in chapter VI. The performance of the [property tax administration] should be subject to external audit. There should be a property tax appeal mechanism.

Initial commitments will need to be made at the outset of phase 1 of the implementation plan. Commitments will need to be renewed in phases 2 and 3.

Actions already made by government officials is encouraging. These include the widespread support for creating a fiscal cadastre and the plan to form a cadastral working group. However, some fear that the cost of implementing urban land and property tax systems may be an obstacle for parliament, as previously all taxes have produced revenues in excess of implementation costs. I believe the creation of a cadastre should be viewed as an investment in the future. However, benefits from the investments will begin to flow immediately. Exhibit 2 attempts to illustrate these flows.

Exhibit 2: Benefits of property tax and cadastral systems



III. LEGAL FRAMEWORK

This chapter addresses the legal framework for taxing land, buildings, and other property in Armenia. By legal framework I mean the body of laws and regulations that lay out policy choices, provide the environment for their achievement, and assign responsibilities (see also chapter IV). Section A discusses the Law on Land Tax passed by Parliament in April 1994. Section B discusses the proposed Law on Property Tax. Section C discusses related legal issues.

When the Law on Property Tax will be adopted is uncertain. The novelty of taxes on urban immovable property and the perceived costs of implementing them are concerns in Parliament. Suffice it to say that this plan assumes that the Law on Property Tax will be adopted soon and that work on modifying or elaborating the laws will continue.

A. THE LAW ON LAND TAX

As previously mentioned, Parliament approved the Law on Land Tax in April 1994. I reviewed a quick translation of it, and it appears similar to the draft I reviewed last year (see Almy 1993 and Almy 1994a). All of the changes appear to be for the better. It has been simplified. For example, all classes of agricultural land now are taxed at a uniform rate of 15 percent of cadastral value. I also reviewed implementation materials prepared by the State Tax Inspectorate. As I have come to expect, these materials are first-rate (the controversial nature of valuation proposals notwithstanding). My comments on the status of the law follow.

1. Agricultural Land

Mechanisms are in place to assess and collect taxes on agricultural land. These taxes are based on hypothetical net incomes based on soil class and other factors as estimated by a research institute in the Ministry of Agriculture. The Ministry of Economy assists with commodity price figures. The Government has approved the Ministry's book of per-hectare cadastral net-income values (Decision 251).

Both Armgyprozyom (the institute of the Ministry of Agriculture responsible for the agricultural land cadastre) and the State Tax Inspectorate recognize the possibility of inaccurate land area calculations, due to Armgyprozyom's limited resources. If an owner wants an accurate survey, the owner must hire a private surveyor.

Armgiprozyom recognizes the need to improve estimates of soil productivity and crop yields. At present, there is only one soil quality rating (the most typical) per cadastral district. It would be desirable to evaluate each parcel separately. I recommend a long-term program beginning in phase 2 of developing detailed soil maps.

Both Armgiprozyom and the Tax Inspectorate recognize the need to bring net incomes into line with current market levels. At present old state farm standards are indexed to bring them closer to current market prices. The Tax Inspectorate sees a need to improve the index by developing a composite index that reflects price changes in a "market basket" of inputs. Armgiprozyom would go a step farther and use market commodity prices and production costs (such as seed, fertilizer, fuel, labor, and transport to market) to better reflect net incomes of each soil type. I agree that cadastral values should be in line with current market levels, and this should be a phase 2 objective. The Tax Inspectorate's proposal is an appropriate interim measure. Armgiprozyom's proposal would be better in the long-term.

The State Tax Inspectorate has a well-designed procedure for collecting agricultural land taxes. As it has been collecting the agricultural profits tax (with compliance approaching 100 percent), it has a preliminary list of taxpayers. The list of taxpayers eventually will include registered agricultural land owners, 28,000 collectives, and family house plots. In addition, there are 1,100 state enterprises. The Tax Inspectorate reckons it has identified about 95 percent of all current taxpayers.

Even though the Tax Inspectorate thinks it has a good list of agricultural taxpayers now, it believes keeping abreast of changes may be problematic. Most agricultural land owners possess only temporary allotment decision documents issued by local councils. Some owners may be unaware of the decisions affecting them. Some users may not be recognized by local councils. Councils also sometimes change allotment decisions. The Ministry of Agriculture is said to have issued only 2,000 certificates (passports). As privatization committees now are being disbanded, it is unclear who will control the distribution of land in the future. Soon it will be legal for agricultural land owners to transfer their plots to others. The mechanisms for registering these changes may not be in place.

The Inspectorate plans to distribute taxpayer/property record forms in the autumn. It will go to villages and meet with the local council and others to get information on owners. It will complete the forms of physical persons. A tax notice will be sent to taxpayer, although the delivery mechanism is uncertain due to unreliability of postal service. The Tax Inspectorate may

deliver notices in person at a local council meeting called for the purpose. It will obtain receipt of delivery. This has to take place by September 1st. Instructions have been delivered to regional offices. The Tax Inspectorate hopes to develop a more efficient means of distributing forms in the future.

The procedure allows taxpayers to review the Tax Inspectorate's calculations. If the taxpayer agrees, the taxes will become due. If the taxpayer disagrees, he or she may request that the Tax Inspectorate revise area calculations or make other corrections. Agricultural land assessment forms will be reviewed annually.

The agricultural taxpayer (farmer) may pay on the spot and be issued a receipt. The Tax Inspectorate would prefer a bank transaction, but few farmers have bank accounts. One-half of agricultural land taxes is due on November 15th.

The Tax Inspectorate regards agricultural land taxes as being sufficient to train farmers to pay taxes and to allow the government to gain experience in developing cadastral and tax administration systems. However, the tax is a minor source of revenue. The Tax Inspectorate expects to collect about 2 billion drams.

A new, questionable provision of the Law is article 7, which, with the exception of certain large enterprises, exempts agricultural land taxpayers from all other taxes. Another new provision, article 8, makes agricultural taxpayers' income from other sources taxable when it exceeds 25 percent of total income. Nevertheless, many agricultural land taxpayers will receive very favorable tax treatment under the current law as agricultural land taxes are based on below-market cadastral values, not actual incomes. Furthermore, article 8's record-keeping requirements would be difficult and expensive to enforce. I agree with the Tax Inspectorate's view that it would be more equitable to allow agricultural land taxes to be deducted from income taxes.

2. Non-Agricultural Land

As before, the Law on Land Tax is silent on the basis for "cadastral values" of non-agricultural land. As the State Tax Inspectorate has general responsibility for the administration of the land tax under article 19 of the Law, it has taken the position that--AURI's starting price proposal notwithstanding--it is legally obliged use cadastral values contained in Decision 251 until the Government approves a new and better method. The Tax Inspectorate proposes to value non-agricultural land using the values for two classes of "unused" agricultural land in Decision 251. The Tax Inspectorate recognizes that this method would result negligible tax revenues.

The Government of Armenia also realizes the shortcomings of Decision 251 in the present situation and has ordered the Tax Inspectorate, the Ministry of Finance, the Ministry of the Economy, and the Ministry of Agriculture to come up with a proposal.

AURI's "starting price" proposal clearly is conceptually superior to Decision 251, as the proposed starting prices reflect the effects of location and are closer to current market prices. Implementation of starting prices would require extending them to territories outside Yerevan and that zone boundaries be fixed precisely and entered into cadastral records. These are not trivial tasks.

Article 6 of the Law on Land Tax includes the land under buildings in the tax base. This is a good provision in my opinion. However, there is some discussion of excluding this land from the land tax base on the theory that it will be included in the property tax base and on the grounds that buildings would be taxed at higher rates. Although some other former socialist countries exclude land under buildings from the land tax base, they tax land and buildings on an area basis, not on the basis of value. From the point of view of valuation theory, it would be better to value (and tax) land and buildings separately (recognizing that the price paid for apartments reflects the value of their locations).

B. THE LAW ON PROPERTY TAX

Contrary to my earlier expectations, the Law on Property Tax was still before Parliament in July 1994. (Its status was uncertain in October.) The State Tax Inspectorate wanted by views on the latest draft of it and on draft decisions and regulations. In general, I regard the latest draft as being superior to the draft I reviewed last year (see Almy 1993). It has been simplified, and some problems I noted than have been addressed.

There are now two instead of three broad classes of taxable property: property of enterprises and property of citizens. Valuation and assessment remain major issues.

The draft law still is silent on the concept of value to be used in the taxation. However, article 3 of the law requires that the Government of Armenia adopt a regulation on valuation of property subject to taxation, and the State Tax Inspectorate has drafted such a regulation. (See appendix 1 of the draft of "The Decision of the Government of the Republic of Armenia Regarding the Regulation for Appraisal of Property Subject to Property Taxation.")

Regarding the valuation of enterprise property, article 3 suggests that book value (a form of capital value) will be the basis for taxation. However, article 4(a) uses the term "average annual value" (which could mean "annual rental value," which is considerably less than capital value). Although I still have no information on asset accounting in Armenia, I assume from the draft regulation that the intent of article 4(a) is to reflect in valuation the effects of inflation (and possibly changes in the stocks of taxable assets). In any event, careful consideration should be given to how enterprise property is valued for taxation.

Regarding the valuation of buildings owned by citizens, the Tax Inspectorate essentially proposes that values be based on costs or estimated costs (as reflected in passports or as derived from an updated version of Decision 370 (circa 1982) of the Council of Ministers of the Armenian SSR entitled "On Approval of Norms for Appraisals of Structures Owned by Citizens in Rural and Urban Areas of the Armenian SSR," which was used in mandatory state insurance programs. The Tax Inspectorate's proposal has the advantage of being comparatively easy to implement. In effect, the valuation model is encapsulated in a series of tables, and little judgment is required to implement it. Citizens are expected to assess their own properties and calculate the taxes due. The proposal's chief disadvantage is that it does not directly reflect market values, which are superior reflections of both the ability to pay taxes and of the benefits received from them. I would prefer that simple valuation models based on direct market evidence be used. In the absence of sufficient market evidence, I regard the Tax Inspectorate's valuation approach as a minimally acceptable.

Under the Tax Inspectorate's proposal, basic per-square meter values would be adjusted for inflation and coefficients applied to account for (a) share of ownership in the structure, (b) the availability of public utilities and communications systems, (c) the floor of the unit, and (d) depreciation. As the proposed coefficients for share of ownership in the structure range from 0.6 to 1.0, the regulation would encourage unified ownership and, hence, would discourage artificial subdivision of properties to take advantage of the per-unit partial exemption built into article 3(b) of the draft law. The other coefficients relate to factors that affect the desirability (and market value) of structures, and market evidence could be used to adjust them.

The draft Law on Property Tax still contains a partial exemption for owner-occupied housing equal to 850 times the minimum monthly salary (provided that the value per-family member exceeds 300 times the minimum monthly salary). The advantage of this approach to providing tax relief for housing over fixed exemptions (which are common in the United States) is that amount of relief granted rises with inflation. The per-family member

proviso provides additional relief for large families, although it also will require the [property tax administration] to keep track of family sizes.

The assessment of motorized transportation machines (wheeled vehicles, watercraft, aircraft, and so forth) has been simplified, as property taxes are now based on horsepower.

The Tax Inspectorate has elaborated procedures for administering article 6. They appear workable. Information is/will be collected by regional tax inspectors from inventory offices and assembled in a central database. One tax bill sent from the region where the taxpayer is registered. Forms have been drafted, and data needs have been identified. The Tax Inspectorate also has developed a short explanatory piece explaining tax and rights and responsibilities. The Tax Inspectorate estimates that there are 300,000 property taxpayers of all types and that 50,000 will be added to the registers annually.

The paragraph in article 6, which pertains to tenancies in common and to joint tenancies, may be problematic. The law should make the tenants jointly and severally liable for taxes. It is not clear whether the partial exemption in article 10 is in addition to, or in lieu of, the exemption in article 3(b). I also recommend that the law be revised to make clear that the failure to receive a tax notice does not absolve the taxpayer of the responsibility to declare and pay taxes.

Consideration is being given to various collection strategies, including monthly collection along with rents, water, electricity, and the like by "cashiers." This would require development of a mass payment system to ensure accurate accounting. The enforcement strategy has not been fully worked out, and the Tax Inspectorate considers this a phase 2 issue. As with Steven Anlian, the Tax Inspectorate has concerns about evicting people from homes. I will outline various relief mechanisms ("circuit breakers," grants, deferrals, and outright forgiveness) in a separate memorandum.

C. RELATED LEGAL ISSUES

This section discusses legal issues related to the taxation of land and buildings.

1. Legal Cadastre

The legal framework for establishing and protecting private rights to immovable property (the legal cadastre) will have an important bearing on the eventual success of the systems for taxing land and buildings. However, I would like to offer a few comments.

I believe a revised Land Code is urgently needed. It and other acts should:

- Establish the general legal framework for private property ownership (creating, transferring, protecting), particularly with respect to non-agricultural land.
- Reserve certain property rights to the State, including the rights of taxation (as the Law on Land Tax does and the Law on Property Tax will) and the right to impose land-use controls for the common good (see section III, C, 3).
- Mandate the creation of an immovable property cadastre, providing for the registration of private rights to land and buildings encompassing both agricultural and urban land.
- Assign roles and responsibilities for cadastre maintenance.

2. Fostering Immovable Property Markets

A number of actions could be taken to foster open immovable property markets. These could include:

- Effective licensing and regulation of brokers and agents.
- Finalizing procedures for privatizing state-owned land. See AURI 1993a. This would be dependent on the starting price regulation (AURI 1993b). The land auction AURI has mentioned as a priority project may be dependent on both.
- Creation of institutions and structures for mortgaging immovable property.
- Creation of the legal and institutional structure for accurate disclosure of sale price data (see annex 3 in Almy 1994a).

3. Market-Oriented Land-Use Controls

There appears to be a need to develop land-use controls suitable for democratic government and a market economy. There may be a similar need to decide whether property tax incentives can serve as a tool for achieving land policy objectives. There is an inherent conflict between a general policy of economic neutrality (achieved with broad-based, uniform taxes) and the

deliberate departures from a policy of uniformity associated with specific social and economic objectives.

4. Illegal Construction

There is widespread interest in deciding how best to deal with illegal occupation of land and illegal construction, including garages in courtyards and playgrounds (also see Holstein 1993). Although many illegal structures and additions may not very valuable, there is a perception that their owners are comparatively rich. The Tax Inspectorate is concerned that discovering and taxing illegal buildings would, in effect, sanction them. Others want to use the property tax system to "punish" their owners, since the political will to demolish illegally constructed buildings is lacking. I suggested an "amnesty" for building constructed before a certain date unless their continued existence threatened public welfare. Requiring their owners to secure a building permit would be another possibility.

5. Unifying the Land and Property Taxes

Among the issues being considered by the State Tax Inspectorate is whether there should be a unified law on the taxation of land, buildings, and other property. I said there were potential advantages to a unified tax, including:

- Less public confusion
- Simpler, less costly administration
- Easier to shape a coherent tax policy

I agreed that the current situation (limited private ownership of land, inadequate to nonexistent cadastres) made the development of separate taxes sensible but that it might make sense to develop a unified tax on family houses and land. I noted that other former communist countries have separate land and building taxes (for example the Czech and Slovak republics). I concluded that unifying the land and property taxes was not a pressing issue. However, there would be advantages to reviewing the two taxes and deciding whether inconsistencies represented wise policy. See exhibit 3 for a comparison of the two laws.

Exhibit 3: Key features of the Land Tax and the proposed Property Tax

| | Land Tax | Proposed Property Tax |
|---------------------------|--|--|
| 1. SUBJECTS | Private land owners; permanent and temporary users of State land (art. 1). | Owners of material property (excluding land); persons with the right to manage such property (art. 2). |
| 2. OBJECTS | Agricultural land (including plots allocated for farm houses and dachas) and non-agricultural land. | (a) Property registered in the balance sheets of enterprises; (b) property owned by citizens (including foreign citizens and stateless persons), including (1) the total value of residential buildings, residential units, country houses, garages, and so forth owned by physical persons that exceeds 850 times the minimum monthly salary provided that the value per family member exceeds 300 times the minimum monthly salary (unless the structures are used by an enterprise, in which case the entire value is taxable); (2) animals the quantity of which exceeds established norms; and (3) motor vehicles, watercraft, and aircraft. |
| 3. LEGAL BASIS | <u>Agricultural land</u> : net income, based on a cadastral valuation, not the actual income of the plot. <u>Non-agricultural land</u> : cadastral value (which is not defined) (art. 2) | The basis for valuation shall be established by regulation. |
| 4. RATES | <u>Agricultural land</u> : 15 percent of net income. (Art. 4) <u>Non-agricultural land</u> : The following percentages of cadastral value: (a) industrial-1 percent in urban areas and 0.5 percent outside urban areas (art. 5a); (b) forest land-1 percent of average cadastral value of unusable land (art. 5b); other-0.1 percent (art. 5c). | <u>Enterprise property</u> : 0.2 to 0.8 percent of the average annual value. <u>The property of citizens</u> : (a) 0.2 percent of the amount exceeding the non-taxable part of the appraised value of their structures; (b) the following percentages of the minimum monthly salary per horsepower for <u>aircraft</u> -3 percent, <u>watercraft</u> -1.5 percent, <u>motor vehicles</u> -1 percent; and (c) 25 percent of the minimum monthly salary per animal in excess of the established norm. |
| 5. EXEMPTIONS AND RELIEFS | Agricultural land taxpayers with certain exceptions are liable only for the land tax on their agricultural activities (art. 7). Article 10 exempts a typical range organizations and uses. There also are a number of temporary exemptions (such as a two-year exemption on newly created peasant and peasant collective farms) and partial (50 percent) exemptions. | Article 9 exempts a typical range of organizations and uses. Agricultural property is exempt. The property of certain new enterprises is exempt for one year. The structures of the disabled, veterans, and certain orphans is exempt unless their value exceeds 1,000 times the minimum monthly salary. |
| 6. TAXABLE STATUS DATE | 1 July (art. 15). | 1 January (in the case of citizens) (art. 6). |
| 7. PAYMENT | <u>Agricultural land</u> : Two equal installments by 15 November and 15 April. <u>Non-agricultural land</u> : | <u>Enterprises</u> : Four payments within five days of the established date for submitting quarterly accounting reports or within ten days of the established date for submitting the annual accounting report (art. 5). <u>Citizens</u> : Two equal installments by 15 September and 15 November (art. 6). |
| 8. REVENUE RECIPIENTS | The State budget (art. 17). | The State budget (art. 1). |
| 9. ADMINISTRATION | The State Tax Inspectorate generally is responsible for the land tax. Enterprises (other than certain agricultural) assess their own taxes. | <u>Enterprises</u> : Enterprises are responsible for tax assessment; the State Tax Inspectorate is responsible for tax collection and enforcement (art. 5). <u>Citizens</u> : Citizens are responsible for initial assessment. The State Tax Inspectorate is responsible for reviewing those assessments, sending a tax notice, and tax collection and enforcement (art. 6). Inventory and property registration bodies are responsible for providing the Tax Inspectorate with the data necessary for property tax calculation (art. 8). |

6. Recipients of Land and Property Tax Revenues

Currently land tax revenues are assigned to the State budget, and it is proposed that property tax revenues also would be. There is some interest in assigning some or all of land and property tax revenues to local governments in keeping with general international practice.

7. Self-Valuation

There is interest in self-valuation of land and buildings as a means of avoiding both the expense of developing a valuation system and associated property registers and the need for an appeal system. In order to encourage full disclosure of land and building ownership and to avoid undervaluation, the notion would be to give the Government the right to purchase property at the declared value.

I do not recommend self-valuation of land and buildings coupled with compulsory sale at the declared value. International experience is not promising (Straasma). Such systems, if they are enforced (which rarely is the case), are harsh and subject to corruption and other abuses. They do not avoid the need for governmental valuation experts or for appeals. However, asking taxpayers to list property holdings, describe their land and building or verify the information contained in cadastral records, and calculate their assessments and taxes are proven ways of making land and property tax administration more economical.

IV. INSTITUTIONAL STRUCTURE

The successful introduction of broad-based taxes on land and other property will require an appropriate institutional structure. The governmental officials I met recognize this. At the same time, they are properly reluctant to exceed the scope of their existing authority. Among the issues that need to be addressed are: responsibility for the legal cadastre(s), responsibility for valuation, and coordination of the various agencies with an interest in cadastral record systems and taxation of land and other property. I address responsibility for valuation and interagency coordination in this chapter.

Initial decisions about the institutional structure will need to be made early in phase 1 of the implementation plan.

A. RESPONSIBILITY FOR VALUATION

Deciding responsibility for valuation is urgent because the current situation is confused. The Ministry of Agriculture is responsible for agricultural net income values. The Law on Land Tax is silent on the valuation concept to be employed and on the agency responsible for non-agricultural land values. The draft Law on Property Tax prepared by the State Tax Inspectorate requires the Government to establish a valuation regulation but similarly is silent on the valuation concept to be employed and on the agency responsible for doing valuation research. Although more than one organization could be responsible for developing valuation models, I believe only one organization should be responsible for the application of models to individual properties. To do otherwise would be inefficient and the probability of inaccurate valuations and inequitable property taxation would increase greatly. Already multiple valuation concepts are appearing.

The choice as to which organization should be responsible for valuation is not clear. The building inventory offices, the State Committee on Architecture and Urban Planning, the State Tax Inspectorate, a new organization, or a combination of organizations might be made responsible for valuation. There are advantages and disadvantages to each. International experience reveals many different organizational arrangements, but the ingredients of success (or failure) are not always clear.

This section identifies some of the principles that can be used in deciding responsibility. As will be seen, some of the principles are in conflict. I also discuss the advantages and disadvantages of assigning responsibility for valuation to the various agencies identified above.

For reasons that will be identified below, I prefer assigning responsibility for valuation to the State Tax Inspectorate. However, my preference may not be popular with either the Tax Inspectorate or the other agencies that might be made responsible for valuation.

1. Principles

Following are principles have been used to justify the assignment of responsibility for valuation in other countries.

- Adequate resources. The agency responsible for valuation should be able to command the resources needed to carry out its functions. In particular, the agency should possess expertise in valuation. Application of this principle would suggest that valuation should be the responsibility of the central government, although the City of Yerevan also could be responsible for the valuation of land and buildings in its territory. Many small towns and sparsely populated regions would be too small to afford the staff and equipment needed for valuation.
- A stake in the outcome. Some would argue that valuation should be the responsibility of an agency in a unit of government responsible for providing important governmental services financed in significant part from taxes on land and property. This principle complements the first and would suggest that a central government agency such as the State Tax Inspectorate should be made responsible for valuation. If revenues from land and property taxes later were assigned to local authorities, a different assignment of responsibility might be warranted.
- Independence and objectivity. Others would argue that responsibility for valuation should be assigned to an agency that is disinterested in the amount of taxes or in the allocation of tax burdens that results from the valuation exercise. That is, the agency should be free to value land and other property as objectively as possible and not be subjected to temptations to value property in a biased manner. This principle directly contradicts the second. As a practical matter, it may be incompatible with the first. A new independent valuation agency would provide the greatest degree of independence. However, international experience reveals that it is possible to provide sufficient independence administratively in many types of organization.
- A service delivery orientation. Functions can be divided into "line" and "staff" functions. In a governmental context, an organization with a "line" function is directly responsible for the delivery of a

service, such as title registration. An organization with a "staff" function provides support, such as city planning. Line functions are organized to deal directly with the public. Valuation should be seen primarily as a direct public "service"--the service being information on land and property values, a database used in territorial planning and other public and private purposes, and, *foremost*, the equitable distribution of land and property taxes.

- Organizational simplicity. The simpler the organization of government, the easier coordination and communications among agencies should be. This principle implies that a single organization should be responsible for the valuation for tax purposes of agricultural land, urban land, buildings, and other taxable property. It also suggests that a new agency should not be created unless doing so simplifies other aspects of governmental organization.
- Professional traditions. The agency responsible for valuation should be one naturally aligned with the profession responsible for valuation in the country. Professions responsible for valuation include architecture, economics, and surveying. If I understand the situation in Armenia correctly, architecture is the profession normally responsible for valuation (Spain is another example). In the United States, valuation has been a specialized profession that is now becoming more closely aligned with economics, which is the profession valuers are a part of in Denmark and Sweden. In the United Kingdom, Germany, and other countries, valuers are part of the surveying profession.
- Technology. Technology can affect organizational patterns. At one time it was thought desirable to centralize computer systems, which would imply a centralized valuation service and property tax administration. Now the opposite is true, computer systems are highly decentralized. Through computer networks and "relational database management systems," it is possible for data to cross organizational boundaries effortlessly, with each organization remaining in control of the data for which it is responsible. A control or oversight function would be required in such a technological environment to ensure that valuation standards and property tax policies were uniformly followed.

2. Evaluation of Alternatives

I list below organizations in Armenia that could be made responsible for valuation in my order of preference.

a. State Tax Inspectorate: As it now has responsibility for tax administration, the State Tax Inspectorate fully realizes the importance of a proper legal framework, practical administration, and public acceptance in the ultimate success of a new tax regime. It has assembled an excellent team responsible for the development of methods. The team has a realistic picture of the Tax Inspectorate's strengths and weaknesses, including its lack of experience in valuation. The Tax Inspectorate also has an established network of regional offices. As its major purpose is revenue collection, it would seem to be capable of commanding the resources to carry out a valuation program successfully.

Along with its lack of experience in valuation, the Tax Inspectorate may have an "image" problem. Some may see it as being too inflexible and legalistic to succeed with the subjective nature of valuation.

If the State Tax Inspectorate is given responsibility for valuation, I believe it should reorganize internally and create a valuation division (I would make this same recommendation to all existing organizations).

b. State Committee on Community Services and the Yerevan Inventory Office: Together, the two inventory agencies cover the territory of Armenia. They are entrepreneurial and service oriented. They also have the advantage of being a main repository of data on buildings. As they now maintain information on building ownership, they are a logical choice for having the responsibility for the legal cadastre. They also receive information on declared prices of property. The Tax Inspectorate has suggested that inventory offices could be responsible for property valuation.

As with the Tax Inspectorate, the inventory offices have no experience with valuation. There also is a view that the service of maintaining the legal cadastre should be independent of the service of tax administration largely for psychological reasons (see Holstein 1993). A final disadvantage is that, as there are two agencies involved, their work would have to be supervised to ensure that values were of uniform accuracy. (I would point out, however, that at least two Canadian provinces divide responsibility for valuation between valuation offices in major cities and a valuation office responsible for the balance of the territory of the province.)

c. State Committee on Architecture and Urban Planning: As previously noted, architecture is the profession in Armenia traditionally concerned with the "value" of various land uses. Building on this legacy, the Armenian Urban Research Institute (AURI), an organization under the supervision of the committee, has developed considerable expertise in cadastral systems and in land and building valuation. AURI could serve as the nucleus of a valuation service.

The State Committee on Architecture is a sprawling organization providing many important functions concerned generally with the quality of human settlements. Although the market forces affecting the value of land and buildings should be an important factor in urban planning, they should not be the dominant factor. The implication of this is that an agency responsible for both urban planning and valuation may have difficulty in objectively evaluating market evidence, when that evidence conflicts with planning goals.

d. A New Agency: A new agency could be created to avoid the disadvantages of assigning the responsibility for valuation to an existing organization, including the negative beliefs held by others about it. A question to be resolved is whether valuation should be the agency's only function or whether it should have broader responsibilities for cadastral record systems (cadastral maps, ownership registers, and various other registers). A number of countries have established valuation services that prepare value estimates for disposition of surplus land and buildings, compulsory purchase, and other purposes in addition to taxation. When the immovable property tax has been a local tax, securing sufficient funding for regular revaluations has been a problem.

A new agency would have to find its place in the formal and informal governmental power structure in Armenia. Whether it would exceed in establishing its credibility and an ability to command sufficient resources is difficult to say.

The Tax Inspectorate perceives several advantages to a new agency. One is the recognition that property owners (taxpayers) have conflicting interests, namely to understate values for tax purposes and overstate values for loan collateral and insurance purposes. As the government has interests in these areas, an independent valuation service would seem logical.

e. Ministry of Agriculture: Although the Ministry of Agriculture now is responsible for the cadastral values used in the taxation of agricultural land, it can be eliminated as a candidate for the agency responsible for valuation of land and other taxable property. Although its experience is valuable, the Ministry has no experience with valuation of urban land and buildings or of tax administration. However, the Ministry should

remain responsible for determining soil classifications, studying agricultural commodity prices and production expenses, and providing the valuation agency with models for estimating basic agricultural land values.

The Ministry of Agriculture also suffers from an "image" problem: that of being unconcerned about urban problems. The converse may be a problem as well: urban-oriented organizations may not have a sufficient appreciation of agricultural issues.

f. Ministry of Finance: I have not had meetings with the Ministry of Finance, so I cannot evaluate its suitability as a home for a valuation service. Suffice it to say that based on experience in other former socialist countries, this possibility should not be ignored.

B. COORDINATION

The length of the list of organizations identified in the previous section clearly demonstrates that the agency given the responsibility for valuation chosen will have to rely on the cooperation of other organizations. A means of coordinating the activities of the organizations involved will need to be developed. A single organization or official could be given full authority over all the other organizations, but this approach is not likely to succeed. A more practical approach is to create an interagency committee. The Armenian government has drafted an order which, if given, would create a working group designed to coordinate the activities of the various organizations involved. I have recommended a slightly different interagency approach based on U.S. experience.

1. The Armenian Working Group Proposal

The proposal of the Government Department of Urban Policy is to make the State Committee on Architecture the head of a small, manageable cadastral working group. Although the group would be expected to seek out the views of affected organizations, it would have broad decision-making responsibilities. It would derive its authority from the state minister issuing the order. Under the proposal, the day-to-day work of the group would be delegated to AURI. The group's initial functions would be to:

- Clarify starting prices to help the Tax Inspectorate implement the property taxes.
- Develop the program for creating a cadastre and sort out organizational responsibilities. This is seen as the most difficult issue, as organizations have similar interests resulting in duplication of work. The approach is to identify possible organizations and create a short list.

Achieving the second objective would require the working group to identify organizations that might have a role to play and classify them according to the importance of their role. Important organizations would include those identified above plus the following: the Government Department of Urban Policy, the Ministry of the Economy, the Ministry of Justice, Armgeodesy (for base maps), and the city departments of architecture. Additional organizations would be identified. The plan is to assign each organization specific responsibilities so that duplication would be avoided. A difficulty is deciding which organization among organizations with similar interests should be made responsible for a particular task.

The intent of the Armenian proposal is to give the working group the power to "control" or direct the affected organizations so that objectives are achieved. Although the simplicity and directness of the proposal is appealing, its practicality is open to question given the lack of interagency communication and cooperation now.

2. An Alternative Strategy

I have recommended an alternative approach designed to address the political realities of bureaucracies that lack strong incentives to cooperate: an interagency committee whose chief function is to provide a forum for communications among interested organizations, each of which has roughly equal standing. The goal of the committee would be to seek workable consensus on the issue under study. Such committees have been used in the United States to deal with the creation of multipurpose information systems in which all involved organizations willingly participate.

I have recommended that a representative of the Government Department of Urban Policy serve as chair of the proposed committee so that committee recommendations can receive prompt government attention. I believe that making the AURI the secretariat makes good sense; the committee will need expert assistance in developing proposals for discussion. In addition to the recommendations identified above, the committee might also have representatives from private sector industry groups.

Of course, there is no guarantee that each organization will participate in good faith or that the committee will be able to find a consensus on every issue. Moreover, committees are famous for talk but little action. However, if the participants communicate their organizations' concerns effectively and if the participating organizations are committed to problem solving, the chances of success are good. In the parlance of U.S. practice on negotiations, the objective is to create "win-win" situations.

V. RESOURCE REQUIREMENTS

Securing sufficient resources will be crucial to the success of efforts to create a fiscal cadastre and introduce taxes on land and other property. Resource requirements must be estimated before realistic budgets can be developed. It will be necessary to obtain funding, develop staff, and acquire facilities and equipment. These tasks will be difficult in Armenia because of a lack of relevant prior experience and because of economic uncertainties, including inflation. The fact that the property tax would be an entirely new tax provides another complication. The costs of setting up systems and administrative structures initially will be greater than revenues. Consequently, funding must come from other sources at first. Arrangements for technical assistance should be made.

A.

FUNDING

Regarding funding, it will be necessary to develop and secure approval of project and operational budgets providing for regular and temporary employees, office facilities and equipment, computer systems, cadastral maps, transport, forms, and so forth. I do not now have sufficient information to estimate funding needs completely.

1. Staff Costs

Staff costs can be anticipated to be the greatest single element of the budget of [the property tax administration]. (In the United States, for example, expenditures for staff salaries and benefits usually constitute 80 percent or more of total expenditures for property tax administration.) The cost of staff services simply is the sum of the products of numbers of positions in each salary category and the salary for that category plus the costs of benefits, such as insurance and pensions.

In a market economy, staff salaries and benefits must be competitive with similar positions in government and in business to attract and retain qualified personnel and to protect investments in training, which are lost if qualified personnel leave for better paying positions.

Observation: government salaries in Armenia and in other former communist countries appear dangerously low, inviting corruption and making retention of qualified people very difficult.

2. Computer System Costs

Based on U.S. experience, state-of-the-art computer-assisted mass valuation systems and tax administration systems could cost

in the range of \$1 million to \$4 million to acquire and install (exclusive of hardware).

3. Mapping Costs

Based on French estimates of the cost of a cadastral system for Saint Petersburg, Mousheghian and Soghomonian (1994) estimate the cost of base mapping to total \$5 million (\$4 million for urban areas and \$1 million for villages). They estimate the cost of compiling cadastral maps for 76,000 hectares to total \$25 million (based on a cost of \$300 to \$350 per hectare). These figures appear to be of a correct order of magnitude, although somewhat higher than U.S. experience would suggest (my guess would be about \$20 million for base maps and the cadastral overlay). Local labor should reduce these costs significantly.

Using the same source, Mousheghian and Soghomonian estimate that software for digital maps and a geographic information system (GIS) would cost \$5 million to \$6 million (based on \$2 to \$3 per capita).

B. STAFFING

The [property tax administration] will need managers, valuers, statisticians, computer system analysts and programmers, computer technicians, mappers, public relations specialists, legal advisors, secretaries, clerks, and others. Staffing requirements will depend on such factors as the amount of work to be performed, how that work is organized, and available technology. Attracting and retaining sufficient qualified staff will be crucial to the success of the implementation program.

1. Qualifications

The qualifications required for a job depend, of course, on the nature of the work to be performed. A management challenge is harmonizing work with the qualifications of each member of the staff.

Management personnel in the property tax administration have responsibilities beyond valuation. They are responsible for leading and personnel management. Some will be involved in planning, budgeting, and project management. Managers must be able to communicate effectively with officials in all branches of government, with journalists, and with property owners and business leaders.

Modern mass valuation techniques require valuers with knowledge of mathematics, economics, and statistics, as well as knowledge of valuation principles and computer-assisted mass valuation techniques. This generally requires well-educated

valuers, such as those with university degrees in an appropriate field. Experience with immovable property markets also is valuable.

Many employees of the [property tax administration] will have regular contact with the public. As public servants, they need to be pleasant in their dealing with the public and be willing to help people understand the property tax. The staff also should be able to remain calm and tactful when dealing with angry taxpayers.

It is good personnel practice to develop formal position descriptions that include the qualifications for the position.

2. Staff Size

Estimating the required number of staff involves analyzing the amounts and kind of work to be done, the time available to the work, and production rates. The basic relationship between these factors and the number of people required for a job is

$$S = (PxR)/T,$$

where S is the number of staff positions needed, P is the measure of the work to be done (such as the number of properties to be valued or inspected), R is the production rate, and T is the time available. For example, the number of valuation positions required to value 120 farms in a 220 work-day year is three (rounded), if one valuer can appraise five farms in a day. ($S = [120 \times 5] / 220 = 2.7$, rounded to 3.) Estimates of staff requirements—or time requirements—should consider time spent in each activity, including training and travel. Estimates of field work should consider time lost to inclement weather, power failures, and other work interruptions. Production rates should vary with the type of activity and the density and complexity of properties.

Production rates can be developed by analyzing actual work performance. The rates should be based on typical achievements, not the rates of the best or worst workers. Production rates should be continuously monitored and adjusted as necessary. Production rate data also can be used to evaluate staff efficiency.

For most planning and budgeting purposes, available time is measured in terms of the number of work days (or hours) in a year (say, 200 days to allow for weekends, holidays, sick leave, and days lost to adverse weather).

Staffing benchmarks can be developed from surveys. A starting point might be one person for every 2,500 properties. This benchmark is based on surveys of property tax administrative agencies in the United States. Of course, individual agency

ratios varied considerably. Smaller agencies had lower ratios (1:1,000 to 1:1,500) and larger, higher ratios (1:3,000 to 1:3,500). Factors that affect the ratios include the level of staff training (better trained staff were more productive) and the extent of computer use.

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The State Tax Inspectorate estimates that there currently could be about 300,000 taxpayers. Treating these as the equivalents of properties, the [property tax administration] now would need a total staff of about eighty-six (using the higher ratio of 1:3,500 properties) during phase 1. With full privatization, the number of taxable properties might grow to one million, suggesting a total staff of 286 ultimately.

Exhibit 4 displays what is known about the number of land plots, buildings, units, and other measures of cadastral and property tax administration work loads in Armenia. Preliminary production rates are displayed along with estimates of years of work. These latter figures can be used as a starting point in estimating the staff that would be required during phases 2 and 3. For example, the 159 years of work associated with 65,000 buildings and plots implies that a staff of thirty-two cadastral mapping specialists would be required to map 635,000 in five years. The figure gives no indication of annual rates for such events as sales of land and buildings, new construction, and the like. These would be needed to develop a more complete estimate of staffing needs. Estimates of the number of supervisory and research positions also would be needed, and allowances for training would have to be made.

A policy of making maximum use of computers and other technology will produce better results in the long run than a policy of maximizing government employment. Such maximization policies often result in low productivity, demeaning work, poor morale, and poor performance. Opportunities for petty corruption increase. The end result is a general discrediting of government.

Notes: Production rates are per-person per day. They are highly preliminary and should be used with extreme caution. Years of work are based on a 200-day work year. The work loads associated with land plots relate chiefly to completing the land register and compiling parcel (cadastral) maps. Work loads associated with buildings and housing units relate chiefly to completing the building registers. Work loads associated with taxpayers relate chiefly to processing tax notices and payments; they suggest that a staff of 89 eventually will be needed for that purpose.

Sources: Almy, Armenian Urban Research Institute, Holstein 1993, State Tax Inspectorate, and W'underlich.

C. COMPUTING RESOURCES

Computer support (which includes the personnel responsible for system analysis, system design, programming, and computer operations as well as software and hardware) is a virtual necessity in contemporary property tax administration.

Computers eliminate much paperwork (copying information from one form to another and maintaining manually prepared work logs and other reports designed to produce an audit trail) and reduce the need to make photocopies. They reduce the time spent on mechanical, repetitive processes such as producing cadastral registers and making valuation calculations. Data can generally be made more accessible and more secure. Use of computers can improve efficiency. Computers can help increase valuation accuracy by expanding analytical capabilities.

It will be necessary to determine the extent to which computerization is feasible. Prerequisites to effective computer support include an uninterrupted source of electricity and readily available service personnel to maintain programs and equipment. The management of the [property tax administration] should attempt to obtain the greatest feasible degree of computer support. Major system components might include: database management, computer-assisted mass valuation, tax billing and collection, management information, and digital mapping and geographic information systems.

Note: The State Tax Inspectorate plans a local area network in its central apparatus and eventually a wide area network that includes its regional offices. It is acquiring about fifty 386 personal computers (PCs) from the World Bank. Software needs seem not to have been determined, although software and training is covered by the World Bank loan. Armgyprozyom has two PCs, but these are little used.

In addition to evaluating computer system needs, the [property tax administration] should address converting data to a computer-readable form.

D. OFFICE FACILITIES, FURNITURE, EQUIPMENT, AND TECHNICAL LIBRARY

The [property tax administration's] offices should be professional in appearance and provide a good working environment. Space requirements depend on the size and composition of the staff, the work they perform, and on the technology employed. The analysis of space needs should consider requirements for public contact, files and storage, conferences and training, mapping and drafting, and office machinery.

The [property tax administration] ultimately will require a variety of office furniture and equipment, such as financial and ordinary calculators, measuring instruments, cameras, clipboards, micrographic equipment, word processing equipment and printers, photocopiers, telephones, facsimile machines, mailing machines, typewriters, dictating equipment, filing cabinets, and map cabinets and racks.

The [property tax administration] also should develop and maintain a technical library to keep abreast of developments in the field. The International Association of Assessing Officers can help with setting up the library and identifying the types of publications that the library should contain.

VI. TRAINING STRATEGY

As previously indicated, successful development of a modern fiscal cadastre and introduction of the land and property taxes will require well-trained staff. The first step is to develop a training strategy. The strategy should embrace an identification of training needs, the development of training materials, and the delivery of training.

A. TRAINING NEEDS

Training needs will range from introductory courses on property taxation (such as are offered by the Organisation for Economic Co-operation and Development) through valuation, to specific training in Armenian procedures. Subjects to be covered might include:

- Cadastral data collection, registration of subjects and objects (data entry), record inquiry, tax payment processing, and similar routine operations
- Taxpayer assistance and communications
- A general overview of computer systems for all users
- For valuation staff:
 - Valuation principles
 - Mass valuation modeling and analyses
 - Review of values and quality assurance
- For managers:
 - Leadership
 - Communications
 - Planning and budgeting
- For computer systems, specialized training in the following areas:
 - Routine and ad hoc report generation
 - Year-end and other periodic processing
 - Interfacing with other systems and programs
 - System design, operations, and maintenance

It will be necessary to specify the training that each person in the [property tax administration] should receive. Needs will vary with the background of the person and the type of position (that is, management, methodology, valuation, clerical and data entry, mapping, system, and so forth). Needs will evolve as progress is made.

B. TRAINING MATERIALS

A wide range of materials will be useful in training. Materials in the technical library can be used as general references. Manuals and other procedural training materials will need to be developed. Computer system manuals similarly can be used to support system training. The prototype manual that accompanies this plan can be used in the development of procedural manuals. With respect to computer system manuals, there should be basic user manual that explains day-to-day use of the system, including the adding, deleting, and updating of records. The documentation should address land plot, building, unit, sales, and other data maintained in the data management system. Manuals should be clear, accurate, and amply illustrated.

If a computer-assisted mass appraisal (CAMA) system is acquired, there should be a valuation manual that explains the functions and maintenance of each table constituting the mass valuation system. The manual should indicate the role and function of the table in the CAMA system, the meaning or purpose of the various table items, and how to update or modify the table entries.

Training in the use of the mass valuation system should focus on how valuation tables were developed and how users can repeat the same or similar processes in the future. This is essential to understanding, defense, and proper use of the system. The long-run success of the system depends on the ability of users to update and recalibrate system tables in response to changing needs and market conditions.

A syllabus of each course or training module should be developed. Learning objectives should be specified. Decisions will have to be made regarding the instructional medium (that is, class room, self-study, computer tutorial, on-the-job instruction, and the like), the estimated length (in hours) of each session, and testing.

C. DELIVERY OF TRAINING

The [property tax administration] will need to provide sufficient formal classroom and on-the-job training to ensure that the staff can do their jobs and use computer systems effec-

tively. Instructors will need to be trained or engaged. A training schedule will need to be developed. Facilities and equipment will need to be secured. Training materials will need to be produced and delivered to the training site. Record keeping systems will need to be developed.

ANNEXES

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C. MISCELLANEOUS INFORMATION

The territory of the Republic of Armenia includes seventy inhabited areas. These areas comprise 43,900 hectares. Yerevan alone comprises 16,500 hectares. Of these, twenty-seven are classified as a city or town. The balance are classified as villages.

The State Tax Inspectorate has a central apparatus and fifty-one regional offices (one in each municipal authority). The central apparatus has an inspectorate division (which presumably supervises the regional offices and a methodology division. The methodology division's authorized complement recently was increased to forty-three. There also is an information systems division.

Mousheghian and Soghomonian (1994) estimate that the number of land plots subject to registration is 750,000 (assuming that the average plot is 1,000 square meters). Their estimate of 80,000 gardening plots apparently is not included. They estimate the number of individual residential buildings to be 300,000; multi-story residential buildings, 20,000; and other types of buildings, 20,000. The number of apartments (to be privatized) is expected to total 500,000.

Urban areas (urbanized settlements) to be mapped comprise 62,000 hectares. Villages and other developed lands comprise 14,000 hectares.

Eligible agricultural land taxpayers include registered agricultural land owners, 28,000 collectives, and family house plots. In addition, there are 1,100 state enterprises.

The Tax Inspectorate estimates that there are currently 300,000 potential taxpayers of all types and that the number will increase by 50,000 per year.