CONSULTANTS REPORT
LAND MAPPING, REGISTRATION AND TITLING IN INDONESIA

"THE IDEAL SYSTEM"

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INTRODUCTION

In the past several years the Government of Indonesia (GOI) has been involved in intensified development programs and in their role as advisors, the Agriculture Division of the United States Agency for International Development (USAID/OAD) established contact with the Director General of Agrarian (DGA) in order to determine if there was any ongoing program in which USAID could provide assistance to in the broader context of development and anticipated mutual beneficiaries. One of the potential problems identified in joint discussions between USAID/OAD and DGA was in the area of land mapping and titling and after further sessions between the representatives of OAD and Agraria a project identification document (PID) was written and submitted to both governments and subsequently approved for implementation. In order to further explore mutual needs, cooperative efforts and potential assistance it was agreed that a team of consultants, with technical expertise in the subject matter, would be provided by USAID who in conjunction with Agraria counterparts would review the existing mapping, titling and registration activities in Indonesia. The objectives of this joint team were to determine problem areas, review the impact of the system on the socio-economic beneficiary levels, report on their findings and mutually develop the rationale for USAID support of a more comprehensive and beneficial Indonesian mapping, titling and registration program.

A team of five (5) consultants, representing over 100 years (total) of applied technical, academic and managerial experience in land related fields with a broad range of experience in developing countries was established by USAID (Refer to Appendix No. 1). The group of technicians (hereafter called the consultant team - CT) arrived in Indonesia on February 18th and 19th and on February 20th began their assigned tasks which lead to three and one-half weeks (3-1/2) of extensive field trips (refer to Appendix No. 2) and intensive discussions at all levels of government in Agraria and the related academic, local government and village levels in order to become more knowledgeable of the Indonesian system and establish an interreaction on problems and possible solutions (recommendations). The CT completed their objectives and departed Indonesia on March 31, 1979. This report represents the results of their consultancy and contains their views and interpretations of the problem and includes their understanding of mutual needs and the rationale for the implementation of a USAID supported program.

ACKNOWLEDGEMENTS

The USAID consultant team on land mapping, titling and registration wishes to express its appreciation for the full support and interest of the USAID/Indonesia Mission Director Mr. Thomas C. Niblock and the Agriculture Office headed by Mr. Walter C. Tappan, project officers Messrs. Michael J. Korin and Barry K. Primm and the secretarial and clerical staffs, especially Mrs. Cynthia Marshall. Equally and with significant importance was the full cooperation, support and assistance given the team and USAID project officers by Mr. Daryono, Director General of Agraria Affairs, through his Director of Land Registration, Mr. Bambang Trionc; and the Indonesian counterpart team consisting of Agrarian Affairs Specialist, Mr. Siregar and Mrs. Hartini, Messrs. Topohartono and Harris, Central Office staff members, Mr. Maksum, D. K. I. of Jakarta. We wish to give special thanks to Messrs. Suryono and Cyong of the Central Java Agraria Office who worked closely and diligently with the team to ensure a sound indoctrination to Indonesian land mapping and titling procedures and the development of rational and acceptable future project proposals identified in this report. In addition, we deeply thank all those who contributed their time and efforts and especially their patience in attempting to educate us during our brief visits. Not all are named here but they know of whom we speak.

Signed:

Betty H. Ryan, Team Leader
David J. King
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Sixto Luz
Lloyd Sadler

PREFACE

On March 19, 20 and 21 the USAID consultant team on Land Mapping, Titling and Registration gave an informal presentation covering their findings and recommendations. The presentation was held at the Laboratorium Photogrammetric of the Directorate of Land Registration and it was entitled, "The Ideal System". This report represents the written narrative of the presentation and includes a summary based on the discussions following each topic being presented by the subject matter consultant. This report serves as the justification and basis for the development of a project paper which will be utilized to provide USAID support of an Indonesian Land Mapping, Titling and Registration program. The written narrative (called the report) follows the same order as the presentation topics and each portion has been written by the individual presentor. In the report there are areas which are repetitious especially when stating the problem and these areas were purposely not edited out of the report since they represented the individual opinion of each of the presentors and strengthens the overall findings of the team.

Prior to the actual presentation, an introduction was given by the team leader which established the general theme of the presentation and is repeated herein for the same purpose:

"Before we begin our presentation, it should be pointed out that the problems as presented by us may be incomplete, they may be incorrect or you may not agree with them. We all must realize that 3-1/2 weeks is not sufficient time to gain any indepth knowledge of your system and its various constraints. Also, due to our lack of knowledge of your language we were not able to do much preparation and in some cases were not able to ask for further clarifications due to time constraints. In the purely technical areas of mapping, this is not so much of a problem since techniques are more or less universally followed, equipment is standard and the applications are more readily understood regardless of language barriers. Unfortunately, this is not the case with titling and registration where techniques vary from country to country although the basic meaning is the same. Methodology, legal jurisdiction, records, the document (title) are

unfortunately not standard except in the areas where the Torrens system is practised. Therefore, the details which are so important to total understanding can be easily missed although the basic objectives are more readily learned and understood. Some day, I hope there will be more international societies where this important field can be discussed and standards can be applied. The major part of titling and registration is technical in nature but many times it is approached as a legal, administrative or even political problem due to the importance of land and its relationship to man. It is because of this that the technical aspects have a tendency to be ignored and thus implementation becomes very complex and in some situations vague. Record keeping in land should be simple and it should be reasonable. The data base is where all the emphasis should be placed and control and monitoring a part of the overall system. The basic reasons for the need to have more knowledge on land are unfortunately many times worlds apart; usually for greed or protection - strong terms but they have been supported over the years by various studies. For this reason, it is important that the data base (information) and the technical approach be designed in such a way that it first provides "protection" with the understanding that it can also provide information which can be utilized to exploit the land. If the safeguards are built into the system then development will go forward at the pace of evolution and even though exploitation can still occur it can't be hidden and eventually a more equitable evolutionary process will occur.

In the case of Indonesia, we have based our findings on a few facts and a lot on educated assumption. I use this term because our training and years of experience in a variety of environments has given us an awareness that in the majority of situations is usually correct. We ask you to accept what we say with the understanding that we feel that a more thorough study is needed and that we are not attacking your system but rather questioning some of the reasoning. At some point in time all systems, no matter how good, are challenged or subject to change. You are at that point now in Indonesia. What was adequate yesterday may not be today due to internal and external awareness. As people become more aware of the value of land more is demanded of the system; if the system cannot respond then they learn to operate outside of the system and each time this occurs eventually over a period of time these

acceptions become a part of the system (or a sub-system). Very soon you have as many exceptions as you do regulations and activities occur on or with land which the responsible governing body is unaware of and in many cases individual rights are abused, especially the small farmer who doesn't know how to operate in the complex system. What happens!! Eventually the exploited man loses faith in the government and external pressure becomes more readily acceptable to the people who are seeking any kind of help to create a more equitable environment. The land system should be designed with this man in mind because at this time he is the majority and he is the one who needs help and protection.

We will be presenting today what we consider to be the "Ideal System" fully aware that it can't be accomplished overnight and in most cases we must compromise due to the environment of acceptable change. We (the team) have discussed this among ourselves and realize that we will probably have to plan or propose a gradual change in order to meet your more current needs. We are therefore hopeful to discuss with you today long and short range goals. We would, at the same time, want to agree that the short term is only temporary in nature and for the purpose of satisfying the most current problems with the understanding that eventually they will be integrated into the more ideal long range system. Putting out the fires is not the answer to the problem. Once the land is registered and titled the demands on the system will increase tremendously and you must be prepared to meet these demands or the time spent in the short term - quick and dirty - has been wasted as you will soon be back where you started - - not knowing what is happening on the land."

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TOPIC I - REGISTRATION AND TITLING (Ryan and Pacubas)

A. The System: Presented by Betty H. Ryan

The system of registration and titling (referred to as the "Sertipikat") in Indonesia was established by Act No. 5 of the year 1960 concerning basic Regulations on Agrarian Principles and more commonly referred to as the Basic Agrarian Law (BAL). Further regulations regarding registration of land and its related activities was set forth in Government Regulation No. 10 of 1961, abbreviated as GRI) 1961. As written by Mr. Boeli Harsono: The existence of a written law, to some degree, enables everyone to know what law is applicable to his case and what his rights and obligations are with regard to the land he holds. An effective land registration will secure clear title, by providing the title holder with an instrument to prove his title on a particular piece of land, and enables any interested party, especially a would-be purchaser or a would-be creditor, to obtain easily all the information he needs. [1] Although his succinct statement on the importance of titling and registration is correct it does not state effectively enough the longer range effects of security in law which becomes more vital as the countryside is developed wherein the rights of man can more easily be abused with impunity in the counties (or areas) where there is no recorded knowledge of land ownership and/or use. Constructing a data base (record) on land, ownership and uses is expensive and time consuming and in many cases not sufficiently understood by the individuals implementing it or the people being affected by it. Understanding on the implementation side means a thorough awareness of all aspects of the dynamics of land, both past and future, with exposure to applications in other countries. On the side of the recipient it means much exposure (training, information drives) as to what is expected of him, and how the data (information) gathering is being conducted and why (the benefits to him). It is difficult to almost impossible to measure the immediate impact of this type of

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[1] "Land Registration in Indonesia Today" by Boeli Harsono

activity either in the economic pattern, sociological effect or even the political attitudes since the exercise is long range in nature and in most cases it is sometimes years after completion of the construction of the data base before the impact is felt or realization of how important this knowledge has been, or is to all phases of the development process. The most important thing to remember when designing a registration and titling system is to keep it as simple as possible with as little cost as possible (to the beneficiary) during the implementation process and future maintenance. Records management is the key to accuracy and future maintenance and therefore should follow as close as possible to the primary activity, "the land," since it is the most constant of the two factors (ownership/use) evolving around man and land.

1. History

The BAL explicitly revoked many old laws, implicitly revoked others and in general established revolutionary (for Indonesia) new rules and principles concerning the rights in land. Normally a number of the code provisions and regulations inherited from the Dutch period including the old agrarian law of 1870, all of the former regulations establishing state property rights of 1872 and most of Book II of the Civil Code with the last felt to be the most important change.[2/] There were basically two previous systems controlling land ownership, the 'Adat' and the "Western" (titled). The BAL abolished the old dual system and established a new system based on the modification of rights founded on the principle of Adat law. The Adat law is based on unwritten (or customary) law which can create a lack of understanding, in the legal sense, as to how jurisprudence is practised in ownership decision and protection. Act No. 5 states in several articles that implementing regulations will follow

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[2/] Agrarian Law by Padjalgaran University Law School

but how many implementing regulations have been written or now in force are not known by the writer. The guidelines for implementation are handed down by the Minister of Home Affairs through the implementing arm of the Director General of Agrarian which provides temporary conversion (administrative) regulations until formal rules and regulations are handed down. The right of ownership is a complete form of individual rights on land and includes the earth beneath and also the water and air above it, with the only exception being mineral or natural resources which requires special mining rights, but use of the land can be regulated by the government when there is a land use plan. There are also many varied restrictions on land ownership such as nationality and total land holdings or it can even involve religious beliefs, especially in heirship determinations.

There are two types of land holdings recognized by the BAL, that of "Titled" privately owned land and those not owned with individual titles, called "State Lands". Although the BAL defines recognition as being "titled land" there is in practice an understood and additional recognition through tax payment and/or other "customary" recognition within the local political structure. There are two categories of individual titles to land: those derived from the state (primary) and those given by existing title holders based on mutual agreement (secondary). Within each title there are various use activities which can also generate title action.

Primary Titles

- the right of ownership (Hak Milik)
- the right of exploitation (Hak Guna-Usaha)
- the right of building (Hak Guna-Bangunan)
- the right of use (Hak Pakai)
- the right to manage (Hak Pengelokaan)

Secondary Titles

- the right of lease (Hak-Sewa)
- the right of land pledge (Hak-Gadai)

- the right of share cropping (Hak Usaha Bagi-Hasr)
- the right of lodging (Hak Menumpang)
- the right of building (Hak-Guna-Bangunan)
- the right of use (Hak Pengelokaar)

The right of ownership is the strongest right and the holder is free to decide how the land will be used (with local reservations) and it has no time limit. This right is transferable, inheritable and secondary rights may be granted on it. The other categories of rights usually have time limits and/or other restrictions. The rights of ownership, exploitation and building can be used as security for a debt by conferring a hypotik (hypothecate) title.

Even with certain restrictions placed on the title or transfer act there are other methods of securing land, one being through a "release of title" (article 26, para 2 of BAL). Not all "titles" are registered since there are still existing western titles and land grants issued by the various rajahs, etc. which are recognized but not yet converted in accordance with the BAL. The only titles recognized under the BAL are those (Sertipikat's) issued by the Agraria Land Registration Office after being duly registered in the Land Book (Buku-Tanah) and supported by the required proof of ownership documents. Most registration or request for title are accomplished through voluntary action by the landowner but in some cases initial registration (or conversion) has been accomplished by government registration drives conducted in selected villages (Desas) wherein the entire Desa is mapped, documented and registered and Sertipikats given to all the recognized landowners. In most cases the voluntary registration of land is accomplished not for the desire of receiving legal documented recognition of ownership but rather to transfer ownership rights or mortgage the property.

The Ministry of Home Affairs through the Directorate of Agraria Land Registration Offices situated at the municipalities and capitals of autonomous regencies, is responsible for registration and issuance of the land titles (Sertipikats).

The Agraria carries out its functions through various district offices and at the district level are responsible for the technical aspects as well as acting as registrar and suppositor of record. In most cases the documentation supporting ownership and/or transfer is conducted at the Desa and Kecamatan (Municipality) with the Camat and Desa Chief having apparently unlimited authority on land transactions. The Kecamatan and Desa fall within the jurisdiction of local government thus creating dual responsibilities on land and coordination with Agraria district offices provided through the means of a statistical reporting system.

The cost of mapping, documenting, registering and subsequent titling are borne by the applicant and although fees are set by government regulations they can fluctuate depending on the situation and locale. The applicant must also purchase the various forms which are utilized for documentation and pays additional fees for the witnessing of certain documents. In some cases seals must be affixed and these are also paid for by the applicant and in many times there are several copies of the forms with each copy requiring a seal.

2. Overview

As illustrated in the preceding paragraphs, registration and titling is complex in Indonesia. Depending on the locale and the prior type of ownership, the applicant must support his ownership with a variety of documents derived from a variety of sources, such as Tax Office records, previous ownership Title, certification from Village (Desa) Chief, etc. The applicant must depend entirely upon the system for guidance and in many cases local officials who receive a separate fee for services rendered, before certifying as to applicant's claim of ownership. In fact the entire process is based upon "payment first action after" even though the payment is made at different levels at different times. In most cases the small farmer cannot afford it or the cumbersome process is simply beyond his comprehension in addition to the time required from his source of livelihood in the task

of visiting each office to obtain required documents. The certificate and supporting registration (Buka Tanah) in accordance with regulations, requires that land be measured and mapped with the subsequent map serving as a legal cadastre, although a survey plan is acceptable for transfer. In Indonesia, the term "legal cadastre" represents a measurement and plan with the supporting signatures of landowners in surrounding or adjacent parcels to the land being processed; therefore even transfer actions should require the location and identification of surrounding landowners and having these signatures affixed thus maps are fragmented and control or use is questionable.

a. External influence- Since there is limited knowledge on land ownership or where individual parcels are located it has become necessary to rely on various sources other than the individual government agency assigned the responsibility for the gathering and storing information on land and man (Agraria).

(1) The Tax Office certifies, by mean of forms and receipts, that the individual owns the land applied for. Prior to 1967 the tax office maintained records on actual landowners, since they were the ones who paid the taxes. After 1967 tax regulations stipulated that anyone occupying land would be required to pay the land tax; therefore, since 1967 the landowner is not always a part of the tax record.

(2) The Village Head (Juran) certifies as to ownership, which is sometimes recorded in the village, if there is a record system, but it is not known how much research is accomplished on previous land transactions prior to certification.

(3) The chief (camat) of the Kecamatan certifies as to ownership and is also the delegated Land Deeds Office. In his capacity as camat he operates under the administrative authority of the local government

and at the same time fulfilling an agraria function as a Land Deeds Officer, which creates a dual role with separate vested interests. In some locals the camat accomplishes the entire transfer activities providing only case reports to the Agraria District Office who practices little or no control over these activities. In his capacity as Land Deed Officer, the Camat prepares the sales agreement and also acts as a witness, receiving a fee for both services, one of which amounts to one-half percent of the value of the agreement (sale) when he is a witness. This action then places him in the capacity of a private party with a separate vested interest to conclude the sale without care as to its validity.

Note: As far as can be determined there are no verifications made as to the accuracy of information shown on the documents as long as they contain the required signatures and fees have been paid.

(4) In their related functions within agrarian other Directorates can make decisions which affect land ownership such as the issuance of "rights to use decrees" which are the same as ownership. These decrees are very restricted as to land usage and are limited but do create an independent determination that can influence titling and registration. Thus some input or title influence is created by the other directorates and one must wonder who has total responsibility of land ownership in the true sense or whether it is a lack of interpretation rather than a function. One being permanent the other temporary but with all the rights and privileges; a very complex management situation.

(5) Records management must be viewed as an external influence since the methodology practised by each certifying agency has an effect on the ultimate goal of issuance and registration of title. Each agency has a unqiue system which is designed to meet their

individual needs, therefore there is no continuity of purpose, yet they all deal with the same subject, "land" and "man".

(a) The records at the District Office of Agraria are filed by Desa (village) and title but what happens when a title number changes? There does not appear to be a direct link between registration, title and land as each subject or action has its own unique number.

(b) This was also true at the tax office in Bandung where the control was by a receipt number within the village location but in no sequence by taxpayer or land and no reference as to owner.

(c) Each map has a unique number; a parcel number is assigned to the land and entered on the map (this number can change) and each of the parcel title numbers are also entered on the map, in the parcel area, and this number can also change.

Since the applicant requires services based on land and ownership (or use), it must be very difficult for each agency providing an input to locate any supporting evidence when there is no single control number, which means the applicant must have historical knowledge as well as being able to provide the required agency references (numbers) for each step of the title process.

b. Management Information[3] - The Central Office of the Directorate of Land Registration receives excellent statistical reports from the province offices which are utilized to support manpower and equipment needs and also to determine and report progress. As far as can

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[3] Refer to Appendix No. 3 with various attached tables for summary analysis and statistical samples.

be determined the statistics are not currently being utilized nor do they fulfill management needs for anticipating and/or projecting the mapping and registration activities or to establish and regulate performance standards. Some analysis can be made from the existing statistics but answers can be misleading as the information being reported on is not sufficient and therefore any projections are assumptive (refer to Appendix No. 2 for summaries). Management can ascertain how many maps have been made but not how long it took for each individual map. There are also adequate statistics on the request for and issuance of title, but they do not indicate how long the process takes, the average per village, the various categories nor a problem list of those not completed.

c. Registration Knowledge - The existing Agraria personnel working in land registration are extremely knowledgeable in the subject matter and have considerable technical expertise on how to perform within the current system needs. However, when all the land has been mapped and certificates issued it is uncertain, in the writer's mind whether the personnel could then function in the far different role of providing historical summaries of land transactions and determining ownership which are the prerequisites to maintenance of registration data base and subsequent title actions. When the Directorate of Land Registration becomes the most knowledgeable agency on land activities will their personnel be able to cope as they are now. There appears to be (assumption) a lack of understanding of normal basic registration practices or the technical "know-how" on/and about "property" which is a must in land programs. There is a wealth of technical skill on mapping throughout the agency, from the field to the highest level at central (Directorate) but it is doubtful whether the same level of expertise exists in the areas related to registration, titling and real property.

3. Problems

Since 1960, when the BAL was written, the government has been implementing one of the most difficult programs but as in all countries it has not recognized the complexities or has tended to underestimate the task of implementation, therefore the regulations governing implementation were designed to meet immediate recognized needs as they occurred. This approach was very adequate for that place and time but ten years have past and a greater appreciation of the problem, at least by the implementing agencies, has created a climate wherein the problems have become greater than the needs and they must be addressed. Some of the more outstanding problems (in the consultants' opinion) are:

a. there are too many forms and too many of them are redundant;

b. too many external environments influence ownership determination;

c. the cost in money and time to the applicant is too great for the service provided (a title);

d. the system is too complex for the average user and there are too many loopholes;

e. there are no adequate controls and there are too many;

f. there are no checks or verifications made as to accuracy of information appearing on the forms; and

g. insufficient management information and no permanent single source data base.

4. Recommended Solution

At this point in time and after such a short period spent in obtaining system knowledge it would be foolish to recommend,

without reservation, a total solution to the problems outlined above. It can't be said with certainty that our Indonesian friends agree with us that the problems are there or they may see different ones. Therefore the recommendations are presented with this in mind and I will refer to them as the long range "ideal system" recognizing that more immediate or short range problems must be addressed as soon as possible.

a. The Ideal System (Long Range)

- Review the existing system with the objective being real property management providing registration and titling services to landowners and land use information to those who need it.

- Reduce the forms and design new ones which fulfill new system needs.

- Reduce fees and make them standard for all situations and locales.

- Reduce complexities and make public more aware of what the system can do for them and what is needed from them.

- Reduce landowner requirements. Make the system more responsive to his needs. The Agraria should be gathering information from knowledgeable sources and constructing a data base which contains sufficient information so that they can provide a service to the applicant rather than him providing a service to the Agraria.

- Establish a unique control, which should be the land (since it has less change), and establish the records management by this control.

- Provide capability for chain of title or historical transaction summaries on the land and trained personnel in the examination process.

- Design a reporting system that will provide management with sufficient information that will enable them to answer immediate queries on land ownership, usage, averages, movement, analyses of activity, project immediate and long range requirements and establish standards (performance).

- Only one agency should be responsible for determining ownership, and conducting programs on the recording of land transactions. All agencies performing programs which affect land should provide the responsible agency with information in order to maintain the record in a current status and reflect all land activities on same.

- Look to automation for future needs and be prepared to utilize it but only after careful study. One of considerations should be map indexing, management information, and microfilm reference index.

- Reevaluate the need for all the existing titles. Look more to leasehold, withdrawals for land use or issuance of restricted titles. There must be leasehold contracts issued and registered for tenant operators.

- Establish land activity clerks at the village level. Can be Desa or Agraria staff depending on acceptance. Part of title fees can be used to support the position. All activity on land will be reported to Agraria subdistrict and land clerk will perform minor transaction functions.

b. The Ideal System (Immediate or Short Range)

- Further study of existing system to ascertain exact problem areas and respond to those problems.

- Reduction and modification of forms is a must. Even though applicants may not seem to mind they probably do.

- Reduce requirements. Since it is a negative system and the final decision is done by agrarian, it can be made without the time consuming lengthy research which is accomplished by the applicant, and then restrict the Title for a certain period of time until it is certain no challenge will be made.

- Follow the village approach but have Agrarian personnel accomplish all tasks. Create a Committee who will review the documentation and certify it was done. Design a questionnaire form that will be prepared by the Agraria identification team who will visit each household in the village and interview people about land activities and ownership. Have landowners show evidence of ownership and interviewer will certify on interview form that it has been seen but do not collect document from landowner.

- Design a microfilm system and start microfilming existing maps and legal documents.

B. The Legal Aspects: Presented by Saturnino A. Pacubas

1. Observations

At the start it has to be stated that knowledge gained during the three and a half weeks on land mapping, registration and titling is more or less an overview or broad information on various aspects of the subject and raw materials which still need consolidation and refinement in order to serve as a solid ground to be the basis of an indisputable conclusion of fact or of law specifically in relation to land registration and titling. All the laws, government regulations and other documents relevant thereto (and already translated in English) have not been shown to or given to the team. This is a constraint which faced the team and thus prevented the members to have a full and complete understanding of the facts which should be the basis of a fair and reasonable solution to the outstanding problems that they have gathered

from what they have been told and from what they have seen and read. Moreover, there is also the other constraint of miscommunication whereby what the speaker wanted to convey was not what was understood or absorbed by the members of the team. It is also a reality that in several instances of the observation tour the members of the team have different interpretations or understanding of what they have heard from the officials or persons who gave the lecture. Therefore, there is the possibility that mistakes or errors might be committed in arriving at conclusion of facts. Nevertheless, all matters taken as a whole, it can be said that the conclusions arrived at are all substantially correct and the solutions recommended have a substantial basis.

a. On Mapping

There is not much problem on land mapping insofar as the capability to undertake the job is concerned. Laboratorium Fotogrametri has all the equipment and facilities ready and available and therefore, the Government can embark on a massive scale of surveying the entire country. And corollary to this, land registration and titling can also be speeded up as the need to have a landholding be identified by a survey plan is first required before a certificate of title for such landholding is issued. Moreover, graphical survey in contrast to numerical survey is practised in Indonesia and therefore, this method will go a long way towards obtaining in a relatively short time the complete survey of the entire country.

b. On Land Registration and Titling

Before the Basic Agrarian Law (BAL) was decreed on September 24, 1960, registration and titling of land was in accordance with Western Law in which the owner was obliged to register his right of ownership because a transfer of right was executed in his favor or that he needs credit and to obtain credit he is required to register his land. This is called voluntary registration. The

initiative comes from the owner of the land. In both cases before any certificate is issued, survey of the land is first required to establish its identity by delineating its boundaries on the ground.

After the promulgation of the Basic Agrarian Law, all rights of ownership on land had to be converted from the Western Law to this new law which is also called the Customary or Adat Law. Under this basic Agrarian Law, certain requirements have to complied with before a certificate is issued to the person who claims right of ownership to his land. Among others is the affidavit of the Village Head where the land is located stating that he is the owner because based from the records of the village he had been paying rental or taxes corresponding to the land. Another document required is the receipt of payment of taxes. There are more or less 21 various documents required to be accomplished before the certificate is finally issued.

Aside from the right of ownership ("hak milik") there is also right of use ("hak pakai"), right of building ("hak guna bangunan"), land pledge ("Hak gadai"), right of rent and right of sharecropping. All of these rights are evidenced by certificates issued to the holder or granted by the Registry of Deeds Office.

There is also anotner aspect of registration which is called compulsory registration. However, the team was not furnisned a copy of the regulation describing compulsory registration and for this reason it has no clear idea how this system operates.

2. Comments

In order to speed up the mapping, registration and titling of land in Indonesia, there is need to introduce changes with modification in the present method and procedures and systems. It is hard to make innovations considering that the present system had been followed and practised for several hundred

years. The Government and the people will naturally resist change or modification. It is therefore, imperative that change should be gradual and one way by which this could be attained is to start with a pilot project and show that the new system, methods and procedures are better, will make faster the issuance of certificates and that it is less expensive and more accurate. There is need for EVIDENCE or PROOF that the new is much better than the old.

a. On Mapping

The survey of lands is all done by surveyors of the Government. Considering the area of Indonesia it is a must that the execution of survey should also be done by private land surveyors as is being done in the Philippines. To hasten the survey of all lands in the Philippines, the Bureau of Lands, which is the only agency charged with the survey of public lands, awards to private land surveyors contracts for the cadastral survey of many municipalities or towns. The Bureau of Lands field offices, however, closely supervise the execution of said surveys, in phases. The Surveyor-Contractor is paid so much after finishing first phase, second or third phase of the work as stipulated in the contract. And to insure compliance with the conditions of the contract the surveyor is required to file a performance bond to guarantee the completion of the work within the agreed period of time. Survey is done photogrammetrically or terrestrially. And in the survey, the Surveyor-Contractor is also required to show the land use, natural and artificial features appearing or existing on the lands when the purpose is for planning and when surveyed for land reform the maps must also have documents showing the list of persons in actual occupation or cultivation of the land, the landowners and tenants alike and all other information that the Government need to be indicated or known for purposes of planning and policy decisions in the future. The Philippine Government allocates millions of pesos every year to accelerate the survey of lands and the Bureau of Lands in turn, schedule or plan in advance the priority

areas to be surveyed in accordance with the priorities of the National Government Development Plan for the entire country. They have in the Philippines at present a ten-year cadastral survey program done in two approaches, by the Bureau of Lands personnel or surveyors and by private land surveyors who are duly licensed by the Government to practise private surveying work.

Another thing to consider in the preparation of maps is that they should be made to serve several purposes (i.e. for taxation, for land reform, for road or public works activities, for urban or rural development, for environmental and ecological development and for other purposes) as may be needed by the Government and the people in the future.

b. On Land Registration and Titling

In Indonesia, there is only one agency - the Directorate of Land Registration issuing certificates of titles and this is the one very good feature which is conducive to a stable system of registration. The problem, however, arises in the fact that before a certificate is issued to the landowner he has to submit several documents and accomplish many forms and to go to many persons in order to complete the papers and documents to support his claim of ownership to his land. He goes to the village head, the Camat and Bupati to get their certifications, approval or consent depending on what kind of right he wants to obtain, whether right of ownership, right of use or right of transfer, mortgages or rent and others. By this procedure, the tendency is that it slows down the procedure of securing title in point of time; it entails more expenses to be incurred by the landowner and this will discourage people to get their title from the Directorate of Agraria Office.

In the Philippines under their Free Patent Law, the issuance of Patent which is the basis of the certificate of title is free and the principal documents to support the patent are:

(1) tax declaration and receipts of payment of taxes;

(2) affidavit of the claimant or applicant that he had posted his application for free patent in three conspicuous places for two weeks;

(3) joint affidavit of two disinterested persons that are residents of the place where the land is located who have personal knowledge of the claimant and the land which he claims to be his land; and

(4) report of a Public Land Inspector that he has gone to the land, found the same to be in the actual occupation of the applicant; that it is fully cultivated by the applicant on or before June 12, 1945, with a listing of his improvements on the land and that after examination of the tax declaration and tax payments and interview of the two disinterested persons - it is satisfactorily established that the applicant is the real owner and therefore said Public Lands Inspector recommends that patent and title be issued in his favor.

For agricultural lands not exceeding five hectares, the District Land Officer in the province where the land applied for is located signs and issues the Free Patent in favor of the applicant and in turn this patent is recorded or registered in the Provincial Register of Deeds who issues the corresponding original certificate of title based on the Free Patent issued. This whole process takes one to two months to issue the title.

This method can be considered for adoption in Indonesia especially to land occupied since the promulgation of the Basic Agrarian Law which was in September 24, 1960.

It will be noted that the applicant for free patent does not need to go to the Village Head (Barangay Captain), the Camat (no counterpart) or Land Deed Officer (Notary Public) or the Bupati (Mayor), in some cases, and pay fees for certifications and others to get his title. He deals only with one office - the District Land Offices of the Bureau of Lands or in the case of Indonesia, the District Agraria Office. The Philippines has a District Land Officer in every province. It is important for purposes of expediency that only one office handle the responsibility of issuing certificates of title without the intervention of other agencies over which the issuing agency has no control, jurisdiction or otherwise. The issuance of patent is also free (practically no expense at all) and the documents or supporting papers required are only four.

There is also in the Philippines what is called compulsory registration. Under this system, after a certain municipality is surveyed and the owners, occupants or cultivators are ascertained and their names listed down or recorded, the people within that municipality are compelled to prove their claim of ownership over their respective landholdings within a definite and specific period. Failure on their part to prove their ownership within the period given them by notice - posting or announcement in newspapers and by the village head- will cause the Government to declare their lands as public or state land. In turn, after a certain period of time from the declaration that the land is public land, the Government is free to allocate the land to other qualified persons if the occupant still persists in refusing to take advantage of his right. This is not practised as yet in Indonesia and for this reason titling of land is mostly on request or what can be called on voluntary basis. However, if it is compulsory the people will have to move and prove their claim of ownership within the period prescribed by the government.

Another thing is the customary law which is the basis of the Basic Agrarian Law. This is an unwritten law and it is different as to geographical location. Something has to be done about this in order to stabilize land registration and titling. Customary law can be enforced and followed. There is no need to eradicate it. What is necessary to be done is to compile said customary laws and reduce them to writing. They can then be called special laws which are primarily based on customs. After they are compiled and written then it is easier to apply said laws, improve on them and easier to enforce because by then they are written and could be better interpreted and applied by everybody concerned, including the Courts of Justice.

3. Recommendations

a. On Mapping

(1) Plans or maps should be signed to give it legal validity. Certain officials should be authorized to authenticate or legalize maps or plans to prevent fraud or duplication, and they should be registered. If preparation of maps will not be controlled, there is no doubt that double or multiple titling will follow. Hence there is need for Index Map Control in the Central Office of Agraria;

(2) More manpower is needed. Training program should be bigger in scope to respond to the expanding activities to be undertaken in the future;

(3) Control and record management of maps should be immediately installed (Map Index);

(4) Cadastral survey should be made on a massive scale and therefore sufficient funding should be provided; and,

(5) Licensed private surveyors should be allowed to execute surveys for the Government on a contractual basis.

b. On Registration and Titling

(1) Forms should be reduced and consolidated;

(2) Requirements should be reduced and simplified;

(3) Compulsory registration in a village approach strategy should be resorted to;

(4) Data gathering as to identify land ownership, cultivators, occupants of lands, land use inventory, and others should be studied, tested, evaluated and applied as soon as feasible;

(5) The Department of Agraria should be the sole authority to process and approve survey and to process, approve and issue certificates of title without any other Department or agency having interference or overlapping function with it; and,

(6) Complete systems study and data base build up as a preliminary step towards automation should be done.

c. Legal Needs

(1) Government regulation should be issued creating a special committee to undertake the writing of all customary laws in each and every geographical location which have common customs and traditions, gather and compile these customs and draft a decree, code or law which may be considered a special law for such provinces, cities or

municipalities having common or similar customs and traditions. There shall be one codification for the whole of Indonesia consisting of a written law with several components of customs and traditions peculiar for each place, i.e., Javanee, Belinee, etc.

(2) Another government regulation should be issued providing rules and regulations or procedures for Agraria to enter into contracts with private surveyors for the execution of cadastral surveys in pursuance of the village approach of land registration and titling.

(3) A government regulation or a ministry decision (whichever is feasible) placing the land deed officer under the jurisdiction of Agraria when performing registration functions until such time as Agraria establishes an office at the Kecamatan level, at which time the chief of the new Agraria sub-district offices will be the land deed officer. The regulation shall also stipulate that witnesses to documents must be a distinterested party and cannot be involved in the transaction, also flat fees are to be paid for witnessing and preparation of documents in lieu of percentage.

(4) Form a committee which will determine what modifications should be made to the existing system and within the existing regulations, by interpretation or decision and when new regulations in lieu of law can accomplish change.

TOPIC II - MAPPING (Luz and Sadler)

A. Overview on Mapping: Presented by Sixto Luz

1. Introduction

The GOI has expressed the need for accelerating land mapping and titling within the scope of the Directorate General of Agrarian Affairs by the Directorate of Land Registration. Many beneficial developments within the rural agricultural areas are dependent upon certification of ownership. These developments include irrigation projects, road construction for transport of produce, drainage projects, etc., all of which require assistance and funds from within the GOI as well as external world organizations. These funds and assistance in most all cases are available only when the ownership of the lands involved has been certified.

Based upon Statistik Indonisia, 1976, of the 190.2 million hectares of land in Indonesia, 14.2 million hectares was agriculture land (wet and dry farm crop), an area less than eight percent of the total area of Indonesia. Estates (rubber, coffee, tea, palm, etc.) consists of 2.2 million hectares of land, an area of a little more than one percent of the total area. Agriculture and estate land combined represent less than nine percent of the total land in Indonesia; however, these lands represent only those projected agricultural and estate areas existing at that time and not the potential land which could be three to four times the existing area. (Refer to Appendix No. 4 for Statistics.)

The prime concentration of agriculture land is in Java with more than 38 percent of the total of all Indonesia. In Central Java, where the greatest concentration on land mapping has been accomplished in support of land titling, only six percent of the total province area has been mapped and ten percent of the agricultural area. Percentage of

areas mapped throughout the rest of Indonesia is incomplete at this time; however, the level of map completion can reasonably be projected to a percentage, the same if not less than that percentage of Central Java.

The prime need for mapping is to support land titling and registration by providing a base for identifying and verifying land ownership. Parcel area determinations are also necessary for accurate tax assessments and ascertaining limits of ownership. The need for large scale photography, 1:5,000 scale, enlarged to 1:1,000 scale for base mapping, is tantamount throughout Java and Bali to accommodate identification of the extremely small rice paddies and assure greater accuracy in area determinations for these higher valued lands. The remainder of Indonesia consists generally of larger parcels of lesser value thus photography of smaller scale (1:10,000 photo scale enlarged to 1:2,000 scale map base) will suffice for land identification and parcel area determination. Ground survey methods will still have to be used where ground is obscured by tree cover on the photography and or in areas of high relief as high relief limits the scale of photographic acquisition and introduces displacement errors.

2. Mapping

Almost all human activity is land based and it is obvious that a systematic records of land and rights on land is of paramount importance for public administration, planning and development and transactions and dealings in land. This is best achieved by the establishment of a cadastre, which is defined as a systematic identification and inventory of all real properties based on survey of their boundaries. The GOI has developed and established its own cadastre and gained considerable experience and expertise in this field (see Appendix No. 3 GOI accomplishment for PELITA I & II). The methods presently used are both terrestrial and photogrammetric and the resultant product is a cadastral line map (graphical cadastre). The terrestrial method consists of measurements of directions (angles) and distances using traditional earth bound instruments and transforming

these data into large scale maps showing each individual parcel in a given area, while the photogrammetric method employs rectified and enlarged aerial photographs for the identification and delineation of each parcel. The details from these photo enlargements are later converted into the required cadastral line map. The photogrammetric technique has provided GOI the most expedient method to produce these much needed maps for its titling and registration program.

Visits to the Agraria offices in Semarang, Sukoharjo and Klaten in Central Java and Denpasar, Bali has confirmed the efficiency of this technique in term of cost, speed and economy although others regard the technique as less accurate. The Agraria District Head of Klaten (Central Java), where photogrammetry is extensively used and where most certificate issuances have been done, pointed out that they mapped 60 villages in one year and are issuing certificates at the rate of 1800 per month (see Appendix No. 3.7 and 8) and this is quite significant in comparison with past performances.

Technically, the methods adopted by the GOI, through the Directorate of Land Registration within the Directorate General of Agrarian Affairs of the Ministry of Home Affairs, are sound and viable. Compared with other methods, technique used around the world, it is simple, fast, and economical and when properly developed and refined could be the answer to the GOI needs. The Directorate of Land Registration has the organization and excellent facilities and equipment in the Central Photogrammetry Laboratory in Jakarta. The present personnel has the required skills and expertises and most of the middle managers have trained here and abroad. GOI has excellent educational programs and training facilities (the best in South East Asia!) in the Training Center for Photogrammetry and Cartography in ITB, Bandung and the Training Center for Image Interpretation in UGM.

3. Problem

For the next five-year development program under PELITA III, GOI has targeted for the mapping of 4,400 villages with an area of 1,312,500 hectares. Based on past performance under PELITA II (900,700 hectares mapped in five years) the average annual rate is 133,300 hectares. With the present organization and even granting a yearly increase of 10% for the next five years under PELITA III GOI will still fall short of its targeted goals.

Due to lack of material time for the consultants for a thorough analysis of the matter, it appears that the mapping problem in Indonesia is -- the volume of work is just too overwhelming! The technique and the expertise is available; there is simply not enough skilled personnel, equipment and funds for an expanded cadastral survey program. For purposes of comparison, the Bureau of Lands of the Philippines which is similarly situated as the Directorate of Land Registration has more or less the same number of personnel yet the land area of Indonesia is more than six times that of the Philippines. Cadastral surveys in the Philippines was started in the early twenties using government resources, as well as private survey contractors, and yet only about 50% has been finished. Drawing parallelism to this experience, the GOI, in order to meet its time frame to satisfy development needs and the land pressures due to population, migration and urbanization, has simply to put more material and manpower resources.

a. Titling and Registration Problem

After the mapping has been done the next step is the titling and registration of the rights on land. However, in the areas where the consultants had visited, the titling and registration operation lags behind, although mapping had been done as far back as two years. This is due to the complexity of the titling and registration procedure which is beyond the comprehension of most people. The whole operational procedure is too cumbersome and the

requirements so rigid that most people just simply ignore it except where it is extremely necessary to do so. Because of the unresponsiveness of the system the people "refer" the land tax receipts issued by the Ministry of Finance and certifications issued by local planning boards as the alternative evidences of ownership rather than the duly recognized certificates of title and this doubly complicates the whole titling and registration procedure. To summarize, the problems are:

(1) the whole operation is too complex for the ordinary people to understand;

(2) too many forms;

(3) too many forms of titles to land, which are mostly the temporary use of land and agreements of private parties;

(4) legal questions affecting ownership of land are based mostly on unwritten customary (adat) laws which widely differ in every locality and hence subject to different interpretations;

(5) too many paper work in the certificate itself;

(6) it appears that the cost of the certificate is beyond the reach of the ordinary people; and

(7) due to the negative nature of the certificate, it could be subjected to endless challenges.

B. Mapping Recommendations: Presented by Lloyd Sadler

1. General

In response to a critical and accelerated land titling and registration program, mapping in central Agraria and in the field will have to be bolstered by both personnel and

equipment. Procedures used at present are in a large part to be continued under the following recommendations, but to insure inclusion of these procedures, they are reiterated. Implementation of a long range set of mapping procedures will not be timely enough to meet immediate needs. For this reason, a set of immediate short range procedures that would support issuance of a "Provisional Certificate" have been identified.

2. Long Range Mapping Specifications and Procedures

a. Low altitude photography, 1:5000 scale or larger, should be acquired. Subsequently this photography would then be enlarged, five times through rectification to produce a 1:1000 scale or larger photomap base. This map base scale will provide greater facility (time and cost) and the necessary accuracy in determining land ownership boundaries and areas.

b. The ground survey procedure should continue to be used when ground coverage is obscured by trees or there is significant relief (elevation change). Another alternative in areas of significant relief would be an orthophotomap base reproduction; however, this would be at present more costly than the ground survey. A time-cost analysis should be conducted comparing ground survey and orthophotomap methods for future operations.

c. An expanded technical training program should be developed for photogrammetric technicians at the central and provincial level in the use of simple and sophisticated photographic and photogrammetric equipment. In addition, expansive training programs should be developed at provincial and district levels for photographic interpretation technicians who will be responsible for land ownership boundary determination. This latter group is probably the most critical based upon some of the backlogs involving verification of land boundaries and ownership. Also the present training of ground survey technicians program should be expanded.

d. Mobile photographic boundary identification units should be organized at district and sub-district levels to work with village representatives on land ownership and boundary identification and verification. The senior members of these units should be used as instructors for training future unit members.

e. Acquisition of additional equipment to accommodate expanded production requirements will be needed. A more in-depth analysis should be conducted on equipment needs in concert with the acceleration of the land titling and registration program.

f. Utilization of private survey contractors should be pursued and evaluated as an augmentation to the GOI capability.

3. Immediate Short Range Implementation Procedures

a. Higher altitude photography should be acquired. This will provide greater area coverage for each photograph. If, instead of 1:5000 scale photography, 1:10000 scale photography is acquired and enlargement to a 1:2000 photomap base, the area covered will be four times larger that of 1:5000 scale photography enlarged to 1:1000 scale photomap base. This will reduce the photogrammetric laboratory processing by a factor of four; however, field control needed for the photography will not necessarily be reduced. The field control should be established and photo identified for the future control base for the larger scale photography.

b. Increased percentage of photographic overlap should be planned and rectified photomap base prepared wherever possible. The increased percentage of overlap will minimize effects of displacement due to ground relief and thus the relative positional accuracy error within the photograph. The percentage of overlap which includes forward (in line of flight) and side (overlap of adjacent flights) should be determined from the significance of relief.

c. Ground survey methods should be used when ground is totally obscured by tree cover or in the more mountainous areas of steep relief. In areas of steep relief, adequate scale photography acquisition is prohibitive. In these areas the parcels are generally very small and would be difficult to identify on small scale photography.

d. A short course should be established in basic photographic interpretation focused on boundary identification. This is one step where time cannot be reduced. To handle a larger volume of parcels, boundary identification personnel will have to be increased significantly and to meet the added personnel requirement this course should not have to be of more than two weeks duration. The course could be conducted at province or district level by a cadre of experienced central and province level personnel.

e. Mobile district and/or sub-district level boundary identification teams should be established. They would work with village representatives to identify and verify the owners and boundaries of the parcels. The mobile team can then identify these boundaries on the photomap base subsequently to be approved by the village representatives and parcel owners.

TOPIC III: RESEARCH ISSUES (Presented by Dr. David J. King)

A. Introduction

1. Role on team: Socio-Economic Analysis

My role may not seem, or even be, so directly or immediately helpful as the other consultants who have already been able to give you recommendations as to how land registration might be speeded-up and improved. While I have experience in land matters and related technical expertise in agricultural economics, social structure and rural development, I cannot offer you advice on what would constitute an ideal system of land ownership and control for rural economy and social development. In fact, I am primarily here to try to help USAID address the issues of who would benefit, how many would benefit, how they would benefit and how much they would benefit from any proposed assistance that has as its immediate objective the technical one of speeding and "improving" land mapping, registration and titling. Justifying a project proposal in terms of the social and economic benefits to be derived by the people, especially the "poor" or those judged to be in the most need of assistance is a requirement that has to be met by all proposed AID projects. The benefits may not be all directly associated with the project but may also be indirectly generated (e.g. land registration itself perhaps may help a registrant very little but his title may generate increased produce and income through increased access to credit; registration of land rights may help the farmer owner little but subsequently the security of ownership may enable or encourage him to participate more fully in a government agricultural development project) (e.g. because he is sure that benefits of participation will go to him and not be claimed by someone else).

You may well ask then, why am I now addressing you at all? Precisely because as it is evident from your laws, policies and pronouncements concerning land registration, that registration of land is not seen by the government of Indonesia as an end in itself. It is seen to be an objective that serves the socio-economic purposes of the public and people of Indonesia. By exploring the socio-economic needs, potential benefits - and costs - of land registration, I believe we can both meet the needs of USAID of justifying assistance in terms of analysis of benefits and beneficiaries, yet also tailor the project to serve the social and economic purposes of registration for Agraria, the Government and people of Indonesia.

2. Why "Research Issues"?

One might well ask why this part of the presentation is labeled research issues rather than say Social-Economic analysis of benefits of land registration. The research on rural institutional arrangements affecting land ownership is no more an end in itself than land registration. The reason for the "research" focus is that without the data base on land ownership, transactions and use (that might well be a result of a comprehensive up-to-date land registration system) it is very difficult to document the economic and social structure with respect to man and land. One of the long run objectives of Agraria indeed must be a data base for man in relationship to land that would enable the Indonesian government to ask (and answer) the questions of who benefits and how from the security provided by registration and titling of land. So, at present, it is difficult to document the benefits to USAID that could be derived and demonstrated once a land registration is accomplished and completely operational. Likewise, it is difficult for Agraria and the government of Indonesia to justify the expenditure on any program of registration until it is accomplished.

Hence, research as we proceed - perhaps at first only on a pilot basis - will be critical both to justify further assistance and also to enable the proponents of a nation-wide (compulsory?) system of land registration to defend it and modify their program, both to make it technically more efficient and to more clearly focus it on potential benefits and the social-economic purposes of the government and people of Indonesia.

3. Organization of Presentation

First there is a brief statement as to the nature of the social structure and then an examination of the social (public) purposes of land registration in Indonesia. This will include an examination of the benefits derived from the SPECIFICITY (of PUBLICITY) aspects of land registrations, i.e. those benefits that are derived from identifying the man in relation to the specific parcel or parcels of land and their area that are registered in his name and provide him with strong evidence of ownership.

Since the benefits of land registration are not, and perhaps cannot be, restricted to those who serve the purposes of the program, we will briefly examine the other potential effects of a comprehensive system of land registration and titling and how that might be (and in many instances is at present) controlled through other measures and policies. Then, there will be a brief review of the (very limited) evidence available as to the benefits and costs that are being or can be derived from the specificity element in land registration.

Next, we will analyze the potential and actual benefits derived from the PUBLICITY benefits to both the PUBLIC and PRIVATE (Rights holder and third party) sectors.

Then we will review the problems of deriving these benefits under the present system of land registration and titling. In many instances, this will re-emphasize the points made by Ms. Betty Ryan and Mr. Saturnino Pacubas - as to why this system needs to be changed. It needs to be changed not only to speed up and improve the process of land registration but also so that the publicity benefits may indeed be realized.

The final section makes brief recommendations as to how the data base that would be generated as a result of a comprehensive and complete system of land registration might be used to redesign and adjust implementation procedures (in the short range) and how research might be used and organized for longer range considerations of policy for land registration in relationship to the rural development of Indonesia.

B. Social Structure and Purpose of Land Registration

It has been said that "there are lies; damn lies; and then there are statistics" but the statistics for population, employment, cultivatable land, cultivated land for Indonesia do not lie. However, the brief field excursions in Central Java, Bali and finally West Java (particularly the latter to visit the Citanduy River Basin) they have brought home the meaning of land scarcity to me. Every conceivable square metre that can be used to grow, perhaps just a little cassava, and many a square metre that should not be used (if Indonesia is to retain its soils and productive land), is planted. Yet, living without the benefit of land to use either as an owner or as a tenant. The myriads of young children along the roadsides are (not so mute!)

evidence that whatever the successes in the transmigration program, absorption of labor force into urban jobs and creation of rural industries to absorb more people into productive work, the pressure on the limited agricultural land in Java can only increase.

This means that any system of land registration and titling that affirms, secures and strengthens the rights of some (albeit a large number), the landowners, does so by denying the same rights and opportunities to many others (landless and tenants). Yet many of these others have no prospect of other sources of security or livelihood off the land.

These pressures on the availability of land clearly vary by location. In many of the other islands they are less acute or non-existent to the point where those willing to migrate can claim land to use and secure it for themselves by improving it and settling on it. Around urban areas (especially in Java) where there are more intense competing claims for other forms of land use (residential, industrial, infrastructure) and also powerful (i.e. backed with money) claims for land-ownership based on rental income or merely future value of the asset rather than based on the use value of land when put to agricultural uses, the pressures on land available to use for agriculture as a source of livelihood are likely to be even more intense.

In this context land registration is an extremely sensitive social issue that must serve the purposes of as many people as possible. The social purpose of land registration and titling has to be to provide access to land and encourage the most productive use of land as a source of livelihood, and to do so in an equitable fashion.

1. Specificity Benefits of Land Registration

For as many people as possible the objective is to give them security of ownership provided by registration; the right to use land, manage it, develop it, and assure themselves the fruits of their efforts. Land registration further serves the social purpose by facilitating transactions that encourage productive use of land: -

a. It encourages the most productive use of land by facilitating orderly and inexpensive transfer through sale and inheritance and securing the new rights-holders the benefits of productive use of their

land. This is achieved by identifying the rights-holder and specifying the land or area and location over which he has claim to productive use.

b. Land titling enables the value of the land and earlier productive use and improvements to be recognized for credit purposes. The title to land creates an intangible asset where previously only a corporeal asset - the land itself - existed. Using the intangible asset as collateral, the landowner is able to acquire other resources to use with and apply to the land and thereby make it more productive.

2. Problems of Ensuring Benefits of Specificity

a. Not all or even most owners of land and thus potential registrants, till the land themselves. If they live far from the land and see it more as a source of rent income than an opportunity to productively use a resource, they may make little or no contribution or have little interest in managing their resource to ensure its productive use. In these instances, security of land ownership through registration and title may be helpful in transactions with respect to the land but does not encourage the more productive use of the scarce land resource. If it is a tenant that is utilizing the land resource for its productive potential, it is the tenant who needs the protection and security to ensure that the fruits of his labor go to himself. Measures are needed to ensure that neither the tenant tiller nor the laborer are exploited by the owner of land, secure in his title, and also measures are needed to encourage the actual tiller to use land more productively and to increase use of other resources to increase the productivity of land.

To a considerable extent, policies and regulations governing absentee ownership (to discourage ownership without personal supervision, management and entrepreneurial assistance) and share-tenancy arrangements (to prevent undue exploitation of the tenants labor and industry) have already been promulgated. However, the brief field visits especially to Surakarta and Citanduy (with respect to absentee land-ownership) and to Bali

(with respect to tenancy arrangements) leave considerable doubts as to the enforcement of these measures. Agraria has little more than a supervisory role of Camat and Lurah (themselves landowners) in ensuring that the land reform regulations with respect to share-tenancy are followed.

If the social purposes of land registration are to be fully served, it is essential to research and monitor the implementation of these related measures. The time may come when on the basis of such research it may be necessary to recommend further measures. Without the evidence, it is difficult to either defend the present program or recommend further measures.

b. Land registration "per se" does not prevent the economically or politically powerful from acquiring unequal access to the land. At least, from what we have seen, this does not seem to be a major problem in Indonesia - there are no "latifundice" -(extensively formed underutilized large scale estates) in contrast to the "mini fundice" (intensively formed minute holdings on which people scratch out a living) or even the hacienderos as in the Philippines (where an owner of 7-24 hectares of rice land has been described as a "small" landowner - at lease not in Java and Bali. One might ask about plantation rights holders and forest concessionaires in the other islands). I think this is largely a consequence of the decision (very wise in my judgement) to adopt customary law as the basis of ownership rights under the modern Agrarian law.[1/] In spite of the problems of customary land law, at least it had the advantage of providing equitable access to use of land to members of the community. The vestiges of this distribution system have had to be bolstered by limitations to ownership on agricultural land. Given the severe strains created by land scarcity two potential pressures on land need to be monitored and researched to ensure that equitable access is being maintained.

(i) How much desa land is controlled by luras? Is this beneficial?

1/ At least with respect to land not under Western law in the colonial period. See Discussion for further explanation.

(ii) Are the limits to ownership of agricultural land being circumvented?

c. Ownership of land for other than directly productive (agricultural) use purposes.

I have already alluded to land owned to receive rental income (rental/share-tenancy, absentee-ownership); but there is some evidence - and some popular public concern in Indonesia - that land is being held for other speculative or hedging purposes. Land as an asset is not as convenient as gold in that you can't carry it around, but in situations of land scarcity such as Indonesia, it is both an attractive investment for capital gains purposes and also as an investment hedge against inflation. Neither of these motivations for land ownership ensure productive use of the land. Yet land registration and titling may facilitate land transactions for these purposes. While the control of such transactions is outside of the authority of Agraria, it is essential that they be monitored and then restricted in some way to ensure policies that limit or constrain the use of the technical instrument - the land title - for purposes that are antithetical to the social purposes of registration of land titles.

The above concerns, admittedly far from exhaustive, are indicative of a general problem: The land registration and titling system has to be comprehensive and standardized for all land yet also flexible enough to encompass the different private purposes of land ownership and use for:

(i) Use of public (state) - private land.

(ii) Use and ownership of urban land for commercial and industrial purposes.

(iii) Use and public and private land for forestry, estates and plantation purposes.

(iv) Use and ownership of land - rural and urban - for housing purposes.

(v) As well as, for agricultural use purposes.

The system design has also to take into account the different needs, benefits and costs of registration as applied to the following agricultural lands.

- Developed and Irrigated Sawah lands. Of considerable market value therefore subject to transfer, mortgage and other transactions.

- Upland agricultural land, claimed primarily to provide a basic livelihood for the owner-tiller and his family. Registration of such land is undesirable for the holder if it involves him in anything but minimal expense since the benefits he might expect to derive are also minimal. The low value of isolated and low productivity land is itself a security of undisturbed use; the owner/tiller neither anticipates land sale transactions nor to use the land as collateral for credit purposes.

- Undeveloped land that is settled by spontaneous or sponsored transmigrants by subsequent clearing improvements and development. Here, security from local interests to develop land may be ensured, otherwise, settlers may improve and develop the land only to see the fruits of their efforts claimed by the local population (claiming ownership on basis of (local) customary law).

I am assuming that the primary social purpose of land registration and titling is to serve the agricultural use purposes. Any pilot trial of a new registration and titling system would best be applied where benefits of a registration are greatest and the social purpose can be maximized; this would be in areas where privately owned agricultural land are prevalent - particularly in areas being settled and developed by migrants or of irrigated and developed sawah lands.

However, it is not sufficient that benefits be maximized and social purposes be served, it is essential that the effects of land registrations be monitored and researched to provide evidence of these benefits and social purpose.

3. Problems of Lack of Evidence of Social Purposiveness of Registration

a. Do farmers whose land is registered prove to be more productive as a result of this registration? This is a difficult question to resolve because of lack of evidence governing importance of security of ownership in productive use of land. However, there is evidence that spontaneous transmigration may b: imperiled by lack of such security of land. More difficult to explain is the reluctance to register land voluntarily. We are informed this is because of cost of registration. This may be the case, but then correlation of transfer and registration transactions volumes suggest that a primary (if not the primary) benefit of registration under the voluntary system is seen as that it facilitates negotiability of land assets rather that it secures productive use.

b. Do farmers who have registered their land avail themselves of institutional agricultural credit by using titles for collateral purposes more than those who do not have titles? Mr. Triono has one study suggesting this is the case. This is a vital piece of evidence. Both the methodology of the study and results need to be translated. Other direct evidence are fragmentary and confused. There is no direct evidence other than that referred to above that those who have voluntarily registered their land - where land has been registered (under pilot whole-village photogrammetric mapping and registration) avail themselves more frequently of institutional agricultural credit (short run production credit or longer run land improvement credit). Registration of Credit Verdebande (mortgage?) transactions is running at low rates compared with the number of registrations in the places where we had an opportunity to compare them. However, would even high rates of such transactions provide the needed evidence of use of certificates for collateral purposes and productive investment in land? Not necessarily so. Mortgaging of land may well replace customary practices of pledging of land or income derived from land for purposes of raising money. Not only can there be no presumption that money so raised will be used for productive

investment purposes (on the land or for other purposes) but traditionally (and even more recently) the pledge (itself a quasi-mortgage) and mortgage of land have been transactions resorted to by those poor and/or desperate farmers with little land as the first step that leads eventually to loss of their land.

It has been succinctly pointed out that in using a certificate for collateral purposes on an agricultural production loan, it is not necessary to register the transaction with Agraria. It has also been noted that for many agricultural production loans, including BIMAS credit, it is not presently necessary to have a title in order to utilize land as collateral. Affirmation of ownership by local officials (Lura and Chamat?); ownership as evidenced by tax cadastre records in Buku Tanah, are sufficient to secure agricultural production credit for the tenant farmer.

It has been asserted that certification of land ownership for (landowner) agricultural production credit applicants would considerably simplify the job of getting such credit. It would also discourage the large scale defaults currently experienced with the BIMAS program. But, would this be the case? Would the government of Indonesia allow banks to foreclose on the lands of large numbers of small farmers? If not, would farmers be more concerned about having outstanding debt backed by their land as compared with BIMAS debtors where land is not behind their loan - at least concerned enough to make repayments?

Other issues include whether it is desirable to provide tenants with short-term loan capital directly (as under BIMAS) or whether their needs for credit can best be served when the landowner stands behind his tenants by putting the land up as collateral? Finally, on the appearances alone, the simple certificate as collateral would seem to be much simpler than the BIMAS book we have seen, but the presently cumbersome forms and costs of registration - also involving tax cadastre certification and tracing of ownership - would certainly make voluntary registration of land merely to receive agricultural production credit most unlikely on any major scale.

All the above issues need to be spelt out more fully, first conceptually then with a series of studies using Agraria pilot activities and the fact that there is uneven coverage of areas where registration and mapping between areas have been conducted, in order to substantiate just what are the specificity benefits of land registration and titling.

C. Public Purposes of Land Registration

Both the public sector and private individuals derive benefits from the completion and maintenance of a comprehensive, complete and up-to-date public record of who holds titles to specified parcels of land with records as to what encumbrances, liens and other transactions effect these titles and/or generate derivative rights. These benefits may be described as the Publicity benefits of land registration - the benefits of maintaining a public record of land ownership and transactions in an accessible and understandable registry.

1. Publicity Benefits of Land Registration

The major publicity benefits are reaped by the public (government) sector since it is the government that has most direct uses for a comprehensive registration of land ownership, other land rights, and land transactions.

a. Publicity Benefits to Private Individuals of Land and Registration

However (private) owners of land and those considering or engaged in land transactions also derive benefits from the public land registration record. For the owner of land, the registration of his title in the public record provides immediate, direct evidence of the validity of his title that provides the strong evidence of ownership. Even though under the negative system of land registration practiced in Indonesia this validity of both title and public registration may be questioned (in a court of law), strong evidence of ownership is indeed received, because the title and its registration in the public record is backed, in effect, by the public will. As a corollary, anyone seeking to purchase land or engage in transactions involving land is likewise protected. By consulting the public record of land registrations, he can secure

strong evidence of ownership (or non-ownership) of the intended rights-seller, whether indeed the title is valid; whether there are any encumbrances on the title and rights, and if so, of what nature and with whom.

If certificate/title is a simple document that is easily understood and the public record of land registration accessible, simple and easily understood, then the (real) costs of land transactions, particularly the costs of search for evidence of ownership, should also be dramatically reduced.

b. Publicity Benefits to Government of Land Registration

The Public benefits of a comprehensive system of land registration as part of the public record are manifold and are only limited by the capacity of the different government agencies concerned directly or indirectly with land matters, to use the public record for their own purposes. I will only be able to list a few that would directly benefit Agraria and the conduct of its own activities, those inter-agency government responsibilities with which you are most concerned, and some that have either been identified by USAID (in the PID) or by my consultant colleagues (particularly Mrs. Ryan);

(1) For Agraria, the value of a comprehensive record of ownership and other land rights are obvious: The other Directorates of Agraria have responsibilities to ensure the enforcement of many provisions with respect to Agrarian law, e.g.: Are landowners owning more than five hectares (or appropriate limit) of agricultural land? Do the same landowners own agricultural land in more than one Kecamatan? If so, in which do they reside?

(2) Important policy issues could be addressed by analyzing the land registration record: How is average area of land ownership changing? Are there increasing numbers of landowners owning over smaller areas? Is fragmentation of holdings occuring (i.e. is average size of parcel decreasing)? How extensive are desa lands controlled by lurah and other desa officials as compared with privately owned land? Is pressure on land resources leading to a reduction in area of

desa community land? By answering these empirical questions using a comprehensive record of land registration, it would be possible to address what for Agraria and the Government of Indonesia are now or are becoming important land issues with the facts of the case rather than based on the suspected situation and/or public outcry.

(3) By cross checking the land registration records with those of other agencies other internal questions concerning land use, control and ownership could be solved; e.g. Is land being used according to approved (by Land Use Planning Board) purposes?

(4) Of special concern and value to Agraria and the Ministry of Finance would be the ability to cross check the land registration records (based on legal cadastre) against tax cadastre records, first to identify those who should be paying taxes, and then to ensure that the actual payee is indeed the owner, and that he is paying the appropriate rate for area of parcels concerned. As your present pilot program in coordination with the IPEDA (tax authorities) in Bandung is already showing a comprehensive land registration and titling system makes land tax evasion far more difficult. One might also expect that under - recording of area and therefore underpayment of taxes might also be corrected. It would also be possible to analyze land transactions to determine market value (c.f. the present often out-dated "use" value) as basis of taxes especially perhaps in urban areas. (As a comment, it might be hoped that by getting a greater porportion of urban land taxes due actually paid and urban land more realistically valued for tax purposes, it would be possible to reduce the tax burden on rural agricultural land; agricultural land taxes of five percent of net value of produce seems inordinately high especially in the context of 1:1 share tenancy arrangements and a tenant who may well have to pursue the landowner to ensure that the (landowner) rather than himself pays the taxes.)

In the long range, whatever the results for land tax efficiency and equity that would be derivable from a comprehensive land tax record, it is clear that problems created by dual authority for cadastral work

would be resolved. If the land registration records are public and comprehensive, up-to-date, based on legal cadastre and verifiably accurate there would indeed be no need for a separate tax cadastre.

(5) Records of land ownership would be immensely helpful for many, if not most, development projects, policies and purposes of the Government of Indonesia. Any rural or agricultural development project that involves some form of land use either needs assurances of clear State ownership or at least control of land (in case of publicity managed projects) or documentation as to who the projects participants and/or beneficiaries will be in the case of projects involving development, settlement, and/or use of land by private citizens. It is precisely because of the lack of this comprehensive land registration record that USAID has had difficulties in documenting beneficiaries in its rural and agricultural development technical assistance projects with the Government of Indonesia. If a land registration record was in place and being maintained, I am sure that Agraria would find it would be playing a central role in evaluating likely and actual impact of rural and agricultural development projects of the government, assisted or unassisted by donor agencies - rather than these largely being controlled and documented from Jakarta (as, for example, appeared to be the case for the Citanduy River Basin Project, at least on the basis of my brief visit to the area).

2. Problems of Capturing Publicity Benefits of Land Registration

a. Lack of Completeness

The main problem is simple and self-evident: Until the land registration system is essentially complete and operative the benefits derived from a public registration can only be minimal; i.e. until virtually all land has been titled and registered and until registration of subsequent land transactions that effect the ownership of land are being made to maintain the registration record, neither private individuals nor the government can use the public land registration records for any purpose where it is important to be confident that the record

reflects the overall land ownership pattern or current transaction status. It may well be possible to capture source, even most, of the benefits for a specific area where comprehensive registration has taken place and a public registration record established and available, at least to the extent that land transactions affecting the area are conducted by parties either residing, or at least registering their transactions in that area.

This latter point that publicity benefits can be essentially captured area by area once the comprenensive land registration record for the area is established is a strong argument for land registration and titling programs to be implemented on a "crash" area by areas compulsory basis, with one "area" (Kabupaten?) being completed before working on the next. If there is a countrywide implementation program, especially where it is expected that landowners will come in and "volunteer" evidence of their land ownership for registration purposes, few, if any, areas will have a sufficiently comprehensive public record of land registration. Those landowners who believe registration is of benefit to them (i.e. for whom specificity benefits are greater than the costs of registration) will register their lands. Others will not. One cannot even safely assume that patterns of those who register their lands will reflect the overall pattern of land ownership and transactions, since the choice to voluntarily register itself is an indication of possible different status from those who choose not to pursue certification and registration of their lands voluntarily.

In summary, completeness of record of registration is essential to capture publicity benefits of land registration. This itself makes a strong case for compulsory registration of land on an area by area basis with subsequent maintenance of the land registration public record for completed areas.

b. <u>Possible bias and inconsistency in information sources for Land Registration Record: The need for verifiable and verified information</u>

Mrs. Ryan indicated yesterday her real concerns that the present land registration system depends very heavily on information supplied by Lurah, Camat, and other local

officials. The Lurahs are responsible for maintaining the land records in relation to their role as land tax collectors and sources of desa information. They maintain and hold the Buku Tanah, through which rights of ownership have to be traced, at least back until pre-1960, to provide the evidence necessary for issue of certificate and registrations of land. Both Lurah and Camat also receive a proportion of land taxes collected. In many places, Camat is also compensated for his role as, in effect, delegated registrar of deeds. These local officials are frequently landowners in their own right. At least in rural Java and Bali, as we have seen on our field trips, the Lurah and other desa officials also control desa land for their own use and in compensation for their role as public officials.

These interrelated public roles and private interests, with respect to land and land registration, raise questions as to the veracity of land registration records derived from information provided by these officials. This is particularly the case when it appears that there are no truly independent (i.e. not controlled or controllable by local officials) farmers, small landowners, or desa level, associations or organizations, that might constrain any outward abuse of authority.

From Mrs. Ryan's perspective, the land registration will have to speed up and improve not only by reducing the number and simplifying the forms and otherwise streamlining the system but also by either changing or at least constraining the authorities, especially at the desa and kecamatan level, at present implementing and thereby controlling land registration. These constraints on, or changes in, authority are also essential if both public officials and private individuals are going to be assured that the land registration record reflects the actual land ownership and land transaction status in the field. Could the present popular concern and public debate with respect to suspected absentee and excess land ownership - undocumented in extent and seriousness have been generated unless these were already suspicions of the connivance or at least tacit complicity of local officials in hiding this from the public record? If there is even suspicion that the land registration record does not reflect the real word, but in part may only be a paper reality, then the publicity benefits of a comprehensive public land registration record will not be realized.

c. Problems of maintaining an up-to-date Land Registration Records

Under the present land mapping and titling and registration system that requires that rights of ownership be traced back to pre-1960 before a certificate can be distributed and land ownership registered, it is evident why it takes as long as two or three years to complete registration of all lands in a desa even after the desa has been photogrammatically mapped and parcels identified on the ground. This time lag is indicative of a critical problem of maintaining a current up-to-date land registration system. It is particularly critical given the very high rate of transfer transactions (sale and inheritance) that seems to be taking place - at least if what we learned in Sukoharjo, Central Java is typical. It is essential that the initial issue of certificates and land registration record be accomplished quickly enough that subsequent land transactions do not make the land registration records outdated before they can be even prepared for public use. Further, as larger and larger areas are effectively covered with a land registration record, so will the volume of work in recording subsequent land transactions needed to maintain an up-to-date record expand. Once the elements of an improved land mapping, titling and registration system has been established and then initiated over a wide area, the need to maintain an up-to-date registration record may indeed justify automation of part of the recording system and the maintenance of the data base itself.

3. Problems of Providing Evidence of Publicity Benefits of Land Registration

As I have just said, the publicity benefits of land registration can only be realized once completion of registration has been accomplished (at least for a largely self-contained area with respect to land transactions) and an improved system of land mapping and titling and registration that assures consistent, verified and timely registration of land transactions has been adopted and implemented. Thus, it is not surprising that empirical evidence of the publicity benefits is presently not available, nor will it be until these conditions are met.

Once the conditions are met and publicity benefits are derivable, then it will be necessary to at least monitor uses of the public land registry to provide evidence of these benefits. To derive maximum benefits, it may be necessary for Agraria to transform and analyze information available within the public record for both Government land management and policy concerns as well as for private users. Once considerable costs, time, and effort have been spent to establish a comprehensive system, it is important that ancillary services be provided to ensure benefits are used and documented.

Unfortunately, documentation of publicity benefits of land registration on wide area (e.g. Java) or countrywide basis are too far off to provide effective support or justification for either your (Agraria) proposed program or for USAID's proposed assistance. Still in the long range but more foreseeable, it would be possible to compare the publicity benefits of land registration in a completed pilot project area with similar areas where land registration is incomplete.

D. Recommendations for Research

I have tried to indicate in the course of my presentation what issues would need to be studied and analyzed so that in the short range Agraria might justify and defend its proposed program to speed up and improve land titling and registration. These studies are also needed so that USAID would be convinced of the socio-economic benefits that might be derived from this proposed program, both so that initial proposed technical assistance be justified and so that the possibility of further expanded assistance be favourably considered. For the long range, it is important to begin to establish a capacity to look at and analyze the program of Agraria in the context of policy issues as to the appropriate use, ownership and control of land for the improvement of the livelihoods and overall socio-economic development objectives of Indonesia.

In the course of my presentation, I have recommended three different kinds of "research" - not really research "per se" but rather monitoring and evaluation:

1. Operational monitoring and evaluation of the implementation of the present and any improved system of land registration to determine their relative effectiveness in meeting the purposes of land registration

For the most part, this evaluation and monitoring could be, and should be, done by Agraria's own technical staff, in conjunction with the joint Agraria/USAID technical assistance team responsible for developing the improved system. To the extent that (components of)an improved system are pilot tested, then evaluation in these areas, perhaps with comparison for control purposes to their similar areas where the improved system (components) are not being implemented. The objective of this in-house monitoring and evaluation would be to establish that the "improved" system is indeed better in terms of numbers of certificates issued, speed with which they are issued, relative costs involved, completeness, and veracity of land registration public record generated.

2. Short Range Research to Monitor and Evaluate Benefits of Land Registration

There would be two components in these studies but both would be designed to document the specificity benefits - those accruing to the registrant identified with respect to (a) specific parcel or parcels of land.

First, it is important to empirically demonstrate that specificity benefits exist, the extent to which they are generated (under the present land titling and registration system) and if and how the benefits are restricted as a result of inadequacies in the present land titling and registration system. The first two of these components would be designed to defend more resources being allocated for faster implementation of land registration on the grounds of direct benefits to the registrants, and the last component would help justify the efforts and resources spent or improving the land titling and registration system.

Second, it is recommended that built into any effort to pilot test or otherwise try out components of an improved land registration and titling system there be a controlled analysis of the specificity benefits to be derived from registration under the new (pilot-tested) system as compared with registration under the present land registration system and no land registration implemented at all.

While it would be important, even essential, to have direct Agraria involvement in implementation in this monitoring and analysis of benefits, it would also be

highly desirable to encourage including (an) independent (Indonesian) researcher(s) or academic institution(s) in the design and conduct of the evaluation studies. In this way, any charges about the self-serving nature of evaluation conducted solely in-house would be avoided. It would also provide a first opportunity for a much-needed involvement of Indonesian academic personnel and institutions in helping Agraria define and evaluate its own programs in a context (evaluation of benefits) that would not be too sensitive. This would provide the ground work for their involvement with Agraria in some of the longer range research and policy issues.

3. Long Range Research to Ensure and Demonstrate that Land Registration Serves its Social and Public Purposes

In the course of the presentation, I have identified two broad areas for study and evaluation on which it would be only possible to make a start in the initial proposed two-year project. First, it has been suggested that in a land scarce society such as Indonesia, it would be desirable to monitor and evaluate on a continuing basis the (changing) relationships between those landowners who receive the specificity benefits of land registration, and other rural land users, particularly the (share) tenants and landless of land registration beneficiaries. By evaluating the relationship between land registration, the agrarian structure and the livelihoods of the rural population, it would be possible to ensure and demonstrate that the specificity benefits serve the overall social purposes of land registration and the rural and agricultural development objectives of Indonesia.

Second, it has been shown that the publicity benefits of land registration are likely to be generated only after an improved system of titling and registration has been designed and initiated with implementation completed for an area such that an up-to-date comprehensive land registration public record is in existence. It has been suggested it would be desirable to actively encourage the use of such a public record by transforming data derived from it to meet particular objectives, and also to monitor the uses made of the land registration records. This would ensure that the publicity benefits of land registration are realized and demonstrated and the Public Purposes of land registration served.

Both these very desirable long-range monitoring and evaluation activities fall outside of the normal scope of work and capacity of Agraria and its staff. It would be desirable for Agraria senior personnel, particularly those that might be expected to contribute to policy formulation on land matters, to be involved in the specification of the monitoring and evaluation work that would be most helpful to the Directorate. However, the actual studies would probably be best designed and implemented by independent researchers and academic institutions contracted to carry them out.

Apart from getting these valuable (for policy and programmatic purposes) studies accomplished, this would have the added advantage of involvement (and commitment?) of concerned academics in the program and purposes of Agraria and the Government of Indonesia in pursuing land registration. My brief visits with academics and academic institutions, primarily in Yogyakarta, Bogor, and here in Jakarta, leaves me convinced that such involvement is presently very limited and that it would be very desirable to make a start in the initial proposed project period on such collaboration even if the major substantive benefits would come later.

In summary, I am suggesting that in the long-range, research to monitor and evaluate the efforts and benefits of land registration would indeed provide the basis for justification of Agraria's program and any technical assistance being considered. However, it could also provide for the development of capacity to more comprehensively address the policy issues involved in specifying the role of land registration in providing equitable access to land resources as a source of opportunity and livelihood for the rural population, and thereby contribute to the rural and agricultural development of Indonesia.

TOPIC IV: RECOMMENDATIONS DERIVED FROM TEAM/ AGRARIA DISCUSSIONS (King, Ryan and Sadler)

A. Recommendations For Mapping Registration and Titling

In the discussions between the consultants and the Agraria Team that followed the presentations on Mapping (by Messrs. Sadler and Luz) and on Land Registration and Titling (by Mrs. Ryan and Mr. Pacubas) it was agreed to recommend the following activities for inclusion in the project paper to meet Agraria's needs:

1. Feasibility study of alternative methods for mapping with respect to issuance of temporary certificates of title. (Provisional or Restricted Title a better name for them?)

2. Comprehensive study of the system for issue and distribution of certificates with particular attention paid to implications for change in authority (of any recommended improved system).

   a. The consultant team already see the need to at least constrain the discretionary powers of the Camat and Lura who may have vested interest in maintaining (at least their own role and powers) the present registration and titling system.

   b. Agraria land registration senior personnel are anxious to resolve the issue of dual purposes, systems and authority for cadastral survey originating in the dualistic land law of the Dutch colonial period. Agraria is responsible with respect to the legal cadastre required for registration of title as per the Basic Agrarian Law (Act No. 5/1960). The Finance Ministry has the authority (delegated to local government levels) for the tax cadastre required to provide the primary support for local government. The tax cadastre is technically meant to identify owners of land, their land parcels and area, and (use-) value of land. In fact, the actual concern of offices conducting the tax cadastre is rather to ensure the payment of (some) taxes, rather than either accurately map the parcel(s), or even ensure identification of the owner (rather than the user; share tenant; lessee; mortgagee; pledgee of the land).

In order to register land, a major source of evidence of ownership required of landowner registrants is evidence of payment of taxes (based on the land tax cadastre). According to Agraria officials, many farmers regard the evidence of payment of taxes as sufficient evidence of ownership to meet their needs for security of access and right to the product of the land. In the case of BIMAS credit, it is also sufficient evidence of ownership to secure agricultural production credit.

Agraria believes that this dual cadastral authority has to be resolved so that eventually all lands are registered and covered by their own legal cadastre. Information necessary for the collection of land taxes could then expeditiously be drawn from the public records of land registration.

It is essential that the question of under which authority the land cadastre be vested be resolved. It was agreed to recommend that this issue be addressed from both systems analysis and social-economic perspective as a project activity.

3. Develop system of forms and authority for speeding issuance of certificates or provisional titles. In the discussions, it was again unclear as to the greater interest of Agraria in either changing the systems of registration and titling based on the legal cadastre or changing the system of registration and titling to meet the imperatives of compulsory registration and subsequent needs to meet registration and titling demands in a "quick and dirty" manner, but in such a way that provisional certificates/titles will suffice to protect holders (use right or transfer right?) interests until the full legal cadastre and registration and titling can be accomplished. In any event, it was apparent that Agraria does recognize the problems of the bureaucratic, cumbersome and time-consuming system of registration that exists at present, and recognizes that the system might be improved and speeded up if the problems of too many forms and too many authorities involved can be addressed.

4. Although the need for a more systematic selection of a pilot area, utilizing the normal design features of a rigidly controlled environment with all the criteria pre-established along with research and evaluation

components was recognized by the Agraria team, it does not provide an entre in which the more immediate registration problems could be addressed. The anxieties expressed by Mr. Triono relative to the urgent need for instant field testing of recognized and accepted system modif .ations were throughly discussed by the group and the following mutual decisions were agreed upon.

a. Omit from the project paper, references to specific proposal for pilot testing of any new total system (final design) yet leave this possibility during the first year of the project open for a lesser controlled or restricted environment. If events warrant a more formal method of pilot area selection, testing, evaluation would be included in the second or subsequent project year(s).

b. Agraria has received additional budget in FY 79 (Agraria April - March) for the purpose of conducting a pilot test of system modifications in South Jakarta. The justification for this was based on the USAID Project Identification Document (PID). Agraria personnel, especially Mr. Triono, were very anxious that some testing, based on our pilot project, would be accomplished in this area. It was agreed that the more severe immediate system problems would be addressed and tested in the first year utilizing South Jakarta as the site recognizing that any modifications would be thoroughly evaluated prior to acceptance in the total system changes (or design).

B. Recommendations For Research

During the discussions that followed Dr. King's presentation on "Research", the following issues were raised and recommendations made:

1. Mr. Triono expressed concern about Research as a focus for project activities. It was explained that most of the issues raised in Dr. King's presentation could and should be addressed as part of activities to monitor and evaluate both the present land mapping and registration system and any implementation of any (components of an) improved system (in pilot project areas?). It was recommended that: where possible references would be to monitoring and evaluation rather than research.

2. It was noted that little or no reference had been in the presentation as to how the present dualistic cadastral system had evolved historically from the period of Dutch colonialism. The long period of Dutch colonialism, involved first claims to sovereignty of all land, then a land tax cadastre. Grant of leases were made to Dutch settlers of "State land". Settlers were protected in their use of such land through registration and titling procedures based on this land tax cadastre under provisions of Western law parallel to those used in the Netherlands. All other lands not required for public purposes or for private estate development purposes were left under the coverage of customary laws as far as their distribution, and transfer were concerned. Registration and titling of such land was not carried out. This created a serious dualism and to bring all land under the aegis of law and land policy compatible with both the customary practices of Indonesia and of socio-economic development purposes of a modern state and developing country that Act 5/1960, the Basic Agrarian Law of Indonesia (BAL) was promulgated. Since for registration and titling purposes, lands formerly under "Western Law" have to be treated differently than those that have remained under customary law, the dualism persists - at least until all land has been registered and titled under the legal cadastre.

   It was agreed that, even though a literature review and annotations of key references on land registration in Indonesia is being completed by Gejah Mada University for USAID, it would be desirable to include a further comprehensive literature review of all aspects, including historical, socio-economic implications, government regulations, technical reports and studies, as an early project activity.

3. There were discussions concerning Agraria convictions that costs of registering land may be the prime reason for disappointingly small numbers of voluntary registrants. It was agreed that this aspect of costs of registration and how they effect poor potential registrants could and should be incorporated into any evaluation of benefits under present and/or improved land registration systems.

C. <u>GOI-Agraria/USAID-Consultants Conclusions</u>

Following the two day formal presentation and discussion period, a third day of unstructured overview and discussions were held

to further clarify Agraria needs and attempt to arrive at some program objectives and recommendations that would fulfill the Agraria needs and yet fall within the USAID mandates. The following recommendations were the result of this final exchange:

1. Conclusions

Due to the restricted time for a complete review, the USAID consultant team is not in a position to make final and absolute recommendations for the development of a project which would provide an ideal land mapping and titling system for the GOI; however, the observations of the team do identify areas of concentration in a more in-depth study or research which would meet more immediate needs, yet fulfill the final objectives. During the interim period while an ideal land titling and registration system is being developed, there is a definite need for a provisional system to meet immediate requirements, otherwise, many rural development projects could be severely curtailed.

2. Recommendations

a. A project be established that will provide for the following:

(1) A comprehensive statistical and feasibility study of time, cost, manpower and productivity of the present land mapping and titling system considering modifications that could be made and/or the impact from development of an entirely new system.

(2) Development of a sound mapping system that will provide timely and accurate photogrammetric map bases and/or, as necessary, ground survey maps to adequately and legally support the land titling.

(3) Development of an efficient and timely land titling and registration process through minimization and greater control of forms. Also centralization of forms processing to one level of the government preferably the village.

(4) Implementation of a provisional land mapping and titling system that would be more responsive to the GOI immediate needs - conversion

to ultimate system at such time it can be developed and satisfactorily meet GOI long range needs. This provisional system would include acceptance of smaller scale photography, reducing the production time at the expense of a lesser but temporary base map for land identification and a set of simplified prototype forms for title processing that could lead to a "provisional (or restricted) title of ownership".

(5) Provision for observational participant training of middle and upper level management on land mapping and titling procedures practices by the United States and, where deemed applicable, by other countries.

(6) Development of technical training program for operational staffs to meet immediate land mapping and titling needs towards provisional (restricted) titles and development of technical training program for selected cadre to meet long range mapping and titling system needs.

(7) It is essential that monitoring and analysis of both the implementation of any improved system (or parts of an improved system) of mapping, titling and registration be conducted both to ascertain the technical effectiveness and the social and economic benefits of land registration for the individual registrants and for public purposes. In addition, research to ascertain and monitor the social soundness of land registration would be essential both for project evaluation purposes and to provide evidence for any possible follow-on expanded project. (It would be most desirable, if non-government researchers and/or academic institutions involved in these monitoring and analysis of activities.)

(8) Provide some commodities to meet immediate needs and provide backup safety factors of existing and anticipated volume of legal documents, such as Planetory microfilm camera, microfilm reader and reproducer.

APPENDICES

USAID-Mapping, Titling, Registration Consultant Team

1. Mrs. Betty H. Ryan, Team Leader - USAID/Philippines

A systems analyst in real property management with 16 years of applied experiences in land registration, titling and land records management - 30 years of experience, 15 of which involved the development and implementation of both automated and manual systems with 7 years as a consultant on land in Asian countries.

2. Mr. Saturnino A. Pacubas - Bureau of Lands, Philippines (GOP)

Chief of the Administrative Division of the BL with 30 years experience in land activities. Holds a law degree and a member of the Philippine Bar and has spent the majority of his career as a practicing lawyer and consultant on land problems.

3. Mr. Sixto Luz - Bureau of Lands, Philippines (GOP)

Chief of the Stereograph Section of the BL. A photogrammetrist and the BL liaison officer for all land mapping projects conducted by BL field offices and the national coordinator of land reform and registration programs, with 25 years of applied experience in land programs. Has received technical training in Holland, United States and other countries.

4. Mr. Lloyd Sadler - Bureau of Land Management, U.S.A.

National Mapping Coordinator for BLM who is responsible for setting policy and establishment of standards for mapping, geodesy and allied areas. A photogrammetrist and geodetic engineer with 30 years of applied experience, 15 of which were spent in the technical field and the balance of time at the management level involved in development and implementation of land programs, with two years as a consultant in Vietnam and several years experience in other countries.

5. Dr. David King - Professor of Agriculture Economics associated with University of Wisconsin Land Tenure Center

Has years of experience in applied research in many countries with three years as research advisor to University of the Philippines on Land Reform. Has both teaching and applied experience in the field of land reform and is knowledgeable in all land related fields.

Appendix No. 2

Places, GOI Agencies, Educational & Training Institutions, Etc. Visited by Consultant Team

1. Photogrammetric Laboratorium of the Sub-Directorate of Photogrammetry and Triangulation, Jakarta
2. Provincial Agraria Office, Jakarta
3. District Agraria Office, South Jakarta
4. City of Jakarta Computer Center
5. BAKOSURTANAL, Cibinong
6. Institute of Rural and Regional Studies, University of Gadjah Mada (UGM), Yogyakarta
7. Training Center for Image Interpretations and Integrated Surveys (TCIIIS), UGM, Yogyakarta
8. Provincial Agraria Office, Semarang, Central Java
9. District Agraria Office, Sukoharjo, Central Java
10. District Agraria Office, Klaten, Central Java
11. Provincial Agraria Office, Denpasar, Bali
12. District Local Government (Kabupaten) Badung
13. District Agraria Office, Singaraja, Bali
14. Sub-District Local Government (Kecamatan of Tejakula) Singaraja, Bali
15. Villages (Desa) of Les and Julah, in Tejakula Singaraja, Bali
16. Office of the Inspector General of Finance, Bandung
17. Training Center for Photogrammetry and Cartography, Institute of Technology, Bandung (TCPC-ITB)
18. District Agraria Office, Ciamis, West Java
19. Citanduy River Basin Project Office, Benjar, West Java
20. Agricultural University, Bogor, West Java

Summary of Findings on Statistics

Central Java:		
	Total area	3,178,758.7483 has.
	Population	21,980.321
	Sawah land	1,076,227.8729 (rice field)
	Dry land	866,938.58c0
	Municipality	235,592.2894 (areal land)

(Refer to Tables 2 and 3 of Appendix No 3)

1. With the total population given (vital statistics unknown) each individual could receive .0808 has. of rural land or .1446 if total land area includes the six (6) municipalities. (Refer to Table No. 3 Appendix 3.2)

2. Using District of Klaten as an example: (Refer to Appendix No. 3)

   A. There are 23 municipalities and 401 villages totaling 65,739.1333 has. of which 44,575,2405 is rural.

   B. 77 villages (or approx. 19%) have been mapped for a total of 12,275.8697 has. with 64,53c parcels leaving a balance of 32,399.3608 has. yet to be mapped (more than 2/3).

   C. Over a five-year period there have been 58,9c3 certificates issued for an average of 11,742.3 per year. Using a ratio of 839 parcels per village (Table No. 6)(which is equivalent to certificate) there remains 271,336 parcels for issuance of certificates which, when utilizing the last five-year average, would take approx. 23 years following voluntary applications and existing procedures.

3. In Central Java; of the 3,187 villages containing approximately 1,943,166.4589 has., there have been a total of 1,015 villages where mapping has been completed covering 189,873,3542 has. and 921,245 (approx. summary of approx. 907 parcels per village).

   A. Table No. 4 (Appendix No. 3) indicates that over a five-year period 560,134 certificates were issued which would indicate a ratio of 112,027 certificates per year.

B. Using a ratio of 907 parcels per village and remaining village of 7,172 yet to be mapped there is approx. 6,505,004 parcels to be mapped and certificates issued.

C. At a ratio of 11,2027 certificates issued per year it would take approximately 58 years to finish the issuance of certificates in Central Java utilizing the voluntary application approach.

4. Problems:

In utilizing the statistics as shown in the various attached tables it must be asked: How complete are the figures relative to how they are used in arriving at certain assumptions. Using certificates issued as an example: (a) it is known that pilot projects on mapping have been conducted in Central Java yet it is not known whether statistics on certificates issued (Table 5) include these figures which would therefore change the projections of numbers of years to complete the existing program; (b) in examining correlations in Table 5 of figures on application vs. certificates, it is not known whether transfers and mortgages are included in the certificates issued. There are many gaps in the statistics, such as family population and time elements of individual activities which makes it very difficult to arrive at a more accurate projection on manpower/time and a projection of anticipated completion date of program activities.

APPENDIX NO. 3.2

(TABLE No. 1)

[illegible] : CENTRAL JAVA

a. The totality of rice fields and dry lands agriculture in Central - Java Province.

Rice fields	:	1.076.227,6729	Ha.
Dry lands	:	866.938,5060	Ha.

Refer to TABLE No. 2

b. The totality of rice fields and dry lands agriculture in Klaten - regency.

Rice fields	:	35.209,2405	Ha.
Dry lands	:	9.366,0000	Ha.

c. The totality of rice fields and dry lands agriculture in Sukoharjo - regency.

Rice fields	:	22.096,4082	Ha.
Dry lands	:	7.563,6432	Ha.

d. The totality of rice fields and dry lands agriculture in regency - with the highest amount of certificate issued (Klaten regency).

Rice fields	:	35.209,2405	Ha.
Dry lands	:	9.366,0000	Ha.

e. The totality of rice fields and dry lands agriculture in regency - with the lowest amount of certificate issued (Grobogan regency)

Rice fields	:	62.804,0630	Ha.
Dry lands	:	54.067,7840	Ha.

Based on the data above so the target of activity of the Land Registration in Central Java is the Agriculture areas in the rural districts :

1. To simplify the procedures of settling border disputes and disputes on land title.
2. To simplify the procedure of getting Credits from the Bank to improve farming business.
3. To order the administration land ownership and to have Control of land ownership of Agriculture areas.
4. To guarantee payment of Credits from Bank.

(TABLE NO. 2)

1.	Semarang	27,744,5[illegible]00	31,536,1000	59.330,6400
2.	Kendal	30.723,9[illegible]50	12.[illegible]69,2300	43.793,1650
3.	Demak	52.233,9[illegible]64	15.431,3476	67.665,7940
4.	Grobogan	62.804,0630	54.067,7840	116.871,8470
5.	Pati	53.067,[illegible]050	33.380,2600	91.[illegible]47,3650
6.	Kudus	21.389,3890	7.430,3370	28.820,2260
7.	Jepara	27.041,2520	17.117,2410	44.161,4930
8.	Rembang	33.100,5390	32.954,3700	65.054,9090
9.	Blora	46.238,6920	31.545,4600	79.784,1520
10.	Klaten	35.209,2405	9.366,0000	44.575,2405
11.	Boyolali	27.477,7600	47.809,2600	75.287,0200
12.	Sragen	41.966,7663	19.573,4486	61.540,2149
13.	Sukoharjo	22.896,4282	7.568,6432	30.465,1314
14.	Karanganyar	25.[illegible]32,5000	18.083,8149	43.666,3149
15.	Wonogiri	26.551,0500	84.947,0500	111.498,1000
16.	Magelang	63.148,4620	29.541,0630	92.689,5250
17.	Temanggung	21.981,0000	37.[illegible]67,0000	59.248,0000
18.	Wonosobo	30.194,0780	45.[illegible]82,7520	76.076,8300
19.	Purworejo	31.974,061[illegible]	30.[illegible]40,4500	62.114,5250
20.	Kebumen	55.778,1910	34.[illegible]40,0000	90.526,1910
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	Cilacap	59.911,0510	60.[illegible]63,4930	120.[illegible]01,5[illegible]0
23.	Banyumas	22.175,3410	22.[illegible]00,1320	44.255,4730
24.	Banjarnegara	21.234,0000	60.[illegible]84,0000	82.018,0000
25.	Purbalingga	26.[illegible]30,2355	13.576,6542	40.[illegible]62,8897
26.	Tegal	43.101,2250	9.[illegible]70,9895	53.072,2255
27.	Brebes	68.[illegible]22,4100	17.729,0250	86.[illegible]51,4[illegible]0
[illegible]	Pemalang	29.[illegible]00,0040	26.343,1100	56.[illegible]43,[illegible]220
29.	Batang	23.101,0000	17.702,0000	40.803,0000
	Total	1.076.227,0729	866.930,5060	11.943.[illegible]60,[illegible]90

[illegible]: Not included in all of Agricultural Land in six Municipalities, which EQUALS 235,542.2894 HAS (TABLE NO. 3 less TABLE NO. 2)

(TABLE No 2)

[illegible]

[illegible]

No.	Kabupaten	Sawah /Rice Field (Ha)	Tegalan/Dry Land (Ha)	Total
1.	Semarang	27,744,5[illegible]00	31,[illegible],1000	59.330,6[illegible]00
2.	Kendal	30.723,9[illegible]	1[illegible],2300	4[illegible].793,1[illegible]
3.	Demak	52.233,9[illegible]	15.431,8476	67.665,79[illegible]
4.	Grobogan	62.804,0630	54.067,7840	116.871,8[illegible]70
5.	Pati	5[illegible].067,4050	33.380,2600	91.[illegible]7,[illegible]650
6.	Kudus	21.389,8890	7.430,3370	28.820,22[illegible]0
7.	Jepara	27.044,2520	17.117,2410	44.161,4930
8.	Rembang	32.100,5[illegible]0	32.95[illegible],3700	65.051,[illegible]0
9.	Blora	48.238,6920	31.545,4600	79.784,1520
10.	Klaten	35.209,2405	9.366,0000	44.575,[illegible]05
11.	Boyolali	27.477,7600	47.809,2600	75.287,0200
12.	Sragen	41.966,7663	19.5[illegible]3,4486	61.540,21[illegible]
13.	Sukoharjo	22.896,4882	7.568,6432	30.465,1314
14.	Karanganyar	2[illegible],5[illegible]2,5000	18.083,8149	43.666,3149
15.	Wonogiri	26.551,0500	84.947,0500	111.498,1000
16.	Magelang	63.148,4620	29.541,0630	92.689,[illegible]50
17.	Temanggung	21.981,0000	37.267,0000	59.248,0000
18.	Wonosobo	30.194,0780	45.882,7520	76.076,8300
19.	Purworejo	31.974,06[illegible]	30.[illegible]40,4500	62.114,5230
20.	Kebumen	55.778,1910	34.740,0000	90.518,1910
21.	Banyumas	[illegible],7[illegible]	37.[illegible]01,0[illegible]0	7[illegible],7[illegible]
22.	Cilacap	59.918,0510	60.[illegible]62,4900	120.[illegible]01,[illegible]10
23.	Purbalingga	22.175,3410	22.[illegible]80,1320	44.255,4730
24.	Banjarnegara	21.234,0000	60.784,0000	82.018,0000
25.	Pekalongan	26.586,2355	13.576,6542	40.162,8897
26.	Tegal	43.101,2290	9.970,9895	53.072,2[illegible]5
27.	Brebes	68.622,4100	17.729,0250	86.351,[illegible]0
28.	Pemalang	29.[illegible]00,0040	26.343,1180	56.24[illegible],[illegible]220
29.	Batang	23.101,0000	17.708,0000	40.809,0000
	Total	1.076.227,0729	866.938,5860	1.942.16[illegible],[illegible]

Note: Not include Area of Agricultural Land in six Municipalities, which EQUALS 235,542-2894 HAS (TABLE No 3 LESS TABLE No.2)

APPENDIX No 3.5

- [illegible] -

(TABLE No. 4)

[illegible]

[illegible] totality of applications for certificate, certificate issued, transfers of title, mortgages during P[illegible] II (197[illegible]/1975 through December 1976), in the [illegible] of [illegible] of Central Java Province.

Applications for Certificate	:	[illegible]
Certificate issued	:	[illegible]
[illegible] of title	:	10[illegible]
Mortgages	:	25.[illegible]

} = 692,228

Remaining 30,893 (ACTION ?)

The totality of Applications for Certificate, Certificate issued, transfers of title, mortgages during P[illegible] II (1974/1975 through December 1976) in [illegible] Regency. (HIGHEST)

Applications for Certificate	:	[illegible]
Certificate issued	:	[illegible]
Transfers of title	:	[illegible]
Mortgages	:	1.[illegible]

} = 67,124 OVERAGE ?

The totality of Applications for Certificate, Certificate issued, transfers of title, mortgages during P[illegible] II (1974/1975 through December 1976) in [illegible] Regency.

Applications for Certificate	:	[illegible]
Certificate issued	:	[illegible]
Transfers of title	:	[illegible]
Mortgages	:	1.[illegible]

} = 66,238 OVERAGE ?

[illegible] of applications for Certificate, Certificate issued, [illegible] of title, mortgages [illegible] P[illegible] II (1974/1975 through December 1976) in [illegible] the [illegible] ([illegible] Regency).

Applications for Certificate	:	[illegible]
Certificate issued	:	[illegible]
Transfers of title	:	1[illegible]
Mortgages	:	[illegible]

(REFER TO TABLE No 5 ANNEX No 36 FOR DETAILS)

BEST AVAILABLE DOCUMENT

APPENDIX No 38
(Page 1 of 2)

(TABLE No. 6)

[illegible]

[illegible]

[illegible]	Desa [illegible] ([illegible])	[illegible] (Desa)	Jumlah Desa (TOTAL)	Luas (Ha)	Jumlah bidang (Parcels)	Jumlah lembar peta (Mapsheets)	Keterangan (Comments)
	3	4	5	6	7	8	9
[illegible]	–	2	2	1[illegible],2300	1.523	13	
[illegible]	–	17	17	5.22[illegible]	34.600	187	
Kendal	–	86	86	3.55[illegible],4370	14.657	114	
Demak	–	7	7	1.69[illegible],5920	9.569	88	
[illegible]	–	4	4	1.01[illegible]	4.067	20	
[illegible]	–	1	1	34[illegible],0000	1.500	18	
Pati	–	17	17	4.20[illegible]	13.739	44	
Blora	–	10	10	3.6[illegible],0000	12.058	118	
[illegible]	–	1	1	250,0000	2.440	30	
[illegible]	–	4	4	76[illegible],[illegible]740	10.669	124	
[illegible]	–	4	4	62[illegible],5560	2.357	34	
[illegible]	4	1	5	65[illegible],[illegible]000	5.456	54	
[illegible]	85	10	95	21.721,7304	95.106	654	
[illegible]	–	61	61	1.025,[illegible]293	5.699	54	
[illegible]	–	41	41	4.81[illegible]	7.035	15	
[illegible]	60	17	77	12.275,[illegible]697	64.536	428	a. 1902 HA Per Parcel
[illegible]	25	2	27	10.692,[illegible]47	43.017	414	c 897 Parcels Per Village
[illegible]	–	27	27	10.[illegible],5[illegible]	32.549	200	
[illegible]	–	2	2	866,[illegible]	–	28	

(TABLE No. 6, CONT'D)

1	2	3 Photogrammetry	4 Terestrial	5 Total	6 Hectares	7 Parcels	8 Mapsheets	9
[illegible]	[illegible] Pekalongan	–	9	9	2.809,6000	19.866	176	
[illegible]	" Pekalongan	115	14	129	25.716,2024	239.697	845	
[illegible]	" Pemalang	66	17	83	13.992,8960	81.218	464	
[illegible]	" [illegible]ang	–	7	7	1.398,6870	10.603	83	
[illegible]	" Tegal	–	6	6	1.261,5700	9.669	65	
[illegible]	" Brebes	–	16	16	4.598,5189	30.605	141	
[illegible]	" Purbalingga	–	6	6	1.145,2005	7.377	64	
[illegible]	" Purbalingga	–	24	24	2.823,2210	16.207	152	
[illegible]	" Cilacap	–	4	4	1.993,6067	6.860	74	
[illegible]	Kotamadya Pekalongan	–	1	1	118,0000	428	20	
[illegible]	Kabupaten Pekalongan	–	54	54	6.050,6270	19.449	81	
[illegible]	" Batang	–	4	4	1.279,0100	11.886	61	
[illegible]	" Brebes	69	7	76	21.160,8594	42.036	293	
[illegible]	" Tegal	33	5	38	11.630,7630	9.518	64	
[illegible]	Kotamadya Tegal	–	–	–	–	–	–	
[illegible]	Kabupaten Tegal	33	37	70	13.661,78401	55.039	156	
	Jumlah :	490 desa	525 desa	1.015 desa	109.873,35421 (Ha)	921.245 bidang	4.641 lembar	

0.308 PER PARCEL 4.5 SHEET PER DGSA

PARCEL = NO. OF CERTIFICATES

APPENDIX NO. 3
(Page 1 of 3)

DIRECTORATE OF AGRARIAN AFFAIRS
OF CENTRAL JAVA PROVINCE.

(TABLE NO. 7)

THE LIST OF VILLAGES ESTABLISHED SURVEY AND MAPPING BY FOTOGRAMMETRIS METHOD IN SUKOHARJO REGENCY/DISTRICT ON : 1973/1974 and 1976/1977

No.	Sub District	Villages	Area (Ha)	Sheets of map	Parcels	Certificate issued	Rests	Comment.
1	2	3	4	5	6	7	8	9
1.	[illegible]	Gerdilan	170,5070	3	.850	.850	-	
2.		Pabelan	271,2694	7	1.282	1.282	-	
3.		[illegible]	231,4740	7	1.026	1.026	-	
4.		[illegible]	207,9215	5	822	.822	-	
5.		Pucangan	336,7309	9	1.722	1.722	-	
6.		[illegible]	[illegible]	4	.905	.905	-	
7.		Bulotomro	272,5646	5	1.865	1.865	-	
8.		Pgunarejo	196,5606	4	1.205	1.205	-	
9.		Kabean	133,2590	4	1.152	1.152	-	
10.		Bringinan	148,2157	5	.975	975	-	
11.		Pucangan	135,6952	4	1.030	1.030	-	
12.		[illegible]	[illegible]	7	688	688	-	
13.	Gatak	Ngrang	196,6770	5	994	994	-	
14.		Bangsan	274,2275	7	1.723	1.723	-	
15.		[illegible]	260,4192	8	1.778	1.778	-	
16.		Bendo	166,9039	4	952	952	-	
17.		[illegible]	98,8120	4	1.120	1.120	-	
18.		[illegible]	[illegible]	4	1.047	1.047	-	
19.		[illegible]	[illegible]	4	811	811	-	
20.		[illegible]	103,0155	4	866	866	-	
21.		[illegible]	95,[illegible]	3	1.010	1.010	-	
22.		[illegible]	[illegible]	4	786	786	-	

23. [illegible]

(TABLE No. 7 - CONTD)

APPENDIX No. 3.

(Qs. 2 & 3)

1	2	3	4	5	6	7	8	9
[illegible]	Gujarat	Bhavnagar	132,5428	4	1.255	1.255	-	
[illegible]		Broach	133,3178	4	807	807	-	
[illegible]		Kaira	112,1469	3	718	718	-	
[illegible]		Kheda	161,1102	5	1.229	1.229	-	
[illegible]	[illegible]	Surat	155,1173	4	842	842	-	
[illegible]		Ahmedabad	111,5121	4	746	746	-	
[illegible]		Panchmahals	120,0557	4	792	792	-	
[illegible]		Surendranagar	125,0000	4	775	775	-	
[illegible]		[illegible]	100,0000	6	1.097	1.097	-	
[illegible]		Sabarkantha	178,0573	6	995	995	-	
[illegible]		Dharwar	133,9035	5	877	877	-	
[illegible]		Kanara	225,5102	6	1.374	1.374	-	
[illegible]		Kolaba	179,7962	8	900	900	-	
[illegible]		Ratnagiri	128,6305	6	920	920	-	
[illegible]		[illegible]	124,7705	4	812	812	-	
[illegible]		[illegible]	130,0065	5	765	765	-	
[illegible]		Belgaum	151,0555	5	1.014	1.014	-	
[illegible]		[illegible]	213,4570	7	756	756	-	
[illegible]	[illegible]	Bijapur	147,9935	4	700	700	-	
[illegible]		[illegible]	175,[illegible]35	6	760	760	-	
[illegible]		Nasik	116,9375	3	605	605	-	
[illegible]		[illegible]	204,4575	7	1.113	1.113	-	
[illegible]		Dharwar	144,7861	4	953	953	-	
[illegible]		[illegible]	131,[illegible]13	[illegible]	837	837	-	

47. Cement .....

(TABLE NO.7-CONT'D)

APPENDIX NO. 28
(Page 3-3)

1	2	3	4	5	6	7	8	9
47.	Grogol	Comeni	169,0555	5	1.236	1.236	-	
48.		Perungjoro	467,4975	11	1.088	1.088	-	
49.		Teluhan	342,0215	9	1.214	1.214	-	
50.		Pandeyan	391,9710	11	920	920	-	
51.		Jengkarjo	140,1503	6	805	805	-	
52.		Tegalsari	320,3552	6	1.591	1.591	-	
53.		Kaloran	226,1025	7	753	753	-	
54.		Grogol	93,7478	2	446	446	-	
	Total :		9.455,5870	289	57.223	57.223	-	

57

1,059.6 PARCELS PER VILLAGE
1,988 PARCELS PER MAP
5.35 MAPS PER VILLAGE

48 MONTHS TOTAL TIME (2)
= 6.02 MAPS PER MONTH
= 1.12 VILLAGES PER MONTH
= 22.06 PARCELS PER MONTH

IN THE NAME OF GOVERNOR THE HEADS OF LEVEL I
REGION OF CENTRAL JAVA
THE HEADS OF REGIONAL OFFICE OF AGRARIAN AFFAIRS,

(Ir. SUHYONO).-
NIP.: 010063435.

APPENDIX No. 29
(Page 1 of 3)

(TABLE No. 8)

THE LIST OF VILLAGES ESTABLISHED SURVEY AND MAPPING BY ADJUDICATION METHOD IN [illegible] DISTRICT / DISTRICTS.

No.	Sub Districts	Villages	Areas (Ha)	Sheets of map	Parcels	Certificate issued	Rests	Comment
1	2	3	4	5	6	7	8	9
1.	Mererani	Oloirobi	119,0000	4	707	657	50	Of 1973/[illegible]
2.	"	[illegible]	[illegible]	5	1.029	493	536	"
3.	"	[illegible]	[illegible]	5	1.156	1.060	96	"
4.	"	[illegible]	[illegible]	6	1.261	651	610	Of 1974/[illegible]
5.	"	[illegible]	[illegible]	8	1.293	358	935	"
6.	"	[illegible]	[illegible]	7	1.267	395	872	"
7.	"	Dantengan	133,9000	6	1.350	466	884	"
9.	"	Gasting	202,4000	5	991	255	736	"
10.	"	Kingdong	231,9000	8	1.068	306	762	"
11.	"	Jelobo	255,2000	8	1.223	418	805	"
12.	"	Soloyo	198,9000	9	1.316	505	811	"
13.	Pandan.	Sobogan	99,1000	7	1.132	406	726	"
14.	"	Kidangan	277,3000	3	1.072	225	847	"
15.	"	Tumbakbayo	99,1000	7	1.358	353	1.005	"
16.	"	Lumbirong	117,3000	8	716	189	527	"
17.	"	Kidangan	262,5000	4	459	242	217	"
18.	"	Kidigana	328,9000	8	857	167	690	"
19.	"	Tumbaton	235,5000	10	971	237	734	"
20.	Cempaka	Tegalrejo	94,6000	4	1.706	478	1.228	"
21.	"	[illegible]	[illegible]	7	619	293	326	"
22.	"	[illegible]	155,7000	7	1.216	546	670	"

22. Jambulan .....

(TABLE NO 6 - CONT'D)

APPENDIX No. 3.9
(Page 2 of 7)

1	2	3	4	5	6	7	8	9
32.	Ceper	Jambuaton	151,9000	5	937	429	508	OK 1974-1975
33.	"	Kurung	133,7000	4	930	292	638	"
34.	"	Alepu	202,4000	6	1.321	272	1.049	"
35.	"	Pokak	108,5000	5	826	274	552	"
36.	"	Klece	153,5000	6	958	303	655	"
37.	"	Ceper	142,1000	5	672	258	414	"
38.	"	Cetan	119,7000	4	635	232	603	"
39.	"	Bujon	130,5000	5	940	250	690	"
40.	"	Blimbing	163,4000	5	933	210	723	"
41.	"	Jember	110,1000	4	780	295	485	"
42.	"	Jambulsidul	105,2000	5	931	210	721	"
43.	"	[illegible]	163,1000	7	1.132	498	634	"
31.	Banyuwangi	Banyuwangu	180,7000	5	1.264	698	566	"
35.	"	Banyuputih	172,6000	5	1.159	375	784	"
36.	"	Belanguan	152,1000	5	939	319	620	"
37.	Jember	Kajintaan	190,5000	6	1.108	366	742	"
38.	"	Pandungan	94,5000	4	850	474	376	"
39.	"	Krisan	217,2000	6	1.164	256	908	"
41.	"	Tresan	135,0000	9	1.490	280	1.210	"
42.	"	Jatisarangalang	145,1000	6	968	307	661	"
43.	"	Jatan	140,0000	4	745	496	249	"
44.	"	Jantan	175,9000	4	889	559	330	"
45.		Segoroadi	152,7000	5	868	506	362	"
46.	"	Kalibaru	196,6000	7	1.279	581	698	"

46. Kalibaru .....

(TABLE NO. 8 - CONT'D)

- 3 -

1	2	3	4	5	6	7	8	9
46.	[illegible]	[illegible]	183,2000	5	1.185	777	[illegible]03	CH 1974/1975
47.	"	Jurdiring	135,1000	6	876	148	728	"
48.	"	Boloplorat	118,2000	4	681	200	481	"
49.	"	Bulu[illegible]jo	223,4000	6	[illegible]968	381	587	"
50.	"	Sawahan	165,7000	5	858	[illegible]64	594	"
51.	"	Cerikan	251,0000	7	999	317	682	"
52.	"	Tanjung	121,2000	3	749	221	528	"
53.	[illegible]	Tlobong	152,6000	5	931	252	679	"
54.	"	Gatak	12[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	"
55.	"	B[illegible]	[illegible]	4	1.1[illegible]1	15[illegible]	1.[illegible]	"
56.	"	[illegible]	1[illegible],7[illegible]	[illegible]	[illegible]	19[illegible]	[illegible]	"
57.	"	[illegible] Belungan	1[illegible]8,9000	3	660	328	332	"
58.	"	Sabrang	109,1000	5	6[illegible]0	530	110	"
59.	"	Karang	154,5000	4	744	199	545	"
60.	"	Butuhan	105,2000	4	647	208	439	"
Total :		60	10.012,9000	326	59.374	21.869	37.505	

182.12 Parcels Per Map
5.43 Maps Per Village
989 Parcels Per Village

369. .642

IN THE NAME OF GOVERNOR THE HEADS OF LEVEL I
REGION OF CENTRAL JAVA
THE HEADS OF DIRECTORATE OF AGRARIAN AFFAIRS.

1822
12 | 21869 Certificates

Represents No of Certificates per m

(Ir. SU[illegible]TONO).-
NIP.: 010063435.

STATISTICS WERE EXTRACTED FROM STATISTIK INDONESIA, 1976

APPENDIX No. 4

LAND AREA AND CURRENT LAND USE

Province	Area km²	Agriculture (1,000 has.)	Agriculture % Total Area	Estate (1,000 has.)	Estate % Total Area	Agr. + Estate Area	Agr. + Estate % Total Area	Forest (1,000 has.)	Forest % Total Area	Remaining Lands (1,000 has.)	Remaining Land % Total Area
D. I. Aceh	55,392	374	6.8	264	4.7	638	11.5	4,090	73.8	811	14.7
N. Sumatra	70,787	805	11.4	788	11.1	1,593	22.5	4,350	61.5	1,138	16.0
W. Sumatra	49,778	345	6.9	40	0.8	385	7.7	2,360	47.4	2,233	44.9
S. Sumatra	103,688	703	6.8	22	0.2	725	7.0	4,660	44.9	4,984	48.1
Riau	94,562	507	5.4	33	0.3	540	5.7	6,600	69.9	2,316	24.4
Jambi	44,924	241	5.4	14	0.3	255	5.7	3,670	81.7	567	12.6
Bengkulu	21,168	154	7.3	3.6	0.2	157	7.5	1,386	65.5	574	27.0
Lampung	33,307	673	20.2	149	4.5	822	24.7	1,304	39.2	1,205	36.1
DKI Jakarta	588	19	32.3			19	32.3	1	1.7	39	66.0
W. Java	45,917	1,524	33.2	320	7.0	1,844	40.2	934	20.3	1,814	39.5
Cent. Java	31,788	1,943	61.1	92	2.9	1,845	57.6	624	19.5	735	22.9
	32,037	1,753	54.7								
E. Java	47,922	2,026	42.3	260	5.4	2,286	47.7	1,314	27.4	1,192	24.9
Yogyakarta	3,193	181	56.7	5.6	1.8	187	58.5	18	5.6	114	35.9
Bali	5,561	267	48.0	2.7	0.5	270	48.5	125	22.5	161	29.0
W. Nusatenggara	20,177	289	14.3	11	0.6	300	14.9	848	42.0	870	43.1
E. Nusatenggara	47,876	653	13.6	2.1	0.04	655	13.7	1,063	22.2	3,070	64.1
W. Kalimantan	146,760	982	6.7	15	0.1	997	6.8	9,760	66.5	3,919	26.7
Cent. Kalimantan	152,600	524	3.4	5.8	0.04	530	3.5	13,075	85.7	1,655	10.8
S. Kalimantan	37,660	270	7.2	36	1.0	306	8.2	1,395	37.0	2,065	54.8
E. Kalimantan	202,440	93	0.5	2.4	0.01	95	0.5	17,240	85.2	2,909	14.3
N. Sulawesi	19,023	352	18.5	17	0.9	369	19.4	1,384	72.8	149	7.8
Cent. Sulawesi	69,726	283	4.1	1.4	0.02	284	4.1	3,584	51.4	3,105	44.5
S. Sulawesi	72,761	737	10.1	106	1.5	843	11.6	3,222	44.3	3,211	44.1
S. E. Sulawesi	27,686	151	5.5	3.6	0.1	155	5.6	1,716	62.0	898	32.4
Maluku	74,505	260	3.5	30	0.4	290	3.9	000	80.5	1,161	15.6
Irian Jaya	421,981							31,500	74.6	10,698	25.4
Indonesia	1,902,018	14,168	7.4	2,226	1.2	16,394	8.6	122,227	64.3	51,572	27.1

APPENDIX- No 5

GOI Mapping Accomplishments, PELITA I and II

	Terrestrial	Photogrammetry	Total
Area (Has)	115500	777700	893200
Cost (Rp. 000,000)	478	1811.6	2289.6

APPENDIX - No. 6

PHOTOGRAMMETRIC SURVEYS IN
KLATEN REGENCY/DISTRICT

SUB-DISTRICTS	VILLAGES	AREAS(HAS)	MAP SHEETS	PARCELS
1. Wonosari	12	2293.3	78	13793
2. Pedan	7	1420.0	39	7139
3. Ceper	14	2014.4	72	13030
4. Karangdowo	3	505.4	15	3362
5. Juwiring	16	2653.9	87	15677
6. Delanggua	8	1125.9	35	6373
TOTAL	60	10012.9	326	59374

Note:

Three (3) villages (desa) of Wonosari was executed in FY 1973/1974 while the rest was executed in FY 1974/1975. Statistics were provided by Ir. Suryuno, Head of the Directorate of Agrarian Affairs in Central Java.