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Land Registration and Land Titling Projects

in ECA Countries

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A. Background

1. Land registration and cadastre projects are a small but growing part of the World Bank's loan portfolio of lending throughout the world. Currently the World Bank supports about ten land titling and registration projects with a total loan value of US \$550 million. This represents about 1% of World Bank lending on an annual basis. There are approximately ten additional projects which include sub-components for land registration and cadastre as part of projects with broader objectives. The current Bank activity in the area contrasts with the decade of the 1980's when only three projects were approved in this area, for a total loan amount of US \$150 million.

2. The major features of Bank projects in land titling and registration have been summarized in recent reviews.¹

- Objectives of the Projects. Most of the projects state their objectives in terms of fostering efficient and equitable land markets and achieving a more efficient and transparent land administration system. This amounts to the clarification of the land tenure situation, especially through accelerating the pace of land registration and institutional development and land policy development. Another key objective is to address poverty in rural areas by opening access to institutional credit and thus increasing farm productivity and income.
- Typical Bank Support. The major components of a World Bank supported land registration and titling project in general are: improvement of legal framework and statutes; base mapping for property rights purposes; regularization of possessory holdings involving adjudication, title issuance, and registration; limited land settlement components; cadastral surveying and mapping; information technology support; institutional development and project management support; human resource development; and the provision of international and national skilled advisors.
- The Scope of Projects. Few of the projects to date have tackled land policy issues directly. Most projects have focussed on the issuance of registered titles rather than taking the passive cadastre inventory approach without new titles being issued. About half of the projects have also involved the introduction of improvements to land valuation systems. The projects usually extend for periods of between five to seven years and form the start of longer-term government land titling and cadastre programs. Many of the projects have focussed on rural land titling, however the Indonesia and Lao PDRs are rural/urban by ratios of 60/40% respectively.

3. The Bank has become active in land titling and registration projects in the ECA region during the last few years. The Bank activities covers both urban property registration and rural land titling issues. In this note we focus on rural land-related registration. However, necessary inter-linkages with urban property registration are also covered. The World Bank involvement in the region includes: (a) grants (e.g., IDF); (b) support to land titling and registration in the framework of projects with broader objectives (for example agricultural reform support projects in Armenia, Georgia); and (c) full-fledged land titling and registration projects (see **Box 1**). Most of the Bank projects in this specific area are in the preparatory stage in the region, and the task managers are faced with a complex set of problems related to the task as such, and to the specific

¹ "Review of Bank Experience with Rural Land Titling Projects" OED 1992, World Bank, Washington, DC. "A Review of Some World Bank Experience with Land Titling Projects", Lynn Holstein, March 1996, World Bank, Washington, DC.

conditions in the region. The main objective of this note is to summarize the lessons of the Bank as well as other international experience² for the benefit of those who are involved in designing and implementing land registration and titling projects.

Bank Operations in ECA

Grant: Belarus, Moldova, Georgia, Armenia.

Integrated Agriculture Projects: Armenia, Georgia, Estonia (Under Preparation).

Self Standing Cadastre and Title Projects: Russia LARIS (Effective), Ukraine, Moldova, Romania, Bulgaria (Under Preparation).

Box 1

B. Why the World Bank Should Support Land Titling and Registration in the ECA Region

4. All market economies have a formal system to register land and property, in order to provide secure ownership of land, investments, and other private and public rights in real estate. A system for recording land and real estate ownership, land values, land use, and other land-related data is a critical tool for a market economy to work properly.

Benefits of Land Administration

5. Land administration is the process whereby land, and information about land, may be effectively managed. Effective and sustainable land management is impossible without land information. The benefits of a comprehensive land administration system include:

- reduce the cost of land transactions;
- increase security of ownership and security of tenure;
- provide clear and inexpensive mechanisms for resolving land disputes;
- provision of security for credit;
- development and monitoring of land markets;
- support of land and property taxation;
- protection and more efficient use of State lands;
- the facilitation of land reform and the implementation of land policies;
- the improvement of urban planning and infrastructure development; and
- the support of environmental management.

² “Workshop on Reforms of Cadastre and Land Registration Systems in Central and Eastern Europe and in Latin America” March 5-11, 1996. Seville, Spain, UN Economic Commission for Europe, Government of Spain.

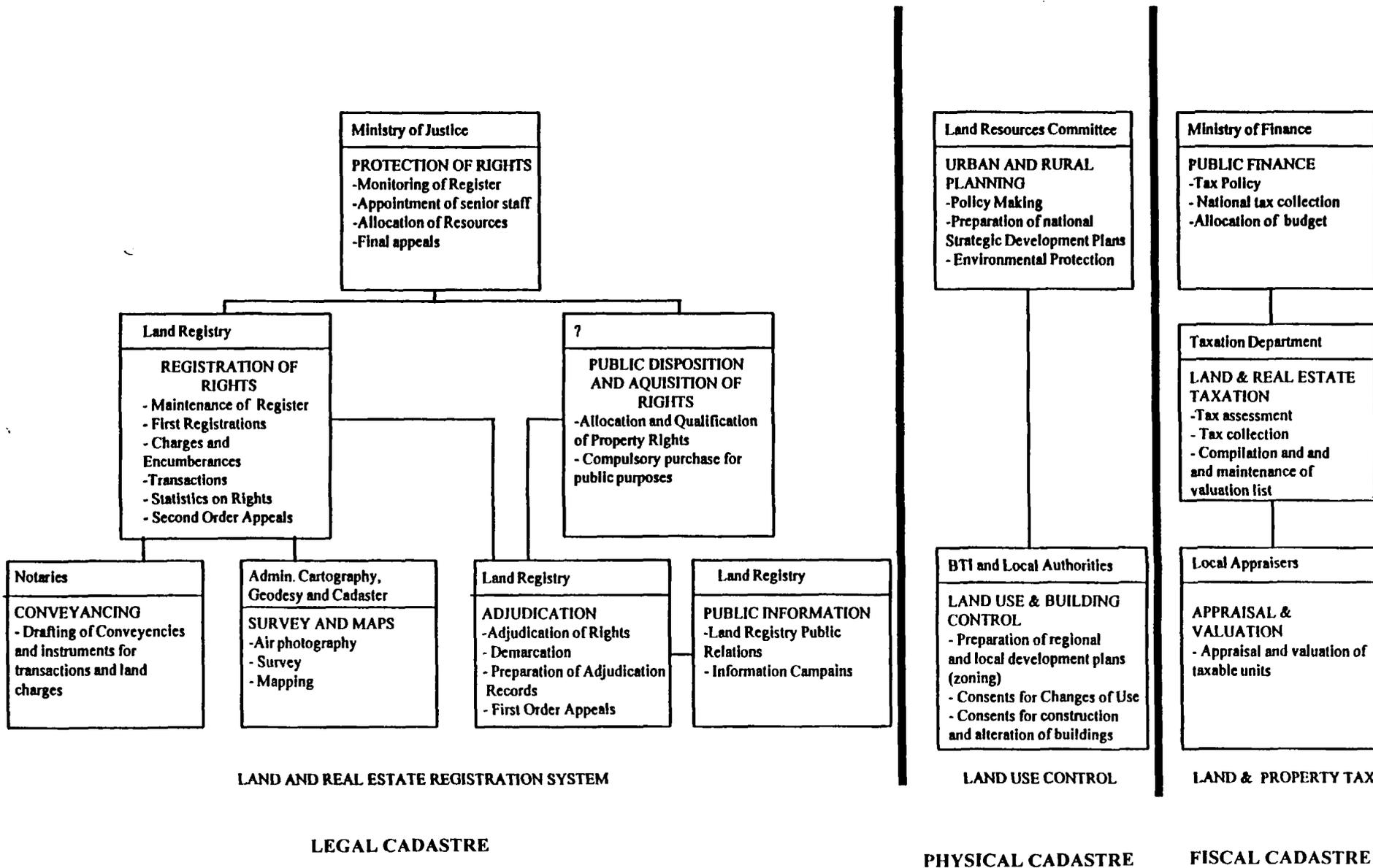
Features of a Typical Land Administration System

6. A typical land administration system or Cadastre can have three distinct functions:
- recording legal rights on property (Legal Cadastre);
 - recording physical features of land and property (Physical Cadastre); and
 - recording of property values for tax purposes (Fiscal Cadastre).

In some cases, all three functions are carried out under a single system, but more often, for historical reasons rather than for efficiency reasons, these functions are carried out by independent systems. All developed market economies have a Legal Cadastre, since it is fundamental to the functioning of a market economy. Some have a Physical cadastre system or in many cases multiple physical cadastres, which are used for local or national land use planning, zoning, and environmental planning and monitoring. Countries that collect land taxes, sometimes have a fiscal cadastre system.

- A Legal Cadastre is fundamental and essential for the development of a functioning market economy. It improves security of ownership and tenure, reduces the transactions cost of transferring property and provides a low cost mechanism for resolving property disputes. Data within a Cadastre should be accessible to the general public. However the cadastral system must include measures to protect individual and private interests from misuse of the information provided. Where the Legal Cadastre is administered separately from other cadasters, coordination with other cadasters is of particular importance. From a legal perspective, there are generally two types of Legal Cadastre, deed registration, where the documents filed in the registry are evidence of title, and title registration, in which the register itself serves as the primary evidence. Title registration is usually considered a more advanced registration system, which requires more investment for its introduction, but provides, in principle, greater security of tenure and more reliable information. Title registration systems usually results in lower individual transaction costs than deed registration systems thereby promoting a more efficient land market.
- Physical Cadasters are typically used in market economies for the purpose of town and city planning, public infrastructure development, environmental management, maintaining of land use policies, and housing development. Physical Cadasters are not always integrated within the national land administration system, but are often disbursed amongst the various local administrations and national ministries. The CIS countries, because of their reliance on central planning, have had in the past extremely detailed physical inventories of land and property, however, these databases tend to be distributed among various administrative agencies with little coordination. For example, city administrations keep records on land within their respective cities, local land resources committees have records on rural land plots and local offices for the Bureau of Technical Inventory keep records of all physical properties. These independent system do not always have common identifiers for land parcels. While some of the information in these physical inventories would be extremely useful for environmental planning, city planning, and legal records, much of the detailed physical information maintained for central planning purposes is no longer important in the market economy.
- Fiscal Cadasters are sometimes found in economies that have a tradition of land and property taxation. While fiscal cadasters have the desirable feature of being self financing, it may be prudent for CIS countries to first develop the legal cadastre and firmly establish a system of property rights before developing a fiscal cadastre. A schema outlining the structure and functions of a land administration system in a market economy are presented in **Figure 1**.

Figure 1: Land Administration Functions in a Market Economy



LAND AND REAL ESTATE REGISTRATION SYSTEM

LEGAL CADASTRE

LAND USE CONTROL

PHYSICAL CADASTRE

LAND & PROPERTY TAX

FISCAL CADASTRE

Current Status of Cadasters in the ECA Region

7. The Central and Eastern European countries have divergent histories in land administration. The Central European countries and the Baltic republics had historical experience with private land ownership and related land registration and cadastre systems prior to the communist period. Unfortunately the systems were not updated and not kept in use in most of the countries during the communist period. In the other FSU republics, there is limited historical experience with the land registration component of the land administration systems. However, sophisticated maps and land inventories are available for these countries, although they are often outdated. The development of land administration systems, including land registration and titling, has become an objective in all the countries in the early 1990s, together with the beginning of the transition to a market-based economy. Since physical cadasters were fairly well developed in the CIS countries, the improvement and adaptation of these system should be secondary to the development of Legal Cadasters. The recommended approach would be to first develop the legal cadastre followed by the integration of information from other cadasters, rather than trying to adapt the existing physical cadasters for use as legal cadasters. **Box 2** provides an overview of the current situation in realizing these objectives in comparison with the developed market economies.

Box 2: Similarities and Differences in the Status of Land Administration

	Former Socialist Economies	Developed Market Economies
Original Situation	Two different initial situations. CEE and Baltic countries with a history of Cadastre The CIS countries with only land inventories	In Europe, there are Cadastral and Registry organizations. In other countries no Cadastre only registration.
Objectives	Privatization and Distribution. Restitution or compensation. Cadastre-Registry ties or the lack of them.. Initial priority of the Registry. Tendency towards a multi-purpose Cadastre. Limited fiscal orientation.	Management of real estate taxes (urban). Reform of agriculture structures. Multi-functional information system. National coverage. Fiscal orientation.

Legislation	In process. Problems of competency or jurisdiction and organization.	Present. In various countries, recent modifications.
Administrative Organization	Distinct Rural and Urban Cadastres. Emphasis on both Rural and Urban Cadastre (housing and land to privatize). Involvement of various ministries. Large cities play leading roles in developing Urban Cadastres. Complexity of integration Registry-Cadastre. Generally, organization not finished.	<u>In Europe:</u> Urban Cadastre is competency or jurisdiction of municipalities, although under State rules. Rural Cadastre is generally a State or Federal Competency or jurisdiction. Legal Cadastre or Registry, dependent on Ministry of Justice, not always coordinated. Other Cadasters dependent on Ministry of the Treasury or Agriculture. <u>In other countries:</u> Government only provide facilities for record keeping. Titles are ensured by private title insurance systems.
Execution	CEE and Baltics: rapid adoption. CIS: pilot projects, study phase.	Computerization is in process.
Financing	Rest upon outside international resources	With own budget resources or self-financing.

8. In summary, the main objective of establishing a new land administration system in the region is in support of land reform to secure land rights and private ownership of the means of production and property in general. The registration and certification of private ownership is a critical component of privatization. Without clear registration of ownership, land privatization and land reform is not sustainable as the land and real property market will be informal and not transparent. The Bank should therefore give high priority to supporting the development of legal cadasters. The issuing of titles and their registration are essential preconditions for:

- protection of property rights, increasing individual investment confidence;
- transparency of ownership, thus reducing transaction cost and increasing the efficiency of property markets;
- establishment of land markets;

- development of secondary markets, such as rental markets, increasing the efficiency of property use;
- mortgaging of land, and through this the recapitalization of newly established farms and improvement productivity; and
- establishing a land-based taxation system.

9. The development of a land registration and land administration system in a broader sense, therefore becomes essential when the Governments are totally committed to full-fledged private land ownership, including the free-marketability of land. The cost to ECA countries of not establishing a legal cadastre or property rights registration system are: a) lower investor confidence leading to lower levels of private investment; b) poor security of tenure leading to weak land sales and rental markets, and to inefficient land and property use; c) less private sector credit through mortgages, leading to an imbalance between fixed and liquid assets at the firm level. All of these factors will lead to slower economic growth.

C. Critical Issues

10. The creation of a new land administration system or the upgrading of the existing one are complex tasks. The following series of operations must be addressed when introducing a new land administration system:

- the determination of user requirements, and government objectives;
- review of the existing land rights and registration system;
- strengthening the legal framework by review, additions and repeal, or new laws;
- establishment of an efficient land dispute process;
- establishment and operation of a modern land parcel registration system which will allow the secure trading of land rights;
- the improvement of institutional and administrative arrangements;
- demarcation, survey, and adjudication of rights of all land parcels; and
- creation of a continuous public awareness campaign to inform land holders of their rights, of registration requirements, and costs to landholders.

The focus should always be on the needs of all users of the system, not only the interests of the government, but also of the public, especially land owners and land users.

11. Land administration is a system by which land and information about land may be effectively managed. The creation of such a system needs to include:

- basic land management legislation;
- cadastral measures;
- construction of land information systems and;
- arrangements for organization and management of the system.

12. Legal Framework. The basic precondition for the establishment of a Legal Cadastre or Land Register is the establishment of a sound legal base, that meets the needs of a market economy. (The features of a freehold, leasehold or use rights required by market economy are summarized in **Box 3**). The acceptance of principles reflected in **Box 3** need to be treated as necessary preconditions for Bank assistance for any larger scale land titling and registration projects.

**Components of Full Land Ownership/
Tenure Rights**

- Perpetual term or if finite, adequate for use: 30 years minimum renewable on use; 99 years is better;
- transferability;
- mortgagability;
- unconstrained leases;
- inheritance;
- gift and exchange; and
- right of equitable compensation on expropriation.

13. The scope and definition of “land” can be wide-ranging, depending on the law and tradition of the country. However, typical land (immovable property in civil law, real estate in Anglo-American common law) includes the surface of the earth, plus the sub-surface down to the center of the earth and the air space above unless otherwise limited by law(s). Also, it includes objects permanently attached to the earth or soil, such as buildings, minerals, trees, unless otherwise limited by law. Therefore a land code should contain these matters, including the ownership of parcels which can be just air space, apartments within buildings, as well as who has rights over minerals of all types. Also, it might allow primary and secondary use rights over some of these objects which form part of the land, e.g., trees and soil.

14. Countries introducing or revising their land administration system should ensure that there is a land code or a set of land laws that define the nature of land and real property and that the concomitant rights are formally recognized. Legislation should control the processes whereby land rights are first recorded, the limitations on the use of land and real property, and the methods whereby land and property rights can be disposed of or otherwise transferred. The legislation should cover all land and property, in both rural and urban areas, and State land as well as that held by individual private citizens or institutions. In addition to laws on real property, there should be laws on the management of land information, though not necessarily in the same legislation.

15. The legal framework represents one of the most critical issues for ECA countries. Even in Central Europe where there was a pre-existing legal structure for registration, there has been a thorough revision and improvements. In the CIS countries, where no such history exists, the legal work must start at the very beginning. Experience indicates that there is a very limited knowledge base available to create the required legislative framework. For the CIS countries, the first steps toward a legal framework for land administration have been taken at a very slow pace, partially as result of political conservatism and partially due to lack of experience. In general legislation treats land and property registration issues inadequately. There is also concern over the absence of legislation has often resulted in non-action on land reform and actual distribution of titles.

16. Design. Establishing a new land administration system in ECA countries is closely linked to land reform and the privatization of land. In most ECA countries a legal cadastre or land registration system does not exist or is in the embryonic stages of development. They therefore have the advantage of starting their legal cadasters from scratch without many of the historic incumbrances found in older European systems that have evolved over many years. Once the legal cadasters are developed, the major problem in ECA countries will be the integration of many physical cadasters, which are regarded as proprietary by the agencies that control them, into an integrated land management system. There may be a serious trade-off in delaying land reform while waiting for an optimal solution to be implemented for land registration. Therefore a building block approach, i.e., beginning simple and imperfect, may be more practical in many cases. Introducing a new land administration system, including the implementation of formal land information registers, is an expensive and time consuming process. The importance of solid investigations and thorough planning cannot be underestimated. National solutions should be based on the clear identification of national problems; imported solutions from elsewhere may not meet local needs. Laws in some ECA countries impose expensive impractical solutions because they are based on laws of other countries with different land ownership traditions.

17. The key design issues for cadastre and land registration projects include:

- What is the major focus - to improve land tenure, or to raise property taxes - what is needed by the landholders? What does government want? In terms of land markets, improved security of tenure, improved access to land, in terms of equity or poverty? - or more property tax? What are the requirements?
- If the objective is to go for security of tenure improvement or titling in support of privatization, then another decision is, whether valuation and/or property tax is in the project. One of many criteria to help sort this out is to have the minimum number of agencies in the project.
- Should a combined cadastre (inventory) and land registration approach be followed, or just land registration? That is, which model should be followed, the European cadastre model or the non-cadastre registration of title approach adopted by several Anglophone countries; each has its pros and cons, and costs.
- Which type of land registration system? The possibilities are: (i) a deeds registration system, or (ii) a registration of title system? or a variation between the two extremes? Which system principles will work in the particular country and which will not?
- If a land registration approach is chosen without a cadastre - should a systematic approach or sporadic (demand driven) approach be followed;
- Determination of suitability of the existing legal framework; what improvements are necessary and what should be order or sequencing of the improvements; is a land code necessary? a cadastre law; a registration law; mortgage law; and which principles should be used?
- What are the associated land policy issues which may impede on the issuance of land titles - e.g., type of tenure; length of time of use right or leasehold terms - 30 years renewable seems to be minimum; transferability, exchange, gift, mortgage, lease, sublease, bequeath, and rights on expropriation; also what are the associated responsibilities, e.g., protection of the land resource, land taxes; agency responsibilities: jurisdiction over state land versus "private lands," gender; traditional peoples and their land rights; etc.

- What business principles will be applied to the registration system - who will take the risk; the land holder, the professionals, a government agency, or a land office professional?; will there be any guarantees in the system, the transparency of the system, the legal force of the system, etc.
- Technology choices for the land registration system (LRS) - and there are many? The role of paper records? The relationship of the LRS to the information technology (IT) strategy for the whole agency? When and where to start computerization of the land registration system, etc.
- Technical choices in the cadastre and for land registration - including the role of mapping; alternatives for cadastral survey techniques; new technologies mean the potential for less use of aerial mapping; therefore which agencies will be involved, and which can be left out? which private sector groups?; what are the role of national and international contractors?
- What will be the role of government and that of the private sector; which agencies will be involved and what are their present mandates; also the roles of the various levels of government - center, province, local, and villages. Also which private sector professions are involved - notaries, surveyors, real estate agents, or if not available what training is required? What incentives are required to allow them to start?
- What will be the main geographic focus of the project; is it rural areas/ villages/ cities or areas of economic growth rural and urban, or the whole country? Where is the greatest demand and return from investment? What criteria should be used to determine areas sphere to start?
- Are human resource skills available? Relevant human resource quality in both the public and private sectors? Are training and education necessary? Capabilities in-country for this training?
- How the project will be financed? How will the initial funding be gained for the system and property inventory and registration data start-up be financed; and how will the on-going land office operation be financed? What parts of the systems should recover costs?

18. The design is a crucial issue for ECA countries. Generally it is not recommended that one specific design of land administration be implemented in all the countries in transition. The local traditions, existing administration, etc., require different solutions, especially in countries where cadastral systems have been in operation for many decades. The cadastral systems in the majority of European countries contain different registers each under a different administration, although the registers are operated partly or wholly by the Government in each case. In North America, however, the Government is not directly involved in the land registration and titling process. There is no government guarantee to titles, only the physical facilities for storing information are provided by the government or region, or local municipalities. International experiences should contribute to, and maybe used as, starting points for the design process. These experiences indicate that the objective should be a uniform, consistent system which links all elements of the land administration system into one overall design, where the details obviously should reflect local conditions and history.

19. Institutional Dimension. According to World Bank and overall international experience, institutional issues are at the heart of most land registration projects, with dimensions ranging from: which agencies should undertake the land registration process; should the function be organized from the central government, or the provinces, the municipalities, the villages, or at all levels? Should the multi-agency structure be streamlined if possible; and within agencies, how can

the processes be re-engineered in the interest of rapid service and security and resulting in a lowering of transaction costs? What is the role of professionals and how should they be regulated? What parts of the project will the public sector undertake; which parts will the private sector undertake?

20. In a review of Bank supported land titling projects in 1992, it was reported that out of 12 operations, most performed poorly because of: (a) lack of political support; (b) conflicting bureaucratic priorities; (c) lack of institutional capacity or support; and (d) complex multiple objectives with land titling as only an adjunct.

21. The latest group of World Bank projects often have complex institutional arrangements. As stated in a recent Bank review (Holstein) some have three agencies involved in the project, plus a committee of agencies. In contrast, the Thailand, Indonesian, LAO PDR, and the El Salvador projects have simple institutional settings. They are focussed on one agency, typically a Department of Lands, which has the mandate to undertake the base mapping for cadastral purposes, and to lead the adjudication, cadastral surveying, and registration functions. This single agency focus has clear advantages compared with a multi-agency approach mainly because it focusses on the main objective, the goal of issuing titles to land holders and registering copies of the titles in public registration offices. In contrast, with three agencies, two are invariably focussed on geodesy and general purpose mapping, which some see as important objectives above all else. As a result, some projects have overly large geodetic and mapping sub-components. Furthermore, one of the agencies may have military connections which may result in the project coming into conflict with national security regulations.

22. The Central European countries have inherited an institutional arrangement for land administration which provides a framework for the adjustment of the system to new conditions. In the CIS countries, however, the institutional aspects of developing a land administration system is the most difficult to resolve. There are many agencies with conflicting objects involved in the early stage of the creation of a land administration system, such as Ministries of Agriculture, Land Resource Committees, Ministries of Justice, Ministries of Interior, Ministries of Housing and Building, local municipalities (especially in larger towns), Ministries of Economy, various geodesy and cartography institutes, as well as institutes belonging to the local Academies of Sciences. Governments seem to be rather slow and inefficient in resolving institutional competition and in creating a single locus of responsibility for design and implementation of a land administration system.

23. International experience indicates that the whole system of land administration, including the formal registration of legal information, as well as the technical information, needs to be supervised, controlled, and operated by one public authority and not split between two or more ministries or authorities. The single locus of responsibility does not exclude a distributed solution for practical activities and implementation. The latter can be undertaken by various national or local institutions or even by the private sector, provided that all the actors work according to compatible standards within a unified system.

24. Implementation. The creation of a land administration system meeting the demands of a market economy is a complex and difficult exercise. The development of related legislation and the appropriate organizations as well as the creation of financial resources and technical infrastructure are all closely interconnected. Experiences indicate that issues related to legislation, organization, and funding are frequently more complex to resolve than technical issues.

25. The implementation process for land administration in transforming economies is a different task in countries with previous experience with land cadastres than in countries with only physical inventories of land resources. The implementation process must also take into account the relationship to land reform. In many countries the land and other property as well, has already been distributed among private owners and to the beneficiaries of land reform, while in most of the CIS countries, the physical distribution of land and other properties including the separation of parcels is still a current task. In the first case, during the process of implementation the registration and titling are the major tasks to resolve, while in the second case, the physical alienation also needs to be part of the implementation process.

26. The features of an up-to-date land and property administration system are well known. There is often pressure from senior policy makers in the region to implement the most modern system and to structure it right at the very beginning. Experiences indicate that while it is worth being demanding in design, the implementation needs to be a step-by-step process which proceeds as financial and human resources become available. Obviously, in the region, the most important priority is the registration of ownership and creation of conditions for the transferability of ownership while the accurate accounting of physical features beyond the clear identification of location can be postponed until a later stage.

27. Technical Aspects. Most of the countries with a formal land administration system in place have already computerized their systems, or are on the way to do so. The existing manual systems frequently limit the opportunities for implementing modern, more efficient solutions. Furthermore, the conversion of existing files and survey data require huge resources. The developed market economies are in the process of introducing modern information technology for the purpose of land administration systems. Apart from significant cost, the quick introduction of the latest information technology for the same purpose in the developing world has not been always successful. These experiences should be taken as warnings of potential difficulties for ECA countries.

28. The Bank experience shows significant problems in introducing modern fully computerized land administration without due attention to local conditions. Many countries have started land information systems (LIS) efforts prematurely, without a needs analysis, with unclear objectives, lack of IT management support, all in an environment which lacks a strategy, which consists of very incomplete data sets (e.g. often cadastral maps are 20 years out-of-date, if at all in existence, and with less than 20% of the parcels registered in any jurisdiction, and many that are not clearly located on any map). In several countries with highly decentralized offices, sometimes many of those offices start with uncoordinated efforts funded from various sources. While valuable

learning experiences, those efforts often fail because of unclear objectives and methodologies, scarcity of skilled staff to undertake the work, and a lack of support from headquarters. Pressure for improvements through large-scale adoption of IT often come from outside companies who want to sell their technology and hardware, aided by their country's aid agencies, thereby preempting the introduction of sustainable systems in terms of both, human and physical resources.

29. The emerging IT approach in large agencies should be one of incremental improvements in an environment of an agency-wide IT strategy. This may include data standards, data structure concepts, and data management strategies; agency-wide technology standards and guidelines; an implementation IT unit with direct powers to implement and monitor the strategy; a common agency-wide IT user interface; and a supporting human resource development action plan. Within this framework, individual efforts can be supported, such as land registration office computerization as a tool to deal with the registration of new parcels, starting with alpha-numeric data and graduating to graphical data later.

- Multi-purpose LIS efforts in Bank projects have rarely been successful for many reasons. Most project agencies have found it difficult enough to plan and implement LIS for just one agency and its information requirements, let alone for several, when one considers the different priorities, incentives, varied mandates of each, and data scarcity and accuracy. One strategy has been to focus efforts on the systematic titling and registration which produces new maps, near complete coverage of all parcels in an area with up-to-date parcel information for whole villages, districts, and ultimately for provinces or regions. This can be considered as the base for LIS/GIS as it serves, on a de facto basis, many other uses apart from the property rights security. This is the strategy adopted by Thailand, Indonesia, Lao PDR, and Bolivia.
- Systematic Registration vs. Sporadic Registration. Many projects to date have focussed on trying to issue titles on a mass scale by systematic regularization: meaning undertaking the job village-by-village, farm-by-farm, parcel-by-parcel. This lends itself to the use of photomapping as an aid to photo identification of the parcels and boundaries. In the case of many South American projects, this has meant orthomapping and ground-based identification using that tool. In Asia, the approach has been analog rectified photomaps on a scale of 1:4,000 for rural areas and 1:1,000 for urban areas. In Thailand, a 60% usage rate of these maps has been achieved, with the balance of parcels surveyed by simple ground-based methods, (e.g., in villages, and when there were delays in the supply of photomaps). There is a significant lead time with the supply of photomaps of about 18 months, which means careful planning and a certain loss of flexibility. Also these maps are relatively expensive. In Asia they are priced only for titling purposes, with no other use expected in the short run. This amounts to between 12% and 20% of the costs of producing a title. The ground survey costs add another 20% and this percentage is growing with the growing costs of staff mobilization (a consequence of GDP growth of 9% per year and therefore salary increases). The potential is great to improve the methodologies and to reduce costs.
- Map-based vs. Ground-based Parcel Identification. If the scale of available maps is large relative to the size of parcels, parcel boundaries are easily identifiable on maps or orthophotos, and the density of the geodetic grid is relatively low, it may be more cost effective to rely on a map based parcel identification with minimal ground truthing. However, if the opposite is true, a ground-based system would be more appropriate. Ground based systems have varying degrees of precision, and cost, depending on the technology used. This ranges from high precision GPS-based total systems to simple tape measurements.
- Global positioning satellite systems (GPS) have been used for most purposes to date (survey control, airborne flight line positioning and photo-control), but in many instances, trials are being conducted in its use for cadastral surveys: in both systematic and sporadic work. The first results are very promising in terms of cost reductions, more timely and rapid surveys, accuracy, and improved flexibility in terms of being able to respond to demands to switch areas

when needed. GPS demands less cooperation between units of the one organization and fewer people. On the downside, hand-held GPS in the Asia context will put high cost capital equipment into the hands of low paid staff working at present with simple low cost survey equipment - often just a measuring tape. Any change here must be carefully planned with large numbers of teams involved (e.g. Thailand at present has over 650 adjudication teams consisting of a surveyor, a law clerk, and village representative, in operation every day, plus support staff, and control surveyors amounting to 5,600 people).

- Softcopy photogrammetry appears to be going to reduce the costs and to speed up the production rate of maps in the next few years. It is going to be used in the LAO PDR project. However, this needs careful introduction into developing countries with poor infrastructure, very limited skills base, and lack of maintenance facilities.

30. Expenses - Financing. In general, the development of a land administration system, and even its upgrading, is expensive, usually a multi-million dollar exercise. Traditionally, many of the processes of land administration have been managed by Government. In some countries new organizational arrangements for the implementation of land administration systems are being investigated, such as joint ventures or partnerships between government and the private sector or contracting out specific activities to the private sector. In some countries, the management and financing of land administration have become independent from government budgets. In many cases a more direct financing of land administration is being sought through cost recovery. Such an approach does not replace the need for basic governmental investment in policy, regulation, monitoring and basic laws, and spatial infrastructure such as a national coordinate system.

- World Bank Cost Figures. There is still only sketchy information available on the costs of land titling in World Bank supported projects. The Thailand projects achieved US \$44 to \$47 per hectare (average rural parcel size 0.9 hectares) that is about \$40 per parcel; Brazil North East Land Tenure project - US \$6.5 per hectare; Costa Rica US \$14 per hectare. It is clear that Indonesian costs will be similar to Thailand's \$40 to \$50 per parcel. In the breakdown of costs between the various parts of the process mapping takes about 24% of total budget, adjudication about 18%, survey 22%; registration 23%; and institution building about 13%. These figures are +/- 5% based on Thailand, Brazil, and the Algeria projects as calculated in 1993. (Holstein, 1993).

31. Establishing a new land administration system in ECA countries is closely linked to land reform and the privatization of land. It is difficult to identify mechanisms whereby the initial rapid establishment of a land information system can be financed through user fees only. Countries should regard the initial establishment of their system as a long-term public investment in infrastructure, with user fees covering only a portion of the total costs of setting up the system. The costs of maintaining a system to record land transactions, land subdivisions, etc., however, can be fully recovered through fees.

32. The financing of the initial establishment of land administration systems, even on a modest basis focussed on titling and registration, is a rather cumbersome task for practically all ECA countries. The financing of land administration developments in general doesn't seem to be manageable without outside financial assistance. The available information indicates large differences in the cost of land registration. Obviously, the techniques selected and the type of forming have a great impact upon expenditures. According to experts' estimates, the cost of registering of one parcel is about US \$30, while the cost for a whole farm might be in the US \$200 to US \$400 magnitude depending upon the size. Worldwide, most land registration has been demand

driven or sporadic when user's pay. Having the requirement that all land holders need to have secure rights quickly. Government intervention and financing is unavoidable. This means that the initial establishment of a system needs to be financed by government resources or from foreign financial assistance. International financing is a limited option for countries with very low borrowing capacities. The Central East European countries with already established agencies have been able to generate domestic resources and outside grants to begin the upgrading of existing systems. The speed of this process however, is slowed down by resource availability. The financing of the needed land administration system is a much more difficult issue in CIS countries. In the CIS countries domestic resources are not available for the initial expenses and the recovery of operational costs is seriously constrained by the current agricultural conditions.

33. Economic Benefits. Land titling and registration projects to date have not been required to calculate an "economic rate of return" before submission to the World Bank Board. This is because there have been few economic studies of the benefits of land titling, especially in urban areas. The norm has been to qualitatively state the economic benefits expected from the project and introduce them on the basis of least cost investments. Several projects have clearly differentiated between economic benefits and fiscal impacts of the project, as well as social and environmental impacts. Fiscal impacts are those associated with revenues from land, including property taxes, transfer taxes, capital gains taxes, stamp duties and registration fees. However, from a strictly economic perspective, fiscal benefits are not a true economic benefit, as they constitute a monetary transfer from the taxpayer to the Government. Some projects with valuation components have been associated with large gains in revenues for government, e.g., the Thailand project. Several socio-economic studies are now available which provide information on the extent of benefits which have been realized from investment in land registration systems. For example, a major Bank sponsored study in Thailand concluded that the benefits of titling exceed their costs by a wide margin. New studies are planned or underway in Indonesia and the Lao PDR and two studies were completed in 1996 in Paraguay and Honduras³. These investigations indicate that there are distinct economic benefits of rural land titling and registration projects, such as increased use of inputs by farmers, resulting in increased productivity, increased in land value as compared as to untitled lands, and better access to credit. **Figure 2** outlines the conceptual framework for land titling⁴.

34. While in economies with a long tradition of private land use, the benefits of land registration can be assessed more readily (e.g. by examining land values), in the ECA region, the assessment of economic benefits should recognize that they are likely to evolve over a longer period of time. The immediate objective of these projects is to assist the creation of private ownership and

³ Decomposition and Identification of the Impact of Land Titling on Agricultural Productivity in Paraguay. M. R. Carter and P. Olinto. World Bank Manuscript 1996. Land Titles and Farm Productivity in Honduras. R. Lopez, World Bank Manuscript 1996.

⁴ Brandao, Antonio & Gershon Feder; "The Case of Land Markets" Chapter 10 of "Regulatory Policies and Reform: A Comparative Perspective," Claudio R. Frischak, editor. Private Sector Development, World Bank, December 1995.

transferability of assets. The main economic benefits will therefore be measurable only on a longer-term basis as a result of improved performance and higher efficiency of a market-based and privately owned agriculture. As outlined in Figure 2, these benefits will be derived from: a) greater security to the farmer, leading to higher levels of private investment; b) greater security to the private lender, who would be prepared to increase the levels of cheap credit; c) and greater security to the land owner with an interest in renting, thus increasing the amount of rental land available, the flexibility of farm size structures and therefore farm efficiency.

35. Private Sector Role. The private sector can undertake a significant role in land registration except that of regulation and policy setting: the limits are set by country traditions and policy, regulations, and capacity. In ECA countries the role of the private sector is modest, especially in the early phase of project activities. The emergence of a private sector capable of participating in this work needs to be facilitated and supported.

• Bank Experience with Private Sector Participation.

In the Bank projects reviewed, the majority have used the private sector for at least one function of the project. Most have used aerial mapping as an instrument for identification of the parcels and for cadastral mapping, and most have used the private sector for this task. These include: Thailand, which used aerial photography by international competitive bidding (ICB), amounting to US \$1.5 million per year for 1985 through 1994; Brazil, including the Matto Grosso project used, or proposed to use, aerial mapping and aerial photography by the private sector, some parts bid internationally, others nationally. In the North East Brazil Land Tenure Project, they spent over \$20 million in the project's last two years on mapping by international companies; and the Paraguay aerial mapping, including the photography, was bid internationally in 1996.

- Less use is made of the private sector in adjudication and registration in Bank projects. However, in the North East Brazil Land Tenure Project, the private sector undertook much of this work in association with the state agencies, including drawing up the title documents, the cadastral maps, leaving the state agencies to register the documents. It should be noted that in Brazil, the land registration offices (cartorios) are operated by the private sector on a franchise basis.

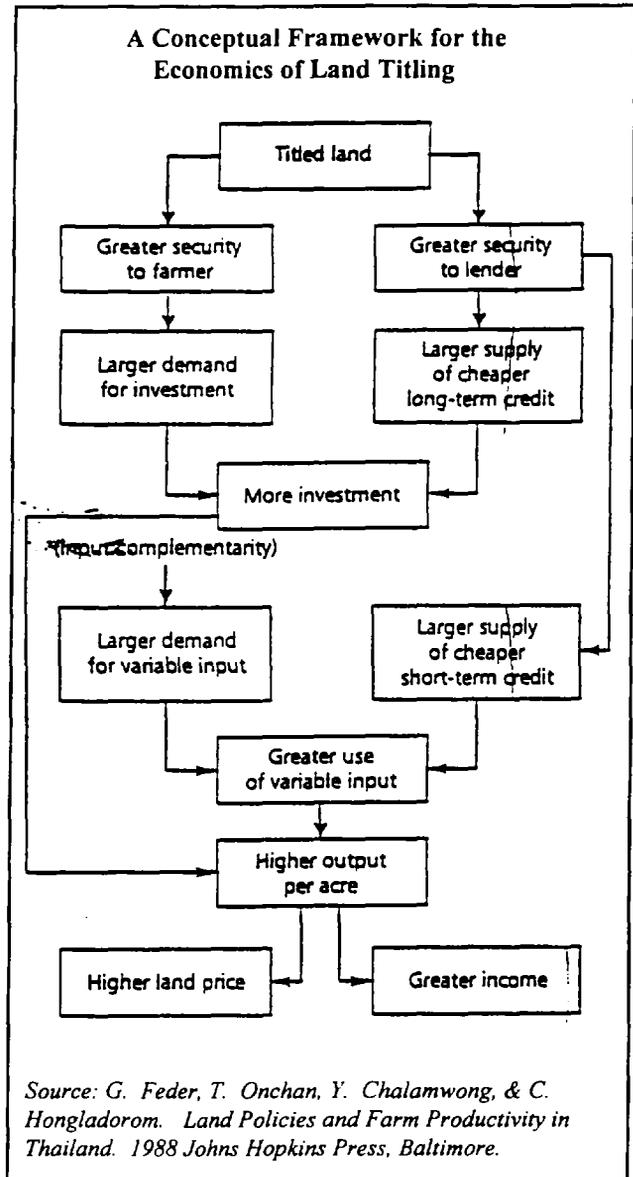


Figure 2

36. International Assistance. The international assistance is an essential condition for creating and improving land administration systems both in the developing countries and in transition economies as well. The international community has recognized the importance of land and property registration and the fact that without international assistance, most of the countries are not able to cope with the task of creating land administration systems. The major financial assistance comes from international financial institutions, mainly the World Bank. Significant grant assistance is provided by the EU, USAID, CIDA, SIDA, the Swiss Government and several other developed countries on a bilateral basis. The creation and improvement of land administration systems is also supported by several UN agencies, such as FAO and ECE.

37. International assistance has supported ongoing activities in the ECA region in practically all countries. There is a broad range of technical assistance provided by the EU, USAID, and several other bilateral donors. The grant based pilot projects represent a significant support in designing and implementing new or updated systems. In some countries there are several pilot projects implemented in parallel by various agencies. The roles of these projects are not always clearly defined at the beginning of the process and there is evidence of lack of coordination in many cases. The uncoordinated competition between various domestic and related international agencies will result in an inefficient use of limited grant resources and delay this very important process.

D. Conclusions

38. Bank Objectives. Land administration, especially land registration and titling, is an institutional requirement for a functioning property market in order to:

- reduce the transaction cost of property transfers;
- make private land holding secure and transparent;
- create a framework for implementing property based fiscal policies; and
- support sustainable land use policies.

39. Conditions for Bank Support. The Bank financial support needs to be linked to government policies which:

- acknowledge the right of people and enterprises to secure land tenure rights;
- facilitate a genuine farm restructuring process based on secure private user's rights of land and other assets; and
- facilitate the emergence of land markets with easy and inexpensive title transfer.

40. Design. The following points should guide the process of designing land administration systems:

- The creation of uniform real property registration and land administration systems is

- international experience can be very helpful in design, however, local conditions need to be appropriately considered;
 - integrated pilot projects can significantly support the design, however uncoordinated pilot projects might significantly slow down the whole process;
 - it is essential to adopt one overall design before mass implementation; and
 - the purpose of a private registration system is to serve private users, land owners, banks and the general public. Registration offices should therefore be conveniently located and easily accessible.
41. Legal Framework. The creation of a legal framework is closely related to design and should be completed before actual implementation. Due to the limited legal experience available in the region, donor assistance should have a major focus on the legislative aspects.
42. Implementation. Implementation needs to be well prepared:
- The speed of implementation should be realistic and related to local conditions;
 - The focus of implementation should be the registration of land rights in a legally well-established way as quickly as possible; and
 - Implementation should not be dominated by efforts to create the “perfect” solutions right at the beginning of the process.
43. Institutional Aspects. Proper institutional arrangements are critical for success:
- project design must include clear institutional arrangements;
 - it is preferable to have one institution with a single locus of responsibility for the entire process;
 - the role and authority of each participating institution needs to be determined clearly at a very early stage of project development; and
 - the local conditions and interests of existing institutions need to be taken into account;
44. Technical Aspects. The technical solutions have to reflect local conditions and available financing:
- Technical solutions have to reflect local conditions such as, education levels and computer literacy of staff for registry offices, size of lots, population density ,cultural norms, and boundary systems used;
 - Registries can be paper based or computer based or both. The rapidly falling cost and the advantages of computer technology makes paper systems difficult to justify;
 - Choice of land survey technology is driven by the precision required. Marginal increases in precision can be every expensive. Cost comparisons of different precision levels should be done to make rational policy choices; and

- Rapid changes in technology; such as GPS, increased resolution of satellite imagery, map digitizing technology, and softcopy photogrammetry; allow new systems to be installed at much lower cost than some existing systems.

45. Financing. The development and updating of land administration systems are rather costly exercises. The financing therefore is one of the most critical elements of project design because:

- countries have rather limited resources for this task, especially in the critical early period of transition;
- local technical experts often ignore cost constraints when proposing solutions;
- international experts often propose unaffordable techniques; and
- the potentials for local cost recovery are rather limited.

46. International and Bank Assistance. Without international assistance, this critical component of market economy cannot be created in the foreseeable future. Therefore:

- International donors need to continue their support to land administration and land titling projects;
- international assistance, however, needs to be better coordinated;
- meetings and coordination of donors needs to be organized, probably by the ECE, in order to take an account of ongoing donor activities and to agreed upon the principles of cooperation and distribution of labor;
- the Bank role in coordination needs to be strengthened;
- Bank financial support to land titling and registration projects needs to be broadened; and
- preparation and coordination of various Bank-related projects needs to be strengthened, especially within the ECA region.

