

# ISSUES AND KEY PRINCIPLES RELATED TO THE IMPLEMENTATION OF CADASTRAL AND LAND REGISTRATION SYSTEMS: A PERSPECTIVE FROM EASTERN EUROPE AND THE FORMER SOVIET UNION

Gerald McGrath<sup>1</sup>, Terry MacNeill<sup>2</sup> and Ivan Ford<sup>3</sup>

## Introduction

For the past five years development banks, multilateral donors and bilateral donors have provided substantial financial support to the countries of Central and Eastern Europe, and the former Soviet Union, in order to assist privatisation of land, buildings and enterprises, and to facilitate the necessary cadastral modernisation. Almost every country of the region has experienced one or more such projects, and many government agencies have been involved. A substantial number of public sector agencies, private sector companies and independent consultants from western countries have participated in these projects. Some projects have achieved their objectives whilst others have fallen short. The authors believe that after five years it is appropriate to review the experience gained and the lessons learned from participation in cadastral projects in so-called 'countries in transition'. The authors' collective experience has been derived from cadastral projects in Armenia, Azerbaijan, Moldova, Romania and Ukraine, though each has knowledge of developments elsewhere.

This paper will open by suggesting experiences and lessons learned within the context of legal, technical, institutional and financial considerations. It will then attempt to identify and assess critical issues of cooperation and coordination. It will consider possible improvements to the situation, and finally will propose some principles of cooperation and coordination. The overall aim is to stimulate discussion between lenders, donors, the governments of countries in transition and their professional staff, and professionals in western countries who contribute to cadastral projects in the transition countries.

## Experiences gained and lessons learned

### *Legal Considerations*

1. The governments of countries in transition have not found it difficult to draft legislation

---

<sup>1</sup> Professor, Department of Geography, Queen's University, Kingston, Ontario, Canada and independent consultant

<sup>2</sup> Independent consultant, Edmonton, Alberta, Canada

<sup>3</sup> UMA Geomatics, Edmonton, Alberta, Canada; Marston & Marston Inc., St. Louis, Missouri, USA; and project team leader

dealing with land, though ensuring that the legislation receives prompt passage by parliaments has been problematic. The latter has been caused partially by the registration of land being tied to the overall process of privatization which encompasses broader political and social issues. Experience also suggests that legislation which combines aspects of registration, property valuation and property taxation - the last two being difficult subjects in almost any country - is more difficult to pilot through the legislative process than legislation which is specific to a single subject.

Although it has not been difficult to draft legislation dealing with land, it does appear that the governments of transition countries have difficulty in producing legislation on land and the cadastre which is properly coordinated and integrated. This may be explained partially by the lack of definition of roles and responsibilities of agencies at the highest levels of government. In part it may be due to the speed with which much of the legislation has been produced. There is an important role for lenders and donors in convincing the highest levels of government that more attention needs to be paid to the drafting of appropriate and coordinated legislation. This should be complemented by an educational programme sponsored by lenders and donors on the issues associated with the creation and continuous maintenance of a registration system.

2. The meaning and role of the legal cadastre in which the land parcel and the registration of rights in the parcel are the central features will take a significant time to be understood by cadastral organisations within the countries in transition. This is attributable to the period of 50 years or more during which the concept of private ownership of land was excluded ideologically, and private ownership was very limited - though certainly not absent. Many elected officials and senior civil servants still view the legal cadastre, and information derived from it, as a means of controlling physical development rather than serving the public, promoting the development of a land and property market, and managing land appropriately. This also needs to be addressed.

3. There is a positive trend in transition countries towards defining real property in a legal sense to include land and buildings. This is encouraging given the longstanding administrative arrangements which have separated responsibility for land from that of buildings. Nevertheless, very little progress has been made toward unifying existing cadastres which deal with the registration of interests in property, and which are not so-called 'special cadastres'. The unification noted here refers to enabling legislation, the processes of registration, and to entities and attributes of property which are common to two or more cadastres. In many of these countries a distinction is still made between the registration of property in rural and urban areas. This can be attributed to the importance of the land cadastre to agricultural planning in a command economy, to the related influence of the Ministry of Agriculture, and to the predominant ownership of land and buildings in urban areas by the State. Privatisation is changing the first and third, though privatisation of urban land is proceeding more slowly than that of buildings.

4. Lenders and donors may unknowingly be promoting this distinction between registering property interests in rural and urban areas by developing separate *municipal infrastructure* and *agricultural reform* projects, each of which may have land registration components. Such projects tend to be implemented by different departments and task managers within the lender or donor

organisation, and not infrequently there appears to be little coordination. Although there are different technical issues associated with urban and rural legal cadastres, there is much in common. Lenders and donors have a critical role to play in encouraging the governments of the transition countries to take a holistic view of the legal cadastre. Taking such a view is not just desirable, but essential.

### *Technical Considerations*

1. Any proposition that a new legal cadastre should be developed and built rather than attempting to adapt existing cadastral-type systems to the requirements of a market economy should be examined with care. The central argument underlying the proposition appears to be that existing government agencies have 'territorial claims' to current property-related information systems which they will be reluctant to relinquish to another existing agency or to a new organisation. The Ministry of Agriculture is one illustration with its cadastre of agricultural land parcels which stresses land potential, current land use, and productivity. A second illustration is the Bureau of Technical Inventory found in republics of the former Soviet Union, an agency which contains a wealth of data and information on residential and other buildings. A further argument is that the central governments of countries in transition may not be willing or be able to re-structure ministries and subordinate agencies as the circumstances would warrant. Undoubtedly there is some truth in these assertions. Yet existing property-related systems contain data and information, and provide services, which could be invaluable to future legal and fiscal cadastres. Adapting and integrating existing systems may be the more difficult course to take, but it should help to reduce the cost of initial implementation. These principles should apply equally to the descriptive or textual component of the legal cadastre, and to the geometric data component. They apply also to future fiscal cadastres. Though lenders, donors and their consultants must share responsibility for identifying how current existing cadastral organisations might contribute to and participate in the future legal and fiscal cadastres, it is the lenders and donors who wield the greatest influence.

2. Those responsible for modernising or creating legal cadastres tend to be reluctant to adopt what the authors term *appropriate technology* solutions to the technical problems of the cadastre. This is so even when circumstances, particularly time, indicate appropriate technology solutions are relevant. It is especially the case with pilot projects in which western organisations often propose and help to implement advanced technical solutions. Rarely does a client object.

The authors wish to make clear that they are *not* opposed to the use of so-called *high technology*. Nor do they believe that the training of technical staff in transition countries to embrace new technologies is a difficult task. Most workers are well educated and highly literate. Rather the authors contend that there are critical factors which must be kept under continuous review as decisions are made on processes and the technical means of execution. The factors include

- a) the objectives of the project to create or modernise a legal cadastre;
- b) the timeframe in which each is to be achieved, which in turn is influenced largely by political, social and economic factors;
- c) the existing cadastral processes, products and services, and their appropriateness for inclusion

- in the new legal cadastral system;
- d) the standards by which developing technology is applied in cadastral applications, particularly the use of GPS for cadastral surveys (as distinct from densifying the control survey network, and achieving a strengthened network through the use of GPS);
- e) sustaining the level of technology employed in a pilot project, not only in the implementation phase but also in the longer term process of continuous maintenance;
- f) assurance of continuing and adequate funding from central government and users of the cadastral system throughout project implementation and long term continuous maintenance.

The absence of such an assurance may cause high technology solutions to be more of a burden than a benefit during project implementation and continuous maintenance. In some cases the existing paper registers and property maps may be adequate for building and maintaining the legal cadastre. This applies particularly to villages, where few property transactions are likely to take place after the initial registration resulting from privatization until a land and property market develops. In other cases existing processes, products and services might be incorporated into the new cadastral system after modest improvements have been made.

3. Although it is understandable that the design and development of legal cadastres should be given first priority in countries in transition, thought must be given *now* to the common elements of legal and fiscal cadastres, and to the future linkages which should exist between them. It is here that lenders, donors and consultants can help the transition countries avoid the lack of coordination between land registration and property valuation systems which is characteristic of English-speaking countries.

Future linkages to other cadastres required, for example, for land use planning and municipal infrastructure, may also need to be considered in accordance with plans for economic development. This leads to the proposition that instead of there being two or more pilot projects for the legal cadastre in a transition country, there should be several pilot projects which deal with different components of a multi-purpose cadastre. For example, there might be separate projects in land registration, property valuation, land use planning and municipal infrastructure. These pilot projects should all build upon common data and standards in order to demonstrate the benefits of each of these systems to economic development. They should also illustrate the linkages which should connect them.

4. Independent local consultants have potentially important roles to play in cadastral work which is contracted to foreign consultants and organisations by lenders and donors. Currently there are a number of obstacles to the use of local consultants, to which lenders, donors, client governments and foreign consultants have contributed. To realise the potential, qualified local consultants should be identified by lenders, donors and foreign consultants; partnerships between foreign and local consultants should be encouraged actively by lenders and donors; and where necessary, provision should be made in project budgets for training local consultants. Increased participation of local consultants must, however, be accompanied by their sharing responsibility with foreign consultants for the provision of advice on the execution of cadastral projects and studies.

It is clear that the situation in most countries of Central and Eastern Europe, and the republics of the former Soviet Union, is difficult in that independent private consultants have not existed for many years. It is also clear that in the short term most experienced local private consultants will be drawn from those who have worked for government, have recently resigned or retired, or who may still be employed by government but are given temporary leave of absence. Though the last may be a source of concern, overall it is important that lenders, donors and foreign consultants support fledgling local consultancies. Striking a balance between foreign and local consultants in a team is a matter of judgement for companies bidding on consultancy contracts *and* for the lender or donor in considering the recommendation of the client government on the award of a contract.

### *Institutional Considerations*

1. In transition countries there is a general unwillingness to recognise that institutional and management issues within cadastral organisations are more critical than technical problems. The institutional issues include

- a) lack of clarity in the mandate of the organisation;
- b) the absence of a 'champion' for the organisation at the political level;
- c) inadequate and erratic funding from central government during a period of economic restructuring;
- d) the internal structure of the organisation;
- e) poor working relationships with other departments and agencies which have overlapping responsibilities.

Amongst the management issues are

- a) the role and structure of management, which is discussed below;
- b) understanding the roles of motivation, retraining, continuing education and career advancement in the development of a workforce which is committed to the organisation and to the programme of modernisation;
- c) insufficient knowledge of business and financial practices appropriate to a government agency in an emerging market economy.

Lenders, donors and consultants share responsibility for advising governments on appropriate steps which should be taken to address specific local issues. This may necessitate greater coordination so that the centrality of institutional and management issues is given sufficient weight in decisions on support to transition countries. The ultimate step is the conditionality applied to a loan or grant.

2. Strong hierarchical management structures remaining from command economies can be a significant impediment to effective progress in cadastral modernisation in several ways:

- a) Preventing staff at lower levels from assuming personal responsibility and accountability for

- their work, and from contributing to the improvement of processes and techniques.
- b) Inhibiting team building within the organisation, and the construction of functional linkages between teams, so that appropriate and effective methodological and technical solutions can be implemented.
  - c) Causing roadblocks to consensus building and inter-agency agreements which are necessary to maintain a functioning system that serves the public interest.

Restructuring management will not be an easy process. Nevertheless, more attention must be paid to this if modernisation is to achieve the expectations. This must include provision within loans and grants for appropriate consultancies and management training.

3. Human resource issues of recruitment, motivation, compensation, continuing education and career advancement in cadastral organisations have yet to be addressed adequately by lenders and donors. This may be due to the emphasis which has been placed thus far upon testing concepts, processes and methodologies in pilot projects, and upon re-equipping cadastral organisations for current and future tasks. Although retraining personnel has been included within pilot projects, the retraining which will be needed in the longer term as cadastral modernisation is implemented nationwide will require close attention. Lenders and donors should place more emphasis on human resource issues rather than on executing multiple pilot projects in the legal cadastre. They should also try to coordinate their financial commitments to cadastral modernisation so that more money is committed to human resource issues. This applies particularly to large scale programmes of retraining the current staff of cadastral organisations, and strengthening post-secondary educational institutions so that they may contribute to the retraining programmes *and* produce appropriately educated graduates.

4. The choice of agency with which the lender or donor will work in creating or modernising the legal cadastre in the country in transition is critical. In making a choice there must be demonstrated political support for the proposed agency, and sufficient administrative, technical and financial capacity to accomplish the task over the longer term.

Making the correct choice of agency will not ensure that inter-agency disputes over the responsibility for cadastral matters are avoided. Such disputes may be detrimental to progress in cadastral modernisation. To minimise the risk of disputes, every effort should be made to build consensus between organisations which have cadastral responsibilities. This may require the use of consultants with expertise in group facilitation and team building.

The onus of responsibility for minimising the impact of such disputes lies with the lender or donor as a conditionality of the loan or grant. It could be a condition of a loan or grant that inter-agency working groups are established at the highest level within the client government. Although such groups have been created for specific projects, rarely have they been given realistic goals or measureable objectives which can be used to monitor their effectiveness. Perhaps the performance of these working groups can be a condition of further financial assistance.

5. There are advantages to be gained from commissioning a Master Plan for the creation or

modernisation of the legal cadastre before pilot projects are begun. The principal functions of a Master Plan are to

- a) Define the current political, legal, economic and social context for cadastral modernisation.
- b) Establish the specific objectives of modernisation, and the timeframe in which each has to be achieved.
- c) Review the current legislation governing land and cadastres, and identify the legislative changes which will be needed to achieve the objectives and the timing of each change.
- d) Identify and assess the public and private sector institutions which are engaged in cadastral activities, including educational institutions.
- e) Formulate programmes of technical activities by which the objectives can be met, identify the organisations which will be responsible, and quantify the necessary physical and human resources.
- f) Forecast the probable costs of modernisation, the benefits and beneficiaries, and the sources and streams of revenues which can be expected.

All lenders and donors should assist in the development of the Master Plan, and the appropriate agencies within the transition country should agree to the Plan prior to the advancement of funds. Current lenders and donors should adhere to the Master Plan, and should assist in 'selling it' to other potential lenders and donors. A process also needs to be developed to update the Master Plan continuously, in cooperation with the lenders, donors and the transition country, so that it is always a current working document.

The principal lender or donor should be proactive in persuading the government of the country in transition to avoid commitments to pilot projects before a Master Plan is commissioned. As noted earlier, there should only be a need for one pilot project in land registration. The bulk of funding committed to institutional strengthening should be allocated to capacity building through establishing cadastral training centers and strengthening educational institutions.

### *Financial Considerations*

1. It is appropriate that lenders or donors should encourage the government of the transition country to recover the costs of cadastral modernisation. However, the policies followed and the extent of cost recovery should be tempered by a realistic assessment of current economic and market conditions. Many countries in transition have only fledgling markets in real estate. The banking sector is still a major obstacle to providing liquidity to those seeking it based upon real estate ownership. Interest rates are still extremely high when compared with more developed economies. Overall it is unlikely that there will be sufficient economic activity in most of these countries during the coming five, and possibly ten, years to support the cost recovery models - usually based upon revenue generation from increased user fees - used in many advanced economies. Thus the government of the transition country may have to carry the initial burden of maintaining the system over the short term as the real estate market continues to develop. The government must realise the social benefit to the population of implementing a modernised system. It may even be necessary to

include system maintenance costs when determining the amounts of loans and grants, and these costs should be built into the economic models developed.

Proposals which require the mandatory registration of real estate transactions should be considered with care. Many people in transition countries view land registration and associated fees as a form of taxation. They may also view registration as a method which can be used by government to ensure that the public are taxed for what they own. The modernised cadastral system must serve the needs of the end-user, and be inexpensive to operate and maintain. Registration and transfer charges must be reasonable, and must be based upon local economic realities. The general public and other users within the transition country must, however, be encouraged to recognize the social benefits of the system - such as security of property rights and increased access to improved real estate information. In this respect, public information campaigns which focus on "how to use the system" and the "benefits of using the system" should be encouraged.

2. Current methods for valuing real estate in transition countries are becoming increasingly unsuitable for emerging market economies. This is particularly the case with land valuation models which have been based upon qualitative and quantitative agricultural land characteristics such as soil fertility, salinity and potential agricultural yield. There are already indications that central and municipal governments in transition countries will have to modify the current forms of property valuation and taxation in order to place the funding of municipal infrastructure and services on a more sound basis. Valuation and taxation policies and methods used in developed countries are being studied for possible adaptation to local conditions. Unique local solutions are also being developed, for example the institution of a value-based land tax before land markets have developed so that productive use of land is made and speculation in land is discouraged. These are positive steps which should be encouraged.

Whichever method of valuing real estate is used, problems may be caused by the lack of reliable information on ownership and insufficient linkages between this information and that contained within the fiscal cadastre. In the majority of transition countries, the implementation of a modernised legal cadastre usually takes precedence over the modernisation of the fiscal cadastre. As noted earlier, thought must be given now to creating the proper linkages between the systems and business processes that support integration of these systems. If the registration system is not designed to be compatible with the fiscal cadastre there may be significant potential for tax avoidance. For this reason, the integrity of the information within these systems must be maintained. The registration system must also be used by the public to ensure that ownership information is kept current.

3. A private sector capacity in cadastral surveying, mapping, registration services, database loading and database maintenance is highly desirable and is to be supported. Some lenders and donors perceive that a private sector in these disciplines will develop quickly once funding for projects is approved. The availability of funds for large scale cadastral modernisation should, then, encourage investment by local companies in modern equipment and processes. There is also the potential for foreign investment, both in equipment and capital, in joint venture companies formed to undertake project work. While sound technical capabilities do exist within transition countries, business



management and organisational skills are somewhat limited. The ability to establish and maintain a viable business is critical to the long term success of each entity. Those providing international assistance and wishing to encourage a private sector capacity should attempt to offset the limited experience in business management by supporting appropriate local training. A second matter is the viability of the newly developed private sector over the long term. It is highly unlikely that the same number of companies will be required to maintain the system, and thus some companies will need to find work in other sectors in order to maintain their staff. For example, some surveying and mapping companies engaged in legal cadastral work will need to find work in other sectors such as oil and gas, transportation and municipal infrastructure (including municipal spatial data) once the large scale cadastral implementation programme is completed. Their ability to do so will be largely dependent on the extent of economic growth.

### **Critical issues of cooperation and coordination**

References have been made earlier to cooperation and coordination. These themes are developed further in this section in the form of several critical issues.

1. Continuous informal contact between all lenders and donors to a transition country on all cadastral and land registration matters is of the utmost importance. It is recommended that a 'club' of lenders and donors be formed for each country requesting international assistance. The informal contact should also include representatives of the government of the transition country, and preferably all consultants working for the lenders and donors. There should be not less than annual formal meetings of the 'club' for a country in transition to review progress and to consider longer term developments. There should be an agreed chairman of the 'club' for the cadastral field in each country in transition. The chairman should be the key point of reference for all proposals on cadastral modernisation requiring international financial assistance. It is not necessary that the chairman of the 'club' represent the donor or lender making the largest financial contribution. The transition country should also provide a person who will 'champion' the modernisation of the cadastre, and who will work jointly with the chairman in reviewing these proposals.

2. The 'club' should insist on the development of a Master Plan created jointly by foreign and national experts. This will ensure that there is a national framework for cadastral modernisation within which all cadastral developments should occur. The Master Plan should include clear and measureable objectives, and action plans required for implementation. Processes should be established to monitor and audit the extent to which the goals are achieved, and to update the Master Plan continuously. This should also be a key responsibility of the 'club' members. Future international assistance should be predicated upon the rate of success in implementing the Master Plan.

3. Each proposal submitted by a country in transition to a prospective lender or donor must be copied to the chairman of the 'club', and circulated to the 'club' for consideration within the framework of the Master Plan and in relation to other projects which have been approved or are underway. Proposals may include projects, or proposed donations of equipment, hardware and software. The circulation of all proposals within the 'club' is critical to the maintenance of proper

coordination over the long term. If necessary, it may even be in the best interests of the 'club' and country in transition to delay or even cancel a proposed project, donation, or activity. The 'club' and transition country must exercise the courage to act in the best interests of all concerned. The optimal way to foster this environment is through regular communication and cooperation between all of the key players involved in cadastral modernisation.

### **Improving the long term situation**

The following steps are proposed in order to achieve long term improvement in the transition countries of Eastern Europe and the former Soviet Union. Each of the partners in cadastral modernisation - lenders, donors, countries in transition and consultants - has a contribution to make to such improvement.

1. The legal cadastre should be viewed as a whole and should not be separated into agricultural/non-agricultural or rural/urban components. This view must be communicated clearly to each country in transition by lenders, donors and consultants. They should be explicit about both the guiding principles and the laws which underlie the ownership of land and property in a market economy. The lenders and donors must establish clearly whether the adoption of these principles and/or laws is a condition for major loans or grants for cadastral modernisation.
2. A national educational campaign must be sponsored by the government of the transition country, though it might be executed jointly by the public and private sectors with perhaps some external assistance. It should be aimed at making the role and functions of the legal cadastre better known to the general public by using printed matter, radio and television, and video presentations. A sound return on the investments for cadastral modernisation can only be realised when the general public appreciates fully the benefits of supporting and using the system.
3. The governments of transition countries should accept the principle of cost recovery for cadastral services. Equally, lenders or donors which emphasise cost recovery should understand the length of time which has been required to achieve this in advanced economies, and reflect this in their policies for lending or giving to countries in transition. This may include the provision of funding for the short term maintenance of the system.
4. Lenders, donors, countries in transition, and consultants should encourage the creation of a private sector capacity in cadastral surveying, mapping, registration services, database loading and database maintenance by means of small business loans and joint ventures with companies in advanced economies. Funding for training and continuing education in business management should be provided.
5. Lenders, donors and countries in transition should place more emphasis on the development of cadastral training centres and strengthening the current educational institutions. Training centres should implement the substantial programmes of re-training which will be needed, though the current educational institutions should also contribute. The latter will provide the future management and

technical staff who will be required to develop and maintain the modernised cadastres.

**Proposed principles of cooperation and coordination**

The foregoing provides the basis for developing several general principles. These might guide efforts which should be devoted to cooperation and coordination of activities relating to the implementation of modernised cadastral and land registration systems in Eastern Europe and the former Soviet Union.

1. Lenders, donors and the governments of transition countries must co-ordinate their mutual efforts as closely as possible to ensure that all legal, technical, institutional and financial considerations associated with implementation and/or modernisation of cadastral and land registration systems are addressed adequately. The guiding principle for coordination shall be to consider a cooperative approach which could be fostered by developing a Master Plan for each transition country, and forming a 'club' which monitors the progress of the implementation of the Master Plan.
2. Donors and lenders must, at the outset, establish clearly which guiding principles and laws are required to be put into place by the transition country as a conditionality of financial assistance. These guiding principles and laws must be agreed to by the transition country, along with a timetable for their implementation. The foregoing information should be included within the Master Plan.
3. Lenders, donors, the governments of transition countries and consultants must give due consideration to the use of *appropriate technology* for the solution of technical problems of the cadastre. The initial cost, the cost of ongoing maintenance, and the relative benefits associated with the implementation of a given technological solution must be considered. Emphasis must be placed on improving current business practices, rather than merely automating them.
4. Lenders, donors, governments of transition countries and consultants must consider the capacity of existing government, private sector and academic institutions to implement and maintain successfully a large scale programme of cadastral modernisation. Where necessary, funding should be applied to strengthening educational institutions to ensure the ongoing development of required skills for the human resources of the transition country.
5. Lenders, donors, governments and consultants must develop reasonable cost recovery expectations as part of the cost/benefit model for cadastral modernisation. These expectations should be based upon current and projected economic activity. The development of private sector services in the areas of surveying, mapping and information technology should be encouraged.

## **Conclusion**

This paper has been prepared with the express intention of stimulating discussion amongst donors, lenders, governments of transition countries and consultants about the current course toward cadastral modernisation in these countries. In recognising that the perceptions and proposals offered here are based solely on their collective experiences, the authors will welcome comments, suggestions or constructive criticisms. In the final analysis, substantial monetary investments have been made, and will continue to be made for the foreseeable future, in cadastral modernisation in the transition countries of Eastern Europe and the former Soviet Union. Perhaps now is an opportune

time to discuss how best to optimise the future investments for the benefit of all concerned.