

Pro-Poor Land Management System: A Study Considering Dynamic Aspect of Land Tenure in Nepal

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Key words: informal settlement, land tenure, dynamic aspect, land management, pro-poor

SUMMARY

Informal settlements are a common feature of developing countries and are typically the product of an urgent need for shelter by the poor people. Most developing countries experience a massive migration from rural area to cities where the majority of the new urban dwellers settle in non-regularized areas, often in locations that are exposed to natural hazards (such as land slides and flooding) and to ill health, illiteracy and unemployment. Land tenure in these types of settlement is informal, and does not provide enough security for its residents. Since these settlements are not part of the formal land management system there is also a general lack of information or at least reliable information necessary for planning purposes as well as for the formulation of policies and programme for upgrading and regularization of the areas.

There are two factors for rural to urban migration in Nepal, the Pull factor and the Push factor. Opportunities for employment, physical facilities, entertainment facilities, better future, secure life, social respect etc are the pull factor. Population growth, difficult rural life, low agriculture productivity, no land ownership, unemployment, natural disaster, lack of physical facilities, less secured life, weak bureaucracy etc are the push factor.

This paper first describes about the components of land tenure system considering the dynamic aspect of land tenure. It then elaborates the land tenure system, informal settlement and the procedure for informal settlement regularization in Nepal. It investigates a new innovative approach for pro-poor land management in peri urban area of Kathmandu using Remote Sensing Technology and GIS tools.

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1. INTRODUCTION

Informal settlements are a common feature of developing countries and are typically the product of an urgent need for shelter by the poor peoples in both remote and urban area. As such they are characterized by a dense proliferation of small, makeshift shelters built from diverse materials, degradation of the local ecosystem and by severe social problems (Begu, 2003). Most of the developing countries experience a massive migration from rural area to cities where the majority of the new urban dwellers settle in non-regularised areas, often in locations that are exposed to natural hazards (such as land slides and flooding) and to ill health, illiteracy and unemployment. They thus remain in poverty. Lack of secure tenure discourages residents from improving conditions through investment in their houses and in common services for water, sewerage, roads, etc. Land tenure in these types of settlement is informal, and does not provide enough security for its residents. Since these settlements are not part of the formal land management system there is also a general lack of information or at least reliable information necessary for planning purposes as well as for the formulation of policies and programmes for upgrading and regularization of the areas (Nordin, 2004).

There is massive migration of people from rural to urban areas of Nepal. The population of urban areas is growing fast day by day. There are basically two factors for rural to urban migration in Nepal, the Pull factor and the Push factor. Opportunities for employment, physical facilities, entertainment facilities, better future, secure life, social respect etc are the pull factor. Population growth, difficult rural life, low agriculture productivity, no land ownership, unemployment, natural disaster, lack of physical facilities, less secured life, weak bureaucracy etc are the push factor (Fig 1).

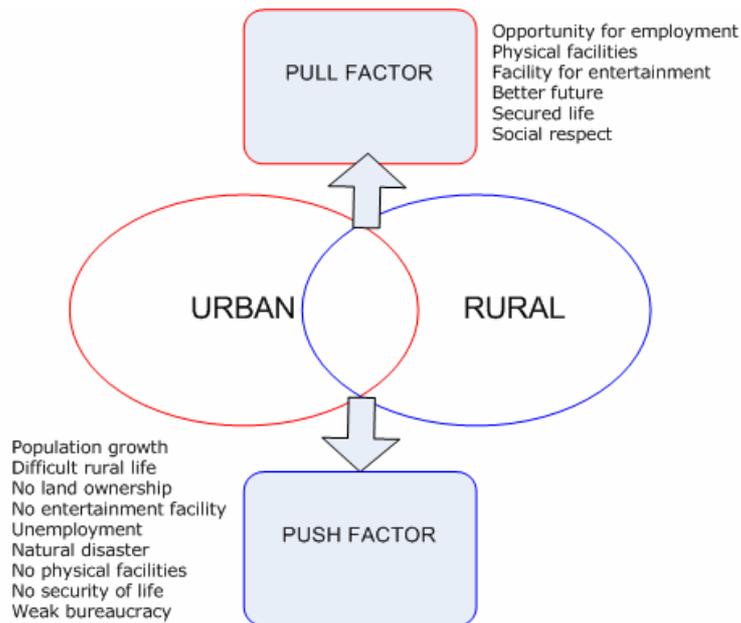


Fig 1: Factors for rural - urban migration in Nepal

Deprived people migrate from rural area to urban area in search of an opportunity for employment as well as economically secure life. They generally occupy government and public lands of peri urban area for shelter. Public and government lands have been encroached and this has created a lot of social, economic and environmental problems among others. After long run, these groups are also being a part of society. Political people are using them as a vote bank (Paudyal, 2005). In Kathmandu valley only, there are more than 65 such informal settlements areas which are settled encroaching public and government lands. There is no documentary evidence of land tenure in informal settlement area with government. The existing cadastral system does not provide the real field situation about the land tenure. The information about the settlers is informally recorded by the community groups. Lack of secure property rights in the occupied lands inhibits investments in housing, sustainable food production and access to credit, hinder good governance and the emergence of civic societies, reinforce social exclusion and poverty, undermine long term planning, and distorts prices of land and services. Without effective access to land and property, market economies are unable to evolve and the goals of sustainable development cannot be realized (Lamba, 2005).

According to (UN-Habitat, 2003), the Millennium Development Goal number seven adopted by the UN member states in the year 2000 is about environmental sustainability and is one of the most pressing challenges of the Millennium. One of the targets to achieve this goal is through the achievement of significant improvement in lives of at least 100 million slum dwellers, by 2020. Informal settlements tend to be characterized by continual social change, high levels of conflict, solidarity and schism. Many informal settlements are illegal, and so acting in concert becomes a crucial survival strategy (Barodien, 2004). Hence it is a global concern. In many countries the provision of secure access to land has been assigned a high priority as a result of the recommendations enclosed in the global plans of action drawn up by Agenda21 (1992), Habitat (1996) and Johannesburg Summit (2002), as well as the current

UNCHS Global Campaign for secure tenure. The drivers that are responsible for the endeavors to improve the security of land tenure are primarily based on the worldwide attempts to eradicate poverty (Molen, 2003; Molen, 2004). In Nepal also the higher level political objective of Government of Nepal is poverty alleviation (NPC, 2002). One of the strategies for poverty alleviation is through regularization of informal settlements providing the security of tenure.

2. Component of Land Tenure System

Land tenure can be defined as an arrangement of land holding, i.e. how land is held and used by individuals or institutions for economic opportunities (Henssen, 1995) i.e. the right or manner of holding a landed property (Tuladhar, 2004). A main characteristic of land tenure is that it reflects a social relationship between man and land in both formal and informal environment. The humankind-land relationship is a dynamic one. Research results in (De Soto, 1990) indicate that internal autonomous processes can also drive changes in land administration when it must adapt to informal economies which arise in societies where the governments' legal and regulatory institutions simply do not function or favour certain cliques. The designing and developing a land administration system without taking into consideration the dynamic component is futile. The system will soon be obsolete and will then be an obstacle to societal development. Good land administration systems are always migrating, coping with the pace of the times, and meeting with the demands of society. At the time of designing the land information system, we have to understand the dynamic nature of tenure, value and use of land (Molen, 2002). According to (Molen, 2002) the components of land tenure systems are composed of a static and a dynamic components (Fig 2). In the dynamic aspect there are two cases; autonomous changes and regulated changes. The land management system for informal settlement should be such that it should cope with the dynamic nature of land tenure.

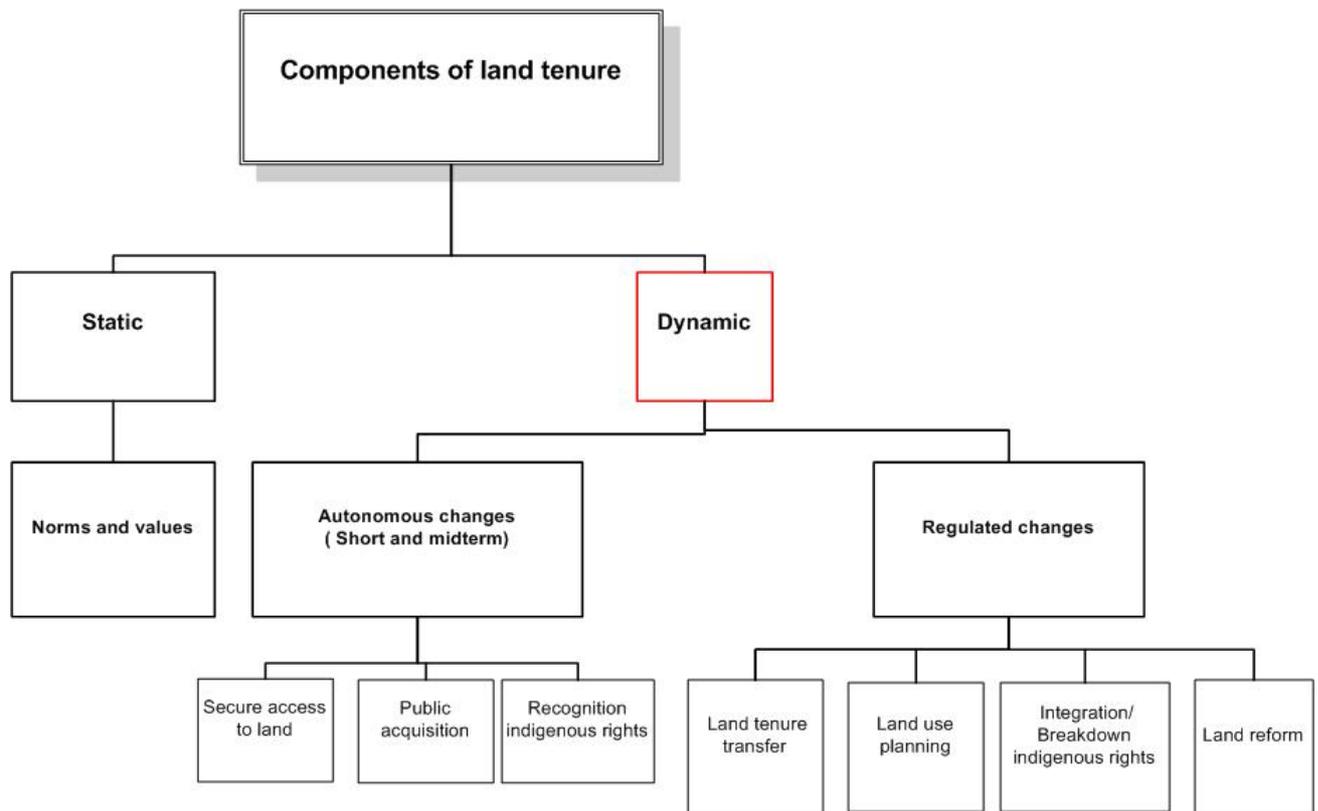


Fig 2: Components of land tenure (Adapted from Molen, 2002)

The existing land administration systems in most of the developing countries do not support the registration of customary or informal rights. There is insufficient focus on Pro-Poor Land Management. Some socio-technical innovations are required to identify and solve the blockages to the delivery and security of land tenure for the poor (Lemmen, 2006). The informal so called non-formal land tenure system is such that which is not officially recognized in a country. In most of the developing countries, this type of system is found on the major cities and need to be recognized under certain circumstances or conditions. Because of its dynamic nature, a cadastral systems needs to be compactable with the interest of the existing land tenure, and simple and flexible enough to accommodate the changing nature of tenure. A flexible system means that it can be extendable and adaptable to local circumstances and it can cope with the dynamic nature of land tenure.

3. LAND TENURE SYSTEM AND INFORMAL SETTLEMENT IN NEPAL

In Nepalese Land Administration history, the system of land tenure has evolved in various forms and phases. The state ownership was the traditional form of land tenure in Nepal. The land was belonged to the state and King was the head of the state. Later, six major forms of land tenures were recognized as *Raikar*, *Birta*, *Jagir*, *Rakam*, *Kipat* and *Guthi* land (Tuladhar, 2005). The distribution and access to land was not scientific in early days. All the lands except *Guthi* lands were converted to *Raikar* (private) lands with various political wills and

legal efforts. Now only two types of Land Tenure Systems; *Guthi* and *Raikar* exist as an official recorded Land Tenure System in Nepal. Another type of land tenure system is Informal Land Tenure System in Nepal. This type of land tenure system is neither officially recorded by the government nor recognized by the cadastral system of Nepal. This type of land tenure system is mostly found on urban and semi urban areas of Nepal. The interesting thing is in remote areas also the informal land tenure system exists in Nepal. Government lands and public lands are occupied by landless people, conflict victims and bonded labors. Due to the political conflicts, some private lands are also occupied by conflict victims who are displaced from their natives.

The UN Habitat Program of 1995 defines informal settlements as

- Residential areas where a group of housing units has been constructed on land to which the occupant has no legal claim, or which they occupy illegally.
- Unplanned settlements and areas where housing is not in compliance with current planning and building regulations (unauthorized housing)

Based on this definition the informal settlements of Nepal can be categorized into four groups.
(Paudyal and Subedi, 2005)

Slums: They are legal but overcrowded, under serviced settlements. They are normally found in the centre of the cities but are not uncommon to find them also where the land is rented, in the urban periphery. They are unplanned settlements, very old and not compliance with current planning and building regulations.

Informal Settlements: They are not landless people but occupying the government and public lands. They are socially accepted but do not have the legal right.

Landless Settlements (Sukumbasi Basti): They are landless people occupying the government land, forestland, or public land. The land has been occupied illegally. They are unplanned and often unserviced. They can be found on marginal or environmentally hazardous lands, both in urban areas and remote area. Various high level committees have formed to solve the problems of such settlements. There were 277140 applications received on the way of identification of land-less family and 30381 were identified as landless and 41035 were as informal settlements (Aayog, 2000).

Bonded labor Settlements (Kamaiya Basti): "*Kamaiya*" is the term for agricultural workers or tenants of farmland working on farm or in house as labor in the verbal or written agreement with landowner of Terai areas of Mid and Far Western Development Regions of Nepal. About 15,000 families were existed and could be categorized into the following five types (Oli, 2003).

- *Kamaiya* whose share of the crop is one third of the product of land.
- *Kamaiya* whose share of crops of the assigned land.

- *Kamaiya* receiving wages.
- *Kamaiya* receiving fixed annual food grains and other materials.

4. INFORMAL SETTLEMENT REGULARIZATION PROCEDURE IN NEPAL

Prior to upgrading and/or regularizing an informal settlement, information is required about occupation patterns and what exists there legally (UNCHS, 1998; Davies, 1998). In Nepal, the development of informal settlement often occurs in government land, public land and even in private land. The real field situation is different than recorded on the cadastral documents. There is lack of reliable information in the process of informal settlement regularization.

The process of informal settlement regularization is becoming a major political agenda in Nepal. The Nepalese Government has given high priority for the upgrading and regularization of informal settlement. There is high level political commitment to solve these issues. Various High Level Commissions are formed to solve the issues related to informal settlement. Political leaders are using the informal settlers' as a vote bank during the election. They are exploit them for earning cheap popularity; but these issues are being very complex and rooted on the society. Now the problem of bonded labor and land less people is becoming very sensitive issues in Nepal. Recently, a huge gathering of bonded labor in Kathmandu, the capital of Nepal from western part of remote village stimulates Nepalese Government a critical concern. The problems are becoming more complex day by day. The existing informal settlement regularization/upgrading process is time consuming. The followings are the basic procedures for regularization of informal settlement in Nepal.

- The formation of high level commission at national level
- Formation of commission at district level
- Identification of land less people or bonded labor
- Identification of appropriate location for settlements
- Cadastral surveying
- Field book preparation
- Land registration
- Land ownership certificate preparation and distribution
- Infrastructure development in settlement area
- Launching sustainable development programme

5. INNOVATIVE APPROACH FOR PRO-POOR LAND MANAGEMENT IN PERI URBAN AREA

Several reports of global campaign and research results indicate that there is a need of innovative approach for the management of informal settlements. Residential licenses in Tanzania, individual starter title of group based in Namibia, certificate of occupancy in Uganda, land tenure certificates in Benin, possessory title recognition in Indonesia are a few examples of some innovative approach for the recognition of informal land tenure (Molen,

2003). The innovative approach is different from place to place and country to country. The issues related to land tenure security and economic developments are deeply rooted in the society. The application of GIS/RS with ICT tools is found decisive tools for the pro-poor land management in urban and semi urban areas. The integration of high resolution satellite imagery with existing cadastral maps makes easy for the identification of settlements and their mapping. Government of Nepal has constituted many times the Higher Level Commissions under the Ministry of Land Reform and Management for the identification and management of such informal settlements. Most of the time, it was found that the identification and mapping of such settlement areas was time consuming and delayed for the regularization process. The number of informal settlements in city area has been growing day by day. It has created a lot of social, economic and environmental problems. Hence, an innovative approach has made for the identification and mapping of such settlement areas. The application of high resolution satellite imagery for the identification and mapping of such informal settlement area saves the time for policy makers and planners. A study has made about the application of high resolution satellite with cadastral maps for identification of informal settlements. The approach is found suitable to convince the policy makers and all the stakeholders for solving informal settlements and landless (*Sukumbasi*) problem in Nepal and development of land tenure management system in informal settlement areas. The result of integration of different satellite images shows that the nature of land tenure in the informal settlement area is dynamic.



Fig 3 Corona image of 1967



Fig 4 Cadastral map



Fig 5 IKONOS imagery

In this study, three data sources are used; Corona image of 1967 (Fig 3), Cadastral Maps (Fig 4), IKONOS imagery (Fused to 1m) (Fig 5) and attribute data provided from the community groups. All these data were collected from different sources. Cadastral maps of the study area were collected from Survey Offices, Dillibazar, Kathmandu. The IKONOS was collected from Topographical Survey Branch, Survey Department and the Corona image of 1967 was collected from Soyan Mega Soft International. The attribute data from informal settlements were collected from community groups and Ministry of Land Reform and Management during field visit. The result of the study was also presented during a seminar on space technology applications and recent development in geo-spatial products in Kathmandu, Nepal, on 19 August, 2005 organized by Survey Department. From study, it was noticed that the settlement is new and was vacant in 1967. People who came to capital city for various reasons occupied the areas of old course of stream. The settlement is not recorded on the

cadastral documents. The integration of cadastral maps with high resolution satellite imagery will be the best tool for the identification and mapping informal settlement.

6. CONCLUSIONS

The land tenure is dynamic phenomenon. The land tenure management system of a country should be such that it should accommodate the changing nature of land tenure. There is growing concern about the informal settlement. The informal settlement so called non-formal settlements is not officially recorded. In Nepal, four types of non-formal settlements; slums, informal settlements, landless settlements and bonded labor exists. The higher level political objective of Nepalese Government is poverty alleviation and one of the strategies for poverty alleviation is through regularization of informal settlements providing the security of tenure. Government of Nepal has constituted many times the Higher Level Commissions under the Ministry of Land Reform and Management for the identification and management of such informal settlements. Most of the time, it was found that the identification and mapping of such settlement areas was time consuming and delayed for the regularization process. Hence, an innovative approach has made for the identification and mapping of such settlement areas from the perspectives of Pro-Poor Management. The application of high resolution satellite imagery for the identification and mapping of such informal settlement area saves the time for policy makers and planners. A study has made about the application of high resolution satellite with cadastral maps for identification of informal settlements. The approach is found suitable to convince the policy makers and all the stakeholders for solving informal settlements and landless (*Sukumbasi*) problem in Nepal and development of land tenure management system in informal settlement areas.

REFERENCES

- Begu, E. (2003). Assessing Feasibility Study of informal settlements upgrading: Are there GI Policy and Management Implications? PGM Department. Enschede, The Netherlands, ITC: 92.
- De Soto, H. (1990). The other path: the invisible revolution in the third world. New York.
- Lamba, A. O. (2005). Land tenure management systems in informal settlements: A case study in Nairobi. GIM. Enschede, The Netherlands, International Institute for Geo-information Science and Earth Observation (ITC): 118.
- Lemmen, C. (2006) The Core Cadastral Domain Model: Focus on Non-Statutory Systems Promoting Land Administration and Good Governance, 5th FIG Regional Conference, Accra, Ghana, March 8-11, 2006
- Molen, P. v. d. (2002). "The dynamic aspect of land administration: An often-forgotten component in system design." Computers, Environment and Urban Systems 26(5): 361-381.
- Molen, P. v. d. (2003). Some options for updating the Land Administration Guidelines with respect to institutional arrangements and financial matters. WPLA/FIG/TEE/ATM Workshop, Athens.

- Molen, P. v. d. and C. Lemmen (2004). Unconventional approaches to land administration: A point of view of land registrars and land surveyors. Expert Group Meeting, Nairobi, Kenya.
- Nabutola, W. (2005). Affordable Housing: Upgrading Informal Settlements in Kenya. FIG Working Week and GSDI-8, Cairo, Egypt.
- Nordin, B. (2004). The development of a GIS for an informal settlement. Expert Group Meeting on secure land tenure: 'new legal frameworks and tools', UN-Gigiri in Nairobi, Kenya.
- NPC (2002). Tenth Plan (2002-2007). N. P. Commission. Kathmandu.
- Paudyal, D. R. and N. R. Subedi (2005). Identification of Informal Settlement by Integration of Cadastral Information and Remote Sensing Satellite Imagery. A Seminar on Space Technology Application and recent development in geo-spatial products in Kathmandu, Nepal, August 19, 2005
- Tuladhar, A. M. (2005). Parcel based geo-information: Concepts and guidelines. Delft, The Netherlands, TU Delft: 270.
- UN-Habitat (2003). Improving the lives of 100 million slum dwellers: Progress towards the Millennium Development Goals. Guide to Monitoring target 11. Nairobi.
- United Nations Centre for Human Settlement (Habitat) 1998 Informal Settlements, Security of Tenure, Urban Land Management and Local Governance, Experiences in Implementing the Habitat Agenda, Land Management Series No. 7 (Draft version: Nairobi, June 1998).

BIOGRAPHICAL NOTES

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