Land Valuation and Management Issues in Nepal

Subash GHIMIRE, Arbind TULADHAR, Sagar Raj SHARMA

Corresponding e- mail address: subash_ghimire@ku.edu.np

Key Words: Land Valuation, Land Management, Spatial Data Infrastructure, Model, Nepal

SUMMARY

Land values plays an important role for the sustainable land management as it is one of the main component of Land Administration. It has become one of the main issues in expropriation processes during infrastructure development in the recent years in Nepal. Land values are determined with various methods and standards by various organizations. Some differences come out among land values obtained through various standards and methods. The existence of various values such as tax value, market value, compensation value, mortgage value etc. for the same parcel creates social- economic, juridical and technical problems. The main objective of this paper is to highlight major land valuation and management issues in Nepal and proposes land valuation model in developing countries. The study is carried out by reviewing literatures and collecting secondary data. The study shows that land value concerns many different stakeholders since it has an important role for all land applications. The developing countries such as Nepal faces land valuation problems in legal and organizational, data and data sharing and capacity building issues. The classification of land in Nepal for land valuation is highlighted in the paper. The major land valuation organizations and their role and initiatives taken for land valuation in Nepal are mentioned in the scope of the study. Finally, the land valuation model from SDI perspective is proposed, benefits and beneficiaries of this model and its challenges and implementation aspect in Nepal is mentioned in the paper.

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1. INTRODUCTION

Land is fundamental to human existence and also a limited resource. It plays an important role as a financial asset. Many land issues such as land valuation, land market, land acquisitions, compensations, inefficient use of land are interconnected directly or indirectly for managing land. Garba & Al-Mubaiyedh (1999) mentioned that land administration is necessary for sustainable development and Land Administration is the *"processes of determining, recording and disseminating information about the ownership, value and use of land when implementing land management policies"* (UN/ECE, 1996).

Land valuation as one of the important component of Land Administration is the process of valuing land. The value usually determined is the land's market value. Furthermore, all properties differ from each other in their location and are an important factor in their value. A valuer doesn't need a license or any certification for property valuation in some countries but most of the countries require licensed or certified land valuer. Expropriation is the inherent power of the state to acquire a citizen's private property with due monetary compensation (Candas & Yomralioglu, 2014). Being one of three basic features of land management, land value is important for expropriation and compensation. Land value has to be determined in process of selling, buying, leasing or taxing it or when there is a need to calculate assets held by an individual for the purposes of inheritance, bankruptcy, or collateral. The valuations are also required for investment management and for insurance (Dale & McLaughlin, 2001). Based on literature, the three most commonly used methods of valuation are: sales comparison, income and cost approach. The choice of method is greatly determined by the property type and the purpose of valuation (Dale & McLaughlin, 1999). Therefore, effective and efficient information system can support in the process.

Many developed countries such as Spain, Germany and the Netherlands, have a valuation law or regulation for property valuation (Yomralioglu, 2009) whereas lack of creating an integrative structuring in technical, administrative, and legislative aspects in developing countries causes problems in land applications. The guidance documents have also been prepared in order to lead practitioners. In Turkey, a centralized implementation of studies conducted in the national-level is achieved (Yomralıoğlu, 2009). In recent years, there is a need for land value both in national and international standardization regarding spatial data. There is an e-state project with an objective to establish a Geographic Information System infrastructure in accordance with national-level technological developments and the inspire directive , develop a web portal on which public institutions and organizations can provide users with geographical information which is under their responsibility through a common infrastructure, create the content standards of geographical data to respond to the needs of all user institutions and determine geographical data interchange standards (TUCBS, 2010: Candas & Yomralioglu, 2014).

A large number of professional valuation organizations have been established in developed countries such as International Valuation Standards Council and The European Group of Valuers' Associations. Appraisers Association of Turkey and Appraisers Association are some available institutions in the field of valuation in Turkey. These professional organizations have been established to; ensure reliability and transparency of valuation activities, determine international valuation standards for land valuation, create and extend international valuation standards, collect all professional organizations under a single umbrella and supports information exchange (Yomralıoğlu et al., 2011).

The main objective of the study is to propose the land valuation model in Nepal from SDI perspective and its implementation aspect.

2. MATERIAL AND METHODS

The desk study has been followed for this study and is followed by the literature review. The study is started with critical reviewing of scientific literature in the land and land valuation and management issues. The scientific literature such as journal articles, conference papers, books and documents including research/project reports are used for the purpose of this study and are mentioned in reference section.Some secondary data is collected from the land administration organisations of Nepal.

3. LAND VALUATION AND MANAGEMENT ISSUES IN NEPAL

This section includes the classification of land, major organizations, legal provision for land valuation in Nepal in land valuation and major land valuation problems in Nepal.

3.1 CLASSIFICATION (GRADING) OF LAND IN NEPAL

Before Survey and Measurement Rules 2002, land grading was of two categories as Dhanhar and Bhit or Pakho. The classification of land was Abal, Dyoam, Sim and Chahar as first, second, third and fourth grade land based on the productivity of land. The eighth amendment of Survey and Measurement Act in 2001 and Survey and Measurement rules 2002 has improved the classification (grading) of lands. The grading is based on the land use and classified as follows:

a. Agricultural Area
b. Commercial and Residential Area

3.1.1 Grading of Agricultural Area

The agriculture land is ranked according to the indicators such as irrigation facility, road access, crops, soil type, and altitude from the mean sea level, agricultural market facility and landscape. Each indicator has different scores for ranking and total score is 50. Thus, the agricultural land is graded as Class A, Class B, Class C, Class D and Class E depending on the score. Land value for different classes is different based on the score of agriculture area.

3.1.2 Grading of Commercial and Residential Area

The commercial and residential land is ranked according to the indicators having different scores for ranking and the total score is 50. The indicators are provisioned as access to road

(e.g. main road, subsidiary road etc.), water facility, electricity facility, location, transportation communication, sewerage and temporary settlement. Thus, the commercial and residential land is also graded as Class A, Class B, Class C, Class D and Class E and the value of land depends on the various classes of commercial and residential area.

3.2 MAJOR ORGANIZATIONS FOR LAND VALUATION IN NEPAL

There are various organizations involving for Land valuation in Nepal. The major organizations and their role are mentioned on following sections.

a) District Land Revenue Office

According to Land Revenue Act, the purpose of land valuation is for taxation which is the revenue for the government during land registration. The minimum valuation is provided by the committee and valuation is updated yearly. The basis for valuation is urban or densely populated area based on land classification with the indicators such as roads class, land suitable for housing (Ghaderi), provision of irrigation, minimum value checklist published by the Department of Land Reform and Management according to the land revenue Directive.

b) Local Development organizations (VDC/ Municipality)

Local authorities carried out valuation of land for collection of tax during construction of structures by minimum valuation method and cost method based on local self-governance Act. The basis for valuation is according to the committee formed at local level (political parties) representative as well as land expert and public. The committee subdivides area into various land use zone and use knowledge of sales comparison as well as minimum valuation provided by land revenue office.

c) Financial Institutions

The various financial institutions carryout valuation of land for the purpose of providing loans based on the mortgage. The basis for valuation is sales comparison and minimum valuation of land by land revenue office.

d) Judicial and semi-judicial authorities for liquidity

Legislative and judicial authority carried out valuation for the purpose of Land deposit or bailment by the accused person. Generally, it applies thumb rule and valuated based on minimum valuation and sometimes values are recommended by the local authorities.

3.3 CURRENT LEGAL PROVISION FOR LAND VALUATION IN NEPAL

There are various legal provisions for Land valuation and compensation in Nepal. The major laws for the provision of valuation are mentioned as follows.

- The Constitution of Nepal 2015
- Land Revenue Act *(Malpot Ain)*
- House and Land Tax Act *(GharJagga Kar Ain)*
- Property Tax act *(Sampati Kar Ain)*
- Land Related Act *(Bhumi Sambandhi Ain)*
- Land Acquisition Act (*Jagga Prapti Ain)*
- Cooperative Act *(Sahakari Ain)*

- Agriculture Development Act *(Krisi Bikash Ain*)
- Commercial Bank Act (*Banijya Bank Ain*)
- Local Self Governance Act *(Sthaniya Swayatta Saasan Ain)*
-

4. LAND VALUATION PROBLEMS IN NEPAL

The current Land valuation in developing countries such as Nepal is done conventionally and therefore, is not based on its geographical location or the purpose of land use. Therefore, scientific methods are mandatory in land valuation (COLARP et al, 2012).
The various land valuation problems in Nepal are discussed in following subsections.

4.1 Legal and organizational

There is no official land valuation system in Nepal except adhoc land valuation for compensation during land expropriation (Tuladhar, 2004). The various land acts and regulations are used for land valuation which creates complexity. In other words, there is lack of integrated act or rule and clear guidelines for land valuation in developing countries such as Nepal. The value of single land parcel is different based on the purpose such as valuation for buy and sell is different from valuation of same land parcel while paying land tax to government. Legal provision is not sufficient for scientific valuation of land.

The involvement of many organizations as mentioned in section 3.2 for land valuation creates complexity during the valuation. The value of a single piece of land gets different valuations because of purpose of valuation and lack of single organization setup and guidelines for the land valuation.

4.2 Data and Data Sharing

Mostly, paper based data are available for land valuation. Land valuation becomes difficult task by using these data and are barrier for using Geo ICT. The digital cadastral data or map is not sufficiently available for using Geo- ICT and Geographic information system (GIS) for Land valuation. GIS is undoubtedly useful in this decision making. A sufficient estimation can be done by analyzing a certain amount of land characteristics in an objective way. Therefore, it is essential to value land on the basis of spatial phenomena since every property is spatially unique. The technique of adopting spatial technology such as Geographic information system (GIS) and remote sensing (RS) in land administration functions leads to success in policy planning and implementation (Tuladhar, 2006). The use of spatial technology across all levels of society to make decisions leads to spatial enablement (Steudler & Rajabifard, 2012). The land information system (LIS) in Nepal is also not well developed. Therefore, it is very difficult for using GIS for land valuation. The establishment of LIS is positive aspect for land valuation but there is no sufficient network for sharing those data.

Spatial data infrastructure (SDI) plays an important role in land valuation. The lack of SDI in Nepal is a major valuation problem. National geographic Information infrastructure (NGII) is working as data seller of Survey Department and is not working at the level of National Spatial Data Infrastructure. There is no sufficient data such as land use /zoning for land valuation in our country. Nepal also has lack of data sharing culture. Most of the data are in

analogue format and creates problem for data sharing as well as takes more time during valuation.

4.3 Capacity Building

Land valuation is carried out by various professionals such as Civil engineers, Charter Accountant, Surveyor, Land revenue officer etc. There is no sufficient skilled human resources for land valuation in country and also no special training course or academic course for land valuation. There is no scientific research for land valuation in Nepal.

5. INITIATIVES FOR LAND VALUATION IN NEPAL

Some initiatives are taken to improve land valuation in Nepal and are mentioned below.

a) Starting of digitizing cadastral maps and data.
b) Establishment of Department of Land Information and Archive.
c) Establishment of Land Use Project and conducting VDC level land zoning plan.
d) Conduction of property valuation training by Nepal Institute of Chartered Surveyor (NICS)
e) Running Master in Land Administration course at Kathmandu university
f) Running Bachelor's Degree in Geomatics Engineering at Kathmandu University, Tribhuvan University and Purbanchal University.

6. LAND VALUATION APPROACH FOR NEPAL

The regulations for land valuation in developing countries such as Nepal do not include an integrative structuring in terms of both technical and administrative issues. Based on the model proposed by Candas & Yomralioglu (2014), land valuation model is developed for Nepal as shown in Figure 1. A new model is proposed and discussed in order to record and manage these values. The objective of this model is to establish a national-level geographical information system infrastructure considering technological developments. All data belonging to land valuation from all the organizations in Nepal having land applications will be collected in a database through this system. A web portal has to be created to put these data into the user's service. The model aims to create the standards of geographical data in order to respond to the needs of all user communities and determine the geographical data interchange standards. Citizens will have access right to limited land value data whereas various organizing having land valuation applications will have access right to some agreed land value data as explained in the figure 1.

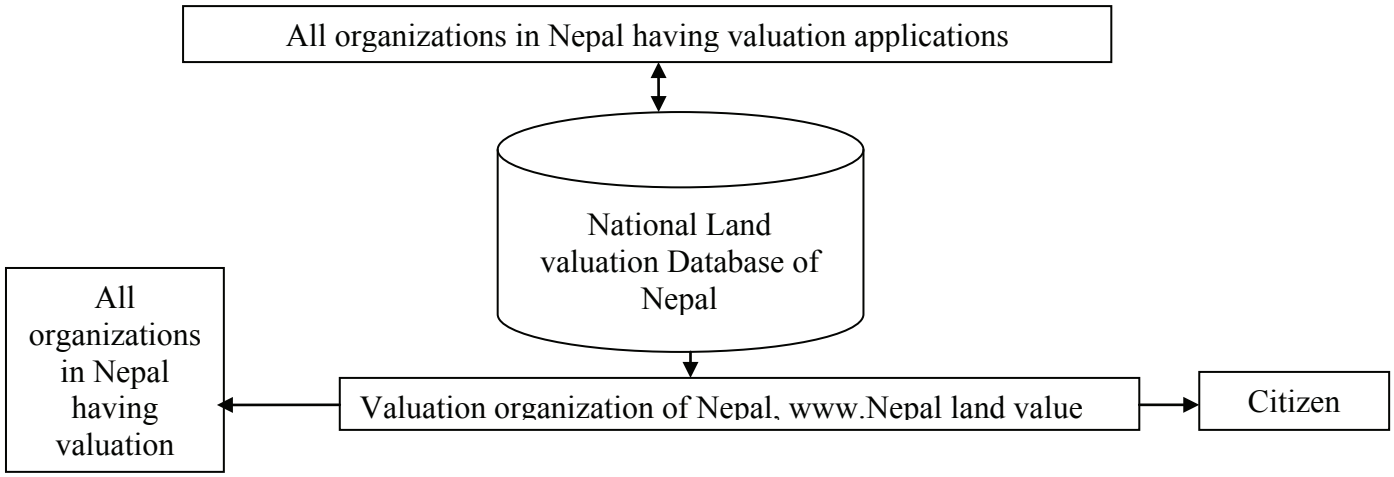

Figure:1 Proposed land valuation model

6.1 Benefits and Beneficiaries of this model

The presence of Geo information organizations and several universities offering GIS training and degree courses is an advantage for the country to develop human resources in GIS. It enhances the capacity building and knowledge transfer in the field of Geo information. The assessment and description of already existing capacities is necessary for these activities. Training, workshop/ seminar, education and research can be organized to increase the capacity of the stakeholders. The main beneficiaries of this model is national mapping and cadastral authoriries organisation of Nepal. A university students /researchers are considered as secondary beneficiaries. Other stakeholders such as governmental institutions, private surveying, Geospatial commercial, research organizations are the tertiary beneficiaries. Municipalities, Banks, land revenue office, citizens, etc. are the major beneficiaries of this model.

6.2 Challenges and Implementation of proposed model

The awareness of GIS in the country is relatively increasing The awareness raising and communication activities should further be carried out to implemnt proposed model .The insitutional and policy framework should be estalished to serve as guide in implementing NSDI in the country.The policy, copyright, licencing and other rights to the uses of land value data and information must be addressed and agreed. The regional approach for capacity building and education is necessary for the implementation of proposed model. The political support is necessary for success factor of setting up national SDIs.The consesus is required to build on common interest and create a common vision. The availability spatial data and metadata should be available and accessible. The co- operation and co-ordination among the organisatons at global and regional level is required for successful implementation of the model. The lack of evolving technology, digital land value datasets, Geo information policy issues, manpower and financial constraints are the major challenges to implement the model.

CONCLUSION

The involvement of various organizations, different laws for valuation and purpose based land valuation are the major problem in as Nepal. Similarly, lack of sufficient data and data sharing for land valuation, available data in analogue format, lack of valuation expert and education

and research are other problems in land valuation. Therefore, establishing scientific land valuation system in Nepal is indispensible for reducing corruption, supporting good governance and socio-economic development of the country. Some initiatives have been taken to improve the land valuation in Nepal. The land grading system was introduced with a vision as one of the basis of valuation. This has at least indicated a step forward for scientific valuation of land. In the case of Nepal, it is necessary to form a centralized institutional structure and a regulation in accordance with international standards. The different values for the same parcel appearing as a result of valuation applications by different institutions will be removed. Because of lack of legal, organizational, technical and environmental provision of law, there are many intuitions such as Municipality, Banks, land revenue office, which can carry out land valuation with their specific purpose. It shows that the integrated legal provision and method is necessary for land valuation. The regulatory, administrative, organizational and technical integration should also be achieved in the system.The study reveals that single organizational set up and standard guideline is necessary for land valuation in Nepal. The beneficiaries of proposed land valuation model are national mapping and cadastral organisation, university students /researchers, governmental institutions, private surveying, Geospatial commercial, research organizations, Municipality, Banks and land revenue office.

ACKNOWLEDGEMENT

The authors would like to thank to Kathmandu University (KU) and Nepal Academy of Science and Technology (NAST) for providing the financial support for the study.

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BIOGRAPHICAL NOTES

Mr. Subash Ghimire received his Master of Science (M Sc.) in Geo Information Science and Earth Observation: Land Administration from University of Twente. Faculty of Geo Information Science and Earth Observation, ITC, the Netherlands. He has enrolled as a PhD candidate in the Department of Civil and Geomatics Engineering at Kathmandu University in 2014-2015. He is currently an Assistant Professor at Department of Civil and Geomatics Engineering, Kathmandu University.

Dr. Arbind Tuladhar is a visiting professor of School of Engineering; Kathmandu University and Changa'n University (China). He holds a PhD degree from Delft University of Technology (TU Delft), and is currently working in Department for Urban and Regional Planning, Faculty of Geo-information Science and Earth Observation (ITC), University Twente as an Assistant Professor.

Dr. Sagar Raj Sharma is an Associate professor and Associate Dean of School of Arts at Kathmandu University. He received his PhD in development economics. His areas of expertise are land reform, food security, Migration, Foreign Aid and Development.

CONTACTS

Subash Ghimire
Department of Civil & Geomatics Engineering, School of Engineering
Kathmandu University, Dhulikhel, Kavre, Post Box 6250
Email: subash_ghimire@ku.edu.np

Dr. Arbind Man Tuladhar
Faculty of Geo-Information Science and Earth Observation of the University of Twente
7500 AE Enschede The NETHERLNDS
Tel. +31(0)53 4874312 Fax + 31(0)53 4874575
Email: a.m.tuladhar@utwente.nl

Dr. Sagar Raj Sharma
School of Arts, Kathmandu University, Post Box 6250
Hattiban, Kathmandu
Email: sagar@ku.edu.np