Cadastre In Nepal: Past And Present

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Abstract

The history of land recording system is very old in Nepal. Though, the administration of land was mentioned in ancient history, it became institutionalized since Lichhabi era. There was the provision of village panchali for the administration and management of land at village level. Many improvements like classification of lands, specification for land measurements, provision measurement units (as hale, pate, kute, kodale etc.), development of special profession for land survey and measurement (Dangol), land adjudication and boundary description of land etc. were made during Malla era. Later, the cadastral maps were also realized as an important component for land administration. The chain survey method was introduced to prepare cadastral maps. Systemic Cadastral Survey was started after the land reform programme in 2021 B.S. In the beginning, the cadastral survey was done in free sheet connecting with local points. 38 out of 75 districts were surveyed on local base point where as 37 districts were surveyed with the control points connected to the National geodetic network. The primary focus of cadastral surveying was fiscal purpose to generate revenue from land tax. Later, the legal cadastre system was developed as it provides more land tenure security to the land owners. Now the concept of multi-purpose cadastre is emerging. There are nine Survey Goswaras & a Survey office under Cadastral Survey Branch

for cadastral surveying of different districts. Digital technology has been introduced for re-cadastral mapping from 2062 B.S. in Banepa Municipality.

In this paper an attempt has made to review the cadastral system of Nepal from historical perspectives. This paper starts with introduction and describes about the historical context of land recording and cadastral surveying in Nepal. It then elaborates the institutions involved for the cadastral surveying in Nepal. The future vision of cadastral system is also described in this paper. Finally, it concludes with some concluding remarks.

1. Background

The history of land recording system is very old in Nepal. In ancient times, land revenue was possibly the only source from which the entire income of the Government was derived. The tax on land proved to be the primary source of the state's wealth. The land administration was one of the tools for ruler to govern the people. Various institutions were evolved and methodologies were changed for the administration of land. The spatial component of land administration was also found important for the accurate delineation of boundary and the cadastral survey was begun in Nepal. Since then, many evolutions occurred in the field of cadastre in Nepal. The evolution occurs in techniques,

tools and professional. Major evolution occurs after the establishment of Survey Department in 2014 B.S. We have completed the cadastral surveying of whole country leaving some village block areas and governmental land. The digital technology is also introduced for cadastral surveying and preparation of cadastral database. This year, Survey Department is celebrating its golden jubilee. This is the right time to review our cadastral and land registration system. In this paper, an attempt has made to review the cadastre in Nepal from historical perspectives.

2. Historical context of cadastre in nepal

The history of land administration in Nepal evolves a long history. The cadastral surveying was used as a tool for the measurement of land parcel since beginning. From historical perspectives, it could be categorized into the following three historical periods as: Ancient Period, Middle Period, Modern period.

2.1 Ancient Period (Before 13th century)

Nepal has its long history on land administration from Vaidic period. The land was taken as the property of the state in ancient time. It is clearly mentioned in the various ancient books like Artharbed, Manusmriti, Ramayan, Mahabharat and Kautaliy's economics. The state charged taxes on the land to generate revenue. The administration and management of land was the main concern for the government. The description about the management of land is described in various ancient books. Though the history of land recording is very old in Nepal it has been institutionalized during *Lichhabi* era (13th century) ((DoLRM, 2003). The land administration was done by Village Panchali in Lichchhabi era. The word panchali is made from the combination of two words Pancha plus Ali and the Ali means boundary. Panchali was the territory boundary of that local level administrative unit of that community. There are many evidences of grant lands being recorded during Lichchhabi era. In those days cadastral survey was in the form of description (shresta & lekhot) for collecting land tax from the land users.

2.2 Middle Period:

The middle historical period includes the time between 18th, 19th and some periods of 20th century. A lot of improvement was done in this period for the improvement of land administration. The important of cadastral survey for the management of land was realized and introduced in this period. The main Cadastral Surveying (Napi) in this period is described in this section.

2.2.1 Preliminary Survey

The preliminary survey began at the end of 18th century. The land was categorized and granted to the public servants as an annual remuneration. King Jayasthiti Malla (1323-1385) made some efforts on land related activities like classification of lands and specification for land measurements (Paudyal, 2005). He had classified the land in four types. The technician who measure & make sketch of land was named as "Chhetrakar" and who measure & make sketch of the house was named as "Tachhakar". King Ram Shaha (1606-1636) introduced land adjudication and boundary description system on land. The unit of measurement of land was defined as hale¹, pate², kute³, kodale⁴, etc. The chain and laggi of 10.5 hat⁵ and 9 hat was used as a standard tool for the measurement of land (Shrestha, 2038 B.S.). Similarly Prithivi Narayan Shah (1723-1775) introduced land recording system for tax purpose and established tax collectors and land recorders in district level (Shah, 2000).

2.2.2 Dangol Survey

A special profession "Dongol" was formed to perform the cadastral surveying in Kathmandu valley. Dongols were the famous technician having great interest for land survey and measurement of those days. They performed eye sketch survey (Dekh jacha napi) to prepare cadastral records. Later, they also involved for surveying of hilly areas and got success. In hilly areas, it called mahajach and boundary of land was recorded as verbal description.

2.2.3 Sarpat Survey

This Sarpat Napi was introduced by Prime Minister Bir Samsher JBR in 1952. The word Sarpat means chain. The standard length of chain was used in Sarpat Napi. This

The person who had one pair of oxen had to pay the land tax in hale system. Hale is the unit of land. The land which one pair of oxen 1. could plough in a day is equivalent to one hale unit of land.

The person who had only one ox needed to share with another person's ox to make pair. He had to pay the land tax in pate system. One pate land is also equal to the land which one pair of oxen could plough in a day. 2.

^{3.} The land equal to a person could dig in a day with kuto

The land equal to a person could dig in a day with kodalo One hat is equal to 1.5 feet (approx.)

survey was conducted by a specially trained person. In terai region, they were called *Munsif*. The unit of the measurement was defined as Ropani-Ana in valley areas, Muri-Pathi in Hills areas and Bigha-Kattha in terai areas.

2.2.4 Compase Survey

This Compase Napi was introduced by Nepalese Army. After returning from the First World War, the Nepalese army (gurkhas) gained some knowledge on surveying and mapping and the important of maps for military strategy. A military compass school was established to train their staffs for surveying and mapping. The trainees were called compase. The First cadastral map was prepared in 1980 B.S using compass and magnet in Bhaktapur district. The plane tabling method was first introduced in Nepal for cadastral surveying. The work was headed by Colonel Ganesh Bahadur Basnet. Moths and Atsatta were prepared as attribute information for the description of land parcel. Later, the school was renamed as Nepal Government Survey Goshwara. In 1996, a great cadastral survey program was launched and to assist the programme, Amin Training School was established under army office at Sundhara, Kathmandu in 1997. This program was run for three years and then stopped (Acharya and Sharma, 2007)

2.3 Modern Period

The modern period of cadastral survey began after the termination of rana regime and changed in the political scenario in Nepal. The Bhumi Jach Commission, 2008, Royal Land Reform Commission, 2009, Land Act 2014, Birta Unmulan Act, 2016 etc. were some of the initiatives during interim government period. Survey Department and Malpot Department were established under Ministry of Finance in 2014 B.S. The Survey and Measurement Act was introduced in 2019 B.S. The sporadic and optional nature of cadastral and land registration system changed into systematic cadastral survey and compulsory land registration system. The fiscal cadastre gradually changed into legal cadastre and moved towards the concept of multi purpose cadastre. Due to the advancement of technology, the chain and sight rule are replaced by plane table and telescopic alidade. Later, modern equipments, like, EDM, Total station and GPS instruments are introduced for the cadastral surveying. According to the methodology, the cadastral surveying could be categorized into four types in modern period.

2.3.1 Cadastral Survey with local control points

In the beginning, the cadastral survey was sporadic Nepalese Journal on Geoinformatics - 6, 2064 in nature. Survey Department was brought under Ministry of Land Reform Management to support Land Reform Programme (land ceiling and land taxation). Initially, the cadastral survey was carried out with local control system and this system was applied for 38 districts. The maps thus produced are termed as island maps. Mainly, Plane tabling methodology with chain was used to prepare cadastral maps.

2.3.2 Cadastral Survey with national geodetic control points

After the establishment of Trigonometrical Survey Branch in 2026 B.S., cadastral survey was commenced based on national geodetic control points. In 2039 B.S. Cadastral Survey Branch under Survey Department was established to monitor and supervise Survey Goswara and cadastral survey activities. There are total 37 districts having cadastral maps based on national geodetic control networks. The GPS technology is also introduced for cadastral surveying (Adhikary, 2002). The cadastral survey was only focused for mapping of cultivated areas. The first round (Eaksaro) cadastral survey of whole country was finished in 2051 B.S. leaving of some village block areas, governmental lands. The government decided to resurvey on those remaining 38 districts that were not based on the national control network and the areas having high land value. At present, the resurvey is in progress mainly in 13 such districts in terai area (plain lands) including Kathmandu and Kaski. The resurvey of one district has been finished. Mainly, plane tabling methodology with telescopic alidade is used to prepare cadastral maps. The GPS technology is introduced for the establishment of control points.

2.3.3 Digital Cadastre

The digital technology has been introduced in 2062 B.S. to prepare cadastral database where the land value is very high. As a piloting, the programme has been initiated from Banepa Municipality. The field work of ward number six has been finished and the land registration work is in progress.

2.3.4 Village Block Cadastral Survey

In the beginning, the primary purpose of cadastral survey was to impose land ceiling based on the actual measurement on their land occupancy. In the village block areas, the size of the parcel was very small so they do not affect much on the land ceiling. Also, the technology at the time was inadequate for cadastral surveying in densely populated village block areas. Hence, the individual parcels of those areas were left unmapped during first round cadastral

survey. Now, the Survey Department has realized that there is urgent need to prepare cadastral maps in village block areas. A working manual has been developed to complete the cadastral survey of village block areas in Nepal. Cadastral Survey Branch has given high priority to complete this task.

Goswara and cadastral survey activities From institutional perspectives, the cadastral surveying of Nepal could be categorized into two types; Cadastral Surveying performed by Survey Goswara and Cadastral Survey performed by Survey Offices.

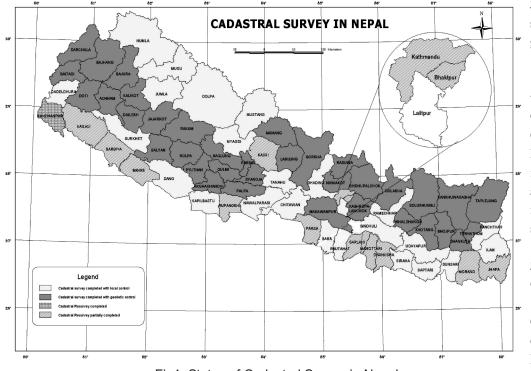


Fig1: Status of Cadastral Survey in Nepal

3. Institutions involved for cadastral surveying in nepal

The cadastral surveying was institutionalized after the establishment of Survey Department in 2014 B.S. In the beginning, there were four Survey Circles & two Chhoti Survey Goswaras under Survey Department to conduct cadastral surveying works of whole country. After that, Seven Survey Parties were established in 2017 B.S and made more responsible for cadastral surveying and initial land registration activities. After the enactment of Land

(Survey and Measurement) Act in 2019 B.S., Survey Party was renamed as Survey Goswara. Maintenance Survey Section was established in 2022 B.S. There were four Regional Maintenance Survey Offices established at Biratnagar, Hetauda, Pokhara, Nepalgunj & one Regional Maintenance Office at Kathmandu which were dissolved in 2049 B.S. Eight Number Survey Goswara was established in 2032 B.S. and

Nine Number Survey Goswara was established in 2033 B.S. In 2039 B.S. Cadastral Survey Branch under Survey Department was established to monitor and supervise Survey Nepalese Journal on Geoinformatics - 6, 2064

3.1 Cadastral surveying by survey goswara

There are total nine Survey Goshwaras under Cadastral Survey Branch. A brief introduction with their activities has described in the following sections.

3.2 1 No. Survey Goswara:

Т h i s Goswara was established in 2021 B.S. It is located in Birguni, Parsa district since 2053 B.S. This

Goswara is charge of conducting re-cadastral survey of Parsa district as well as Bharatpur Municipality and village block areas of Chitwan district. It has handed over the land registers of 21 VDCs of Parsa district to District Land Revenue Office after the completion of re- cadastral surveying and land registration.

The districts surveyed in first round cadastral survey (eksaro Kitta napi) by this Goshwara are:

S.N.	District	Year (B.S.)		Remarks
D 1.	District		То	TOTALIA.
1	Jhapa	2021	2023	In Free sheet
2	Morang	2023	2025	In Free sheet
3	Sunsari	2025	2027	This district is also surveyed by 7 No. S.G. from 2023-2025 B.S in free sheet
4	Udayapur	2028	2030	This district is also surveyed by 2 No. S.G. from 2028-2030 B.S in free sheet
5	Saptari	2030	2032	This district is also surveyed by 7 No. S.G. from 2025-2028 B.S. in free sheet
6	Dhankuta	2030	2032	In trig sheet
7	Teharathum	2032	2035	In trig sheet
8	Bhojpur	2035	2039	In trig sheet
9	Khotang	2039	2043	In trig sheet
10	Okhaldhunga	2043	2046	In trig sheet
11	Solukhumbu	2046	2053	In trig sheet

3.3 2 No. Survey Goswara:

This Goswara was established in 2021 B.S. It is

located in Nepalgunj, Banke district since 2053 B.S. This Goswara is charge of conducting re-cadastral survey in Banke, Bardiya and Surkhet district. It has handed over the land registers of 22 VDCs of Banke & 11 VDCs of Bardiya district to District Land revenue office after the completion of re- cadastral surveying and land registration.

S.N.	District	Year (B.S.)		Remarks	
5.11.	District	From	То	Remarks	
1 2 3 4 5 6 7 8 9	Rautahat Sarlahi : Mahottari Dang Tanahu: Dhading Doti: Darchula: Baitadi: Kalikot	2021 2023 2024 2026 2029 2032 2038 2039 2038 2048	2023 2024 2026 2028 2032 2035 2045 2043 2048 2054	In free sheet In fres sheet In trig sheet In trig sheet In trig sheet In trig sheet	

The districts surveyed in first round cadastral survey (eksaro Kitta napi) by this Goshwara are:

S	.N.	District	Year (B.S.)		Remarks	
L.	S.T. District		From	То	Remarks	
	1 2 3 4	Bardiya Bara Siraha Kapilbastu	2021 2022 2023 2026	2022 2023 2025 2028	In free sheet In free sheet In free sheet This district is also surveyed by 5 No. S.G. in	
	5 6 7 8	Udayapur Kavrepalanchok Sindhupalanchok Rukum	2028 2032 2038 2048	2030 2035 2048 2053	2028 B.S. in free sheet In free sheet In trig sheet In trig sheet In trig sheet In trig sheet	

Note: this Goshwara was in Kanchanpur for "Resettlement (Basobas)" programme

3.6 5 No. Survey Goswara:

This Goswara was established in 2021 B.S. It is located in Malangawa, Sarlahi district since 2063 B.S. This Goswara has been shifted to Sarlahi district after the completion of re-cadastral survey of Kanchanpur district in 2062 B.S. It is also conducting re-cadastral survey

of Mahottari, Sarlahi and Dhanusa districts

The districts surveyed in first round cadastral survey (eksaro Kitta napi) by this Goshwara are:

3.4 3 No. Survey Goswara:

This Goswara was established in 2021 B.S. It is located in Bhairahawa, Rupandehi district since 2055 B.S This Goswara is in charge of conducting re-cadastral survey of Rupandehi, Arghakhachi and Nawalparashi districts.

The districts surveyed in first round cadastral survey (eksaro Kitta napi) by this Goshwara are:

S.N.	District	Year (B.S.)	Remarks
5.11.	District	From	То	Remarks
1 2 3 4 5 6 7 8	Parsa Dhanusa Rupandehi Surkhet Palpa Salyan Argakhachi Achham	2021 2023 2025 2028 2030 2037 2040 2043	2023 2026 2028 2030 2036 2040 2042 2050	In free sheet In free sheet In free sheet In free sheet In trig sheet
9	Bajura	2049	2051	In trig sheet

S.N.	District	Year (B.S.)		Remarks			
		From To					
1 2 3 4 5 6 7 8 9	Kailali Kathmandu Bhaktapur Lalitpur Banke Kanchanpur Chitwan Ilam Panchthar Rasuwa	2021 2035 2021 2037 2023 2024 2026 2028 2030 2034	2038 2023 2025 2026 2027 2030 2032 2036	This district is also surveyed by 5 No. S.G. in 2030 B.S in free sheet This district is also surveyed by 7 No. S.G.from 2022-2023 B.S. in free sheet In free sheet This district is also surveyed by 7 No. S.G. from 2021-2023 B.S. in free sheet			
11	Jumla	2049	2054	In free sheet			

Note: This Goswara was in Kapilbastu in 2028 B.S. to assist 2 No. S.G. and Kailali in 2030 B.S

3.5 4 No. Survey Goswara:

This Goswara was established in 2021 B.S. It is located in Dhangadhi, Kailali district since 2053 B.S This Goswara is in charge of conducting re-cadastral survey of Dhangadhi and Tikapur Municipality. It has handed over the land registers of 10 VDCs of Kailali district to District Land Revenue office after the completion of re- cadastral surveying and land registration.

The districts surveyed in first round cadastral survey (eksaro Kitta napi) by this Goshwara are:

3.7 6 No. Survey Goswara:

This Goswara was established in 2020 B.S. It is located in Kathmandu since 2053 B.S. This Goswara is in charge of conducting re-cadastral survey of Kathmandu and Bhaktapur (village block areas) districts. It has handed over the land registers of 5 VDCs of Kathmandu district and 3 wards of Kathmandu Metropolitan city to District Land Revenue office after the completion of re- cadastral surveying and land registration.

The districts surveyed in first round cadastral survey (eksaro Kitta napi) by this Goshwara are:

S.N.	District	Year (B.S.)		Remarks	
Jii vi	District	From	To	Termina	
1	Nawalparasi	2020	2025	This district is also surveyed by 5 No,3 No,2 No. 4 No S.G. in free sheet	
2	Makwanpur	2028	2036	In trig sheet	
3	Syanja	2036	2039	In trig sheet	
4	Lamjung	2039	2044	In trig sheet	
5	Manang	2044	2046	In trig sheet	
6	Dolakha	2047	2052	In trig sheet	

3.8 7 No. Survey Goswara

This Goswara was established in 2022 B.S. It is located in Chandragadhi, Jhapa district since 2052 B.S. This Goswara is in charge of conducting re-cadastral survey of Damak, Bhadrapur and Mechinagar Municipalities and other VDCs of Jhapa district. It has handed over the land registers of 15 VDCs of Jhapa district to District Land Revenue office after the completion of re- cadastral surveying and land registration.

The districts surveyed in first round cadastral survey (eksaro Kitta napi) by this Goshwara are:

S.N.	District	Year (B.S.)		Remarks	
J.1 (.	District	From	То	Temano	
1	Sunsari	2023	2025	This district is also surveyed by 1 No. S.G.from 2025-2027 B.S. in free sheet	
2 3	Saptari	2025	2028	This district is also surveyed by 1 No. S.G.from 2027-2029 B.S. in free sheet	
	Sindhuli	2027	2030	In free sheet	
4	Ramechhap	2030	2033	In free sheet	
5	Nuwakot	2033	2037	In trig sheet	
6	Gorakha	2038	2041	In trig sheet	
7	Taplejung	2041	2046	In trig sheet	
8	Sankhuwasabha	2046	2051	In trig sheet	

3.9 8 No. Survey Goswara:

This Goswara was established in is B.S. It is located in Pokhara, Kaski district since 2059 B.S. This goswara was in Bardiya district from 2052-2059 B.S for re-cadastral surveying. It has handed over the land registers of 7 wards of Pokhara sub-metropolitan city to District Land Revenue office after the completion of re- cadastral surveying and land registration.

The districts surveyed in first round cadastral survey (eksaro Kitta napi) by this Goshwara are:

S.N.	District	Year (B.S.)	Remarks
5.1 (.	District	From	То	Temans
1 2 3 4 5	Dadeldhura Baglung Parwat Jajarkot Dailekh	2032 2034 2039 2042 2046	2034 2039 2042 2046 2052	In free sheet In trig sheet In trig sheet In trig sheet In trig sheet

3.10 9 No. Survey Goswara

This Goswara was established in 2033 B.S. It is located in Biratnagar, Morang district since 2053 B.S. It has handed over the land registers of 9 VDCs of Morang district and 2 wards of Biratnagar submetropolitan city to District Land Revenue office after the completion of re- cadastral surveying and land registration.

The districts surveyed in first round cadastral survey (eksaro Kitta napi) by this Goshwara are:

S.N.	District	Year (B.S.)	Remarks
0.1	21341141	From	То	114111111111111111111111111111111111111
1 2 3	Kaski Gulmi Pyuthan Rolpa	2033 2036 2041 2046	2036 2041 2046 2053	In trig sheet In trig sheet In trig sheet In trig sheet

3.11 Cadastral surveying by survey offices

The importance of cadastral maps for land administration was realized by the then government and Survey Offices were established to complete the cadastral survey of whole country as soon as it could be possible. The cadastral surveying with national geodetic network was found time consuming. Hence,

most of the cadastral surveying by these survey offices are based on local control networks. The organization structure of Survey Office was small in comparison to the Survey Goswaras. A brief introduction of these offices is described in the following section.

3.12 Survey Office Mustang

Survey Office Mustang was established in 2031 B.S. There were 23 VDC at the time of cadastral surveying in Mustang District. The district was completed within two years after the commencement of cadastral surveying in free sheet. The cultivated land of Mustang District is 6556 hect. and total land surveyed by this Survey Office is 11092 hect. There are 227 cadastral maps, 36470 land parcels and 3939 land owners according to the meta data prepared by Cadastral Survey Branch. The cadastral maps prepared by this survey office are based on local control points.

3.13 Survey Office Myagdi

Survey Office Myagdi was established in 2033 B.S. There were 44 VDC at the time of cadastral surveying in Myagdi District. The district was completed within two years after the commencement of cadastral surveying in free sheet. The cultivated land of Mustang District is 19709 hect. and total land surveyed by this Survey Office is 30632 hect. There are 1302 cadastral maps, 136570 land parcels and land 25985 owners according to the meta data prepared by Cadastral Survey Branch. The cadastral maps prepared by this survey office are based on local control points.

3.14 Survey Office Bajhang

Survey Office Bajhang was established in 2045 B.S. There were 47 VDC at the time of cadastral surveying in Bajhang District. The district was completed within nine years after the commencement of cadastral surveying in trig sheet. The cultivated land of Bajhang District is 29257 hect. and total land surveyed by this Survey Office is 161931 hect. There are 744 cadastral maps, 329344 land parcels and 25305 land owners according to the meta data prepared by Cadastral Survey Branch. The cadastral maps prepared by this survey office are based on geodetic control network.

3.15 Survey Office Dolpa

Survey Office Dolpa was established in 2049-12-26 B.S. There were 23 VDC at the time of cadastral surveying in Dolpa District. The district was completed within six years after the commencement of cadastral surveying in free sheet. The cultivated land of Dolpa District is 7664 hect. and total land surveyed by this Survey Office is 9640 hect. There are 124219 land parcels and 6470 land owners according to the meta data prepared by Cadastral Survey Branch. The cadastral maps prepared by this survey office are based on local control points.

3.16 Survey Office Mugu

Survey Office Mugu was established in 2050 B.S. There were 24 VDC at the time of cadastral surveying in Mugu District. The district was completed within three years after the commencement of cadastral surveying in free sheet. The cultivated land of Mugu District is 11347 hect. and total land surveyed by this Survey Office is 17001 hect. There are 253033 land parcels and 11190 land owners according to the meta data prepared by Cadastral Survey Branch. The cadastral maps prepared by this survey office arebased on local control points.

3.17 Survey Office Humla

Survey Office Humla was established in 2050 B.S. There were 27 VDCs at the time of cadastral surveying in Humla District. The district was completed within three years after the commencement of cadastral surveying in Nepalese Journal on Geoinformatics - 6, 2064

free sheet. The cultivated land of Humla District is 9704 hect. And total land surveyed by this Survey Office is 12129 hect. There are 119690 land parcels and 12098 land owners according to the Meta data prepared by Cadastral Survey Branch. The cadastral maps prepared by this survey office are based on local control points.

3.18 Survey Office Banepa

Survey Office Banepa was established in 2063-05-05 B.S for the digital cadastral surveying in Banepa Municipality. The Nepalese Government has decided to conduct re cadastral surveying using digital technology as a piloting in Banepa Municipality on 2062-10-20. There are 11 wards in total and the cadastral surveying of ward number six has been completed. The digital cadastral database has been prepared and the land registration of ward numbers six as well as cadastral surveying of ward no five and eight is running this year.

4. Future vision for cadastral system in nepal

In this section, the future vision of Cadastral System is described. The future vision of cadastral Survey in Nepal is to develop parcel based cadastral information system for providing land tenure security and sustainable land management to achieve the goal of cadastre 2014 document. The followings will be the main activities for future cadastral system in Nepal.

4.1 Reengineering of Cadastral System

For Re-engineering of cadastral system for scientific administration, management and manipulation of land data, the following activities need to be initiated.

- Organizational restructuring of Cadastral Survey Branch
- Replacement of traditional cadastral system with digital technology
- Preparation and updating of cadastral maps and land related information using modern technology
- Digital service delivery to promote e-governance
- Geo-referencing of islands maps with high resolution imagery.
- Partnership and coordination with Municipality and Private Sectors for cadastral surveying and database preparation.
- Deployment of licensed surveyor for cadastral surveying and database preparation
- Refresher course and training programme for existing

staffs

- Development of parcel based nationwide cadastral information system
- Development of 3D Cadastre System
- Research and development in land related issues

5. Concluding remarks

In this paper, the history of cadastral survey has been described. From historical perspectives, the activities related to land recording and cadastral surveying is described in three historical periods; ancient period, middle period and modern period. The land administration activities were institutionalized since middle period of Nepal though it was initiated since Lichhabi era. The cadastral survey was sporadic in nature in the beginning. After the launched of land reform programme, the systematic cadastral survey began in Nepal. The first round cadastral survey has finished and the resurvey is in progress. Now, the cadastral Survey Branch has given emphasis for the completion of cadastral survey of village block areas and introducing of digital technology for cadastral surveying. This paper also proposed the future vision of cadastral system in Nepal.

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- 2. Nepalese Journal on Geoinformatics NRs 100/-
- The Population and Socio-economic Atlas of Nepal (Hard Copy) NRs. 2,500 (In Nepal), € 200 (Out side Nepal)
- 4. The Population and Socio-economic Atlas of Nepal (CD Version) NRs. 250/-