Terms of reference (TOR)

Preparation of Land Use Plan of Barbardiya Municipality
Jayanagar, Bardiya, Lumbini Province
Nepal

Barbardiya Municipality

Bardiya District, Lumbini Province

Nepal

प्रमुख प्रशासकीय अधिकृत

2082

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1. Background

Land is precious natural resource that is normally defined as the physical and biological cover on the earth's surface. The land cover represents to water bodies, forest, grassland, glacier/snow cover, barren land, etc. Likewise, land use is defined as the land carried out by humans to obtain products and economic benefits through using land resources, for example, industrial area, built-up area, recreational area, parks/garden, etc. Mainly human functions to the land for specific purposes that support food, shelter, fiber, fuel, fodder, timber and other biotic materials. However, the definitions vary based on scope of scientists. Natural scientists describe land use in terms of syndromes of human activities such as agriculture, forestry, and building construction that alter land surface processes, including biogeochemistry, hydrology, and biodiversity. In contrast, social scientists define land use more broadly to include the social and economic purposes and contexts for and within which lands are managed, such as subsistence versus commercial agriculture, rented vs. owned, or private vs. public land.

In the context of Nepal, land use and land cover change resulted due to increased population growth, migration in urban areas from rural, and a changing definition of the urban areas. Therefore, it is an urgent need to make it sustainable utilization of natural resources. Through a systematic study of land resources, land use plan proposes the best use and other potential alternative use make it sustainable. Land Use Policy 2015 envisages to categorize/classify entire lands of the country into various Land Use Zones (LUZs); to devise of level wise (Federal, Provincial and Local) Land Use Plans (LUPs) and to ensure of the use of Land and Land Resources (LLRs) on the basis of land use plans (LUPs) for protection of agricultural land, hygienic, beautiful, well-facilitated settlement and sustainable urbanization, and for forests areas including natural heritages, biodiversity and historical, cultural and religious, archaeological and areas of strategic importance.

At the initial stage, the NLUP had started several projects at the district level to prepare Land Resource Maps and Database at the scale of 1: 50,000. The database and maps at this scale were prepared for Different many municipalities of Nepal. After accepting the various suggestions from the experts, the NLUP was started land resource mapping for Rural Municipalities and Municipalities level. Then, Topographical Survey and Land Use Management Division (TSLUMD) was completed to prepare land resource maps, database and reports. Digital database includes RM/Municipalities level present land use, soil, land capability, land use zoning, cadastral layers and RMs/ Municipalities profile with biophysical and socio-economic information. Preparation of national level database of all Municipalities/Rural Municipalities of the country has been completed in 2020/2021. However, land use and land cover changing with time and space due

to various factors, either human or anthropogenic factors. The study on current land use and land cover scenarios is fundamental for making plan and policies.

2. Objectives

The main objective of the study is to prepare land use plan of Barbardiya Municipality of Bardiya District. The specific objectives are:

1. To prepare the existing land resource mapping; mainly focusing on update present land use
2. To analyze socio-economic status
3. Identification of different potential disaster risk zones
4. Land use zoning and cadastral superimposed
5. To prepare land use plan

3. Scope of the work

The scope of the study will be covered the following land resource data (existing present land use)

➢ Analyze the municipality socio-economic status related with physical, utilities, social, economic, and environmental status for related local level.
➢ Carry out spatial analysis of major risks occurred in the related local level.
➢ Prepare land use plan for considering of 10 years as long term.
➢ Developing land development code for implementation of land use plan.

4. Preparation of data and reports

Land use land cover data

GIS and remote sensing tools can be used to prepare recent land use and land cover data. Open source data such as Google Earth Images can be used to prepare land use database. Google Earth Image is also very familiar mobile application that can be installed and look at any place, landform very easily. The existing land cover data can be used as referencing while preparing land cover data. The criteria of features digitization, extraction and classification should be follow the Land use policy 2015 and Land use act 2019 and 2022. Land use land cover maps and database should be verified through field observation by using GPS.

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Socio-economic data analysis

The local level socio-economic information should be collected at the community level, the information of the local level mostly included demographic, migration, population growth rate, physical, utilities, social, economic, and environmental status. The socio-economist should develop checklists and orient the field enumerators to collect relevant information such as naming and origin of the municipality, access to infrastructure and services, social condition, population characteristics, economic condition, heritage/culture and religion and tourism etc. Likewise, field experts should be made questionnaire/checklist and collect information on agriculture and food production, vegetable farming/fruit production, livestock, poultry farming/fishing, etc.

Identification of potential disaster zones

To develop land use plan for managing land use for safe resilient to housing, economic betterment and easy access to infrastructure and public service, the potential disaster zones should be identified within the study area. Based on primary and secondary data, major potential risks such as flood, soil erosion, landslides and forest fire risk should be identified.

Cadastral superimposed

Based on updated cadastral (parcel) data, the cadastral information (parcel information) should be linked to cadastral data. The cadastral data and cadastral information, land use data will be provided by this rural municipality.

Preparation of land use plan

Based on database (cadastral data), cadastral information and reports such as land use data and reports, socio-economic status, land use plan should be prepared.

5. Service requirements

The following main power and the qualification of the service provider should be;

A. Team leader

- Should have Master's degree in Geography, or Regional/Urban planning, or Settlement planning or relative course and should be better for PhD degree.
- Should have involved in preparation of research-based plan or analysis work
- Should have knowledge on GIS and its applications
- Should have research/planning experience of conduction of at least 7 years on related works

B. Geography Expert

- Should have Master's degree in geography
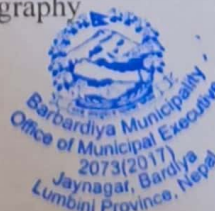
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- Should have involved in preparation of research based plan or analysis work.
- Should have knowledge on GIS and its applications
- Should have research/planning work experience of at least 3 years in relevant works

C. Sociology Expert

- Should have Master's degree in Sociology.
- Should have involved in preparation of research based plan or analysis work.
- Should have knowledge on social planning and its applications for local level development planning.
- Should have research/planning work experience of at least 3 years in relevant works

D. Economics/ Finance Expert

- Should have Master's degree in Economics or Finance management.
- Should have involved in preparation of research based plan or analysis work.
- Should have knowledge on economics management and its applications for income generate and finance development.
- Should have research/planning work experience of at least 3 years in relevant works

E. GIS Expert

- Should have Master's degree in geography or geometrics engineering or any subject having GIS courses.
- Should have experience on GIS based research works
- Should have research/planning experience of at least 3 years

F. Environment Expert

- Should have Master's degree in environmental science
- Should have experience on environment related research works
- Should have research/planning experience of at least 3 years

G. Land Use Planner

- Should have Master's degree in Land use planning or Regional/Urban planning or Geography with Regional Development planning or relative course.
- Should have experience on related research works
- Should have research/planning experience of at least 3 years

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H. Civil engineer

➢ Should have bachelor degree in civil engineer
➢ Should have experiences on civil engineering
➢ Should have related work experiences at least 3 years

6. Work schedules

This study should complete within three months from the assigned task. Time and tentative work deliverables have shown in Table 1.

Table 1. Work schedules of the study

Activity	Time in weeks																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Preparation of the work	▓	▓	▓	▓													
Fieldwork					▓	▓	▓										
Data analysis and draft report writing									▓	▓	▓	▓	▓				
Submit final report submission														▓	▓	▓	

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