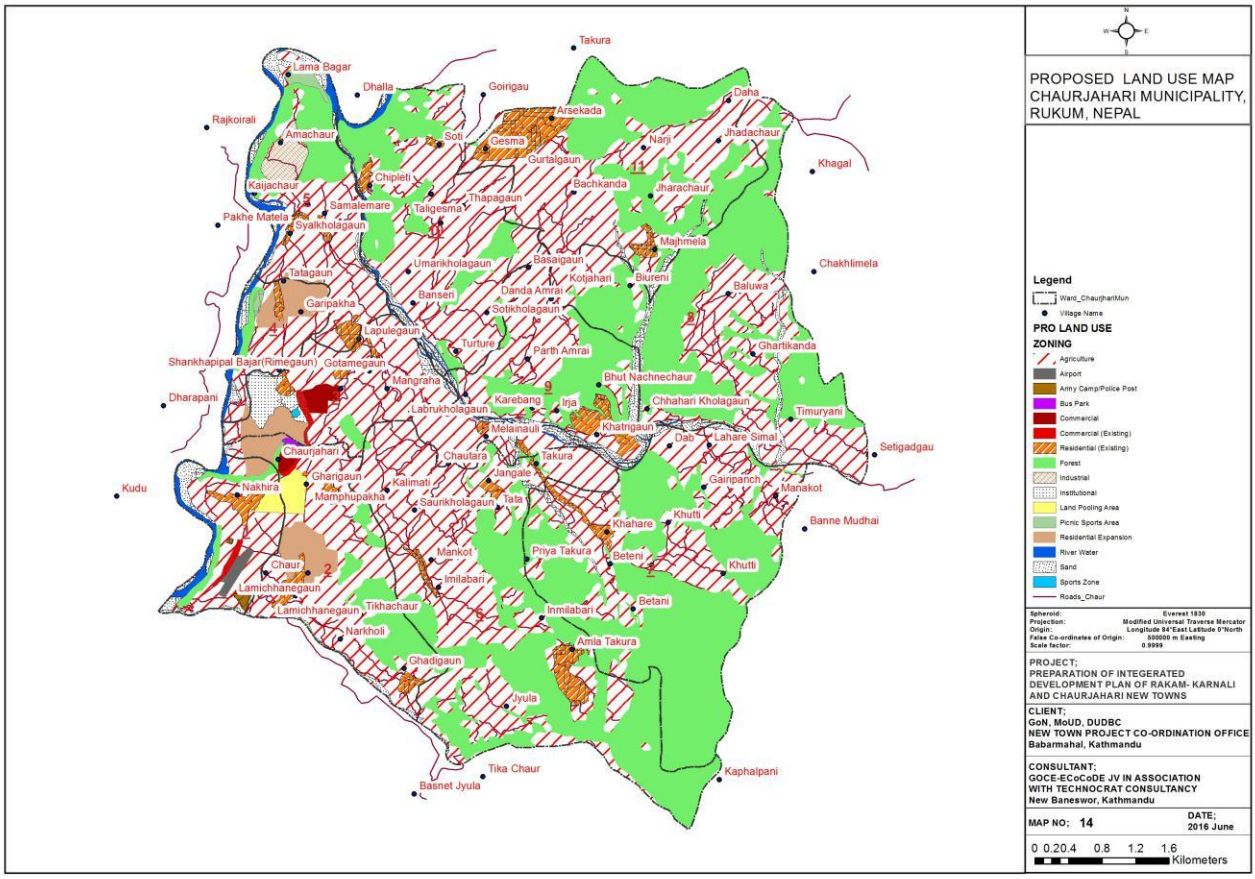
Government of Nepal

Ministry of Urban Development

**Department of Urban Development and Building Construction**

**New Town Project Co-ordination Office**

Babarmahal, Kathmandu




# FINAL REPORT

**FOR**

## PREPARATION OF INTEGRATED DEVELOPMENT PLAN OF CHAURJAHARI, RUKUM

**VOLUME - I**

Submitted by:


## GOEC Nepal P.Ltd JV with ECoCoDE& Technocrat Consultancy

New Baneswor, Kathmandu

GPO BOX 11686 Ph. No. 01- 4783060,Fax: 4781896

Email: goecnepal10@gmail.com

**PROJECT INFORMATION**

| | |
|---|---|
| **Name of the Project** | Consulting services for Preparation of Integrated Development Plan of Chaurjahari Municipality |
| **Contract ID** | Package no.CS-14,071/72 |
| **Project Executing Agency** | Government of Nepal<br>Ministry of Urban Development<br>Department of Urban Development and Building Construction<br>New Town Project Coordination Office<br>Babarmahal, Kathmandu, Nepal |
| **Name of the JV Consultant** | GOEC (P) Ltd, and EcoCoDE Nepal (P) Ltd, Technocrat Consultancy (P) Ltd JV. Anamnagar, Kathmandu, Nepal, |
| **Project Commencement Date** | July,2015 |
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**SUBMISSION INFORMATION**

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| **Consultants Team** | Mr. Batuk Krishna Upreti, TeamLeader, Urban Planner<br>Mr.Rabindra Dawadi (Urban Planner/Civil Er.), Deputy Team Leader<br>Mr. Uttam Bahadur Raut, (Architect)<br>Mr.G.L. Chaudhary, (Water Supply/Sewerage Engineer)<br>Mr.DN Yadav, (Civil Engineer)<br>Mr.Dwarika Phnuyal, (Environment Engineer)<br>Mr.Prakash Bdr Adhikari, (Geotech Engineer)<br>Mr. Bishnu Mohan Dangol,( Electrical Engineer)<br>Mr.Umesh Kumar Mandal, (GIS Expert)<br>Mr.Ishwar Man Shrestha, (Economist/Financial Analyst)<br>MR.Birendra Bdr Chand,Sociologist/ (Community Development Expert)<br>Mr.Madan Rauniyar, (Institutional Development Expert) | |
| Report Checked by | | |

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| BOOT | Built Operate Own & Transfer |
| CAD | Computer Aided Design |
| CBD | Central Business District |
| CBO | Community Based Organization |
| CBS | Central Bureau of Statistics |
| CC | Climate Change |
| CSO | Civil Society Organization |
| DDC | District Development Committee |
| DOR | Department of Road |
| DPP | District Periodic Plan |
| DPR | Detailed Project Report |
| DTMP | District Transport Master Plan |
| DTO | District Transport Office |
| DUDBC | Department of Urban Development and Building Construction |
| EIA | Environmental Impact Assessment |
| EZ | Economic Zone |
| FAR | Floor Area Ratio |
| FGD | Focused Group Discussion |
| FNCCI | Federation of Neplese Council of Commerce and Industries |
| GDP | Gross Domestic Product |
| GESI | Gender Equity and Social Inclusive |
| GIS | Geographic Information System |
| GON | Government of Nepal |
| GPS | Global Positioning System |
| IAP | Integrated Action Plan |
| IDP | Integrated Development Plan |
| IEE | Initial Environment Examination |
| INGO | International Non-Governmental Organization |

| | |
|---|---|
| IT | Information Technology |
| LFA | Logical Framework Approach |
| LSGA | Local Self Governance Act |
| MHH | Mid Hill Highway |
| MoFALD | Ministry of Federal Affairs and Local Development |
| MoUD | Ministry of Urban Development |
| MSIP | Multi-sectorial Investment Plan |
| MTMP | Municipality Transport Master Plan |
| NBC | Nepal Building Code |
| NGO | Non-Governmental Organization |
| NPC | National Planning Commission |
| NPD | Poverty Mapping of District |
| NT | New Town |
| NTPCO | New Town Project Coordination Committee |
| PDP | Periodic Development Plan |
| PPP | Public Private Partnership |
| PRA | Participatory Rapid Appraisal |
| QA | Quality Assurance |
| QMAS | Quality Management cum Assurance System |
| SWOT | Strength Weakness Opportunity & Threat |
| TDC | Town Development Committee |
| TOR | Terms of Reference |
| UN | United Nation |
| USD | United States Dollar |
| VDC | Village Development Committee |
| WUA | Water User Association |

## Salient Features of Chaurjahari (Municipality) New Town

**Five/Ten/Twenty Year Planning** IDPs are of 20-year period. The 5/10/20 year plans integrated the short term objectives with long term objectives. **Comprehensive Planning** The focus of the planning was not only on economic parameters but also on social parameters of growth and development. On one side, it focused on acceleration of the pace of growth, on other side, it focused to minimize vertical and horizontal disparities. The focus of comprehensive planning was to achieve 'inclusive growth'. **A Tilt towards the Public Sector and Regulation of the Market Forces Even though Nepal adopted mixed economy**, it encouraged more participation of public sector in development process. Private sector was controlled through legislative restrictions (to check on growth of monopolies). The private sector is encouraged more to participate in development process. **Democratic Planning** At the formulation level as well as at the implementation level of plans, Nepal followed the democratic approach. Opinions of various organizations and experts are taken into consideration while formulating the plans. While implementing the plans, bottom-up approach was followed with involvement of democratic bodies at Town and district level. **Prospective and Perspective Planning** Nepalese planning incorporated both short-term and long-term programms of growth and development. The integration of both the strategies is required to exploit the potential of growth process. **NTPCO** involve to develop the plans and to oversee the implementation. **Economic and Social Spheres of Planning** In planning objectives along with economic development goals, social development goals are included. **Financial Planning** Nepalese planning involves allocation of funds to various sectors and activities, rather than achieving the physical targets of the plan.

## CHAURJHARI- RUKUM

Chaurjahari Municipality is located in Mid-western Development Region of Rukum District. The settlement is 1.26% growth rate and providing marketing and other services in its hinterland. The lead sectors of this market center are trade and business center, education and health center and tourism and service Centre. Based on those potential lead sectors, Chaurjahari can be developed as a regional center for marketing as well as tourism center of Mid-western Development Region of Nepal. The center is providing social, economic, touristic as well as various services in its hinterland.

Chaurjari is a market center which lies in the Bijeswori VDC-9 of Rukhum District. This market lies along the bank of Jahari Khola. This market serves the people of nearby surrounding area of Rukhum, Salyan, and Jajarkot District. Chaurjahuri is connected to Surkhet and Salyan with road network and is having air services to Nepalgunj and Kathmandu.

The population census 2068 shows the total population of Chaurjahari Municipality is 14,489 and total house hold is 2980. Chaurjahari Municipality covers the area of 50.12 sq. km. The growth rate of the population in the VDC from 2001 to 2011 is 1.26% per annum.

LONG TERM VISION "नँया सहर नगरवासीको एउटै रहर,सुन्दर, शान्त एव प्राकृतिक सम्पदाले भरिपूर्ण चौरजहारी नगर"

## Summary of Major Features in Tabulated form

PROPOSED ROAD NETWORK OF CHAURJAHARI MUNICIPALITY

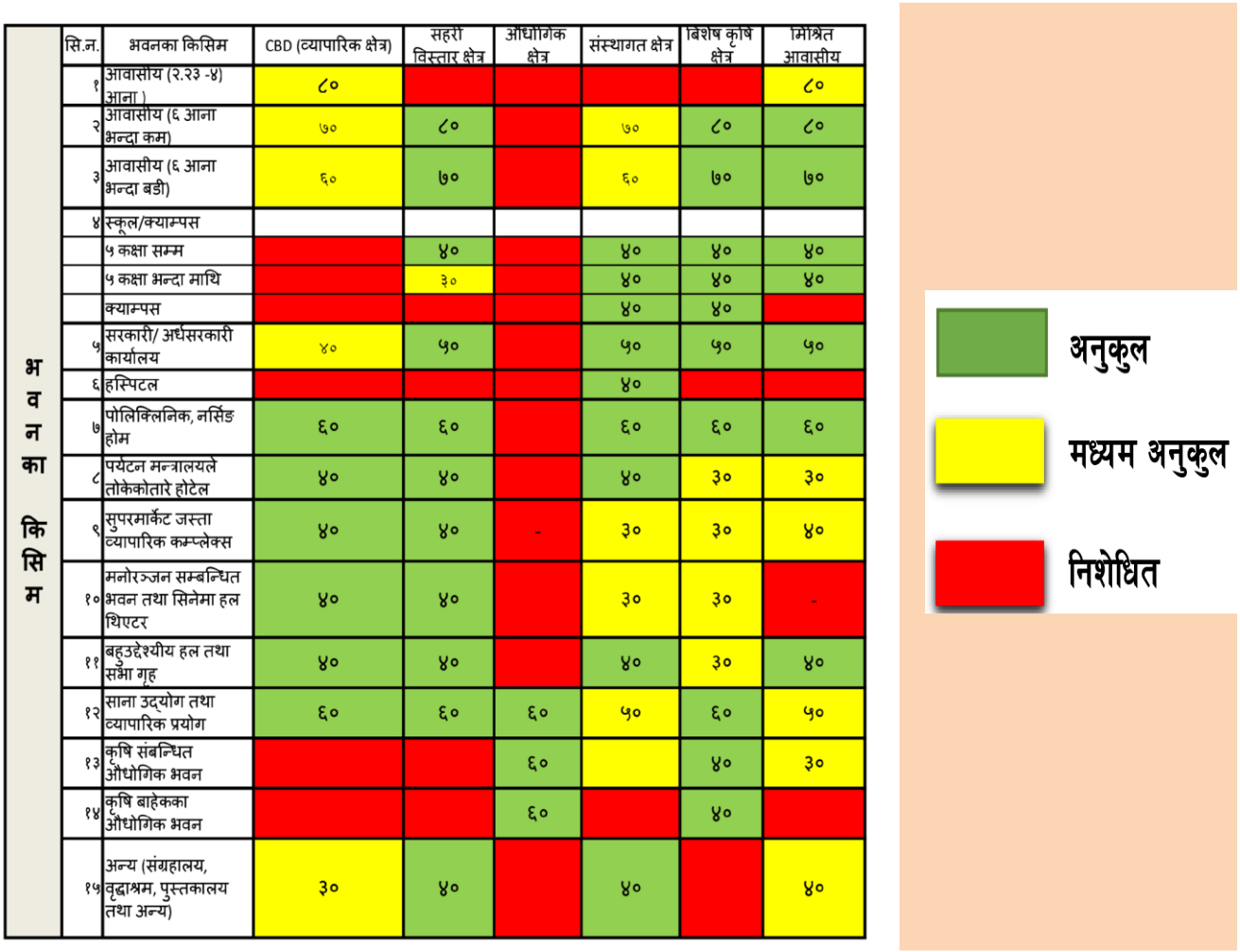
| .N. | ROAD TYPE | LENGTH (Km) |
|---|---|---|
| 1 | PROPOSED 14 M WIDH ROAD | 19.690 |
| 2 | PROPOSED 10 M WIDH ROAD | 20.130 |
| 3 | PROPOSED 8 M WIDH ROAD | 152.850 |
| 4 | SUSPENSION BRIDGE | 0.220 |
| 5 | PROPSED RING ROAD OF 22 M | 31.850 |
| | **TOTAL** | **224.74** |

PROPOSED LAND USE PLAN

| PROPOSED LAND USE OF CHAURJAHARI MUNICIPALITY | | | | | | |
|---|---|---|---|---|---|---|
| **SN** | **LAND USE TYPE** | **Existing** | | **Proposed** | | **Change (+/-)** |
| | | **Area (ha)** | **Area (%)** | **Area (ha)** | **Area (%)** | **Area (%)** |
| 1 | Forest | 1801.62 | 35.95 | 1790.24 | 35.72 | -0.23 |
| 2 | Barren Land | 178.94 | 3.57 | 162.56 | 3.24 | -0.33 |
| 3 | Built Up | 392.56 | 7.83 | 415.85 | 8.30 | 0.46 |
| 4 | River | 60.52 | 1.21 | 60.50 | 1.21 | 0.00 |
| 5 | Cultivation Land | 2578.36 | 51.44 | 2151.27 | 42.92 | -8.52 |
| 6 | Industrial Area | | 0.00 | 27.64 | 0.55 | 0.55 |
| 7 | Urban Expansion Zone | 0.0 | 0.00 | 403.94 | 8.06 | 8.06 |
| | Total | 5012.00 | 100.00 | 5012.00 | 100.00 | |

| **Main Residential Sub Zone with less than 30 $^0$ Slope** | | | | |
|---|---|---|---|---|
| **S.N.** | **Particulars** | **Area in ha** | **Proposed Density/ha** | **Projected Population** |
| 1 | Residential Existing | 179.67 | 150.00 | 26950 |
| 2 | Planned Residential | 2.04 | 175.00 | 357 |
| 3 | Residential Expansion | 610.88 | 150.00 | 91632 |
| | **Total** | **792.59** | | **118939** |

## Summary of proposed building byelaws



| भवनका किसिम | सि.न. | भवनका किसिम | CBD (व्यापारिक क्षेत्र) | सहरी विस्तार क्षेत्र | औद्योगिक क्षेत्र | संस्थागत क्षेत्र | बिशेष कृषि क्षेत्र | मिश्रित आवासीय |
|---|---|---|---|---|---|---|---|---|
| | १ | आवासीय (२.२३ -४) आना ) | ८० | | | | | ८० |
| | २ | आवासीय (६ आना भन्दा कम) | ७० | ८० | | ७० | ८० | ८० |
| | ३ | आवासीय (६ आना भन्दा बडी) | ६० | ७० | | ६० | ७० | ७० |
| | ४ | स्कूल/क्याम्पस | | | | | | |
| | | ५ कक्षा सम्म | | ४० | | ४० | ४० | ४० |
| | | ५ कक्षा भन्दा माथि | | ३० | | ४० | ४० | ४० |
| | | क्याम्पस | | | | ४० | ४० | |
| | ५ | सरकारी/ अर्धसरकारी कार्यालय | ४० | ५० | | ५० | ५० | ५० |
| | ६ | हस्पिटल | | | | ४० | | |
| | ७ | पोलिक्लिनिक, नर्सिङ होम | ६० | ६० | | ६० | ६० | ६० |
| | ८ | पर्यटन मन्त्रालयले तोकेकोतारे होटेल | ४० | ४० | | ४० | ३० | ३० |
| | ९ | सुपरमार्केट जस्ता व्यापारिक कम्प्लेक्स | ४० | ४० | - | ३० | ३० | ४० |
| | १० | मनोरञ्जन सम्बन्धित भवन तथा सिनेमा हल थिएटर | ४० | ४० | | ३० | ३० | - |
| | ११ | बहुउद्देश्यीय हल तथा सभा गृह | ४० | ४० | | ४० | ३० | ४० |
| | १२ | साना उद्योग तथा व्यापारिक प्रयोग | ६० | ६० | ६० | ५० | ६० | ५० |
| | १३ | कृषि संबन्धित औद्योगिक भवन | | | ६० | | ४० | ३० |
| | १४ | कृषि बाहेकका औद्योगिक भवन | | | ६० | | ४० | |
| | १५ | अन्य (संग्रहालय, वृद्धाश्रम, पुस्तकालय तथा अन्य) | ३० | ४० | | ४० | | ४० |

अनुकुल

मध्यम अनुकुल

निशेधित

Salient Features of IDP Project of Chaurjahari Municipality (To cater 100, 000 people in healthy Urban Environment within 20 yrs)

| S. N. | Name of the project | Purpose | Estimated Cost (In Million) | Cost Benefit Ratio (CBR) | Expected Internal Rate of Return(IRR) | Remarks |
|---|---|---|---|---|---|---|
| 1 | Road Network and Transportation Development Plan | Safe and Convenient movement of goods, Services and people in the Project area and periphery | 2663.15 | > 1.5 | >10% | |
| 2 | Water Supply Development Plan | Provision of reliable water supply services | 385.00 | > 1.5 | >10% | |
| 3 | Drainage and Sanitation Development Plan | Clean, Safe and affordble, sustainable sanitation and terrain friendly drainage system | 262.00 | > 1.5 | >10% | |
| 4 | Solid Waste Management Development Plan | Systematic, effective and sustainable management of soild waste | 900.00 | > 1.5 | >10% | |

| S. N. | Name of the project | Purpose | Estimated Cost (In Million) | Cost Benefit Ratio (CBR) | Expected Internal Rate of Return(IRR) | Remarks |
|---|---|---|---|---|---|---|
| 5 | Electricity and Communications Development Plan | Develop quality, reliable, and resilient electricity and communication infrastructure, connecting with the national grid | 403.00 | > 1.5 | >10% | |
| 6 | Education Development Plan | To develop Rakam Karnali New Town as educational hub | 1200.00 | > 1.5 | >10% | |
| 7 | Health Development Plan | Affordable, accountable, qualitative and accessible universal health-care facility to be provided for every citizen. | 782.00 | > 1.5 | >10% | |
| 8 | Security Development Plan | Safe and secure Chaurjahari Municipality City environment | 320.00 | > 1.5 | >10% | |
| 9 | Recreation Development Plan | Recreational facilities for all | 420.00 | > 1.5 | >10% | |
| 10 | Urban and social infrastructures | To make comfortable, easy and safe urban life style. | 340.00 | > 1.5 | >10% | |
| 11 | Cultural and Tourism Development Plan | To make Chaurjahari as a leader Eco tourism | 310.00 | > 1.5 | >10% | |
| 12 | Economic Development Plan | To develop Chaurjahari Municipality as economically sustained region and economic center for nearby VDC's | 1875.00 | > 1.5 | >10% | |
| 13 | Institutional Development Plan | Strengthen Institutional capacity and efficient mobilization of resources | 150.00 | > 1.5 | >10% | |
| 14 | Environment Management Plan | To promote environment friendly and Sustainable development in Chaurjahari Municipality | 270.00 | > 1.5 | >10% | |
| 15 | Disaster Risk Reduction Plan | Safe, Secured and Resilient urban people and areas. | 465.00 | > 1.5 | >10% | |
| 16 | Climate Change Adaptation Plan | To design climate-responsive Infrastructure development and building environment | 312.00 | > 1.5 | >10% | |

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# 1. PROJECT BACKGROUND

## 1.1 BACKGROUND

Nepal's urbanization process is rapid and imbalance compared to regional context. This trend is concentrated mainly in Kathmandu valley and other cities of terrain or fertile valleys. The result is that the large cities are falling to cope with the demand of infrastructure services and job opportunities are increasingly reeling under the externalities of the haphazard urbanization Environmental degradation , congestion, urban poverty ,squatter settlements, unemployment and lagging provision of infrastructure service has become increasingly visible phenomenon in these large cities .Hence, much of the economic gains acquired from urbanization have been eroded from its negative externalities. Despite non-agricultural sector being a major contributor to gross domestic product (GDP), urban centers in the country have yet to emerge as the engines of economic growth and contribute to reduction of urban or rural poverty alike.

Despite all these problems, government's responses have been grossly inadequate. The responses trend to be scattered and ad-hoc rather than planned and coordinated. An institutional capability has been one of the leading in the poor performance of the government agencies. Above all, lack of the long-term development perspectives or plans has led to uncoordinated actions of agencies involved in urban development. Therefore the result is poor or limited impact in urban development efforts. Consequently, economic development has not taken place in the desired manner consistent with the pace of population growth.

Whatsoever, Nepal has experienced some settlement planning attempts since 1944; the first city Rajbiraj was planned to resettle people from Hanuman Nagar. In 1956; first National Periodic Plan (Economic Development Plan) was originated. At present, 13$^{th}$ Plan is in implementation. During 1960s, many people from hill and mountain (especially displaced from the natural disaster and national parks etc.) were resettling in Terai plains. In 1969, Preparation of Physical Development Plan of Kathmandu Valley was a turning point in urban planning sector of Nepal. After this, so many development plans of Kathmandu valley were prepared but never implemented due lack of institutional/legal mechanism and financial resources. In 70s, regional development concept was initiated in Nepal; master plan of four regional headquarters (Dhankuta, Pokhara, Surkhet and Dipayal) was prepared and implemented in some extent. In the late 80s, structure plan of all designated urban centers was prepared. Similarly, IAP was popular in 1990s before the self governance act enacted by government of Nepal. In 2000 long –term concept in Kathmandu valley (vision 2020) was prepared. Currently, Periodic planning of urban centers (municipalities) is in practice. Despite these attempts were made, it provided neither approved land use plan nor concrete physical plan implementation mechanism regarding the major urban centers in the country. Municipal plans prepared in the past employing integrated action planning technique or structure planning is found to focus mainly on physical aspects. Beside, IAP's overwhelming concentration on ward level problems has also led to neglect of municipal level vision and desires. As a result, through several municipalities shows some improvement in physical aspects, progress is still found lagging in several critical urban areas such as education and health. Issues such as social exclusion or deprivation, urban poverty, environmental conservation, economic development, financial mobilization and municipal capacity building have remained largely unattended in the previous planning efforts.

Keeping in view of this context, the Government of Nepal has already enacted and has been implementing National Urban Policy since 2007. The policy is conspicuous by prioritizing investment to the lagging regions of the country, while fostering development of regional cities and intermediate towns as well. Therefore with an objective of reducing migration to capital and other large cities, encouraging planned development of potential hill cities and building infrastructure

that can facilitate about one hundred thousand populations in hilly cities the Government of Nepal has initiated to develop ten new towns in the junctions of Mid-hill Highway and North-South road Corridors. Hence the government prioritization on the development of these new towns (NTs) comprises significant economic base of the nation development.

Therefore as a long-term policy initiatives, GON is providing, technical and financial supports to facilitate the Integrated Development Plan (IDP) preparation, urban base map and profile of base information; building bylaws and to promote their planned development and improvement in the quality of life of people of new towns along mid hill highway (MHH).

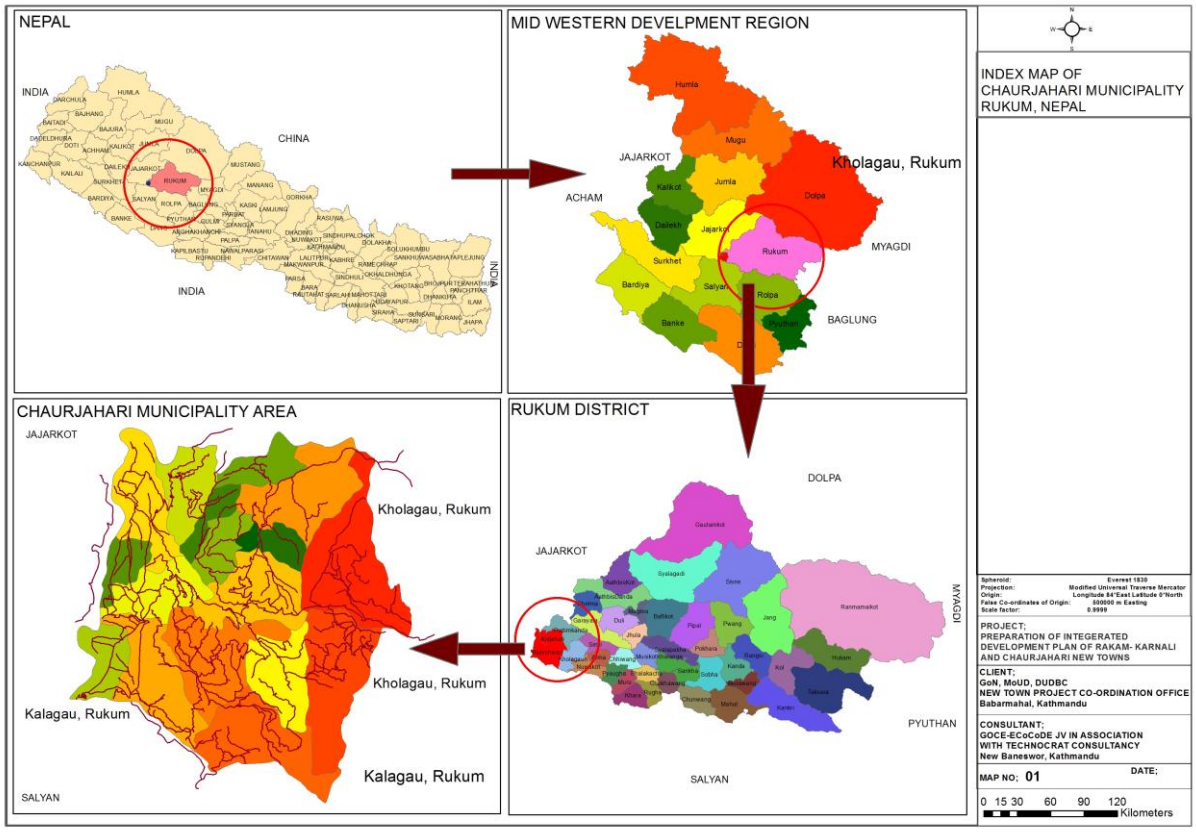
## 1.2 PROJECT OBJECTIVES

The main objective of the proposed assignment is to the Integrated Development Plan and Building Bye-laws of all proposed ten new towns described in related chapter. However, the specific objectives are:

- To set out Long -Term Vision and overall Goal, Objective and strategies for new town development.
- To prepare Physical development plan, Land Use Plan, Social, Cultural, Economic, Financial, and Institutional Development Plan; Environmental and Risk Sensitive Land use Plan, Climate Change Perspective Plan, Multi-Sect oral Investment Plan (MSIP) etc. on the basic of Sect oral Goal, Objectives, Output and Programs.
- To prepare building bye-laws to regulate development in the town integrating Land Use and road network plans and long- term vision of the town.
- To update GIS based Base Maps of NTs which are recently declared as Chaurjahari Municipality by GoN.
- To prepare Base map up gradation of Chaurjahari Municipality.

## 1.3 UNDERSTANDING OF STUDY OBJECTIVE AND TOR

### Project Location



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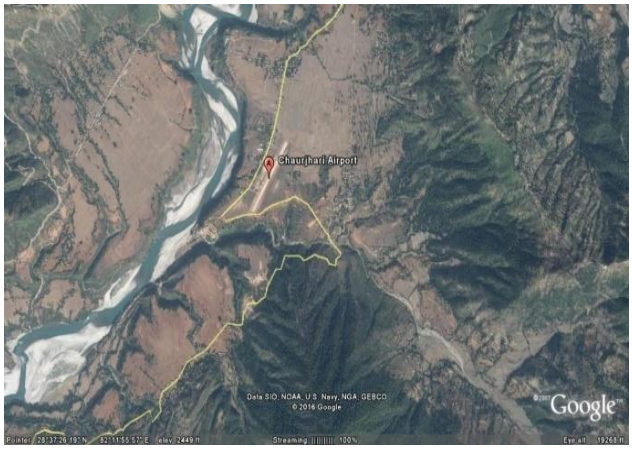
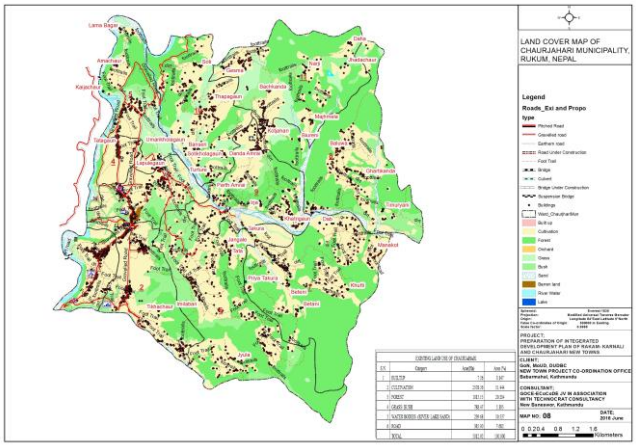
|   |   |
| **Google Map of Chaurjahari** | **GIS Map of Chaurjahari** |

*Figure 1: Google and GIS Map of Chaurjahari*

## 1.4 HISTORICAL BACKGROUND

Chaurjahari Municipality is located in Mid-western Development Region of Rukum District. The settlement is 1.26% growth rate and providing marketing and other services in its hinterland. The lead sectors of this market center are trade and business center, education and health center and tourism and service Centre. Based on those potential lead sectors, Chaurjahari can be developed as a regional center for marketing as well as tourism center of Mid-western Development Region of Nepal. The center is providing social, economic, touristic as well as various services in its hinterland.

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Further detailed site introduction and profile of the town will be followed in field report and draft reports.

## 1.5 OBJECTIVES OF GOVERNMENT IN FORMULATING NEW TOWNS

- To make coordinated actions of agencies involved in urban development.
- To develop economy in the desired manner consistent with the pace of population growth
- To improve physical aspects of urban areas such as education and health as well as social exclusion or deprivation, urban poverty, environmental conservation, economic development, financial mobilization and municipal capacity building.
- To reduce migration to capital and other large cities, encouraging planned development of potential hill cities and building infrastructure that can facilitate about one hundred thousand populations in hilly cities.

Hence the government prioritization on the development of these new towns (NTs) comprises significant economic base of the nation development.

## 1.6 LIMITATIONS IN THE STUDY

The major limitation faced during the field work in general mainly includes the following;

- Unavailability of old dated maps which is required for the trend analysis.
- Unavailability of the many landowners in most of the respective sites for either being away at the time of field study or did not intend talking about IDP
- Unavailability of the data viz. VDC profile for ward wise population growth trend analysis
- Poor record of land transaction at VDC and Land Revenue Office/ Discrepancies in the base map provided by NTP in terms of coordinates and missing contours
- Due to lack of education, people could not able to give their view about IDP during consultation workshops and vision setting workshop.

## 1.7 SCOPE OF SERVICE

The scope of consulting services for preparation of Integrated Development Plan & Building Bye-Laws (as mentioned in expected output) shall include but not necessarily limited to the following:

- Update GIS based base maps of NTs which are recently declared as Chaurjahari municipality by GoN.
- The consultant should spell out the Vision of the town. The Vision should articulate the desires of the Town and its citizens, and will provide the guiding principles and priorities for the Plan's implementation. Consultant should critically review Feasibility study of Economic Development of New town prepared by NTPCO and rigorously discuss it in local level.
- Prepare overall Integrated Development plan of entire area including existing and future (5, 10 and 20 years) land use plan in cadastral maps. This should be based on land use plan and followed by narrative description, analysis, facts and figures.
- Conduct additional study on local economy and its activities based on the study completed by NTPCO that may also change in demographics and migration trend for 5, 10 and 20 years period.
- Identify potential area for urban development based on land suitability and other factors. Analyze present and future (5, 10, 20 years) housing needs/market, stock, conditions and

recommend strategies for land acquisition, distribution of land and housing in future.

- Conduct studies on present and future (5, 10 and 20 years) demand in infrastructures (such as transportation, communication, electricity, water supply and sewerage system) and their supply. Analysis of demand should be in different scenarios with facts and figures. The recommended complete street pattern, major and minor roads, highways, arterial roads, traffic circulation, truck yard, bus bays and bus parks should be worked out in details. Before recommending it consultant should revise road network plan prepared by NTPCO based on land use and other factors. The
- Network plan of infrastructures, both existing and proposed should be shown in cadastral maps with other detailed drawings and unit rate cost estimates. The consultant should also identify and produce landfill site, treatment plant location and their detail drawings and cost estimate. A management scheme of both water supplies, solid waste management system and landfill site should also workout.
- The consultant should carry out full study of existing social infrastructure such as health/education/sports/communication/security centers and other community facilities by addressing present deficiencies and future ( 5, 10 and 20 years) demands. The location and area of land required for all these infrastructures should be identified in cadastral maps.
- Identify and assess critical, sensitive and other natural resources including parks, green belts, recreational area, along with strategies for their protection, preservation and stewardship against the adverse impact of future development and land use changes. Calculate the cost estimate on unit rate basis for their preservation and protection. Show locations and calculate future requirements of such resources.
- Verify Government, Guthi and Public Land identified by NTPCO and assess the area required for future development and expansion of the town including land required for government and public purposes. Produce appropriate plan and policy to protect such land from private/public encroachment and others.
- Identify and assess natural hazards, including how significant weather events have and will impact these assessments, which may cause a threat to the Vision of the Integrated Development Plan, along with strategies for avoidance/mitigation of such hazards in the course of future development and calculate the cost estimate on unit rate basis.
- Prepare the Proposed Land Use Plan for 5, 10 and 20 years in the existing cadastral maps (plans) based on:
    - i) The policies enunciated for different urban activities,
    - ii) Population to accommodate maximum one hundred thousand;
    - iii) Requirement of additional social and physical infrastructure,
    - iv) Transportation and work centers,
    - v) Parks, green belts, recreational areas,
    - vi) Cultural and historic resources,
    - vii) Others.
- Provide a full study of following Land Use Zone and recommend bye-laws for the construction of building and other infrastructures. I. Residential zone, ii. Institutional zone, iii. Industrial zone, IV Preserved zone, v. Airport zone, VI. Sport zone, vii. Urban expansion zone, viii. Stream/river banks zone, ix. Green zone, x. Apartment housing, xi.

Petrol pump/Electric line/Cinema theater and xii. Others.

- Prepare Building and Planning bye-laws that clearly spells minimum in the following areas regarding the construction of building:
    (a) Minimum land area
    (b) Population density
    (c) Maximum ground coverage and Maximum floor area ratio (FAR)
    (d) Maximum building height and Maximum no. of floors
    (e) Right of way of roads
    (f) Set back in four sides of the building
    (g) Minimum parking area
    (h) Lift
    (i) Minimum distance to be left in both sides of stream/river.
- The building and planning bye-laws of the towns should prepare in accordance with ―existing Bye-laws of Kathmandu valley" prepared by Kathmandu Valley Town Development Committee, NBC, Building Act and Apartments Act of Nepal.
- Recommend an implementation strategy (including a suggested action program that generally describes the actions, costs, time frames, responsibilities, procedures and the Town's capacity to use them) necessary for implementing the Integrated Development Plan of the town. Prepare separate report by volume each Integrated Development Plan, Building and planning bye-laws, infrastructures etc. for each town, also prepare investment and cost recovery Plan.
- Within the first four month of study period the consultant should submit draft report of Land Use map with final demarcation of land and its areas to be required for future urban development purposes.
- Prepare summary of IDP of each town in Nepali language for the purpose of approval from government of Nepal.
- Prepare physical model of each towns. The scale will be finalized based on the area covered by New town.

## 1.8 OUTPUT EXPECTED

The completed Integrated Development Plan, program and Building bye-laws/ project report will include followings; and are subject for further addition as per the requirement of the project:

**a) Town profile:**

An up to-date profile will be prepared, comprising of base line information of the existing physical, social, economic, environment, financial and organizational state of the NT. Apart from the key statistics, such base line information will also include textual descriptions, thematic maps, charts, diagram, and key problems prevailing in the settlements and the / VDC, Base line information of at least two time points-having minimum interval of (past) five years will be included.

**b) Analysis:**

**The section will contain at least of the followings:**

**Trend analysis:** The analysis will reveal among other things growth trend of population, migration, land use, infrastructure provisions, import-export of goods, agricultural outputs, jobs, and other economic opportunities.

**SWOT analysis:** This will reveal potentiality of the NT based on its strength and opportunities. The analysis will also reveal the weaker side of the town which tends to pose threat to the future development of the NT. Moreover study will focus on the opportunities and the strengths of the town.

**Spatial analysis:** The analysis will clearly reveal demand and supply situation of vacant land, besides including land develop ability analysis. The analysis, therefore, will clearly show the location where the future growth can be channelized

**Financial analysis:** The analysis will reveal income potential and financing sources including TDC/ NT expenditure pattern of the NT for the fifteen-year plan period.

**c) NT vision:**

To make the vision operational, necessary development principles to guide the sectorial activities also need to be outlined. Vision and principles will be formulated with broadly participated TD committee meeting and will be endorsed by the public hearing.

**d) Sectorial goals, objectives, output, programs:**

These will be formulated mainly using Logical Framework Approach (LFA), and will be supplemented by performance indicators and means of verification of such indicator as far as practicable. When adequate data are not found and formulating indicators becomes not feasible and if the central technical advisory committee and the technical working committee in the field are also satisfied of such deficiency of data, the team leader on the advice of such committees may introduce necessary modifications in the LFA technique. Sectors, which are required to be included, will include at least physical, environmental management, social, economic development, disaster management, Climate Change, financial mobilization, and organization development. Such Sectorial plans and programs will be formulated by forming Sub-Steering Committees, with isolated subcommittee or combined committee of similar themes. Sectorial plans and programs will be prepared giving due attention to national concerns such as poverty reduction and social inclusion.

**e) Long-term physical development plan (PDP):**

Such physical plan (can be termed as physical master plan) will essentially reveal the future desired urban size and form of the NT, keeping in view of planning horizon of 20 years and also classify the Town land revealing broadly urban areas, urban expansion areas, natural resource areas and also disaster prone area. Such physical plan will be separately supplemented by the relevant data and thematic maps of existing land use, environmentally sensitive areas, and infrastructure services such as road network", water supply and drainage system, sewerage network, telecommunication network and electricity distribution network. Also hierarchy of the open space will also be justified within NT areas. Plan will also be supplemented by social and economic data and thematic maps revealing the social and economic infrastructures of the NT. The proposed land use plan will be justified with geological investigation, hydrological & metrological parameters of the NT area, and will have overlaid with base and cadastral maps too. There will be strategic steps/ suggestions to make available land for NT urban infrastructures. The master plan will be supported by

some critical local area plans especially of CBD of the Town.

**f) Social Development Plan:**

Social development plan significantly contributes to bring qualitative improvement in the lives of the common people. Attention will be given focus on social development program when social development program is getting priority in the present context. Plan will be formulated on the basis of the analysis of social condition of municipal / town area. Such plan will essentially cover the following aspect:

- Education/ Public health
- Security (physical as well as social)
- Main streaming GESI (Gender Equity and Social Inclusion): Inclusion of women, dis-advantaged groups, children, elder, physically challenged etc.
- Cultural and Sports/ Hierarchy of Parks & open spaces
- Other urban social service centers (information, library, and space for social gathering)
- Others as per NTs requirements

**g) Cultural & Tourism Development Plan:**

Culture makes a distinct identity of the place and people, way of life and level of civilization. Cultural development plan significantly contributes to bring qualitative improvement in the conservation of local cultural heritage, art and architecture. Similarly, more attention will be

given to the preservation of tangible and intangible cultures. Cultural planning will be integrated with other planning. Such plan will essentially cover the following aspect:

- Identification, preservation and promotion of important Cultural heritage sites within the NT area and hinterland
- Identification of specific non-material cultures in the area
- Plan for conservation of both material and non-material cultures and linked them to tourism development plan
- Culture center (local craft, paint, architecture, museum, culture exchange, exhibition)

**h) Economic Development Plan:**

One basic contemplation from the consultant regarding economic development plan is that the project should be made socially as well as economically sustainable. Hence it is must for a town of one lakh people to have direct job opportunity of twenty thousand population viewing the present socio-cultural status.

An Economic development plan which directly contributes in economic activities of the town and support in the development of the NT is also main component of the study. It will be better if the proposed new town have some economy based identity. It may base on the proposed town potentiality or we can add new features for its identity Sport city or IT City or Tourism City or Commercial city etc. The proposed integrated development plan needs to support to have the NT with identity based on its potentiality. This will be the vision for the new town. Such plan will essentially cover the following aspect:

- Economic development plan: Area of comparative analysis

- ❖ Industry development (as per comparative advantage of the NT/ hinterland):
- ❖ Trade promotion, Tourism development
- ❖ Employment generation, poverty reduction
- ❖ Agricultural development (commercialization of agro-forestry products, cold storage, vegetable market )
- ❖ Rural urban linkage- strategic location of different market center/ product collection centers
- ❖ Micro/small industry and entrepreneurship/ business promotion
- ❖ Possible EZs based on local economic growth potentials (driving forces)
- ❖ Others as per NT requirements

**i) Financial Development plan:**

Financial Development plan will essentially include:

The work is to formulate, identification and mobilization of resources required during the period of IDP implementation. The following things/ subjects needs to be considered while formulation the financial plan.

- ❖ Financial analysis and assessment of possible financial resources for the implementation of IDP in each NT.
- ❖ Analysis and projection of town income and expenditure, Revenue improvement action plan
- ❖ Allocation of Development budget (for coming five year), cost sharing among sectorial agencies, and expenditure management action plan
- ❖ Promotional strategy of private sector and civil society (PPP)
- ❖ Financial and economic analysis of proposed priority sub-projects
- ❖ Others as per NT requirements

**j) Institutional Development plan:**

Human Resources Development plan and organizational development planned are the areas of the institutional development plan. Following things will be considered in the formulation of institutional development plan:

- ❖ Decentralization, good governance and mobilization of people's participation
- ❖ Institutional coordination and establishment of network
- ❖ Organizational capacity and capacity building
- ❖ Others as per NT requirements

**k) Environmental Management Plan:**

The environmental management has remained as the major problem of the NT. The environmental management plan will be formulated by studying and analyzing in detail site study. Such plan will essentially cover the following aspect:

- ❖ Solid waste Management: 3R promotion- reduce/ reuse/ recycle, Sanitary land fill site
- ❖ Waste water Management
- ❖ Air, water, visual and Noise pollution
- ❖ Urban Greenery (forestry, Agriculture), park, garden
- ❖ Control and management of built environment
- ❖ Conservation of environmental sensitive areas
- ❖ Assessment of requirement of EIA/ I EE of major sub-projects

- ❖ Others (such as emergence of low carbon city, loud green city, garden city etc. concepts) as per requirements

**l) Disaster Management Plan:**

The Risk Sensitive land use Planning/ Mapping of the NT due to the following disaster causes shall include whenever seems necessary:

- ❖ Landslide/ soil erosion, Floods Earthquake, Fire
- ❖ The vulnerability mitigation plan through the vulnerability mapping/ geological study of the area, a proper strategy will be adopted to formulate the action plan for Disaster management. This formulated plan may be of
- ❖ Pre- Disaster Plan
- ❖ Action Plan for During or immediate after disaster
- ❖ Post- Disaster Plan
- ❖ Disaster/calamity occurred previously in that urea will he overlapped in the updated geological and disaster event maps (overlays or historic events)

**m) Climate Change Adaptation plan:**

The Climate Change perspective study shall cover:

- ❖ Hydrological and metrological study of the area.
- ❖ Scope/ area of CC in the context of particular NT
- ❖ Vulnerability Assessment, analysis of impact of CC, its trends, projection
- ❖ Adaptation Plan/ Measures
- ❖ Main streaming CC in Planning and implementation of NT projects

**n) Building Bye-Laws:**

The complete planning and building bye-laws will be formulated with the overlay of cadastral map of the NT area. This shall be based on the NT vision and land-used objectives. This may cover following:

- ❖ General definition/ Zoning classification and bye-laws/ regulations
- ❖ Implementation mechanism & procedures etc.
- ❖ Expected behavioral change from NT citizens

**o) Multi-sectorial investment plan (MSIP):**

Any project needs a detailed investment plan for pragmatic implementation of the project. Such plan will reveal short and long-term programs/projects, cost estimate, and probable financing sources prioritized in sequential manner for the planning period of each five years. Such programs/projects will be to cater to both the short-term and long-term needs of the NT and the wards, and will be consistent with the long-term development plan, sectorial goals and objectives, and the vision. Furthermore, MSIP will clearly reveal programs/projects for each fiscal year for the first five years. Such MSIP will be pragmatic, and be consistent with the financial resource plan. The city level plan/projects (Mega project) and the projects that can be implemented exclusively by NT will be clearly mentioned in MSIP. It is suggested that the plan/projects that have to implement by different line agency in MSIP, included after thoroughly consultation with the concern offices. The cost estimate of the projects will be done according to the approved district rate of the NT.

**p) Detail Feasibility Study of Prioritized Major Sub-Projects:**

In order to prepare reliable project banks for the recent execution of different sub-projects in NTs, consultants will prepare detail feasibility study of minimum 3 in each NT which have already declared and the details have been dealt on later part of this report. Necessary drawings, maps, economic and financial analysis, preliminary costing and other document will be submitted in different annexes.

Preparation of detailed project feasibility report will substantially include following:

- Examination of technological parameters./ Description of the technology to be used.
- Broad technical specification./ Evaluation of the existing resources.
- Schedule plan/ General layout.
- Volume of work.

**q) Block Physical Model of Town:**

For more clarification and visualization, consultant will prepare a block physical model with 1:5000 or agreed scale to display the NT vision, land use plan and effect of implementation of bye-laws to the common public. CBD and important landmarks objects will be presented in higher scale as possible.

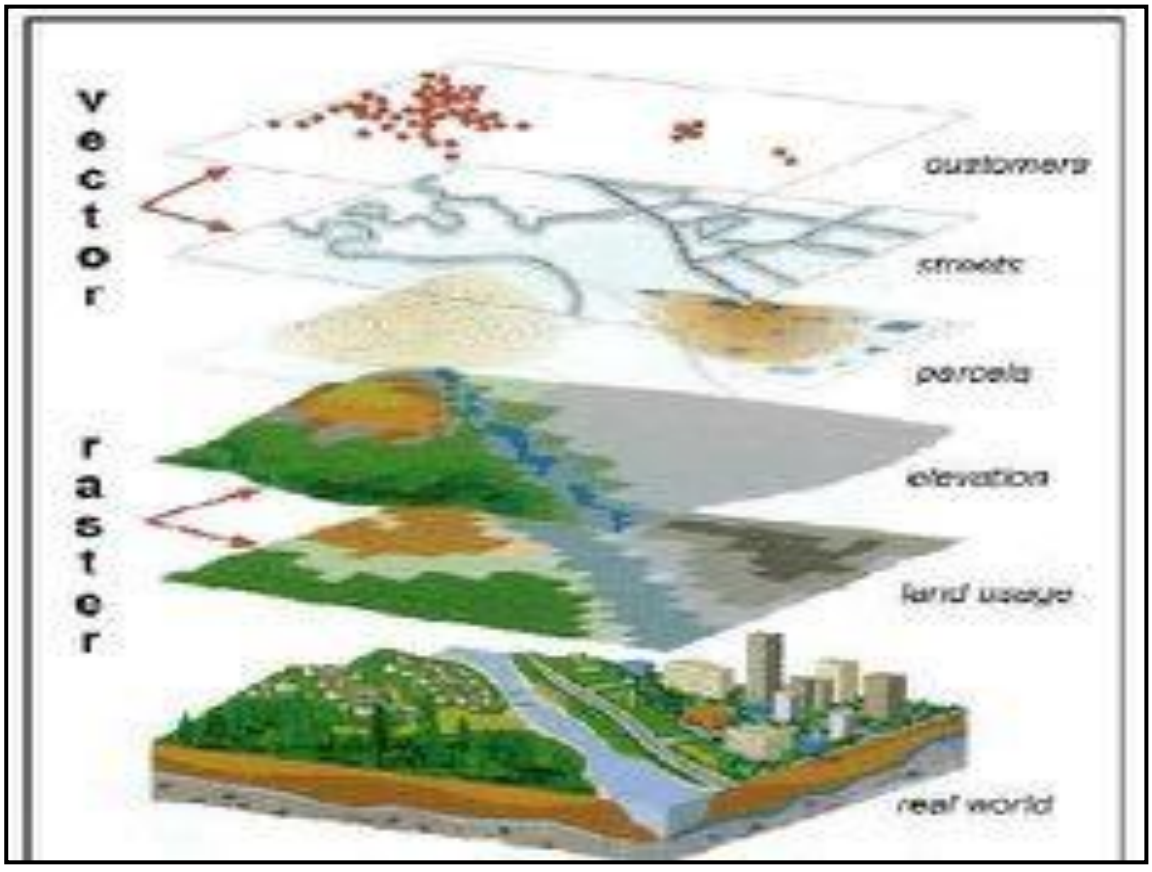
The thematic maps of these all development plans will be prepared in A-CAD drawing format in color A3 paper size. For the additional advantage on the utilization of the maps, it is recommended to present those thematic maps in GIS environment. The study will contain but not necessarily limited to following maps and drawings of agreed scale and information with required explanation.

- ❖ Index Map/ Location Map/ Hinterland Map
- ❖ Existing and proposed Land use and zoning Map including an overlay of cadastral map, and contour line with approved intervals (<= 5 m).
- ❖ Urban expansion area map: total Land area required for future town development will be identified and demarcated. The planned area will have network plan with contour map, detail drawings. ·
- ❖ Existing and proposed Road Network Map, road sections, bus bays/stop, bus park (inter/ intra city), truck yards, and location of underground infrastructures etc.
- ❖ Existing and proposed water supply network Map/ Sewerage/Drainage network Map
- ❖ Existing and proposed of electricity network Map/ communication network Map
- ❖ Proposed Solid Waste Disposal /Landfill Site Map with an overlay of contour line of agreed intervals.
- ❖ Environmental Sensitive Map/ Geological sensitive area map
- ❖ Map showing government/ public/ guthi land, with an overlay of contour line of agreed intervals and other details etc.
- ❖ Map showing proposed location, site plan and tentative sketch/size of social/cultural/ economic infrastructures such as City Hall/ convention center, public parks, sport complex, security center, public toilets/ urban service centers, museum, zoo, cold store/ dry port etc.
- ❖ Detail Architectural/ Engineering Design/Drawing of selected priority sub- projects.

**Pictorial Presentation of Expected Outputs**

*Figure 2 Used for representation only (source: google.com)*

*Figure 3 Used for representation*



# 2. METHODOLOGY

## 2.1 CONCEPTUAL FRAMEWORK

Similar kinds of problem exist in all the communities which lack the common vision and collective set of goals followed by set of objectives to achieve the desired future. Lack of comprehensive planning, or integration in different planning agencies result in multi-directional growth. Which is often observed in Nepali planning context.

The best example of lack of coordination of planning was outrageously witnessed by all the Kathmandu residents in recent time of road expansion, where it took months to complete task of single day lacking the coordination of road department and electricity department for shifting poles. Loss of irreversible infrastructural investment is yet to follow where recently made road is to be dig up again for laying water (Melamchi) and sewer pipelines. Thus such lacking coordination in planning are major challenges in recent time especially in underdeveloped countries like Nepal. Hence it is important to make conceptual framework for the study which enables for the integrated approach of planning and comprehend things which are not observed at the moment but are must in nearby future.

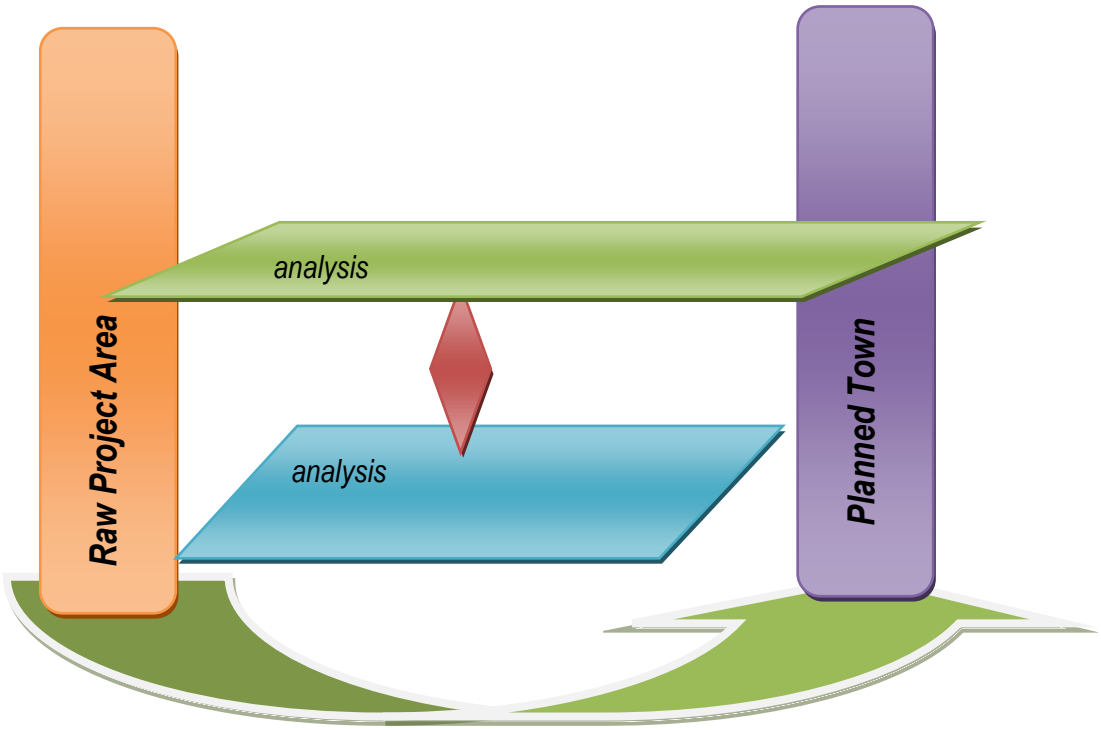
Project will be carried out in two primary phases where in the initial phase contextual case study and field study will be done followed by the important phase of project identification or planning phase. Consultant is aware about the importance of ground/ contextual study as well as increasing influence of globalization in planning culture. In the literature or field study, expected framework is to come up with theorizing "Why we need comprehensive plans and how can we improve the effectiveness and efficiency of plans, for sustainable development of emerging towns" and "How can we achieve?", which will be followed by more rigid planning approach in next phase including land use plans, infrastructure services plan and other different types of plans mentioned above. The study is expected to be conducted on the basis of both the exploratory and descriptive methods in the first phase followed by recommendation of integrated plan for the sustainable development of town.

Similarly, different data through the primary sources will be collected through focused group discussions with stake holders, key informants and direct observations. From the above sources it can conclude that what are existing condition of the site, perception of people towards development, development trends and the impacts of urbanization in changing land use, social

spaces, infrastructure planning, etc. and how that change can be tackled by planning in sustained growth. Lastly all the information will be collected, analyzed and evaluated for final analysis and recommendation for integrated planning will be made with extensive public participation. Planning phase will be extensively inclusive in its process where vision of the IDP will be set in the primary phase and planning will be done to achieve the target set in the vision. Planning will be carried with the consideration of existing planning legislations, standards, policies and requirements of modern planning approaches. Plans will be made to make it more achievable with its implementation plan and its investment plans, i.e. MSIP.

## 2.2 APPROACH OF CONSULTANT

*Figure 4 Flowchart on Approach of Consultant*




**General Approach:**

The following outlines the Consultant's approach to the project. The Consultant will draw on its extensive experience in providing consultancy services for similar projects, and the Consultant's general approach will be based on:

- Development of a close working relationship with the client.
- A comprehensive response specific to the requirements of all works carried out on the project site at all times in a manner that ensures the attainment of the requirements of the design, specifications, budget and time schedule.
- Inspection in all critical activities by backup senior consultant of JV firms.
- Maintaining all necessary records, books, diaries , minutes and project records including all correspondence by administration of JV firms

**Project Management Approach:**

Project Management services for all project phases will be provided through well established procedures/processes. Project Management activities span the life of projects beginning with the conceptual design phase and ending with the defects liability and occupancy phase.

**Quality Management Approach:**

The firm has a comprehensive quality assurance program which includes a set of procedures that cover all key processes in the business including outputs and this will be laid down by the management team to this assignment. Adequate logistic and administrative support to provide adequate backstopping to the Project Team will be made available. The firm's assigned Project Manager for the task will be made responsible for insuring the effective application of these procedures and project management methodologies for entire project period.

At the completion of the project, the lessons learned shall be documented by the Team Leader

and disseminated within the project unit and also to client The consultant is serious in the matter of quality of work. Orientation and training will be conducted in various stages of the project to maintain the quality of work i.e. data collection, analysis, planning etc.

**Technical Approach to the Services:**

In order to achieve various requirements of TOR, the approach has been conceived and developed to fulfill the objective and scope of the service. The Consultant firmly believes that the approach presented herein reflects the commitments for providing high quality services for the successful implementation of the project in time bound manner.

Based on the understanding of the works and the scope of works as stated in the TOR general approaches to the proposed works will be based on the followings:

The Consultant Team will adopt a "system perspective" or approach in the following tasks in particular:

- The Consultant intends to apply optimum combination of the proven methods, expert professionals and recent available technology familiar with site-specific required studies/analysis, strategic importance and sound professional judgment based on practicality to fulfill the Client's requirements with optimum satisfaction;
- Selection and timely mobilization of team members;
- Close contact, interaction, and consultation with the Client, and the beneficiaries/WUA, and all other concerned personnel and authorities;
- Regular briefing to the client and DUDBC concerned personnel regarding the progress, out comes, and problems encountered;
- Completion and reporting of the services in time.

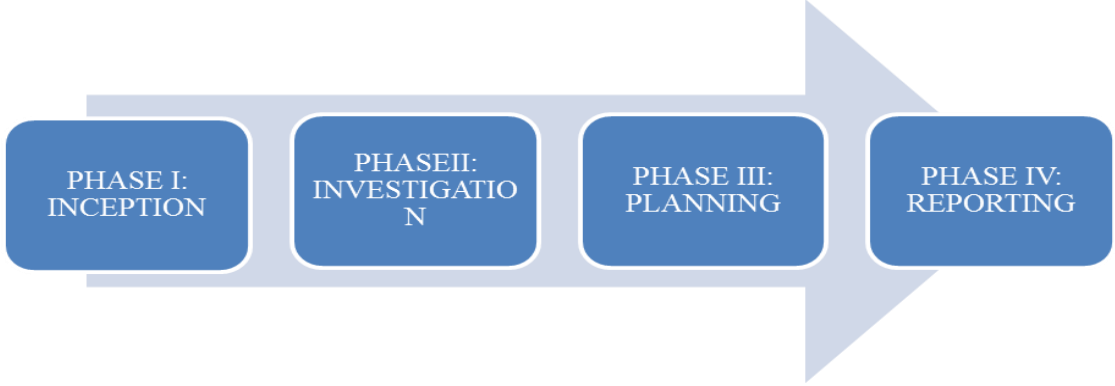
Apart from some basic standards of technical approach in planning, consultant is aware about the importance of public participation and social inclusion in the ground. Consultant is cautious about the political inclusion during decision making, hence will actively play role in endorsing the decision by as many as possible among political parties and local representatives.

**Phase Wise Development:**

The phases proposed in the technical approach have been further broken down into task series and specific tasks according to the intended content of the task, to help ease in comprehending the methodology planned for carrying out the task. Analysis has been carried out for the input requirements of discipline experts and the output expected for each task. Since the methodology has been developed in the form of phases formulated in the Technical Approach, their compatibility has been assured. The problems that normally come up in such projects have been identified. Phase included in the approach and methodology address them adequately. Task and sub tasks have been organized in a sequence, to run in series or in parallel.

The project is divided in to four distinct Phases detailed below:

***Figure 5 Project Phases***



***PHASE I: Inception Phase***

**RESPONSIBILITIES**

Urban Planner/ Team Leader, Urban Planner, Architect, Water supply and Sewerage Engineer, Civil Engineer, Environment Engineer, Geo-tech Engineer, Electrical Engineer, GIS Expert, Economist/Financial Analyst, Sociologist/Community Development Expert, Institutional Development Export, Office Assistant support staff.

**TASK DESCRIPTION**

**1. Collection of Secondary Level Data and Literature Review:**

Various relevant documents and Maps relevant to the study will be collected from the concerned authorities and will be critically reviewed. Findings of these secondary sources information will be outlined and tabulated. Pertinent VDC profiles, DDC Periodic Plan, VDC Plans and other reports will be critically reviewed. The topographical map of the Study area will be collected and a hinterland base map of the study region will be prepared depicting name of VDCs, settlements, road, canal, water body, contour, environment sensitive area, agriculture, forest and other pertinent geographic and geological (mines and minerals) information in the vicinity of the VDC area. Similarly cadastral map of the bazaar and surrounding settlement within the VDC will be collected and used as base map of the bazaar area. The base map will be used for all planning purposes during the study. The VDC/ward level information will be collected from CBS and other published reports.

However, other relevant documents pertaining to Mid-hill Highway and planning related documents prepared by various government and non-government organizations, the project office, the previous DPR reports, existing reports on corridor study, physical development planning report, periodic planning reports, cadastral map of the settlements will be collected. Moreover, other relevant information will be collected from MoUD, NPC, DOR, MoFALD, DUDBC and other libraries. Similarly, relevant acts, regulations and standards regarding preparation of Integrated Development Plan and Building Bye Laws, DPR preparation, Settlement plan, Physical Development Plan and other relevant documents and details will be collected from the project settlements as well as from central offices.

The following documents, literature, maps and photographs will be collected and reviewed.

**I. Maps**

- Topographic maps of concerned settlements prepared by Survey Department,1:25000 scale
- Concerned VDC map prepared by Survey Department of scale 1:15000
- Concerned district map
- Aerial Photographs/GIS base Digital maps (if any) of concerned Settlements
- Land Use, land cover maps, soil maps etc.

**II. Existing literature, reports and other socio-economic data**

- Feasibility Study of the Developmentof Urban Growth Centre and Urban Infrastructure of Selected Settlements along Mid Hill Highway (MHH) Corridor of Nepal.
- Local Self Governance Act (LSGA) 2055, LSGA Regulation 2056 Strategic planning documents of regional perspectives if any
- Environment Protection Act, 2053 and Rule, 2054 Planning norms, guidelines, etc. Others Planning related existing laws, policies, plans and strategies,

Existing planning documents/reports (including IAP report, Physical development plan report, periodic plan report, dense settlement plan) relating to the concerned Municipalities and VDCs. Demographic, socio-economic data from CBS, DDCs, VDCs, Municipalities of concerned settlements or towns.

**III. Critical Review of Past Experiences in New Town Planning**

Review critically on the success and failure of the towns that were planned and implemented since last forty years period such as the five regional development centers, Kohalpur new town and other Terai towns and recommend planning and implementing tools that might play a major role to succeed town plans of new towns. Other documents like Population Census Report at VDC level, area of wards/village, Agricultural Census Report, District Transport Master Plan (DTMP), District Periodic Plan CT ( DPP.), Poverty Mapping of District( NPC) National ( 3 years Interim plan) Plan, relevant sectorial development plans, Aerial photographs, topo map, satellite imagery if accessible and other related materials will be collected and reviewed.

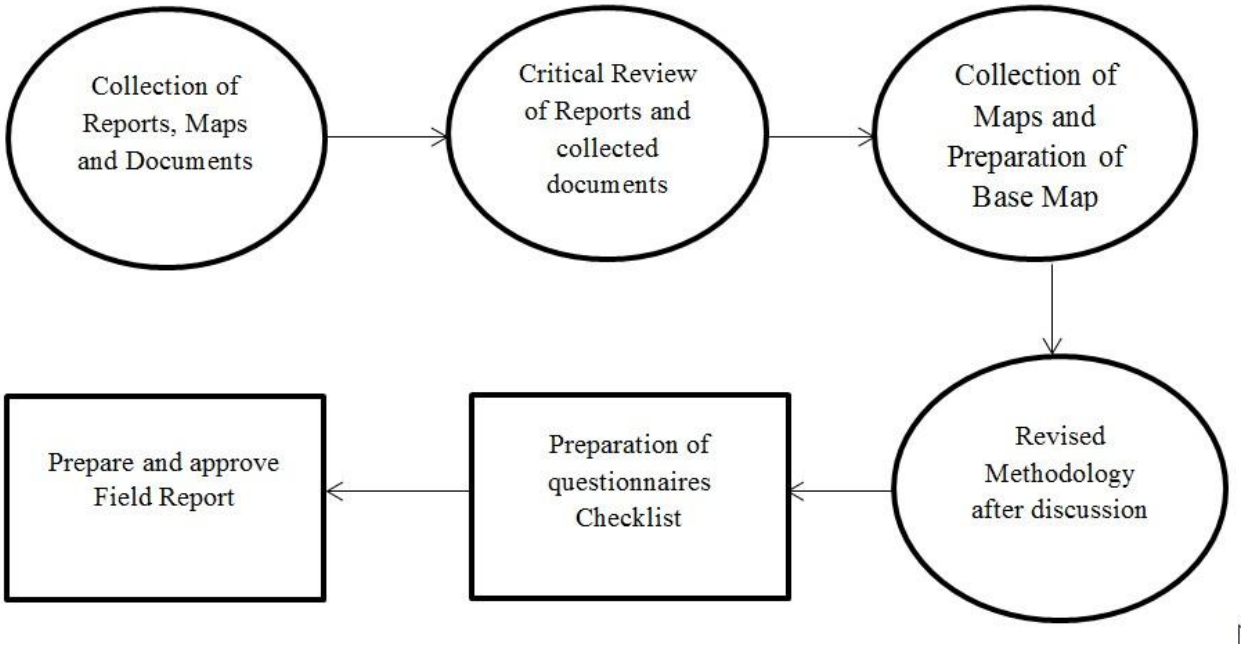
Output: Required secondary data and information collected.

**2. Preparation of Questionnaire and Checklists:**

The scope of the study clearly indicates the importance of the primary data and information for the preparation of meaningful and implementable plans and programs for the balanced development of bazaar area and its linkage with the hinterland. On the basis of literature review and scope of work checklist are prepared for data collection, Focus Group Discussion with different stakeholders like local people, local leaders, women group, Dalit Janjati, business community etc. Similarly a key informant survey questionnaire has been also prepared to collect views from recognized individual, experts and institutions like VDC/DDC officials, DUDBC Division office, NGO/INGO, other district line agencies etc. These questionnaires and checklists are attached in annex section.

Output: Fully prepared Consultant's team

***Figure. 6 : Flow Chart Inception Phase***



**3. Prepare and submit Inception Report:**

Consultant had prepared and submitted draft Inception Report to the client within 7 days from commencement order of service. The report has been covered the requirements of Field Report as per TOR.

Output: Inception Report

**4. Incorporation of Client's Comments on Inception Report and Submit Final Inception Report:**

After the Draft Inception Report reviewed by the client and available of comments the consultant has prepared the Final Inception Report incorporating the comments and suggestions provided by client.

Output: Finalized Inception Report

***PHASE II: Investigation Phase***

**RESPONSIBILITIES**

Urban Planner/ Team Leader, Urban Planner, Architect, Water supply and Sewerage Engineer, Civil Engineer, Environment Engineer, Geo-tech Engineer, Electrical Engineer, GIS Expert, Economist /Financial Analyst, Sociologist/Community Development Expert, Institutional Development Export, Office Assistant support staff.

**TASK DESCRIPTION**

The study team will be mobilized to respective settlements and a consultative meeting will be organized with the client and relevant stakeholders in each project settlements immediately. The concerned TDC will be activated and sub committees will be formed to facilitate the field investigation, contribute in planning and its execution. Such committees will be chaired by member of TDC and will include experts from concerned line agency, people from local groups, NGOs, CSOs, private sector etc. Secondary information concerning to the selected settlement will also be collected from the field.

**Task II.1: Primary Data Collection: Physical Survey, Social Survey, Data Collection and Discussion:**

The Study Team will use mainly observation, measurement, photography, FGD, formal and informal discussion/consultation with local people and stakeholders, Interview etc. techniques to gather information, opinion and views of the development of the TDC.

The Study Team will be equipped with following equipment:

- Measuring Tape 30m long
- Camera
- GPS
- Local Body (Municipal, Market centers, VDCs) contact names and numbers
- Checklists and Questionnaires
- Pens, Pencils and clip boards
- Calculator
- District Unit Rate
- Base Map

As the study relies on both primary and secondary sources of information, primary data will be collected through onsite observation, mapping and interviews with the local social workers, leaders, teachers, local administrative officials and other related stakeholders. The prospect,

problems and development issues of the study area will be thoroughly identified by the way of field observation, extensive interaction and discussion with key stakeholders including DOR/MHH project Office, DUDBC Division Office, Local bodies and other relevant agencies. The socio- economic data will be extracted by secondary sources like official records or archives and published reports including CBS and others. In the case where settlements are not confined in a single or clear political boundary, the geographical boundary will be ascertained. Primary information will collected thoroughly as following methods:

**a) Consultation with Stakeholders**

The consultant will consult with the local stakeholders such as VDCs, TDC, user's committee, concerned line agencies, local people residing within the study area. An interaction will be made with the local stakeholders about the project being carried out by the consultant. They will be fully informed about the objective and the scope of the project. Consultant will try to eliminate any negative rumors about the project and ambiguities are cleared during the discussion. The consultant not only expects the co-operation from stakeholders but also will try to achieve participatory approach in execution of the project. The objective of the above consultation is to gather information, sensitize local stakeholders and identify problems which are done through.

**b) Focus group Discussion**

Focus group discussion concerning to the development plan in the selected settlements will be conducted to know the key potentials and problems related to development planning. Issues such as the economic potentialities, possibility of future expansion of the settlements, rural-urban linkages, major problems facing/may face in the future and key projects to be focused with will be covered during the focus group discussion. This information will be helpful to identify the most potential sectors and major problems of the settlements. Furthermore, this information will suggest for preparing DPR of the selected projects of the particular settlement. These methods will be helpful for identifying lead sector, potential function, function of hinterland areas, selecting key project for DPR, possible urban growth of the settlements etc.

**c) Observation**

Observational information will also be collected using the checklist. Basically information relating to existing infrastructural condition, possible expansion areas of the settlement, physical location, environmental situation and existing social infrastructure will be collected. This information will be important while coming into the phase of data analysis.

**d) Key Informants Interview**

Key information relating to the project will be collected through key informants. Key informants including the representative of civil society, political parties, local focal person, college lecturers, technical persons and local aged people will be collected. Information such as changed on land use and local practices for developmental works, key information regarding potential sector of the settlements, economic, social linkages etc. will be collected through this method. This method will be useful for collecting focal/key information of the settlements.

**e) Questionnaire Survey**

If required, questionnaire survey will be conducted to collect household socio-economic and demographic information. Information such as population composition, trend of migration, age- sex composition, language and ethnic composition etc. will be collected through questionnaire survey in each settlement. Similarly, economic condition of the household, occupation, source of income etc. will also be collected through questionnaire survey. This

information will be

useful for preparing provisional list of the settlement and detail profile of the project settlements.

**f) Information from Line Agencies:**
A checklist and data collection format will be used to collect information from the line agencies about their past, present and future activities in the selected settlements.Output: Primary data collection completed

**Task II.2: Vision Workshop**
A vision workshop will be organized in the VDC or any convenient place. All stakeholders will participate including local people, line agencies, NGOs, CSOs, private organizations, Media Person, DUDBC officials, TDC members and subcommittee members and FNCCI etc. A working paper will be presented by the consultant depicting the potential and prospects of the settlement and its possible lead sectors. The consultant then will facilitate the workshop to set a long term vision for the settlements along with the lead sectors to achieve the vision. The Vision for the Integrated Development Plan will articulate the desire of the Town and its citizens based on prospects, roles and function of the new town, and will provide the guiding principles and priorities for the plan's implementation.

Output: Data collection about desire of town and its citizen completed.

**Task II.3: Identification and collection of Ward and Town Level strategic resources**
Strategic resources/project at major settlements/village centres will be ascertained through Participatory Rapid Appraisal (PRA) by holding citizens gathering/meeting. The location for such gathering could be ward office/VDC office or any other convenient place/ location of the town.
Strategic resources/project at major settlements/village centres shall be identified through opinion survey of prominent citizens, official of the VDC and government agencies, and through the town level meeting which may include meeting of the town Development committee (TDC) and subcommittee if any, Data on physical Environment, social, economic, financial, and institutional shall be gathered from sources such as office records or archive, VDC reports, ward profile, published academic or professional repots, and data published by CBS. Analysis will include both trend, spatial Analysis using GIS, and interpretation of aerial photographs.
Output: Identification and data collection of Strategic resources/project at major settlements / village centers.

**Task II.4: Project Identification Workshop at Local Level:**
The study team after collecting all the information and data will prepare initial analysis and conduct one day workshop at bazaar level. The participants will include the people from VDC, DDC, NGOs, GOs, DUDBC division office, civil society and local party representatives. During the workshop, the perception of local people and institutions will be collected. The long term vision along with the major problem faced by local people and the bazaar area will be discussed. At the end of the workshop, the major program and projects required for the representatives.
Output: Workshop for collection information at local level completed.

***PHASE III: Planning***

**RESPONSIBILITIES**
Urban Planner/ Team Leader, Urban Planner, Architect, Water supply and Sewerage

Engineer, Civil Engineer, Environment Engineer, Geo-tech Engineer, Electrical Engineer, GIS Expert, Economist /Financial Analyst, Sociologist/Community Development Expert, Institutional Development Export, Office Assistant support staff.

**TASK DESCRIPTION**

**TASK III.1: Data Analysis**

The information collected through Observation, Measurement, FGD and key informant interview along with information from secondary sources will be analyzed using following techniques:

**Flow Analysis (goods and people):** it will give the relationship of selected settlement with other settlements in the vicinity, surrounding market centers

**Resource Potential Analysis:** It will be done to outline the resource endowment in concern TDC and its surrounding area. Human Resources will be analyzed in terms of education level, population, economic activities and availability of skilled and unskilled labor within the region. Institutional capability of government and nongovernmental organization to provide services in agriculture, industrial, resource development and social development will be assessed and analyzed.

Regional linkages and importance of the site will be deeply considered while analyzing its potential analysis while this is the most important to develop the town as the regional center.

**SWOT analysis:** to evaluate the opportunity and resources of the VDC will be carried out. The analysis will finally present the VDCs/Market Center wise strength, weakness, opportunity and threat of the area. The SWOT analysis will be supplemented with the problem, cause and effect analysis to explore for proper planning intervention in the VDC.

**Demographic Analysis:**

VDCs/Market Center wise population, ethnicity wise population, religion wise population, Poverty profile of population will be outlined, analyzed.

**Socio Economic Analysis:**

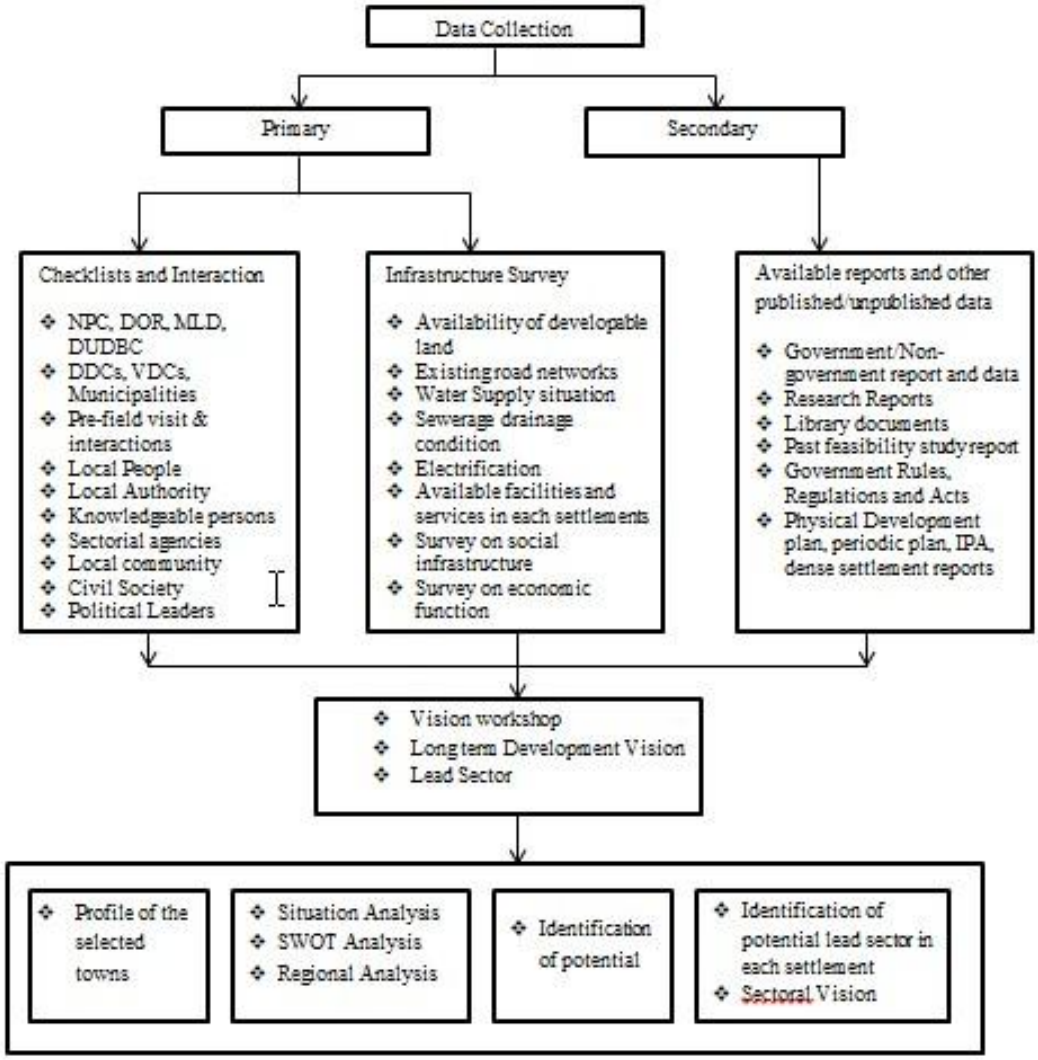
Work force composition, Economically Active Population, Land holding, farm size and sect oral analysis of Agriculture, Planning, Fishery, Livestock, Mining, Industry, trade and commerce, market linkages, physical and social infrastructures etc.

**Environment/ Hazard Vulnerability Analysis:**

Data regarding the hazard and environmental sensitivity will be collected and hazard vulnerability assessment will be carried out. Data will be analysed by generating specific tables. As a part of data analysis series of maps will be prepared through GIS (if applicable) method.

**Output:** Data analysis and synthesis is completed.

***Figure 7 Data analysis and synthesis***




**TASK III.2: Preparation of Plan**

Based on the interaction with local authorities and local people, local supporting committee, and findings of different analysis / interpretation, integrated development plan and Building Bye Laws of the selected settlement will be prepared.

**Planning process:**

Planning process will be a participatory one. The role of Town Development Committee (TDC) is emphasized and been formed in each town to guide preparation of Integrated Development Plan and building bye laws. The role of TDC is two- fold. First it will coordinate between sectorial agencies to channel capital investment and enable plan implementation, even after the completion of plan preparation. Second, broader participation in TDC can include concerns and aspirations of all the sectors and stakeholders therefore land credibility and legitimacy to the integrated development plan and building bye laws.

The subcommittee is envisaged to include local bodies, ward offices, government agencies, and political parties/leaders, civil societies such as NGOs, CBOs, TLOs, intellectuals, prominent professional bodies, and planning team. TDC shall be key body to formulate policies and guidelines related to plan and building bye laws preparation. This shall meet to advise on various

aspects of plan preparation including identifying problem and issues of the town, formulating and reviewing of town vision, goals, objective, and programs. TDC and its subcommittee will be the key forum to set the vision of the town.

The TDC, if needed, may also form a core advisory committee, comprising members of the TDC, but small in size, so as to expedite the planning proceeding. Such core advisory committee shall work in lieu of TDC, and shall work as a bridge between the TDC and sectoral (sub)-committees. In the long run-that is in the plan implementation phase, such core advisory committee may be transformed into advisory committee for the town to facilitate the plan implementation.

Planning team will be responsible to present all necessary analysis in all stages of planning process and to facilitate necessary meeting and workshops. Planning team will comprise of technical personnel from DUDBC/DO, VDC besides experts from the consultant firm. Town level meeting composing of officials of VDC, citizens, NGOs, CBOs, and TLOs will be held to determine the town level problems and needs. Accordingly, process will be identified. To ensure adequate participation in the planning process of deprived groups such as dalit, janjatis and disadvantages

groups such as women, children, disabled; separate interactions with these groups will be carried out as and when necessary. The internally displaced people (IDPs) and squatters also need to be duly included in the planning process. To make meaning full participation of children, elders, physically disables, women, business group, leaders/officials and marginal groups innovative ideas will be introduce i.e. sketch competition between children with prize.

TDC members may lead Working Sub-Committees to facilitate the focused Group Discussion (FGD) and enable the specialized input of the experts so as to prepare sector-wide plans and programs. The Working Sub-Committee with the support of planning team will formulate Town sectorial plans and programs, using Logical Framework Approach (LFA). Such Plan shall clearly reveal the sectorial goals, objectives, outputs, activities, progress indicators, means of verification of these indictors and implementation strategies. The Plan cover the development sectors identified earlier. The planning team shall also elaborate consultation with the concerned Sub-Committee to formulate the development principles and guidelines for the preparation of Integrated Development Plan and Building bye-laws. The town will be planned on the approach of trickle down urban design approach consisting of various incentives making it more meaningful and attractive to public and private investors. Consultant will design realistic investment plan and operation maintenance plan of town so that private sector with in the interest of public sector is attracted in the implementation of town's project. Similarly options such as the resources that were mobilized could recover from the development benefits will also be worked out.

Output: Planning process identification completed

**TASK III.3: Planning and Identification of different component of study.**

**Town Boundary and Land Use pattern:** The integrated development plan will comprise of physical /Social/ Economic/ Infrastructure/ Financial/ Institutional Development plan, and Disaster/Environment Management plan etc. interrelated to multi sectored investment plan and followed by narrative description, analysis, facts and figures. Land Use Map of both existing and proposed (5/10/20 year) will be develop considering new town boundary. The proposed Land Use Plan will be integrated with transport network plan of new town and adjoining hinterland.

**Economic Development, Population and Demography: C**urrent trends and pattern of local economy, population growth and distribution will be analyzed and forecasted for next 5, 10 and 20 years. Analyze future economic growth sectors such as service, trade, and industry etc for 5, 10 and 20 years period that may also change in demographics and migration trends.

**Housing and Population:** The present trend of urban expansion and housing construction will be analyzed. The potential area for urban development based on land suitability and other factors will be identified. Consultant will analyze present and future (5,10,20 years) housing needs/market stock conditions and recommend strategies for land acquisition, distribution of land and housing in future for all age/income levels as per the study.

**Physical Infrastructure:** Consultant will conduct studies on present and future (5,10 and 20 years) supply and demand of physical infrastructures of town and recommend strategies for addressing the deficiencies if necessary. Demand analysis will be in different scenarios with facts and figures. The recommended complete network plan with additional space for urban services will be worked out in details. The network plan and recommended urban service spaces of physical infrastructures, both existing and proposed and will be shown in base maps with other detailed drawing and unit rate cost estimates. Study will clearly spell:

- Presently available land/sources etc; Present demand and supply
- Future requirements and supply condition; Gap in supply and demand
- Additional land/sources required; Augmentation plan for additional requirements
- Network map, flow diagram with salient features of existing and proposed systems etc.

**Social Infrastructure:** Consultant will provide a full study (inventory, analysis, and recommendations) of the Social Infrastructure addressing present deficiencies and future demands of 5, 10 and 20 year. Show the land area and location of such infrastructures and services existing and to be provided in coming 5, 10 and 20 years in the base maps. Work out architectural and structural drawings and cost estimate in unit rate basis.

**Economic Infrastructure:** Consultant will conduct study on pull and push factors that may attract people from hinterland and other parts of the country. Analyze existing acts/regulation/directives etc. that may substantially affect in migration to the new towns and will interrelate to the vision of towns. Propose location and areas with details of the infrastructures to be required in the horizon of 5/10/20 years.

**Government/Public Land:** Consultant will provide a full study of existing Government and Public Land Identify and assess area for future development and expansion of the town including land for government and public purpose. Produce appropriate Plan to protect these identified lands with their location and areas based on existing act and regulations. If required recommend appropriate suggestions in this matter.

**Natural Resources/Open Space Conservation and Preservation:** Consultant will identify critical and sensitive natural resources and area including parks, green belts, recreational area, along with strategies for their protection, preservation and stewardship in the course of future development. Consultant will calculate the cost estimate on unit rate basis for their preservation and protection.

**Natural Hazards:** Consultant will identify and assess natural hazards, including how significant weather events have and will impact these assessments, which may cause a threat to the Vision of the Integrated Development Plan, along with strategies for avoidance/mitigation of such hazards in the course of future development. Cost estimate will prepare on unit rate basis.

**Cultural and Historic Resources:** Consultant will identify and assess existing resources, and recommend strategies for their preservation and protection against adverse impacts from other/future developments. Cost estimate will prepare on unit rate basis.

**Preparation of Building bye-laws:** Consultant will conduct detail study on Land Use and recommend Bye-Laws for the regulation of Building and other Infrastructures that may appear in the Towns in future. Bye-Laws will be prepared in accordance with Sample bye laws, 2071 prepared by MoUD and "Bye-Laws 2064, of Kathmandu Valley" prepared by Kathmandu Valley Town Development Authority will also refer.

**Implementation Strategy:** The consultant will recommend an implementation strategy (including a suggested action program that generally describes the actions, cost time frames, responsibilities, procedures and the Town's capacity to use them) necessary for implementing the Master Plan of the town and prepare separate report by volume of each integrated development plan, Building bye-laws, Infrastructures development and management plans etc for each town.

**Investment Plan and operation Maintenance Plan:** Consultant will prepare realistic investment plan and operation maintenance plan of all existing and proposed infrastructures so that concerned authority could allocate required resources for smooth running of all infrastructures

Output: Planning of different component of the study completed.

**TASK III.4: Preparation of Integrated Development Plan**

Incorporating all the analysis and plan that have been discussed above will be incorporated and integrated development plan will be prepared along with the Building Byelaws to guide and control the urban development in the selected town. The master plan will in different volume with following outputs:

- Separate reports with maps/drawing of integrated development plan and Building bye-laws, DPRs and other plans for each town.
- A complete **town profile** will be established with all relevant up dated primary and secondary data base and information; maps and drawing, issues and problems with proper analysis (including trend, spatial, resources and aided with tables, charts, diagrams etc), interpretation and findings about the planning / project area in local (ward), city and regional level/context.
- The town will be devised by **Long term development vision** very logically and rationally with a wide range of participation of stakeholders in the workshop organized at the city level.
- Framing of **Sectorial goals, Objectives, Output and Programs** for all planning/ project components with performance indicators and means of verification by LFA approach.
- Integrated Planning / Project document of different components like Master plan, Physical Development Plan, **Social** Development Plan, **Economic** Development Plan, and **Environment** Management Plan and **Disaster** Management Plan; with interrelated Multi Sectorial **Investment Program** (MSIP), **Operation** and **Maintenance**(O&M) plan, Building bye-laws; **Brief Project Report** on major Sub project including all relevant maps, drawing will be in hand.

## 2.3 SOURCES OF DATA AND COLLECTION METHOD

### a) Primary Data Collection

Primary research will be done by the direct interviews with different professionals, personal observations and discussions with stakeholders at the ground level. The primary information will also be essential to verify and validate the information obtained from

secondary research. Data collected from the primary sources like local leaders, socially respected person and local professionals will be seriously noted down and analyzed as the part of status quo situation and "ought to be" planning process.

**b) Key Informant Survey**

With the interviews from stakeholders and officials from different planning or implementing agencies, information and documents will be collected. Key informants identified are; Members of Town development office, TDC presidents, local leaders, public hearings, local teachers District Development officer, and chief of , department heads of DUDBC departments or planners of road, water supply, drainage and other. Information are to be collected from department of land reform and management and all the associated planning departments. Influential personalities in the locality like planning experts, journalists and authors, will be identified in the process and will be taken into consideration for their wise advice.

**c) Focused Group Discussion**

Open group discussion amongst the different stakeholders, politicians, government officials, social leaders and public representatives will be the important source of data collection. Further discussion will be held with 6-8 informants from diverse field to address the issues raised in open discussion. Apart from the public hearing, which will be the most important part of data collection FGD will be the important source of data collection as it will be important way of getting rigid concept from ground root level

**d) Special Group Discussion:**

One of the important part of modern planning is Gender Equity and Social Inclusion (GESI). To address the issues related to GESI and involvement from different sector of the committee, special groups will be formed like: children friendly city development group, women empowerment group, physically challenged group, backward society group and other special groups to address the special demand in the community and offer more inclusion in planning.

**e) Secondary Data Collection**

The secondary sources study will start with international document research to seek experts' views and ideas on land-use change, open spaces, urban sustainability, the principles and ingredients of a sustainable city, as well as some suggested models and good practices which includes review of literature, websites, journal, article, annual and progress reports related with sustainable integrated development plan. Reports published by United Nation are basic guidelines in defining major terminology where books published on comprehensive planning will be good references in making framework of the planning process.

## 2.4 LITERATURE REVIEW

Literature review will be carried out to develop concept about the concept of planning, Concept of Settlement Planning, Concept of Spatial Planning, planning efforts in Nepal, Planning Practices in Nepal, legal frameworks, and Planning Practices in Global Context and trend of town development as well as urban planning development in the world including Smart City.

### 2.4.1 Concept of planning

Planning has been defined in many ways. Planning involves the formulation of a national program of action for achieving development objectives. A. Waterson defines that planning is, in essence, an organized, conscious and continual attempt to select the best available alternatives to achieve specific goals (Waterson 1971, p 26).

Broadly speaking, development planning is of two types: the central planning and the indicative planning: the former is practiced in a centralized economy where the role of the state is dominant in the socio-economic life of the people. Such types of planning were pursued in socialist countries like the then Soviet Union, North Korea and so forth. In mixed economics like Nepal, planning takes the form of indicative in nature. Economics decisions are partly guided by the 'invisible hand' and partly done by the state intervention. The state sector and the private sector both remain active and play their respective roles. The role of the public sector is conceived as that of a facilitator to promote development in the country. The private sector on the other hand is involved in providing goods and services needed for economy to move on the growth path.

In less developed economies like Nepal, the market mechanism or the price system does not function with a reasonable degree of efficiency as a mechanism for allocating investment and other resources in accordance with social demand. The reasons are many. There are generally unemployed and underemployed resources. A variety of bottlenecks impede production and distribution. The government machinery is weak. Price responds haphazardly to changes in supply and demand because markets are often rudimentary and fettered by rigidities. There are barriers to the free flow of information. Changes in these circumstances are often a precondition of development. Development planning seeks to break down such structural obstacles and achieve growth. Hence, accelerated economic growth and structural change are the two main aims of development planning.
A development plan contains, among others, the following features (i) a survey of the current economic situation; (ii) objectives, targets, strategies and programs for accelerating economic growth and development (iii) a list of proposed government expenditures (iv) a macroeconomic projection for the whole economy etc.

### 2.4.2 Development Planning and Development Plan

It is worth pointing out the distinction between development planning and development plan. Development planning as a process helps the formulation of effective development policies. The plan is the product of the planning process while the first is the process itself. The preparation of a plan has advantages because it provides a systematic approach to co-ordinate development decisions. Further, development plans are useful for initiating or stimulating development process. Just as there is more to planning the preparation of a plan so planning does not necessarily require a formal development plan. However, it needs to be said that a development plan is not a sufficient or even a necessary condition for ensuring rapid development.

### 2.4.3 Concept of settlement planning

Human settlements means the totality of the human community - whether city, town or village - with all the social, material, organizational, spiritual and cultural elements that sustain it. The fabric of human settlements consists of physical elements and services to which these elements provide the material support (UN, 1976). The physical components comprise, Shelter, i.e. the superstructures of different shapes, size, type and materials erected by mankind for security, privacy and protection from the elements and for his singularity within a community; Infrastructure, i.e. the complex networks designed to deliver to or remove from the shelter people, goods, energy or information; Services cover those required by a community for the fulfillment of its functions as a social body, such as education, health, culture, welfare, recreation and nutrition. Broad concept of human settlements as a framework for economic and social development.

The second United Nations conference on human settlement was held in April 1996 at Istanbul, Turkey. Popularly called the "City Summit", it brought together high-level representatives of national and local governments, private sector, NGOs, research and training institutions and the media. The Conference adopted the Habitat Agenda, a global action plan to realize sustainable human settlements. The Regional Action Plan and the Habitat Agenda has become the major guide for countries of the region to improve the quality of life and promote the sustainable development of human settlements in the Asia and the Pacific region. What is now required is to follow-up the recommendations the Habitat Agenda and the Regional Action Plan in the country or city context with appropriate actions. This reveals that UN is also taking initiation for sustainable management of human settlement in the world and investing large amount in this sector. However, increasing urbanization trend in developing countries led to growth to unplanned settlements.

### 2.4.4 Concept of spatial planning

Spatial planning is a key instrument for establishing long-term, sustainable frameworks for social, territorial and economic development both within and between countries. Its primary role is to enhance the integration between sectors such as housing, transport, energy and industry, and to improve national and local systems of urban and rural development, also taking into account environmental considerations. This study on spatial planning is an overview document that draws the attention of policymakers to the importance of spatial planning. It also aims at raising awareness of the importance of increased community involvement and social cohesion as well as of the role of all parties concerned in territorial development in the implementation of housing and related policies and in environmental protection.

Spatial planning has a regulatory and a development function. As a regulatory mechanism, government (at local, regional and/or national levels) has to give approval for given activity; as a development mechanism, government has to elaborate upon development tools for providing services and infrastructure, for establishing directions for urban development, for preserving national resources, and for establishing incentives for investment, etc.

**Aims of Spatial Planning;**

- Improve development generated by urban functions
- Improve the relationship between the town and countryside
- Promote balanced accessibility
- Develop access to information and knowledge
- Reduce environmental damage
- Enhance and protect natural resources
- Enhance natural heritage
- Enhance cultural heritage
- Develop energy resources while maintaining safety
- Encourage high-quality, sustainable tourism
- Limit the impact of natural disasters.

**Benefits of Spatial Planning**

**Economic benefits:**

- Provides Ground for investment;
- Provides land to meet the need for economic development;
- Promoting environmental quality in both urban and rural areas,
- Identifying development that meets the needs of local communities;
- Promote regeneration and renewal;
- Making decisions in a more efficient and consistent way.

**Social benefits:**

- Using local communities in policy development;
- Improving accessibility of new development;
- Supporting local facilities;
- Optimum use of vacant and derelict land,
- Maintain pleasant, healthy and safe environments.

**Environmental benefits:**

- Regeneration and the appropriate use of Physical Infrastructures including land, buildings and infrastructure;
- Promoting developed land and minimizing development on greenfield land;
- Conserving historic and cultural assets;
- Addressing potential environmental risks .
- Protecting and enhancing areas for recreation and natural heritage
- Promoting access to all modes of transport
- Encouraging energy efficiency.

## 2.5 PLANNING HISTORY IN NEPAL

The major challenge facing Nepal is to overcome the vicious cycle of poverty and low human development. Hence, sustainable economic growth, poverty alleviation, and reduction of regional imbalances have remained the principal objectives of the development policy of Nepal. Decentralization and devolution of responsibility and decision making authority, an equitable and regional balance of resource distribution; priority to poor areas and disadvantaged section of the population; overall improved socio-economic conditions, have been the central theme in the development policy of Nepal. One of the objectives of the current budget and the 3 Year Interim Plan is to promote agriculture and rural development, enhancement of employment, poverty alleviation and social welfare.

In the last decade the urbanization process is very rapid in Nepal. Migration from rural area to an urban area is very high due to an over concentration of all types of facilities, services as well as high opportunity of job. 17% of the national population lives in urban areas and growth rate of urban population is 4% per annual. On one side old settlement and market center are converting into town and on the other side new settlement and new market center are coming up along the

highway and raj marga due to internal migration from hill to Tarai region. In urban areas also expansion is taking place along a narrow road as ribbon development, construction of scattered big housing and apartment project and haphazard urban expansion is taking place in peripheral VDC of municipality's boundary leading to future slum settlement. It is because of easily available cheap vacant land, no proper development plan, very simple building bye laws and easy to get a construction permit from related VDC. Impact of haphazard development might not be noticeable at present but in the long run it might become a big problem. It will need a huge amount of finance for re-habitation.

Urbanization is not a new phenomenon in Nepal. The total urban population was only 228 thousand in 1951 accounting for 2.8 percent of the total population of the country lived in 10 municipalities. In 1961, 3.57 percent of the total population lived in 16 municipalities. In 1981, 6.3 percent of the total population lived in 23 municipalities. In 1991, 9.11 percent of the total population lived in 33 municipalities. Similarly, in 2001, 14 percent of the total population lived in 58 municipalities. As per 2011 census, 4523 thousand urban population lived in 58 municipalities. Presently level of urbanization is estimated at about 17 percent. It was 2.8 percent in 1951, 3.57 % in 161, 4.1% in 1971, 6.3% in 1981 and 9.11 percent in 1991. Since 1971, urbanization trend has increased dramatically in Tarai town. Although the valley share of urban population stood at 38 percent in 1981. As per 2011 census, Kathmandu Valley accommodates almost 40 percent of the urban population. The 2001 census indicates a population of Kathmandu valley in 1.6 million but in 2011 the Kathmandu district alone has a population of 17, 44, 240 (NPHC 2011). Urbanization in Kathmandu Valley has crossed the municipal boundaries of five municipalities of the Valley viz. Kathmandu, Lalitpur, Bhaktapur, Madhyapur and Kirtipur. If the present rate of urbanization continues, Kathmandu will experience tremendous population growth. The rate of growth of Kathmandu district estimated at 4.78 percent per year is one of the highest in the world.

People migrate to cities for a better life, with the hope of earning more income as income is supposed to make them able to meet their needs, desired and provide education, health to their family. Cities can absorb more people even the quality and quantity of infrastructure and service does not improve. This results in rapid deterioration of living condition and working environment as a whole. In our context, extension and construction of infrastructure and services are not developed as much with urbanization. There is always a wide gap between need and availability of basic infrastructure and facilities in our towns. So, urbanization had led to environmental problem by increasing shortage of services and facilities. As a result, there are increasing conflicts, crimes, illegal activities, drugs and girl trafficking, slum habitation and so on.

**Table 1 Urbanization Trends in Nepal (1951-2011):**

**Table: Urbanization trends in Nepal (1951-2011)**

| S. N | Items/Years | 1951 | 1961 | 1971 | 1981 | 1991 | 2001 | 2011 |
|---|---|---|---|---|---|---|---|---|
| 1 | No of Towns | 10 | 16 | 16 | 23 | 33 | 58 | 58 |
| 2 | Nation Pop.(in millions) | 8.3 | 9.4 | 11.5 | 15 | 18.5 | 23.15 | 26.49 |
| 3 | Urban Pop.(in thousands) | 2,28 | 3,36 | 4,62 | 9,58 | 22,87 | 32,28 | 45,23 |
| 4 | Level of Urbanization | 2.8 | 3.57 | 4.1 | 6.3 | 9.11 | 14.00 | 17.00 |
| 5 | Urban Pop. Growth Rate (UPGR) % per Annum | ---- | ---- | 3.23 | 7.55 | 5.89 | 3.6 | 3.38 |
| 6 | Nation Pop. Growth Rate(NPGR) % per Annum | ---- | ---- | ---- | 2.7 | 2.1 | 2.06 | 1.35 |

Sources: National Planning Commission, CBS report, National Plan of Action, 1996 (Habitat II) and NPHC 2011.

## 2.6 URBAN PLANNING PRACTICES IN NEPAL:

Planning decisions are political by nature and have basically four types-traditional, democratic, equity (hybrid of socialist and democratic) and incremental (Gann, 1968). Traditional planners are accused of imposing their version in planning whereas the democratic planners call for top down to a participatory planning process. Modern urban planning practice is found to have actually begun when the First World War gave a death blow to laissez faire (Sutcliffe, 1980, 2-3), however, it received a new stimulus after the Second World War. The planning was supported by passing the general planning legislations with an example of British Town and Country Planning Legislation 1909 which is perhaps the best known example. Nepal followed the suit only in 1976 by creating a separate planning and urban development authority as Kathmandu Valley Town Development Committee, which is now converted into Kathmandu Valley Town Development Authority under the Kathmandu Valley Development Authority Act 1988 similar to that of Delhi Development Authority. To give full momentum to the development of urban areas, the government in 1988 created a separate ministry- Ministry of Housing and Physical Planning (now Ministry of Physical Planning and Works). Now this authority is headed by the former mayor of Kathmandu Municipal Corporation (KMC). This is how Nepal in line with the international practices pursued the planning practices institutionally.

**Legal and Institutional Bases of Planning in Nepal**

The initiation of planning was first begun in Nepal after the establishment of democratic polity in Nepal. The first such institution- Upatyaka Nirman Samiti (Valley Construction Committee) - was a five-member committee formed in 1952 with the mandate of preparing a planned urban development of the main centers of the Kathmandu Valley. However, a conflict between the committee and the Road and Building Department ultimately led to the demise of the committee. This committee was replaced by a small town planning unit, established under the Department of

Public Works and Building under UN assistance. Owing to the dearth of human resources in the field of urban planning, the government had decided to get technical assistance from the UN. P. O. Lefvert (1962-64), F. Ortner (1965-66) and Carl Pruscha (HMG/N 1969) helped prepare the first kind of master plan for Nepal, in 1969, covering a number of aspects of planning and conservation expecting to be completed within 20 to 30 years period. This plan was really extensive though the government did not accept it (Dhakal, 1995). This was followed by another plan in 1976 known as the Kathmandu Valley Physical Development Plan, which was adopted as policy document for the development of the urban areas of the Kathmandu Valley. This plan had a number of sub-plans, such as urban design, residential development, zoning, infrastructure development, building regulations for central core areas etc. Unfortunately, this plan also remained in the file and the course of urbanization went on unabated without any guidance, thus, leaving the Kathmandu Valley in the natural process of development. However, some achievements like vegetable market, residential areas in Dallu, Kuleshswor, and Galfutar were made (KVTDC, 1984). With the support of the USAID in 1986, the government again prepared a study report as Kathmandu Valley Urban policy. The study also suggested having land use plan participating with the concerned stake holders in urban land management (see Planning and Development Collaborative-PADCO). Even the planning interest of urban areas was shown in the regional planning of Nepal (Gurung, 1969)

### A. Land Use Distribution Pattern of Indian Cities:

Prepared by the Bureau of Public Enterprises of India the below Table shows the Land use distribution in percentage for India cities.

**Land use distribution in percentage for India cities.**

| S.N | Uses | Percentage |
|---|---|---|
| 1. | Residential | 45% TO 60% |
| 2. | Road | 15% TO 20% |
| 3. | Education | 10% TO 15% |
| 4. | Parks, Sports and Open Space | 5% TO 10% |
| 5. | Commercial | 3% TO 5% |
| 6. | Other Institute | Remaining rest |
| | Total | 100% |

**Table: 3 Land Use Distribution in Percentage for India Cities** Source: Delhi Master Plan

### B. Land Use Pattern in Government Housing project of Kathmandu Valley:

As per 13 numbers of completed government land development project in Kathmandu Valley, except for Kuleshwor, Dallu and Sainbu project, the land use distribution pattern in percentage for residential zone is 58% to 81%, for the roads 14% to 28% and for the open space 3% to 8%. Other facilities like commercial, industrial and sports are not provided.

**Table 4: Land Use Pattern of Housing in Kathmandu Valley**

**Land Use Pattern of Housing Project in Kathmandu Valley.**

| S.N | Name of the Project | Residence | Road | Open Space | Other (Commercial / Education / Service) |
|---|---|---|---|---|---|
| 1 | Kuleshwor | 60.00 | 28.00 | 4.00 | 8% |
| 2 | Galphutar | 81.00 | 14.00 | 5.00 | X |
| 3 | Saibu | 58.00 | 23.00 | 7.00 | 12% |
| 4 | Dallu | 67.00 | 25.00 | 5.00 | 1% |
| 5 | Gongabu | 78.35 | 16.65 | 3.00 | X |
| 6 | Lubhu | 78.30 | 17.10 | 4.16 | 1.6% |
| 7 | Kamal Binayak | 74.13 | 21.71 | 4.83 | X |
| 8 | Liwali | 72.95 | 22.22 | 3.83 | X |
| 9 | Gopikrisna | 73.45 | 22.72 | 4.00 | X |
| 10 | Nayabazar | 74.00 | 22.00 | 5.50 | X |
| 11 | Sinamangal | 74.20 | 20.30 | 3.40 | X |
| 12 | Siuchatar | 77.77 | 18.82 | | X |
| 13 | Bagamati Coridor | 81.00 | 19.00 | | X |
| | **Average Distribution** | **73.00** | **20.81** | **4.52** | **5.56%** |

**Source: KVTDC**

### C. Land Use Distribution Pattern of Indian Cities:

Prepared by the Bureau of Public Enterprises of India the below Table shows the Land use distribution in percentage for India cities.

**Table: 5: Land Use Distribution in Percentage for Indian Cities**

| Land use distribution in percentage for India cities. | | |
|---|---|---|
| **S.N** | **Uses** | **Percentage** |
| 1. | Residential | 45% TO 60% |
| 2. | Road | 15% TO 20% |
| 3. | Education | 10% TO 15% |
| 4. | Parks, Sports and Open Space | 5% TO 10% |
| 5. | Commercial | 3% TO 5% |
| 6. | Other Institute | Remaining rest |
| | Total | 100% |

**Source: Delhi Master Plan**

### D. Land Use Pattern in Government Housing project of Kathmandu Valley:

As per 13 numbers of completed government land development project in Kathmandu Valley, except for Kuleshwor, Dallu and Sainbu project, the land use distribution pattern in percentage for residential zone is 58% to 81%, for the roads 14% to 28% and for the open space 3% to 8%. Other facilities like commercial, industrial and sports are not provided.

**Table 6: Land Use Pattern of Housing in Kathmandu Valley**

**Land Use Pattern of Housing Project in Kathmandu Valley.**

| S.N | Name of the Project | Residence | Road | Open Space | Other (Commercial / Education / Service) |
|---|---|---|---|---|---|
| 1 | Kuleshwor | 60.00 | 28.00 | 4.00 | 8% |
| 2 | Galphutar | 81.00 | 14.00 | 5.00 | X |
| 3 | Saibu | 58.00 | 23.00 | 7.00 | 12% |
| 4 | Dallu | 67.00 | 25.00 | 5.00 | 1% |
| 5 | Gongabu | 78.35 | 16.65 | 3.00 | X |
| 6 | Lubhu | 78.30 | 17.10 | 4.16 | 1.6% |
| 7 | Kamal Binayak | 74.13 | 21.71 | 4.83 | X |
| 8 | Liwali | 72.95 | 22.22 | 3.83 | X |
| 9 | Gopikrisna | 73.45 | 22.72 | 4.00 | X |
| 10 | Nayabazar | 74.00 | 22.00 | 5.50 | X |
| 11 | Sinamangal | 74.20 | 20.30 | 3.40 | X |
| 12 | Siuchatar | 77.77 | 18.82 | | X |
| 13 | Bagamati Coridor | 81.00 | 19.00 | | X |
| | **Average Distribution** | **73.00** | **20.81** | **4.52** | **5.56%** |

**Source: KVTDC**

**Nepal Standard Planning Norms**

The Planning Norms prepared by Department of Urban Development and Building Construction in 2070 is a useful guideline for urban development / planning work. The basic standard for medium sized city (pop. 40000 to 1 lakh) proposed by norms for roads, water supply and sanitation (mostly used in LP project) are below in chart.

**Infrastructure Norms and Standards**

**City:** (40,000 to 1 lakhs)

| S.No | Types | Norms | Standards | | | | | | | | | Source |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | Physical Infrastructure | | | | | | | | | | | |
| 1. | Road | • Space Requirement: 15-20% of the total built up area.<br>• All or 90% of household are within 1km from motor-able road. | ROW In M | Min. width of Set Back in M | Min width of Foot path in M | Min. width of Cycle Track in M | Design speed Km/h | Carriage width in M | | | | • Nepal Urban Road Standard-2068 (Draft).<br>• Urban Dev. Plan Formulation & Implementation Gov. of India, 1996. |
| | | | | | | | | Single lane | 2- lane without raised kerb | 2-lane with raised kerb | Multi lane, width per lane | |
| | | | | 1 | 2 | 2 | 80 | 3.75 | 7.0 | 7.5 | 3.5 | |
| | | • Expressway | 50 | 1 | 2 | 2 | 80 | 3.75 | 7.0 | 7.5 | 3.5 | |
| | | • Arterial | 30 | 1 | 2 | 1.5 | 60 | 3.75 | 7.0 | 7.5 | 3.5 | |
| | | • Sub arterial | 20 | 1 | 2 | 1.5 | 50 | 3.5 | 7.0 | 7.5 | - | |
| | | • Collector street<br>• Local Street | 10 | 1 | 2 | - | 30 | 3.0 | - | - | - | |
| 2. | Water Supply System | • 80% house-hold have metered house connection and distribution<br>• Non domestic demand.<br>• Treatment Plant (lab, dosing and guardhouse).<br>• storage facility: Reservoir (24hrs requirement)<br>• Provision of Rain Water Harvesting in Government and Public Buildings . | • Domestic demand: 80-135 lpcd and Minimum diameter of distribution pipe: 80mm<br>• Public purpose: 20-25lpcd./(8 to 10 % ).<br>• Fire fighting: 1% of total demand<br>• Area per treatment plant : 2ha per site<br>• Storage Capacity: 25% of the total treatment capacity | | | | | | | | | • National Urban Water Supply and Sanitation Sector Policy, 2009.<br>• Urban Dev. Plan Formulation & Implementation Gov. of India, 1996.<br>• Human Settlement Planning and Design, South Africa, 2000 |
| 3. | Sanitation/ Sewerage System | • 100% population coverage by Public sewer system with partial coverage by | • Min diameter of trunk line: 200mm<br>• secondary sewerage system/ branch sewerage system | | | | | | | | | • Consolidated Design Criteria Report, STIUEIP, |

## 2.7 CONCEPT OF LAND POOLING

The land-pooling scheme is regarded as one of the best readjustment technique for planned provision of urban environmental infrastructures and supply of urban land without external investment. It is a proven and successful land development scheme in the country with a history of more than a dozen successfully implemented projects within the Kathmandu Valley only. The concept of land-pooling consists in acquisition of a plot of land divided into a large number of small parcels belonging to an equally large number of land owners; plan and provide all necessary infrastructure such as road, water supply, drainage, electricity and telephone, open spaces, community service area; consolidate and replot the parcels and give back to the owners. The cost of planning and providing infrastructure is covered from the land itself to be contributed by each landowner. Thus the owner gets back about 12- 30% smaller piece of land but with all necessary infrastructure including parks and open spaces.

Moreover, the original irregular shape plot is converted into a nice regular geometric shape. Thus, land-pooling can be defined as a land management technique for carrying out unified design, servicing and sub-division of a group of separate land parcels for their planned urban development with the sharing of the project costs and benefits between the land owners and recovery of the project costs by the sale of some of the developed plots.

The concept of land pooling can be explained with the help of two key words, unification and partnership. Unification indicates the consolidation of separate land parcels, the unified design, infrastructure provision and subdivision of these parcels and a unified preparation and implementation of the scheme under a single management. The word partnership indicates the partnership between government, private and community for urban land development. It should be borne in mind that for any scheme to be successful, it should offer sufficient benefit to the stakeholders so that they are willing to actively participate to make the project successful. In this context the land-pooling scheme offers the following benefits to the landowners.

- A significant net increase in the market value of his land
- Well-serviced housing plots easy to sell if needed.
- A government agency / local government use its governmental power and status to benefit him.
- Retain part of his original land after its conversion from rural / semi-rural to urban uses.
- All of the above could never be possible by individual effort.

### Objective of the Land Pooling

The objective of the Land pooling is to prepare a master plan, providing basic infrastructure such as road, electricity, telephone, drainage, potable water supply, open spaces, parks making it suitable for an ideal urban residential, commercial and other or mixed blocks and redistribute the planned plots to the land owners who agree to share the cost of development by contributing a part of their land parcel. The main objectives of urban planning by land pooling are:

- To provide maximum number of developed plots and to conserve agricultural land, cultural heritage and environment.
- Maximum participation of local people in the process of urban planning making them aware of the importance of planned urban development.
- To control the rapid unplanned urban growth and its impact on environment and to emphasize the importance of the concept of planning in modern urbanization.
- To provide employment opportunity to local people.
- To set an example that unified development efforts are successful only through active participation of the local people.

- To set an example of a planned urban residential area with all necessary infrastructure and clean environment.

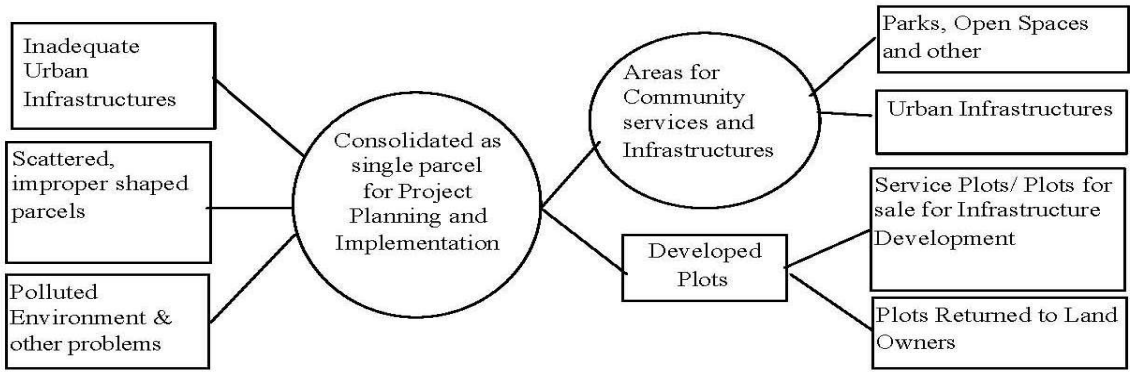



*Figure 15: Schematic form of Land Pooling Process*

**Planning practices in Nepal:**

Some of the major planning practices held in Nepal, especially in Kathmandu are briefly described here:

**Master Planning approach:**

One of the fundamental premise of the master plan is based on the western concept of 'zoning' which outlines a land use pattern by dividing the city into zones, where those traditional master plans had physical planning approach translated into spatial plans (SPA, Thesis, n.d). The physical planning strategies are geared towards identifying and targeting development, by conserving the available priorities, risk, opportunities and gaps in the urban and regional areas. After the coronation of King Mahendra (1955) and Queen Elizabeth's visit (1962) as introduction period of modern urban planning which was soon followed by UN Technical assistance program in 1962 for planning initiation Kathmandu Valley. The study resulted "The Physical Development Plan for the Kathmandu valley" in 1969 also called as Master Plan or the first comprehensive planning document in the country, referred to as "1969 Plan" as well. Based on the "Survey-Analysis-Evaluation- Implementation", master plan approach of planning took enormous time in collection and analysis of data (Joshi, 2008, p. 95). Further on the analysis results on alternative solutions where best alternative is selected and developed into master plan (Joshi, 2008).

**Structure Plan:**

Alternative to master plan, structure plan was introduced in 1988- 1991 for municipalities in support of Department of Housing and Urban Development ( DHUD) in the name of Management Support of Urban Development (MSUD) (Irwin & Joshi, 1996). Structure plans were prepared for 33 municipalities but were limited to policy statements and details were not worked out (Joshi, 2008).

Structure plans were backed up by series of action plans which were detailed local area plan which provided legal basis for development control and brought planning issues before public (Joshi, 2008). Another learning steps from the structure plans were indicative plans where Joshi explains in his book "Planning approaches in Nepal" that simple, feasible and understandable plan has better chance to success, where everyone gets to participate in the process and decision making.

**Integrated Action Plan:**

Integrated action planning (IAP) as a simple form of urban planning involving participatory events of the people who are affected, in order to achieve a greater feeling of ownership of the policies

that will lead to more effective implementation and considers the financial resources available to the local as a rolling investment plan for the next five years of projects that follow a physical plan (UDLE, 1997:10). Integrated Action Planning was introduced at a time of decentralisation of responsibilities and of expected increases in funding for urban infrastructure to overcome deficits and serve rapid urbanisation (MHPP, 1992) (Mattingly & Winarso, 1999). An alternative to conventional approaches of planning, it was more action oriented and realistic as it translates and implements the goals of strategic planning within shorter time frame. (Irwin & Joshi, 1996). It was understood that Integrated Action Planning would become integrated into the regular activities of a municipality, such that the municipality would prepare its annual development investment budget as the first year of a 5 year rolling multi-sectorial investment programme, while continually updating and implementing its physical development plan (Mattingly & Winarso, 1999). Joshi (2008) pushes the fact that IAP is more appropriate in case of Nepal where urbanization is rapid, resources are constraints, institutional capacities are inadequate and planning processes needs to be simplified and less time taking.

Parallel to the community consultation, analyses of acquired information are conducted to determine and evaluate the opportunities and constraints existed in resources & institutional capacity of municipality, legislative framework and existing project (Irwin & Joshi, 1996). Parallel to earlier steps, physical and environmental analysis of the locality is done to conduct the SWOT analysis of site by preparing thematic maps, assessment of land use, identifying trends and patterns of growth, resource distribution and others (Joshi, 2008). Based on the previous collected information, problems are identified and prioritized; projects are formulated with solutions to each problem. Projects formulated are examined on the basis of their social, physical, topographical and financial feasibility, and applicable projects are set to implement. Most of the towns are using IAPs which generates two mutually integrated planning tools, MSIP (Multi Sectorial Investment Plan) covering projects to satisfy the present needs of the people and PEDP (Physical and Environmental Development Plan) helping to sustain the ecological base. These two tools MSIP and PEDP will be elaborated in next sub-chapters.

**Periodic Plan**

Periodic plan is a long term plan of generally 5-7 years, picturing the future image of that locality comprising different disciplines of plan such as physical, social, environmental, financial, economical and institutional development. It consists of plan, policies & regulations related to the programs, investments and implementation of the program including budgeting and allocating tasks for responsible line agencies. According the guideline published by government, it can be taken as 'participatory and inclusive plan'. With the enactment of the Local Self Governance Act, 1999, municipalities were required to prepare their periodic plans themselves where UDLE supported MLD to prepare a manual for municipal periodic planning (gtz: udle, 2006). It requires a municipal data profile and a participatory planning process with a log frame format that includes a rolling budget. Compared to Integrated Action Planning, comprehensive nature of periodic plan is considered as more realistic because of its legal status of Local self governance act and regulations (2058,2059), hence these are also considered as one of the performance indicators of municipalities (gtz: udle, 2006).

Periodic planning processes have been extremely slow due to endless data collection, lengthy public participation, the limited analytical capacity to utilize existing proxy data, the unwillingness to make decisions due to the changing political climate and the conflict within the country, the lack of local representation, weak institutional capacity and other priorities that override periodic planning (gtz: udle, 2006).

But periodic plans have certain benefits over other sorts of planning because of its integrated nature of planning, legal and financial base for planning and budget allocation, foreign agencies in

enhancing the institutional capacity building of municipalities and participatory approaches. GTZ/ udle believes that the changing political scenario in Nepal will help to provide a more realistic management approach that will provide strong guidelines for urban development where, with a joint vision decided by all stakeholders will strengthen the legitimacy of all municipalities as being dedicated service providers for local communities.

**Issues and Challenges**

Nepal has started modern urban planning after 1950s with international expertise of UN, when country was freed from century of feudocracy of Ranas. Since then we have gone through series of new urban planning processes to control the haphazard urbanization, where the present doesn't shine as was planned in the past (K C, 2015). Many scholars like Dhakal (2004), Joshi (2008) and Irwin (1996) believe that planning's in Nepal were limited in papers without taking in consideration of ground reality and unexpected scenarios. So far the first kind of master plan for Nepal prepared by UN experts in 1969, covering a number of aspects in planning and conservation for next 20-30 years was not really well accepted by government in its policies (Dhakal, 2004). Dhakal blames that 'Kathmandu Valley Physical Development Plan, 1976' which consisted many sub plans like urban design, residential development, zoning, etc always remained in the file and in reality greens were converting into grays.

Local Self Governance Act, 1999 authorizes local bodies to prepare periodic plans and annual plans with support of guidelines by planning commission, DUDBC and MLD which were also failed due to institutional incapability of the local authorities. Two major planning authorities of Nepal Town Development committees and Municipalities itself are merely 'Jaw-less bodies' (Dhakal, 2004). LSGA authorizes TDC to prepare plans and policies for that locality but lack of budget, technical competence and human resources; they are merely as sleeping except KVDA (which was previously established as KVTDC now changed to authority). According to article 96 (b) Municipality are also mandated to frame landuse, prepare housing plans, management plan for drainage and drinking water, plan recreational space, and approve the construction of building. But, problems are similar for the both institutes in their inefficiency and incompetency of planning urbanization. Lack of coordination between private and public sector, national and international development agencies as well as among the sartorial line agencies in the implementation of urban projects has been a problem since long time.. Technical competence for implementing the municipal projects is also severely lacking (Irwin & Joshi, 1996) where factors like privileged co-ordination of various actors, trend to violate laws, insufficient zoning regulations and improper planning consciousness are distorting the urban features (Dhakal, 2004).

Scarce supply of urban land, high cost and slow mechanism for land acquisition act is also considered as major challenges in implementation of big urban infrastructural project (LSGA, 1977). Prolonged public participation and often misguided by ill political will are hindrances in implementation of many urban projects. Joshi (2008) adds that present planning guided by political feasibility, is becoming more complex to control the situation from external mechanism or intervention as it is no more controlled by a single actor. As Roy (2009) describes about the situation of urban governance in India as 'regime is itself an in formalized entity, one that is a state of deregulation, ambiguity, and exception'. She further ads on that 'incontrovertible argument about the failure of planning in India: that informality and insurgence together undermine the possibilities of rational planning, and that therefore India cannot plan its cities,' which is exactly the similar ground reality of Nepal. Law rendered as unrestricted and subject to multiple elucidations and interests can be positioned as, 'law as social process is as idiosyncratic and arbitrary as that which is illegal' (Berry, 1993; Holston, 2007, Roy, 2009).

One of the major challenges that piercingly stand in planning arena is lack of coordination and failing to take advantage of synergy between projects. Tendency to deal with overlapping issues like environment, landuse and expansion zones as isolated sectors have made planning implementation more complex and disputable. Planners and politician acting as two opposite poles and blaming each other has been problematic by keeping people out of the center of interest (Joshi, 2008). While in present, dominance of improper urban plan due to haphazard development became the major reason about shortfall of basic urban services (Dhakal, 2004).

Joshi (2008) explains that many attempts have been made to make planning more comprehensive , mechanisms to integrate different aspects are either not in place or very week where such failures to integrate these sectors explains why planning has failed in Nepal. Plans in Nepal has always lacked the 'harmony within and among the organization' (Joshi, 2008). Integrated plan finding practical, effective and meaningful ways to individual citizens is an important challenge. Kelly & Becker, (2000) explain that success in planning is determined by the effort of its leadership, that can be governing body or planning commission or working together, which is one of the major drawback of planning institutions in Nepal. Joshi (2008) adds that institutional incapability's of planners or implementing agencies to consider the unexpected scenario caused due to external factors is making planning uncompetitive in Nepal. He highlights the implementation as ultimate goal of any plan hence it should be strategically ready to cope up with situations due to changes in environment, both internal and external

## 2.8 LEGAL FRAMEWORKS

To facilitate and enabling environment many legislations have been enacted in Nepal. Different Rules, Regulations and Guidelines have been developed and put to use in this regard. In this connection, Important Acts, Regulations, policy frameworks etc. are described below:

### A. Local Self Governance Act, 2056 (1999):

The Local Self-Governance Act 1999 has provisioned broad based organizational structure, devolution of authorities, special provision to promote disadvantaged communities, planned development process and judicial authorities to local bodies, where whether the Act has provided enough legal bases for the development of a capable, responsive and accountable local self-governance system is itself an issue.

Some of the major issues that can be critically analyzed on the self-governance act and other acts related to decentralization can be grouped into three areas: Fundamental issues (Essence of the Act), Institutional issues and Implementation issues.

**Fundamental Issues:**

The initial concept of self-governance is understood as decentralized governance system as an attempt to make the center powerless while empowering the local level. Decentralization, in fact, means defining responsibilities at each level. Similarly, there are other sectors involved in local development such as NGOs, INGOs, donors and private sector, whose responsibilities is not clearly defined.

Decentralization is a system of governance for balanced development in a heterogeneous geographic, social, cultural and economic setting like ours. However, the essence of this policy needs to be understood, visualized and developed at the political level where professionals and donors are only complement in designing, implementing and institutionalizing the policy, once it is conceived with commitment at the political level. Some of the principle essences of the act are: effective participation of the people in the governance process, equitable distribution of resources across the regions, organized presence of the government at all levels, empowerment of

disadvantaged communities and enhancement of production and job creation. Such policy can be designed and implemented only when the major political parties can visualize such potentialities.

**Institutional issues**

The organizational structure of local bodies is unresponsive and unaccountable to the voters and most of them function on an undemocratic manner, especially when it lacks the locally elected bodies. Even with the elected personnel from ward or Illaka (DDC), there is no institutional mechanism for the voters to monitor the activities of their leaders and question and expel them, if so required. Thus, all the representatives of DDC, as well as VDC and Municipality (Mayor), remain in their seat for full term irrespective of their performance, further which functions not on a parliamentary style guided by the majority, but on a presidential style guided, mainly, by the Chairman.

**Implementation issue**

Majority of the poor and disadvantaged communities are living in an unorganized, vulnerable and scattered manner, much below than the reach of decentralized institutions. However recent guidelines for municipality in making their development plan strategy have guided them to invest 40% of municipal budget in scheduled caste, women and children in area of infrastructure development, social, skill development, and economic development.

In most of the cases like LGCDP (Local governance and community development Program) have made effort to strengthen the municipal institutional capacity but in other sense they are making more defunct and donor dependent due to their own implementation strategy and parallel institutional mechanism. At the same time the local bodies also could not ascertain their rights and duties, whatever was devolved under the present legal framework, and implement with the true norms and values of a democratic institution. Consequently, a huge resources and opportunities channeled through local bodies were captured by a limited group of people, leaving a large number of people out of the development mainstream.

### B. Town Development Act, 2045 (1988)

Town development Act, 2045 can be taken as one of the prominent act related to land development which authorizes Town Development Committee (TDC) for supply of urban land. Especially in case of this project Integrated Development Plan, TDA authorizes TDC to be the core authorized body for planning and implementation of the project. It entitles local body to carry out physical development in an integrated manner with reconstruction, expansion and development of existing towns as well as to build new towns. It is provided with policy of land pooling and land development in urban areas in order to supply urban land in well facilitated manners. Town development committee which functions on legal base of TDA couldn't function with full expectation because of inefficient institutional framework and unnecessary political intrusion in development work. Lack of technical and administrative manpower in the TDC, essence of TDA is not reflected where TDC merely acts as a planning institution. Act authorizes TDC to ask fund from Town Development Fund for carrying out plans and urban land development projects, but lack of interest and institutional framework makes it more lifeless in any urban development programs.

### C. The Land Acquisition Act, 2034 [1977]

Most of the land are either private or forest area in Nepal. Public land or government owned land is limited. So, Land Acquisition Act, 1961 was passed to provide legal provision and procedure to acquire private land. With change in condition and time requirement, this act was revised in 1977 and enforced as "Land Acquisition Act, 1977" in 2034/5/22 (1977/09/07). This act has helped to solve problem of delay in urban planning work due to conflict in land. It provided legal provision for acquiring land for public purpose. This act ensures the justice to individual and community in

the regarding land property as no one even government can arbitrarily acquire private land without compensation. Important provisions of the land acquisition acts are:

- Conditions and decision provision for acquiring land
- Land acquisition in emergency condition
- Compensation of land, property and other losses
- Allocates authority to officers for acquisition procedure
- Land ownership transfer
- Giving information and notices
- Ensures right to file complain

Land acquisition act has empowered government to acquire land for development work. Although it has incorporated many aspects like assign authorities, compensation, time allocation, procedures etc., it fails to include issues like time frame of compensation, guideline for amount of compensation, social and cultural aspects. With integration of these issues, land acquisition can be much more free disputes and urban development can be more effective.

### D. National Urban Policy, 2007 & National Urban Development Strategy 2015

National urban policy is found to be more integrated, updated and comprehensive document addressing the major issues of urban planning and its implementation. It basically focuses on the problems related with urban planning and come up with solutions expressed by different institutions, intellectuals and experts. Majorly focused on issues of Kathmandu Metropolitan areas, it identifies the reason behind urban services delivery deficiency due to ineffective infrastructure, weak institutional capacity and inadequate resources. It admits the existence of policy level confusion of local body and central government agency due to lack of integrated approach in urban development.

Three major objectives forwarded by the policy are:

- Achieve balanced national urban structure through proper guidance to development
- Raise living standard of urban residents through clean, secure and economically vibrant urban environment
- Achieve effective urban management through institutional strengthening and legal empowerment of local bodies.

To achieve those objectives, NUP has proposed several policies and strategies such as industrial promotion, urban infrastructure investment, linking highways from North to South, etc. NUP has proposed several strategies for urban development like:

- Develop local bodies.
- Set up an integrated urban planning and monitory system.
- Special programs for conservation and protection of cultural heritage and sensitive natural resources.
- Develop land development, housing, and land market plan.
- Develop inclusive plan for physically disabled, women and aged people.
- Develop sustainable public transportation system.
- Prepare disaster-management plan

Despite being very exciting kind of strategies and policies involved, it basically lacks any incorporation in the national policy..

The objectives of NUDS, therefore is not to replace NUP, but to complement and expedite its implementation. It includes 8 thematic areas, which includes 4 themes and 4 mechanisms. The Themes are urban system, urban infrastructure, urban environment and urban economy. Similarly, the Mechanisms are urban investment, urban finance, urban governance and urban land management. NUDS, 2015 includes 41 desirable conditions or milestones envisaged for different themes, 65 indicators to measure the desirable conditions, 86 thematic strategies to achieve the desirable conditions or milestones, 164 activities identified to operationalize the strategies. It is prepared considering the 15 years planning horizon.

**E. Others:**

1. National Urban Policy, 2007
2. National Urban Development Strategy, 2015
3. Planning Norms and Standard, 2015
4. National Land Use Policy, 2012
5. Environment Protection Act (2055 B.S)
6. Guthi Corporation Act-1976
7. Ancient Monument Preservation Act (1956)
8. Motor Vehicle and Transport management Act (1993)
9. Public Road Act (1974)
10. National Road Standard (2070)
11. Nepal Urban Road Standard prepared by DUDBC (2071)
12. Nepal Urban Drain Standard prepared by DUDBC
13. Industrial Enterprise Act (1992)
14. Labor Act (1992)
15. Building Bye-Laws
16. Land Use Policy (2069)
17. Public Procurement Acts 2063 and Regulations 2064
18. Public Roads Act, 2031
19. Contract Act, 2023 and 2058
20. Construction Industry Acts 2055
21. Public Infrastructure Build, Operate and Transfer Policy 2057
22. National Transport Policy, 2001
23. National Agriculture Policy, 2004
24. Tourism Policy, 2008
25. National Industrial Policy, 2011

Many other acts, directives and legislations related to urban planned development have been approved by Nepal government to authorize, guide and promote local bodies in urban development programs, but result doesn't seem to be more effective in most of the urban areas. Some of the major policies as: National Shelter Policy, Apartment Act 1997, Build Operate Transfer Policy (2000) for promoting public private partnership, directives for municipality in guiding urban development plans, and monitoring guidelines or policies.

## 2.9 PLANNING PRACTICES IN GLOBAL CONTEXT

### 2.9.1 Garden City Concept: Letchworth City

There is a long tradition of planned town-making in Britain, arguably dating back to the model communities and settlements of the 17th and 18th centuries. The notion of a programme to provide planned new communities in the public interest emerged at the end of the 19th century. New communities were first built through philanthropic and private initiative, as exemplified by the Garden City movement, but were subsequently developed by public authorities through the government new towns programme. "Letchworth Garden City has a special place in the history of town planning as the world's first Garden City. Established in 1903, it is based on the theories of Ebenezer Howard in his book 'Garden Cities of Tomorrow', which outlined how new, ideal communities, could be created by combining the best of town and country. Houses were constructed to harmonize with each other and architectural features were designed to add visual interest and variety."

Today, the 'sustainable urban extension' is an important element in a portfolio of solutions to the problem of meeting the need for housing and related development. Both new settlements and urban extensions provide opportunities for concentrated rather than sprawling development. By virtue of their scale, and if carefully designed and developed to produce integrated, 'holistic' settlements, they can encourage and accommodate highly-sustainable patterns of living. Garden cities had varied range of achievement, environmentally, socially and economically, and many are among the greenest places to live in the UK today. In 2007 there were the beginnings of a new wave of new settlements and urban extensions.

### 2.9.2 Dickens Heath village centre

The new village of Dickens Heath began taking shape in 1997. It is located in a rural setting beside the Stratford upon Avon Canal and within the Solihull metropolitan green belt. The village is three miles from the nearest main settlement, Solihull, and will house around 4,000 people when completed. The origin of the new village lies in a decision made by Solihull Metropolitan Borough Council (Solihull MBC) in 1989, in response to its housing allocation requirement of 8,100 new homes between 1988 and 2001. The adopted 1997 Solihull Unitary Development Plan (UDP) originally proposed a settlement of 850 houses adjacent to the existing hamlets of Cheswick Green and Tidbury Green.

The masterplan approved in 1995 was underpinned by four key overarching principles:

- The village should have a clear identity which gives residents a sense of place and belonging.
- It should echo the traditional features of village development, including homes, employment, recreation and social and welfare facilities, intermixed to create a cohesive whole.
- The village should provide a range of housing from first-time through to family houses, together with smaller units for the elderly, thereby creating a mixed community for all ages and incomes.
- The village should create a safe and pleasing environment for pedestrians while still accommodating the car, but without allowing it to dominate.

The key to the design of the master plan for the village was the creation of a series of public places that are attractive and enjoyable to walk through. The overall aim of the layout at Dickens Heath is to encourage street activity by making it easy, convenient and pleasurable to move around the

settlement as a pedestrian. The design ethos focuses on a range of shared public spaces, as opposed to dispersed estates which tend to foster lifestyles focused around the private car.

As a conclusion: Dickens Heath has attracted a mix of businesses and residents. Despite its proximity to larger urban centers, a sense of community cohesion has been established, as borne out in the range of retail, restaurant and commercial uses in the village centre. There are issues to be resolved related to car parking and the inadequate provision of public transportation. However, in terms of the planning policy context and the process of steering the scheme through the local and sub-regional planning systems, Dickens Heath offers a valuable lesson in delivering growth on the ground and in achieving good relationships between local authorities and developers. The scheme was developed at a time before sustainable construction techniques and the on-site energy generation agenda began to emerge into the mainstream, but Dickens Heath nevertheless offers many lessons for a new small-scale settlement developed within or close to the green belt.

### 2.9.3 Smart Cities in India

The term "smart cities" is a bit ambiguous. Some people choose a narrow definition - i.e. cities that use information and communication technologies to deliver services to their citizens. Some people prefer a broader definition: Smart cities use Information and Communication Technologies (ICT) to be more intelligent and efficient in the use of resources, resulting in cost and energy savings, improved service delivery and quality of life, and reduced environmental footprint - all supporting innovation and the low carbon economy, accessed on 18/08/2013 (http://www.fastcoexist.com/1679127/the-top-10-smart-cities-on-the-planet). A city that monitors and integrates conditions of all of its critical infrastructures, including roads, bridges, tunnels, rails, subways, airports, seaports, communications, water, power, even major buildings, can better optimize its resources, plan its preventive maintenance activities, and monitor security aspects while maximizing services to its citizens (Hall, R. E, 2000).

Mitchell's (1995) book on the City of Bits sets out a vision of urban life literally done to bits, left fragmented and in danger of coming unstuck. Mitchell's (1999) next book on e-topia provides the counter-point to this vision of urban life and scenario where the city is no longer left in bits and pieces, but a place where it all comes together. As Mitchell's (2004) states in his more recent book: ME++: the Cyborg-Self and the Networked City, all this coming together is possible because: 'the trail separation of bits and atoms is now over' and this post-AD 2000 dissolution of the boundaries between the virtual and physical is what makes everything worth playing for . The first concerns the proliferation of cities that adopt intelligent city strategies and define themselves as smart or intelligent cities. Since 2005, when Urenio Watch (www.urenio.org) began recording developments in the field of innovation ecosystems and intelligent cities, the increasing announcement and diversity of cities announcement and diversity of cities adopting intelligent city strategies has been noted. This has often led to a simplistic use of the terms 'Smart' and 'Intelligent', which are easily assigned to any digital application associated with cities-often just for marketing purposes-without making clear what intelligence is being improved and how Holland’s (2008) accurately pointed out that urban development in many countries has been increasing influenced by smart city concepts, but despite the wide use of this urban labeling phenomenon, we now little about so called smart cities.

The Cities that Think for you are also calling as Electronic Cities, I(Internet) Cities, Cyber Cities, Connected Cities, Wired Cities, Ubiquitous Cities, Intelligent Cities, Semantic cities, Transparent Societies and Digital Societies or Digital Cities. This is a new paradigm on how to build cities, which requires new strategies, technologies, models and urban processes in order to meet the

current challenges related to quality of life, balance of the environment and efficiency of natural resources, to inequality and social exclusion.

Smart cities, digital cities and intelligent cities are concepts that have characterized recent academic literature. Smart Cities have been gaining popularity among researchers and practitioners. Smart Cities constitute a major breakthrough in contemporary urban development and planning literature, which spans over a period of 20 years. The first academic paper on intelligent cities appeared in 1992 (Laterasse, 1992), while the first academic paper on smart cities was also published in the same year (Gibson et. al, 1992).

Globalization, with trade liberalization measures and fast technological changes altering the relations of production, distribution and consumption, has very substantial effects on city development. As one important consequence (network-) economies evolved" […] with easier physical movement, globalized players making decisions with no regard to national boundaries" (Thornley, 2000). Cities around the world aspire to provide superior quality of life to their citizens. Furthermore, many are also seen as centers of unique opportunities, like business, fashion, entertainment and governance, for their citizens. Cities want to retain such preeminent positions or re-position themselves for newer opportunities. But, resources needed to reach and sustain such aspirations are decreasing while the expectations continue to rise from an increasing population-base. A positive trend of the internet age is that more data than even before is open and accessible, including from governments at all levels of jurisdiction, which enables rigorous analysis. Wellington E.Webb - Former Mayor of Denver, Colorado said that about cities
"The 19th century was a century of empires;
The 20th century was a century of nation states;
The 21st century will be a century of cities"

Cities play a decisive role, not only in Denver-Colorado but throughout the world. Cities are driving the economy. Cities are where people want to live, invest and work. That is why cities are focal points in the future sustainable economy (Claus Bjorn Billehoj, Sustainable City Development, and Municipality of Copenhagen). There are numerous definitions of the term 'city' depending on countries, but the most common one defines 'city' as a relatively large and permanent settlement. Paul R Brown, AICP, CDM Smith Executive Vice President defined that "Cities are complex ecosystems that are dependent on natural systems, challenging out thinking about the development of both natural and urban environment".

### 2.9.4 Singapore- The Concept Plan

Singapore is one of the youngest yet most developed country with interracial population of 5.5 million and 277 sq. mile area. Singapore was the archetypal `colonial city' in south-east Asia, a product of British planning and development where land was allocated with rigid guidelines regulating a range of aspects from street patterns and lot sizes to covered walkways, for government and commercial uses and for the various ethnic groups (Yuen, 1996).

The Concept Plan is a strategic land use and transportation plan that guides Singapore's development over the next 40-50 years. Reviewed every ten years, the Concept Plan ensures that there is sufficient land to meet long-term population and economic growth needs while providing a good quality living environment for our people (Singapore Government, 2015). The first Concept Plan was formulated in 1971 and laid the foundation for Singapore's growth for a better quality of life with new towns, transport infrastructure and access to recreation further subsequently reviewed in 1991, in 2001 and in 2011 to factor in changes in local and global trends, and ensure the plan remains relevant to address future challenges and meet needs. At present, Singapore is expecting

6.5-6.9 million population by 2030 (Singapore Government, 2015). Regular public consultation through different surveys, FGD, and public forums have helped to upgrade the plan as per the global as well as local demand.

In reviewing the Concept Plan, we take into account all major land needs in collaboration with relevant government agencies. Public consultation is on crucial component of the Concept Plan process. In every Concept Plan Reviews, extensive public consultation has been carried out through various channels such as surveys, focus group discussions, and public forums.

The latest Concept Plan review of 2011 took into account the public feedback gathered by the National Population & Talent Division (NPTD) on building a sustainable population for Singapore. This population discussion resulted in the release of the Population White Paper in January 2013, which set out the key considerations and roadmap for Singapore's population policies and also projected Singapore's potential population by 2030 The Land Use Plan is a conceptual plan that outlines the strategies to provide the physical capacity to sustain a high quality living environment for a possible population of 6.9 million by 2030.

Today, Singapore's total urban socio-spatial infrastructure has been developed essentially according to the Concept Plan

## 3. CHAUJAHARI -TOWN PROFILE

### 3.1 SITE INTRODUCTION

The aim of this profile is to create a platform for informed decision-making by the Chaurjahari regarding planning, budgeting and implementation, i.e. Integrated development plan. This profile does not include the use of exhaustive lists of data but instead considered the most pertinent and up-to-date data available. The components analyzed include the following:

- Geographic profile
- Socio-economic information
- Household services
- Tenure status
- Spatial management concepts
- Environmental management

The National Census of 2011 is the most recent, comprehensive and recognized source of statistical information, undertaken by CBS. These statistics were analyzed and compared with data/information from the profile completed. The combined results of these sources of information are documented in this chapter.

### 3.2 LOCATION

Chaurjahari lies at the flat terrain of Bijeshwori VDC, one of the model VDC among 43 VDCs, of the Rukum district in the mid- western development region of Nepal. The VDC is surrounded by Kotjahari Kholagaun VDC at east, Jagatipur VDC of Jajarkot district at west, Khalanga VDC of Jajarkot district at North and Kalagaun VDC of Salyan district at south. This VDC is 85 KM away from salli bazzar of surkhet. Total area of the VDC is 27.485 square km.

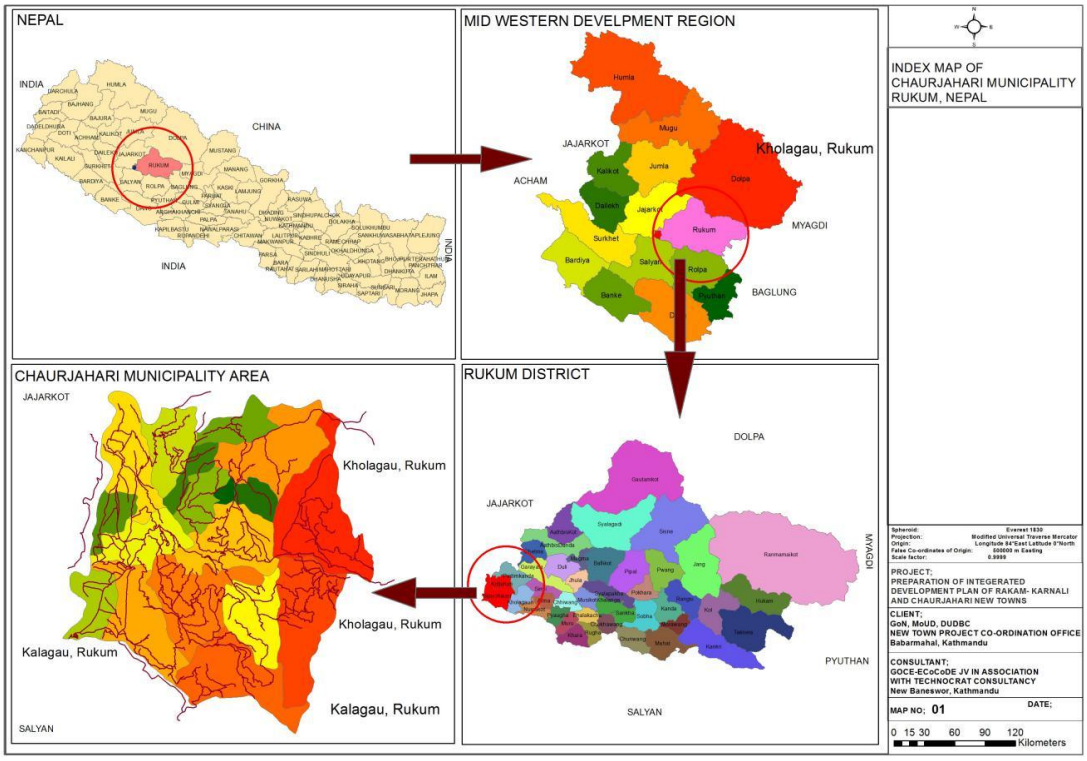



*Figure 17 GIS Map of Chaurjahari*

The average temperature of the district ranges from 0°C to 43°C (at Chaurjahari NT area 9.5°C to 29°C), and rainfall ranges from 1,600mm to 2,400mm. Rukum's topography makes it highly prone to landslides, and due to the road construction using excavators, the prevalence of landslides has greatly increased. In 2011, the district had seven major landslide events that resulted in 26 casualties and loss of property. Rukum is ranked among the districts at high risk for flood and landslide vulnerability and with very low adaptation capability. Rukum has a functioning District Emergency Operations Centre, and has prepared a Disaster Risk Preparedness Plan with local response capacity are the Nepal Red Cross Society and the Armed Police

## 3.3 GEOGRAPHY

Chaurjahari is located in Mid-western Development Region of Rukum District. The settlement is 1.26% growth rate and providing marketing and other services in its hinterland. The lead sectors of this market center are trade and business center, education and health center and tourism and service Centre. Based on those potential lead sectors, Chaurjahari can be developed as a regional center for marketing as well as tourism center of Mid-western Development Region of Nepal. The center is providing social, economic, touristic as well as various services in its hinterland.

Chaurjari is a market center which lies in the Bijeswori VDC-9 of Rukhum District. This market lies along the bank of Jahari Khola. This market serves the people of nearby surrounding area of Rukhum, Salyan, and Jajarkot District. Chaurjahuri is connected to Surkhet and Salyan with road network and is having air services to Nepalgunj and Kathmandu.

## 3.4 HISTORICAL INTRODUCTION

According to elite people of the Chaurjahari, The name was fomed because of the land setup i.e. mixing river and open place. The river Jahari is connected with big-chunk of lands along its bank or Chaur.

## 3.5 CLIMATE

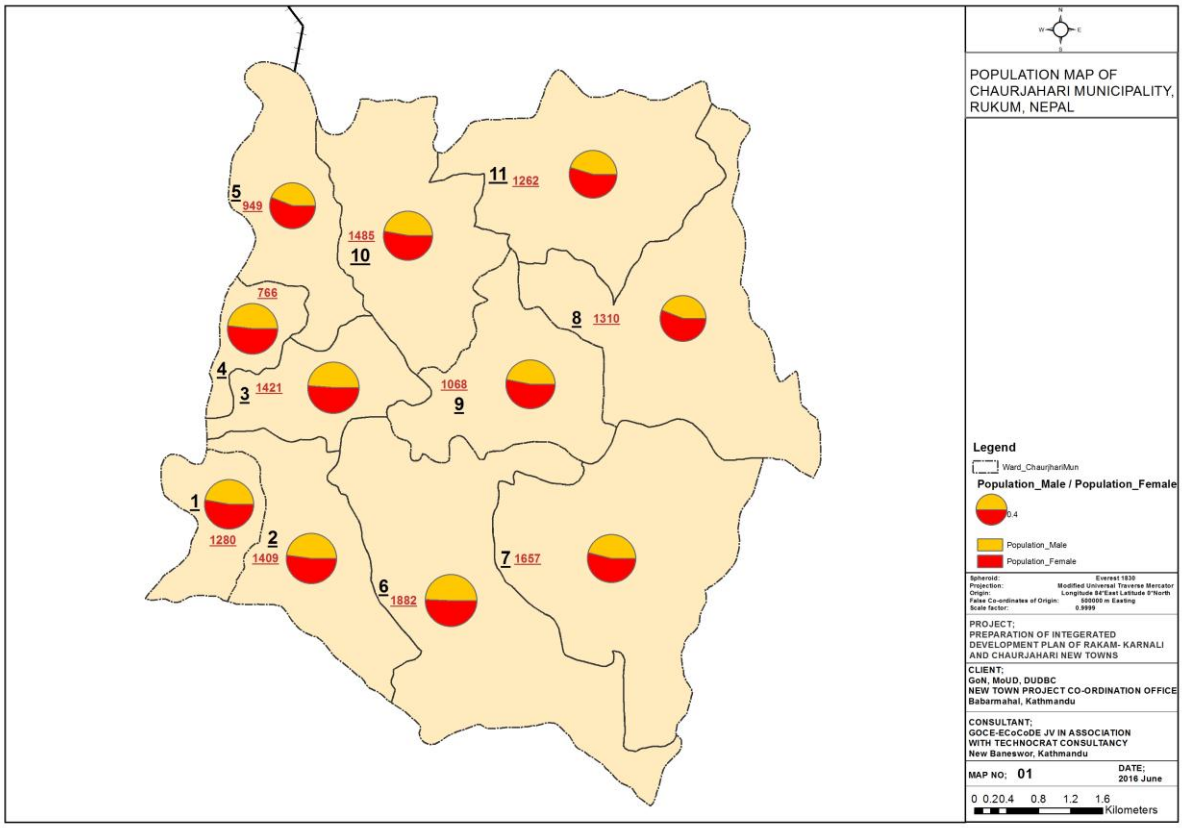
Chaurjahari is too hot in the summer time and too cold in winter. During the winter season Chaurjahari is covered with misty fog which is visible from some VDC of surrounding district of Salyan and Jajarkot that lasts till 10-11 am in the morning. The average annual highest temperature is 29 degree Celsius and minimum is 9.50 Celsius. Maximum rain here 61 millimeters and minimum is zero and average rain in this VDC is 9.42 millimeters.

## 3.6 TOWN PROFILE

**Demography:**

The population census 2068 shows the total population of Bijeswori VDC is 9364 and total house hold is 1,922. Bijeshwori VDC covers the area of 28.77 sq. km. The growth rate of the population in the VDC from 2001 to 2011 is 1.26% per annum. The male population in the year 2011 is 4456 male and female population is 4,908, such that the sex ratio is 90.8. The density of population in the Bijeshwori VDC is 3 persons per hectare.

**(* Note :- Chaurjahari New Town = Bijeshwori VDC + Kotjahari VDC)**



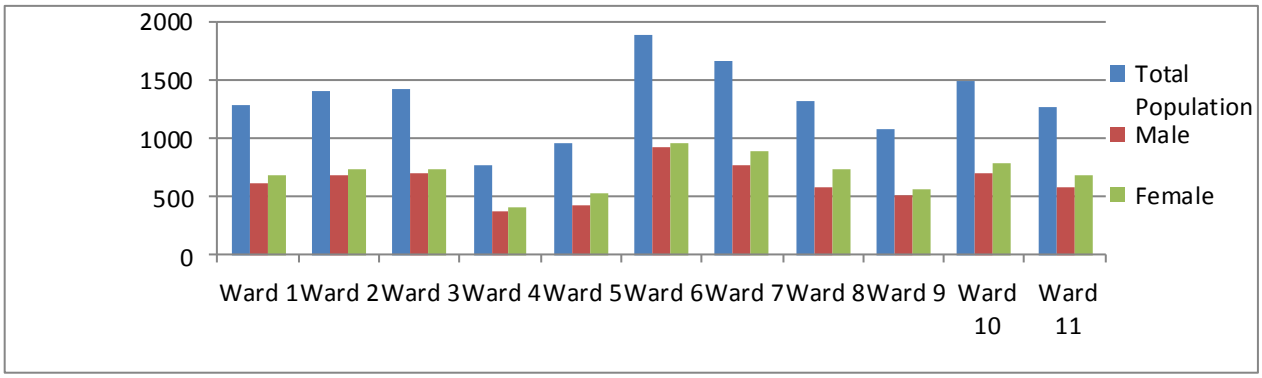

The total population of Bijeswori VDC is 9364 and total household 1922. The male population in the year 2011 is 4457 and the female population is 4908.Similarly, the total population of Kotjahari is 5125 with a total household of 1058. The male Population as per census 2011 is 2352 and the female population is 2773. Thus the Total Population of the Chaurjahari is 14,487 from the total household of 2980. The Male and Female Population of the as per census 2011 is 6809 and 7681 resp. Thus the Population density of the Chaurjahari is 289 people per sq km (i.e.around 2.9 pop/ha).

**Table 7: Ward wise Population New as Chaujahari**

| Ward No. | Households (Census 2011) | Household (District Profile 2072) | Total Population | Male | Female |
|---|---|---|---|---|---|
| 1 | 372 | 292 | 1280 | 605 | 675 |
| 2 | 382 | 314 | 1409 | 677 | 732 |
| 3 | 286 | 268 | 1421 | 693 | 728 |
| 4 | 166 | 155 | 766 | 368 | 398 |
| 5 | 228 | 213 | 949 | 418 | 531 |
| 6 | 433 | 359 | 1882 | 929 | 953 |
| 7 | 335 | 321 | 1657 | 766 | 891 |

| Ward No. | Households (Census 2011) | Household (District Profile 2072) | Total Population | Male | Female |
|---|---|---|---|---|---|
| 8 | 286 | 263 | 1310 | 578 | 732 |
| 9 | 207 | 209 | 1068 | 501 | 567 |
| 10 | 330 | 318 | 1485 | 699 | 786 |
| 11 | 297 | 268 | 1262 | 574 | 688 |
| Total | 3322 | 2980 | 14489 | 6808 | 7681 |

Source: CBS, 2011




Source: CBS, 2011

**Table 8: Population by Caste**

| S.N. | Bijeshwori (Cast) | Total Population | Kotjahari | Total Population |
|---|---|---|---|---|
| 1 | Chhetri | 3748 | Chhetri | 2373 |
| 2 | Brahman | 1367 | Brahman | 423 |
| 3 | Sanyasi/Dashnami | 557 | Sanyasi/Dashnami | 122 |
| 4 | Magar | 1115 | Magar | 326 |
| 5 | Thakuri | 149 | Thakuri | 617 |
| 6 | Musalman | 56 | Kami | 709 |
| 7 | Damai/Dholi | 241 | Sarki | 375 |
| 8 | Badi | 152 | Others | 180 |
| 9 | Kami | 1639 | | |
| 10 | Sarki | 289 | | |
| 11 | Others | 51 | | |
| | Total | 9364 | Total | 5125 |

Sources: CBS, 2011, Field Survey, Interview

**Table 9: Age wise Population**

| VDC | | Total | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70-74 | 75+ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bijeshwori | Total | 9,364 | 996 | 1175 | 1364 | 1117 | 890 | 713 | 581 | 524 | 448 | 371 | 342 | 232 | 258 | 160 | 111 | 82 |
| | Male | 4456 | 488 | 600 | 685 | 511 | 401 | 302 | 265 | 239 | 204 | 181 | 167 | 109 | 123 | 84 | 59 | 38 |
| | Female | 4,908 | 508 | 575 | 679 | 606 | 489 | 411 | 316 | 285 | 244 | 190 | 175 | 123 | 135 | 76 | 52 | 44 |
| Kotjahari | Total | 5125 | 566 | 764 | 900 | 556 | 425 | 350 | 309 | 270 | 208 | 188 | 189 | 105 | 111 | 98 | 47 | 39 |
| | Male | 2352 | 290 | 405 | 409 | 244 | 168 | 136 | 121 | 115 | 83 | 82 | 88 | 59 | 56 | 47 | 26 | 23 |
| | Female | 2,773 | 276 | 359 | 491 | 312 | 257 | 214 | 188 | 155 | 125 | 106 | 101 | 46 | 55 | 51 | 21 | 16 |

| VDC | | Total | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70-74 | 75+ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Chaurjahari** | **Total** | **14,489** | **1,562** | **1,939** | **2,264** | **1,673** | **1,315** | **1,063** | **890** | **794** | **656** | **559** | **531** | **337** | **369** | **258** | **158** | **121** |
| | **Male** | **6,808** | **778** | **1,005** | **1,094** | **755** | **569** | **438** | **386** | **354** | **287** | **263** | **255** | **168** | **179** | **131** | **85** | **61** |
| | **Female** | **7,681** | **784** | **934** | **1,170** | **918** | **746** | **625** | **504** | **440** | **369** | **296** | **276** | **169** | **190** | **127** | **73** | **60** |

Source: CBS 2011, Survey, Interview

**Table 10: Population by Mothertongue**

| Bijeshwori | **Total** | **Male** | **Female** | | **Total** | **Male** | **Female** | | **Total** | **Male** | **Female** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| All | 9364 | 4456 | 4908 | Kotjahari | 5125 | 2352 | 2773 | **Chaujahari** | **14489** | **6808** | **7681** |
| Nepali | 9110 | 4317 | 4793 | | 5124 | 2351 | 2773 | | **14234** | **6668** | **7566** |
| Magar | 196 | 96 | 100 | | 0 | 0 | 0 | | **196** | **96** | **100** |
| Urdu | 23 | 19 | 4 | | 0 | 0 | 0 | | **23** | **19** | **4** |
| Hindi | 25 | 19 | 6 | | 0 | 0 | 0 | | **25** | **19** | **6** |
| Others | 10 | 5 | 5 | | 1 | 1 | 0 | | **11** | **6** | **5** |

Source: CBS, 2011, Field Survey, Interview

## 3.7 SOCIAL DATA

### Education

There are 15 schools present in Bijeshwori VDC in which 5 are private and 10 are government schools. A total of 894 students are gaining education in government school whereas 2906 students in private schools. Bijeshwori VDC has many social infrastructures. In Chaurjahari, there are 7 government school, 6 private boarding schools, 1 higher secondary school and 1 campus. This shows that there are sufficient schools and college within the project area.

**Table 11: Existing Schools and College**

| S.N. | Institutional Buildings | Remarks | Ward | Teachers no. | Student no. |
|---|---|---|---|---|---|
| 1 | Valley Public School | Private | 3 | 34 | 514 |
| 2 | Sarswati Advance E.M.B. School | Private | 4 | | 350 |
| 3 | BalbidhaSadan | Private | 5 | 9 | 141 |
| 4 | MalikaNikatan E.M.B. School | Private | 5 | 9 | 184 |
| 5 | Believers English School | Private | 5 | 11 | 219 |
| 6 | Shree Sital Campus | Government | 5 | 11 | 740 |
| 7 | Shree Sital Higher S. School | Government | | 15 | 918 |

Source: Field Survey, Interview

**Table 12: Admit Rate**

| **Table: Admit Rate** | | | | |
|---|---|---|---|---|
| Female | Male | Primary | Lower Secondary | Secondary |
| 2196 | 1809 | 2808 | 679 | 518 |

Source: Field Survey, Interview

**Table 13: Literacy Rate**

| Area Boundary | Total | Male | Female |
|---|---|---|---|
| Kotjahari | 50% | 41.77% | 58.23% |
| Bijeshwori | 65% | 75% | 55% |
| Chaurjahari (Kotjhari+Bijeshwori) | 57.5% | 58.39% | 56.61% |

Source: Field Survey, Interview

**Table 14: Population aged 5-25 years by school attendance & Sex**

| VDC | Population | | Currently Going | | Currently Not Going | | attendance not stated | |
|---|---|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female | Male | Female |
| Bijeshwori | 1954 | 2155 | 1494 | 1501 | 376 | 586 | 84 | 68 |
| Kotjahari | 1127 | 1377 | 903 | 970 | 207 | 366 | 17 | 41 |
| **Chaujahari** | **3081** | **3532** | **2397** | **2471** | **583** | **952** | **101** | **109** |

Source: Field Survey, Interview

**Public Health**

A Chaujahari Hospital has been running in this VDC. It has a capacity of 40 beds and 37 staffs are working in this hospital including two doctors. Patients from Rukum, Salyan, Jajarkot, Dolpa, Rolpa and Surkhet have been visiting this hospital for checkup. Also District Ayurved Hospital and Uphela post are serving as health centers in the VDC.

**Table 15: Hospital Available**

| SN | Name | Location | Remarks |
|---|---|---|---|
| 1 | Chaujahari Hospital | Chaujahari-1, Nakhira | |
| 2 | Khahare Health Center | Chaujahari-7, Khahare | Under Construction |
| 3. | Primary Health Center Kotjahari | Chaujahari-9, Kotgaun | Under Construction |

Source: Field Survey, Interview

**Parks, Open spaces and Refreshment Center:**

There is no such park in the VDC but there are lot of agricultural lands which are serving as open spaces.

*Figure 18: Open Space*

## 3.8 PHYSICAL INFRASTRUCTURE DATA

Existing Urban Form:

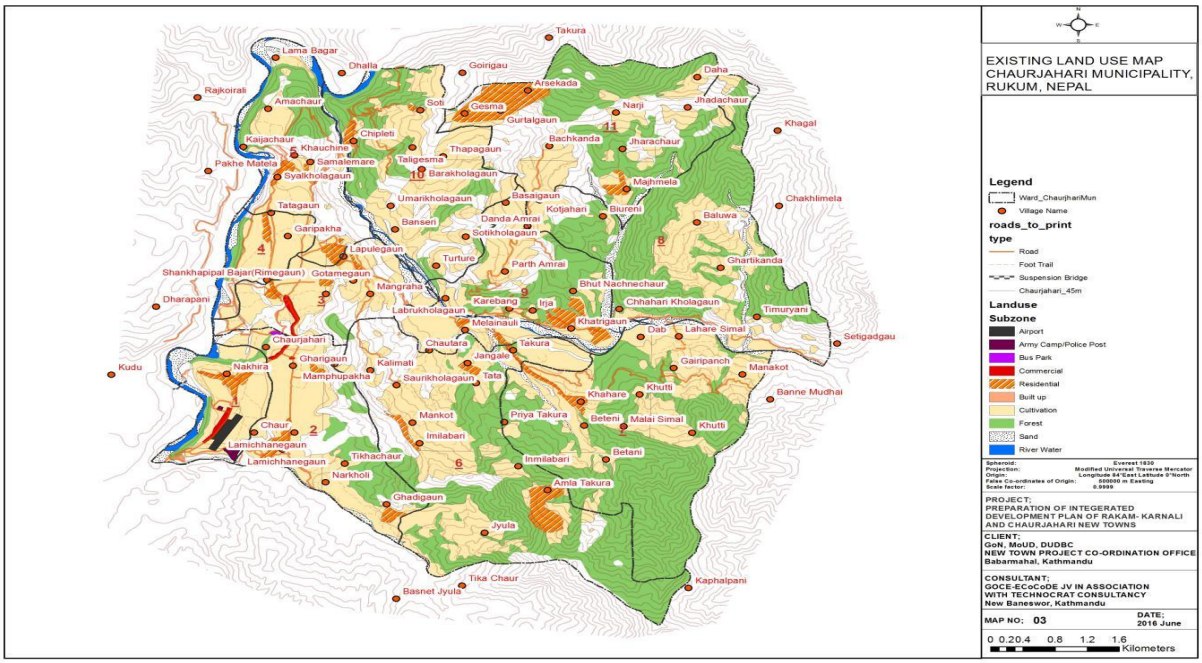



*Figure 19: Existing Land-use map of Chaurjahari*

**Existing Land use**

Existing land use of the Chaurjahari consists of Government Land (Parti, Gaucharan), Forests, Roads, Rivers and Private Land . The composition are as follows

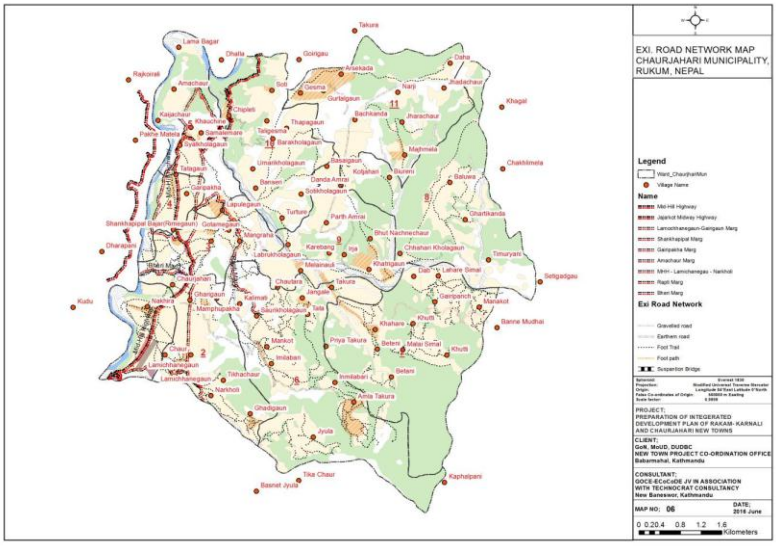
**Table 16: existing land use on the basis of ownership of Chaurjahari**

| EXISTING LAND USE ON THE BASIS OF OWNERSHIP OF CHAURJAHARI | | | |
|---|---|---|---|
| S.N. | Category | Area(Ha) | Area (%) |
| 1 | GOVERNMENT | 1179.32 | 23.53 |
| 2 | PUBLIC | 385.0 | 7.68 |
| 3 | FOREST | 1801.62 | 35.95 |
| 4 | GUTHI | 60.36 | 1.20 |
| 5 | PRIVATE | 1585.72 | 31.64 |
| | TOTAL | 5012.02 | 100.00 |

Source: Base map, , GIS map, interview with DoLR Rukum

## Transportation:

### Road Networks




Considered as a spine of the development process, the road transportation has been in operation in Chaurjahari since last 3 years. There are two main road networks connecting Bijeshwori VDC to headquarter of Rukum district, Musikot (Khalanga), and to Nepalgunj through Sallibaazar. All the VDCs except 1, 8 and 9 are connected to road networks, and these VDCs do not have access to road network because of the lack of political consensus. Chaurjahari had an airport as far back as 2029 BS and NAC had established its office, and now Chaurjahari air service serves commercial flights for 2 times a week. A ring road, encompassing the main market area and airport, construction has been started recently in Chaurjahari.

There are two main road networks connecting Bijeshwori VDC to headquarter of Rukum district, Musikot (Khalanga), and to Nepalgunj through Sallibaazar. All the VDCs except 1, 8 and 9 are connected to road networks. A ring road construction has been started recently in Chaurjahari.

**Table 18: Existing Road features**

| Name | width | Length | Road Type |
|---|---|---|---|
| Lamochhanegaun-Gairigaun Marg | 5 | 2089 | Gravelled road |
| Bheri Marg | 3 | 1341 | Gravelled road |
| North-South Road | 3 | 739 | Gravelled road |
| Shankhapipal Marg | 2 | 627 | Gravelled road |
| North-South Road | 4 | 1427 | Gravelled road |
| North-South Road | 5 | 580 | Gravelled road |
| Amachaur Marg | 4 | 958 | Gravelled road |
| Amachaur Marg | 4 | 301 | Gravelled road |
| Amachaur Marg | 3 | 951 | Gravelled road |
| Gairipakha Marg | 4 | 1883 | Gravelled road |
| Rapti Marg | 2 | 4379 | Gravelled road |
| Mid-Hill Highway | 6 | 4600 | Gravelled road |
| Mid-Hill Highway | 6 | 6529 | Gravelled road |

Source: Base map and GIS calculation

**Table 18:Suspension Bridge List**

| Name | Type | Left | Right | River/Khola |
|---|---|---|---|---|
| Nakhira suspension Bridge | D | Jajarkot | Nakhira | Thulibheri |
| Matela | N | Jajarkot | Matela | Thulibheri |
| Jaharikhola Chipleti | D | Kotjahari | Bijeshwori | Jaharikhola |
| Bhakunde | D | Kotjahari | Bijeshwori | Jaharikhola |
| Jaharikhola Kha | D | Kholagau | Bijeshwori | Jaharikhola |

Source: Base map and GIS calculation

**Airway:**

There are two airports in Chaurjahari and Salle in Rukum District.

**Chaurjahari Airport**

It is located near the Bheri River which is 762m above sea level and accessible by footpaths and horse trails only, with a grass runway 850 m long and 30 m wide. It was the primary mode of travel to Rukum for government, NGO personnel, aid workers and backpackers before the civil war. During the conflict the security situation deteriorated and the local police station was shut down. The airport has 10 aircraft parking at once. Now the airport has been renovated and is currently a main way to enter Chaurjahari by air means

**Rukum Salle Airport**

This airport is located near Musikot, the district headquarters. It is accessible by foot way and road transport also since Salle is connected by Rapti highway. Its runway is 650 meters long with capability of parking of 4 aircraft at once.

**Water Supply:**

Despite the fact that, millions have been spent time and again in water supply construction and maintenance project with the support of ADB, local people are still facing the problem of access to adequate quality drinking water. Increasing population and its growth rate along with the poor maintenance services and high leakages, demand of sufficient of water supply is still high in Chaurjahari. People of Chaurjahari commute far and spend hours collecting water for domestic purposes. The main sources of water are mul, kuwa, padhera which are been consumed by people and is not sufficient now. Also 793 households of ward no 3 to 7 have access to drinking water through Chaurjahari Drinking Water Plan office and this has made life little better for those Households.

The main sources of water are mul, kuwa,padhera which are been consumed by people and is not sufficient now.93 Water taps has been constructed in Bijeshwori VDC 1 to 7 by Asian Development Bank till date. Also 793 households of ward no 3 to 7 have access to drinking water through Chaurjahari Drinking Water Plan office.

**Table 19: HHs by main source of drinking water**

| VDC | Total HHS | Tap/Piped | Tube-well | Covered well/kuwa | Uncovered | Spont water | River/stream | Other | Not stated |
|---|---|---|---|---|---|---|---|---|---|
| Bijeshwori | 1922 | 1233 | 0 | 10 | 293 | 314 | 65 | 0 | 7 |
| Kotjahari | 1058 | 672 | 2 | 12 | 65 | 350 | 5 | 0 | 2 |

Source: Field Survey, Interviews

**Table 20: Water Source Description**

| Ward no. | HH no. using tap or piped water | HH no. using Tube well water | HH no. using well & springs water | HH no. using river &pond water |
|---|---|---|---|---|
| 1 | 138 | 3 | 4 | 1 |
| 2 | 86 | 5 | 57 | 7 |
| 3 | 181 | 0 | 3 | 0 |
| 4 | 106 | 0 | 14 | 11 |
| 5 | 139 | 1 | 34 | 0 |
| 6 | 63 | 0 | 4 | 3 |
| 7 | | 0 | | |
| 8 | 125 | 0 | 1 | 0 |
| 9 | 86 | 0 | 0 | 0 |

Source: Field Survey, Interviews

**Irrigation:**

Chaurjahari tar irrigation project, started in 2027 at Bijeshwori hilltop, covering an area of 1770 square meter, has its source point at setigaon khola muhan at ward number 3 and 4 and it is 19.5km long. This project was completed in 1934 BS. This project, although capable of providing irrigation services to 600 hectors, local people had not been able to enjoy this service easily. Despite the availability of sufficient fertile land, the inadequate irrigation supply has turned those fertile lands into barren land.

Main Rivers of the

**Bheri River:** A perennial river is starting from mountain passes through the west side of the Chaurjahari to Surkhet and terai region.

**Jahari Khola:** A small river two micro hydro and some irrigations projects were established, passes through mid section of Chaurjahari Sanitation:

**Table21: Drinking water and Toilet**

| VDC | Water | Toilet | No toilet HHS |
|---|---|---|---|
| Kotjahari | 86.79% | 35.45% | 832 |
| Bijeshwori | 80.25% | 52.09% | 1055 |

Source: Field Survey, Interviews

There is neither public centralized sewerage network system for sewage collection nor sewage treatment plants for sewage disposal. Most of the households have ordinary toilets. The prevailing solid waste disposal from toilet includes pit system of disposal. The state of drainage and other sanitation facilities are almost negligible. Solid waste from kitchen and degradable matters are decomposed for manure, and other solid wastes are either collected and burnt or disposed along the riverside. Thus, from the current status of the VDC, landfill sites are extremely necessary.

**Sewerage and Waste Management:**

In the bazaar area, nowhere we could see the provision for sewer lines. Local community had been raising the demand for proper sewer disposal system in Chaurjahari. There is neither public centralized sewerage network system for sewage collection nor sewage treatment plants for sewage disposal. Most of the households have ordinary toilets with soak pits and few households have safety tank and toilet. Because of the lack of solid waste management, degrading urban environment has emerged as important issue. The prevailing solid waste disposal from toilet includes pit system of disposal. The state of drainage and other sanitation facilities are almost negligible. Solid waste from kitchen and degradable matters are decomposed for manure, and other solid wastes are either collected and burnt or disposed along the riverside.

**Electricity:**

Since 2047 BC, Bijeshwori hydro power company has been yielding 150KW of power and it has been in operation under lease since 2055 BS. Electricity had been supplied to 650 HH, but most of its customers are in the neighboring Jajarkot district. Since two years micro hydro-power has not producing any power due to which people of Chaurjahari is compelled to live in dark with limited solar power. Nowadays solar energy is the main source of power in Chaurjahari night life.

**Communication and Postal Services:**

After the telephone lines were closed during the Maoist insurgency period, VSAT line had provided services in this VDC where at present people have been communicating through CDMA, SKY, Namaste and NCELL. People coming from Jajarkot to access telephone services now have to make a STD call in their own district. Since the rapid proliferation of mobile technology people have not been using postal office present at Chaurjahari. The facility for communication is average in Bijeshwori New Town area.

## 3.9 CULTURE RELIGIOUS AND TOURISMS:

There are number of historical, religious important places such as Kural Shiva Temple, Mokchyadwari Temple, and Malika Bhagawati Temple etc..Beside that number of natural science can be observed at Chaurjahari. Thus, there is high possibility of tourism development in the Chaurjari and almost 450 tourist visit in different places of Chaurjari.To increase the number of tourists in

Chaurjari, conservation, Beautification, up gradation and publicity of the of religious and historical places should be done.
Different Religious places of the Chaurjahari are listed below.

**Table 22: Different Religious places of the Chaurjari**

| SN | Name | Location | Remarks |
|---|---|---|---|
| 1 | Kural Shiva Temple | Chaujahari-1, Kural | |
| 2 | Maika Kalika Temple | Chaujahari-1 | |
| 3 | Shivalaya Dewal | Chaujahari-3, Bijeshwori | |
| 4 | Mokchyadwari Temple | Chaujahari-5, Mokchaydwari | |
| 5 | Bijeshwori Temple | Chaujahari-3, Bijeshwori | |
| 6 | Mankot Bhagawati Temple | Chaujahari-6, Mankot | |
| 7 | Malika Bhagawati Temple | Chaujahari-7, Malika | |
| 8 | Ramjanaki Temple | Chaujahari-4, Tatagau | |
| 9 | Mahadev Maiki Darga Kotjahari | Chaujahari-9, Kotgaun | |
| 10 | Maha Kalika Temple | Chaujahari-9, Kotgaun | |

Source: Field Survey, Interviews

## 3.10 ECONOMY

**Market Center**

**Bank Remittances**

Chaujahari baazar located in Bijeshwori-3 has been serving as the main market center for business from Rukum,Dolpa,Salyan and Jajarkot. Fancy, clothes, galla, medicines, stationaries, gold/silver, utensils, hotels are present in the area for business. People from Rukum (Khalanga, Kholagaun, Purtimkada, Kotjahari, Nuwakot, Simli, China Baazar, Nakhira, Lamichhanegaun, Aathbiskot), Jajarkot (Punma, Khalanga, Jagatipur, Bhur) and Dolpa come there for purchase and selling goods.

**Table 23:Types and number of existing industries:**

| Name | Capacity | Location | Condition | Remarks |
|---|---|---|---|---|
| Chaujahari Micro hydropower | 150kw | Bijeshwori | Not in operation | |
| Labur Khola Micro Hydropower Project | 85kw | Chaujahari-09, Laburkhola | Under construction | Funded by HA Hydropower |

Product and Service in New Town:

Herbs: Goose berry, Cinnamon, Timur, samayo, Chiraito, Kurilo etc.

## 3.11 FOREST AND AGRICULTURAL SENARIO

**Forest** - There is no sufficient woods for the people from the forest in Bijeshwori VDC except for some people. Also there are Forest users' committees present for conservation of forest. 35% forest coverage in landuse of Chaurjahari new town.

**Birds** – The birds present in this area are Holesa, Malewa, Titra, Dhukur, Kaliz, Crow, Vulture and Parrot.

**Herbs** – The herbs present in this area are Saal, Salla, Sisau, Saaj, Simal, Bhimal, Bar, Pipal, Khari, Kothimauri, Jamuna and BijayaSaal.

**Agriculture**

Agriculture is one of the major source of the local people with major crops like: Paddy, Maize, etc. Most of the flat lands are cultivable land with cash crops like potatoes, vegetables and there are plenty of paddy field on the site. Animal husbandry and Poultry farm is also important source of income for local people. Detail description of agriculture scenario of the Chaurjahari are as follows:

**Table 24: Agricultural scenario of the Chaurjahari**

| SN | Agriculture Center | Affected VDCS |
|---|---|---|
| 1 | Chaujahari | Chaujahari , Purtimkanda, Kholagaun, Nuwakot |

Source: Field Survey, Interviews

**Agriculture pocket area**

Paddy, Crop and Wheat

**Table 25: Cropping Calender**

| SN | Name | Seeding time | Harvesting Time |
|---|---|---|---|
| 1 | Paddy | Jestha-Ashad | Kartik-Mansir |
| 2 | Wheat | Kartik-Mansir | Baisakha-Jestha |
| 3 | Maize | Baisakha-Jestha | Bhadra-Aswin |
| 4 | Summer Potatos | Baisakha-Jestha | Shrawan-Bhadra |
| 5 | Winter Potatos | Aswin-Kartik | Poush-Baisakha |
| 6 | Mustard | Bhadra-Aswin | Mansir-Poush |
| 7 | Winter Vegetables | Bhadra-Kartik | Poush-Baisakha |
| 8 | Summer Vegetables | Jestha-Ashad | Bhadra-Kartik |
| 9 | Unseasonal Vegetables | Magha-Falgun | Baisakha-Jestha |
| 10 | Vegetable Seeds | Aswin-Kartik | Baisakha-Jestha |

Source: Field Survey, Interviews

**Table 26: Cropping Pattern**

| SN | Land | Fallow Land | Remarks |
|---|---|---|---|
| 1 | Paddy-Wheat-fallow | Maize-fallow-fallow | |
| 2 | Paddy –fallow-fallow | Maize -wheat-fallow | |
| 3 | Paddy-Vegetables-fallow | Maize -Vegetables-fallow | |
| 4 | Paddy-pluse-fallow | Maize -Vegetables-Vegetables | |
| 5 | Paddy-potato-maize | Vegetable-Vegetable-Vegetable | |
| 6 | Paddy-vegetables seeds-fallow | Maize -Vegetable seed-fallow | |

Source: Field Survey, Interviews

**Animal pocket area**

**Table 27: Buffalo, Cow, Pigs, Chicken and Goat.**

| SN | Animal Service Center | Affected VDCS |
|---|---|---|
| 1 | Chaujahari | Chaujahari, Purtimkanda, Kholagaun. |

Source: Field Survey, Interview

**Forestry (Wardwise)**

**Industry/Small Scale**

Most of the sloppy land is covered with Sal forest where there are many community forests in the study area. Community forests in the study area are very successful with inclusive working committee and active participation of the women. Similarly they are very well supported by INGO's, NGO's and District Forest Office, GoN.

## 3.12 DISASTER

From the interaction of people, very few people are aware of the natural disaster and anthropocentric disasters that have occurred in the area. By using interviews and secondary information from the Inventiveness, we've identified around 21 cases of disaster Chaurjahari. Most common natural disasters were Landslide, thunderstorm (lightening) and Vehicle accidents. Recent earthquake of April 25, 2015 had almost no effect in the site because of far distance from the epic center .Detail Description of Disaster events have been attached in Annex map.

## 3.13 EXISTING INSTITUTIONAL MECHANISM

One of the major aspect of modern urban planning is urban governance and institutional mechanism that needs to work in the field of planning and implementation. Lack of locally elected election has been the major national problem which is not different in case of Chaurjhari-Municipality. Recently declared are yet to get into full shape with required technical staffs and administrative staffs. It is challenging for the project as well in case of implementation as it falls under the two different

and one Town development committee. Town development Committee is the local representation nominated by central government which functions under the Ministry of Urban Development. It is important to understand the fact that accountability and authority is limited with it's lack of public endorsement. Chaurjhari-Municipality Town Development office is to be technically reinforced by division office of DUDBC, Surkhet with one appointed engineer or DE of the division as secretary of Town Development. In no any manner, there is one integrated high authority body endorsed by local people/ politics, which can address and make decision regarding the new town development issues. Absence of some of the committee members during the decision making stage and during some important workshop also puts some serious doubt about the legitimate importance of TDC. While saying so, serious enthusiasm of some of the members in developing their town is really appreciable. Town development issues are directly linked with some thematic departments like: department of water and drainage, Department of survey, Department of Land Reforms, district development office and others which are district level departments and are situated in Khalanga, Rukum, district headquarter of Rukum. Growing number of private institutions and association is also important aspect of governance. In case of Chaurjhari, strong participation of FNCCI, Chaurjahari and other local private business associations play vital role in decision making of development works. Private sectors have great role in development sector in terms of services and business modality. Growing number of residential plot is because of the uncontrolled intervention of private sector in land market which has negative impact on urbanization similarly private sectors are increasing the economy of that urban area.

Hence a good governance is prerequisite for today's development, would control and maintain fair, transparent and accountable relationship between different factors such as business community, civil society and government sector.

## 3.14 EXISTING PROJECTS

Every city should be pre planned and then projects should be implemented as per the vision set in the city planning. But in no case, city development can or should remain stagnant till the plan finalization period. In the strategic level as well as in the annual budget program as well, there are many plans adjacent to the new town development. Some of the major projects carried out by Chaurjahari office are listed below:

- Road Up-gradation Project
- New Ring-Road Construction Project
- Bus Park Construction Project
- Land Pooling Project

Apart from the above mentioned projects,

# 4. ANALYSIS

After the collection of different information from site, interaction with local people, key informants, observation, different meetings and workshops performed in the site, we've analyzed opportunities and weakness of the new town with different perspective. Starting with the SWOT analysis to explore the Strength, Weakness, Opportunity and Threat, we further move to study the trend analysis of the site which includes the review of Google earth and other information which gives historical development of the site. Some of the observed information and views collected from the local people or from different focused group discussion are placed in the field analysis. Finally, linkage of the town is studied with regard to the flow of people, services and goods. Linkage of the Chaurjhari-Municipality is identified in two perspectives with inter regional (Among the district) and Intra Regional (Within District or among VDCs).

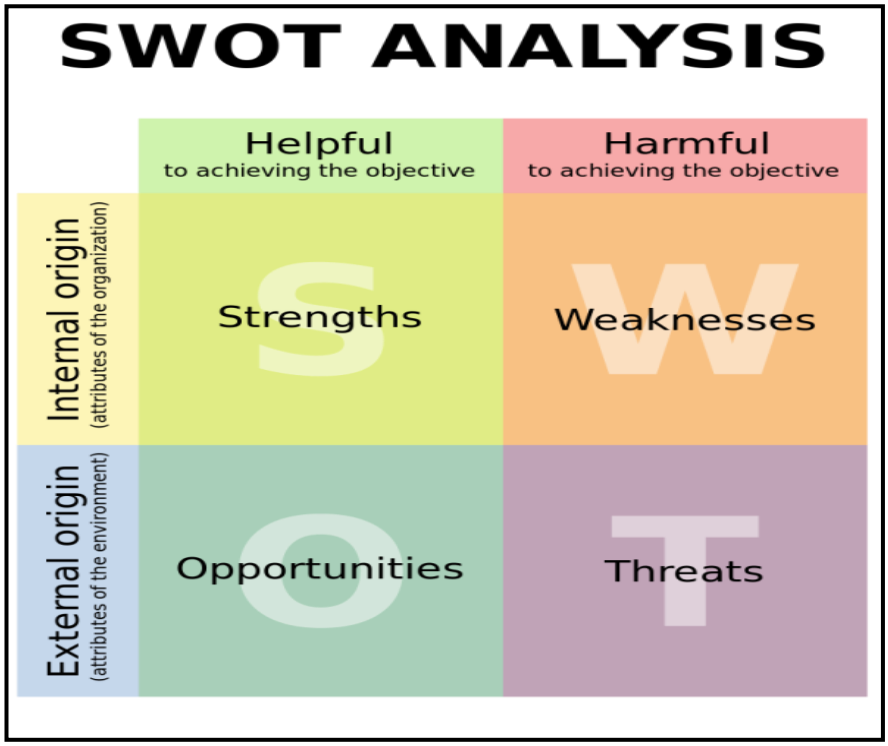



*Figure 21 SWOT Analysis*

## 4.1 SWOT ANALYSIS

SWOT Analysis is a useful technique for understanding Strengths and Weaknesses of town, and for identifying both the Opportunities open to town development and the Threats that it may face in future. With some minor re-framing of SWOT Matrix with different aspect, We've presented analysis as follows:

**Table 28: SWOT Analysis**

| STRENGTH | WEAKNESS | OPPORTUNITY | THREATS |
|---|---|---|---|
| **Manpower** | Unawareness-illiteracy, lack of skill | Skilled- Carpentry, Plumbing, Masons, Metal craft, Weaving baskets, | Migration |
| **Agriculture** | Topography, Un Irrigated land, Unawareness, lack of access to market | Cattle farming, Maize farming, Millet farming, Vegetables-Potatoes, Onions, beans | Technology, lack of market, |
| **Stone Quarrying** | access to quarry, lack of consumers around, | Slates, aggregates, flag stone, Magnesite. | Land slide |
| **Forest** | Dependency of people on forest for fire wood, depleting forest coverage, inefficient forest user groups | Lokta paper, Nigalo, Pigmentation plant, Wood, Cattle grass, Herbs | Wild animal, climate change, crime prone zone, fire hazard. |
| **Infrastructures (Accessibility, Education, health and others)** | Topography | Service center for five VDCs for health, education, agriculture extension and other services | Poor linkage, mobility and accessibility. |
| **Tourism** | Poor Accessibility, Poor Hotel and other services | Increase in foreign currency, enhance in multiplier effect of economic activities. | Increase in environmental pollution, grow in negative tourism. |

As a potential market town and in the locus of touristic destination, Chaurjhari bears some good opportunities to be developed as business and touristic town. Chaurjhari is expected to serve the gateway commercial town where as in aspect to the service providing aspect, Health and education are some strategic aspects of the town.

## 4.2 FIELD ANALYSIS

From the first day of field visit and informal interviews that we've conducted, we've found two kind of city lying in Chaurjhari Municipality. One is typical rural town another is urban town with all the facilities that is available in bigger cities. Most people are not aware about the ambitious project hence are trying to migrate to other cities where land mafia has already distorted the economy causing the unnatural speculation of prices. Chaurjhari-Municipality has been the market area for more than 20 years. Chaurjhari is well facility with road accessibility and market opportunity. It is obvious that the town territory delineated at the moment is not complete on its own as the development aspects are to be scattered as per the suitability of project and availability of resources and opportunity. Another positive response that we got from local people is that they want to see their city as clean and healthy city unlike other unplanned city. Awareness of future problem will let

them to accept some basic facts as; following bye-laws, working together to clean their city and following other basic manners for the citizen of healthy city.

While doing field survey, some of the smaller markets were afraid of the big city plan will replace them. Later on they convinced that the project is for all and should be planned by collaborative effort of all.

## 4.3 TREND ANALYSIS

It shouldn't be difficult to identify the changing land use of the Chaurjahari-Municipality Region. With the recent years or after 2010, market area has boomed and land use change is at its peak without any proper guidelines. Increasing number of houses built at the region and development of Nayabasti as land pooling area are some of the observable features in the picture.

Expansion of Chaurjahari bazaar with high density is also the character of expanding market. With every new year, green agriculture land are destroyed and are converted into building plot haphazardly. It is usual trend of haphazard urbanization as observed in any other city. Roadside market development is another urbanization trend of cities in Nepal which is also observed in Chaurjahari-Municipality.. High yielding cultivable lands are in verge of conversion to urban plots unless controlled by urban bye- laws. Migration from Chaurjahari and and other VDCs from neighborhood is one of the major factor for increase in population and growing market area.

## 4.4 LOGICAL FRAMEWORK APPROCH (LFA)

| 1 ROAD | | | | |
|---|---|---|---|---|
| **DESCRIPTIONS** | | **INDICATORS OF ACHIEVMENT** | **MEANS OF VERIFICATIONS** | **ASSUMPTIONS** |
| **GOALS** | Safe and Convenient movement of goods, Services and people in the Project area and periphery | Ease on modes of transportation in the Project area and its periphery | City profile, DDC / VDCReport, DoR/DTMP Report, Traffic report. I/NGO's Reports / HDI Reports | Approval and Implementation of IDP |
| | | Interlinkage of Chaurjahari Municipality andwith nearby cities | | Prioritization of IDP |
| **OBJECTIVES** | Public Transportation Enhancement | Affordable, easy accessible and reasonable travel time | City profile, DDC / VDCReport, DoR/DTMP Report, Traffic report. I/NGO's Reports / HDI Reports | Effective local governance |
| | Road accesiblity to every households | Maximum households are within 200 m distance of moterable roads | | People's willingness |
| | Enhancement of interlinkages with nearby cities | Increased interconnectivity of the city and flow of goods, services and people | | Approval and Implementation of IDP |
| | Prioritize on Peoples friendly inclusive road networks | People friendly walking | | Awareness level of people and willingness. |
| | Terrain friendly roadwork development | Walkable road connection and easy acess in high difficult terrain | | |
| **OUTPUT** | Planned road network within city in different heirarcy | Defined Heirarchial road pattern / road laid as per GLD and Land pooling | City profile, DDC / VDCReport, DoR/DTMP Report, Traffic report. I/NGO's Reports / HDI Reports | Strong local governance and prioritization of project |
| | Public transportation within and among cities | Preparation of MTMP | | Efficiency and effectiveness of implementing institutions |
| | Busstops and Busparks along different localities without disturbing the old market area. | Upgradation of Existing Bus parl along with new bs parks in different places | | Prioritization of the project |
| | Connection of Chaurjahari Municipality andwith nearby VDCs and within each settlement of Chaurjahari Municipality and VDC's. | Road connections including | | Prioritization of IDP and Budget allocation |
| | Pedestrian/ Disabled group and terrain friendly transportation planning | Footpaths and cycling tracks for flat terrains and walking trails on difficult terrain | | Awareness level of people and willingness. |
| **ACTIVITIES** | **TYPES** | **INPUT/RESOURCS** | **COST/SOURCES** | |
| | 1. Improvement of road networks and Preparation of M/TMP | | | |
| | 2. Construction and Expansion of road system by Landpooling and GLD roads | | | |
| | 3.Urgent Construction of Road structures and road furnitures including bicycle lanes and foot paths | | | |
| | 4.Maintain and synchronise traffic lights through Government and Private sectors | | | |
| | 5.Construction of road connectings Chaurjahari Municipality andto all nearby VDCs | | | |
| | 6.Construction of RC, Suspension and suspended bridge for quick accessibility | | | |
| | 7. Programs on public awareness | | | |

| 2 WATER SUPPLY | | | | |
|---|---|---|---|---|
| **DESCRIPTIONS** | | **INDICATORS OF ACHIEVMENT** | **MEANS OF VERIFICATIONS** | **ASSUMPTIONS** |
| **GOAL** | To provide clean and safe water in adequate quantities | Safe, reliable and affordable water supply | Report from DDC/VDC, DWSS, DWSSO and CBO's, HDI, I?NGO's | Approval and Implementation of IDP |
| | | Water supply facility to all HH | | |
| | | | | Availability of water supply in nearby areas |
| **OBJECTIVES** | Increase water availability and access by 80 per cent by 2017 | 24 hours access to clean hygienic water supply for Every households | Report from DDC/VDC, DWSS, DWSSO and CBO's, HDI, I?NGO's | Prioritizing projects and Budget allocation |
| | Reduce incidences of waterborne diseases by 60% by 2017 | Participation of individal HH and community in Rain water harvesting | | Availability of open space and extensive public participation in rainwater harvesting |
| | Prevention of water contamination and pollution and Reduce the distance to the nearest water point from the current point of average of 3 km to 1km by 2017. | Ease for travellers for drinknig water and washing | | Prioritizing projects and Budget allocation |
| | | | | |
| **OUTPUT** | Adequate safe, reliable and affordable water supply facility | 100(lpcd) hygienic water supply (18-24 hours per day) | Report from DDC/VDC, DWSS, DWSSO and CBO's, HDI, I?NGO's | Budget allocation and project prioritizations. |
| | Rain water harvesting provision in HH and community level | Each household will have rain water harvesting system and community will have water storage for community purpose | | Extensive public contribution and participation |
| | Water supply for private, institutional and industrial purpose | Water supply for cleaning roads, greeneries and fire fighting | | Budget allocation and project prioritizations. |
| | Public taps for drinking water and washing | Public taps installed on major junctions and important locations | | Connections of water supply from nearby source |
| | Storage tank of 12mlpd required | | | |
| **ACTIVITIES** | **TYPES** | **INPUT/RESOURCS** | **COST/SOURCES** | |
| | 1.Construction and expansion of Water supply Projects | | | |
| | 2. Adopt water recycling at a large scale through Water treatment plant | | | |
| | 3.Water harvesting directives to be included in planning for all city developments for Rain water to be stored in community and HH level | | | |
| | 4.Public tabs installed along necessary junctions | | | |
| | 5.Provision of hose pipe along the roadside for cleaning, fire-fighting, greeneries and others. | | | |
| | 6.Programs on public awareness | | | |

| 3 Drainage & Sanitaion | | | | |
|---|---|---|---|---|
| **DESCRIPTIONS** | | **INDICATORS OF ACHIEVMENT** | **MEANS OF VERIFICATIONS** | **ASSUMPTIONS** |
| **GOAL** | | | Report from DDC,VDC, DWSS, RWSSP, NWSC, DDC, STWSSSP | Implementation of IDP |
| | Clean, Safe and affordble, sustainable sanitation and terrain friendly drainage system | Provision of sustainable sanitation and drainage system for all HH | | Budget allocation |
| | | | | |
| **OBJECTIVES** | Efficient and effective sewer and drainage networks in the city | | Report from DDC,VDC, DWSS, RWSSP, NWSC, DDC, STWSSSP | Availability of technology and skilled manpower |
| | Toilet facility in every household and insititution equipped with Septic tank | All houses and institutions with toilet and septic tank | | Monitering by concerned authority |
| | | | | |
| | Make the city "Open Defecation Free Zone" | Clean, green and healthy city | | Use of public toilets by people |
| | To aware people about healthy sanitation and drainage system. | People motivated toward cleaning their own city | | Budget allocation |
| **OUTPUT** | Each HH and Institution with toilet and Septic Tank | 100% HH with proper toilet and septic tank | Report from DDC,VDC, DWSS, RWSSP, NWSC, DDC, STWSSSP | Monitering by concerned authority |
| | Drainage and Sewerage lines installed along the road side of capacity as per demand | Integrated sewerage system | | Budget allocation |
| | Drain water treatment plant installed at the exit of drainage | Use of drain water in various purpose | | Availability of technology and skilled technicians |
| | Easily accessible public toilets in public spaces | Open defecation free city | | Maintenance issue |
| | Strom water drainge | No collection of rainwater on road | | Maintenance issue |
| **ACTIVITIES** | **TYPES** | **INPUT/RESOURCS** | **COST/SOURCES** | |
| | 1.Mandatory toilet with septic tank in every buildings | | | |
| | 2.Upgrade existing sewerage systems including Drainage and sewerage pipe along the roads | | | |
| | 3.Installation of Sewer pipeline network and Localise sewer treatment units | | | |
| | 4.Set up public toilet in public zone. | | | |
| | 5.Programs on public awareness through Radio/TV Bradcasting/Publicity | | | |
| | 6.Use modern technology and Adopt the 3Rs (reducing, recycling, and reuse of waste) | | | |

| 4 Solid Waste Management (SWM) | | | | |
|---|---|---|---|---|
| **DESCRIPTIONS** | | **INDICATORS OF ACHIEVMENT** | **MEANS OF VERIFICATIONS** | **ASSUMPTIONS** |
| **GOAL** | Systematic, effective and sustainable management of soild waste | Clean and Healthy city with sustainable solid waste management | Report from DDC,VDC, DWSS, RWSSP, NWSC, DDC, STWSSSP | Approval and Implementation of IDP |
| | | Participatory approach of SWM with Refine, Recycle, and Reuse (3R) concept | | Availability of landfill site |
| **OBJECTIVES** | Extensive reduce, reuse and recycle of solid waste (3R) | Production of energy from solid waste | Report from DDC,VDC, DWSS, RWSSP, NWSC, DDC, STWSSSP | Efficiency of bio gas on winter season |
| | Maintaining clean and healthy environment by minimizing adverse effect of the soild waste in public health and environment | 100% houses to be provided with dustbin to separate degradable and non degradable waste | | Use of separate dustbin for separate waste |
| | Effective management of sanitary land fill site and organic | Clean city without dumping of solid waste on road side | | Project prioritization and Budget allocation |
| | Aware people about importance of 3R concept in SWM and promote community involvement in SWM | People aware about 3R concept and practising sustainable SWM practices | | |
| | Strong institutional mechanism for SWM | Strong municipality | | |
| **OUTPUT** | Sanitary land fill site | Landfill site at the valley (Pass) of Bismar and Bhawareta | Report from DDC,VDC, DWSS, RWSSP, NWSC, DDC, STWSSSP | Budget allocation and project prioritizations. |
| | Bio gas installed | Functional SWM units in Chaurjahari Municipality and and sorrounding VDC | | Operation of bio gas on winter season |
| | Clean city with properly laid out dustbin on road side | 100% of HH waste collected in Chaurjahari Municipality and and sorrounding VDC | | Peoples participation |
| | Community participation extended, Waste collection activities coordinated | Proportion of potential waste reduced, reused and recycled | | |
| | | | | |
| **ACTIVITIES** | **TYPES** | **INPUT** | **PRECONDITIONS:** | |
| | 1.Promote bio gas installation and penalties on public disposal of solid wastes | | | |
| | 2.Provision of separate dustbin for HH for degradable and non-degradable waste | | | |
| | 3.Proper selection of sanitary land fill site | | | |
| | 4.Awareness campaign and program on 3R's and segregation of solid waste | | | |
| | 5.Formation of capable SWM committee on Chaurjahari Municipality andand sorrounding VDC | | | |
| | 6.Promote reuse and recycling | | | |
| | 7.Annual and Long Term strategy for SWM | | | |
| | 8.Privatisation of SWM | | | |

| 5 Electricity and Communication ( E & C ) | | | | |
|---|---|---|---|---|
| **DESCRIPTIONS** | | **INDICATORS OF ACHIEVMENT** | **MEANS OF VERIFICATIONS** | **ASSUMPTIONS** |
| **GOAL** | Develop quality, reliable, and resilient electricity and communication infrastructure, connecting with the national grid | Universallly available electricity facility and promotion of renewable source of energy in household and instituional level | Reports from MoIF, Nepal electricity authority (NEA), Nepal Telecom,DDC, VDC etc | Implementation of IDP |
| | | Increase universal and affordable accessiblity of internet and communication | | Budget allocation |
| **OBJECTIVES** | Access of affordable internet and communication facility | Each and every locality facilitated with internet & telecommunication | Reports from MoIF, Nepal electricity authority (NEA), Nepal Telecom,DDC, VDC etc | Availability of technology and skilled technicians |
| | Connecting national electricity grid with the microhydro development of Chaurjahari Municipality andand sorrounding VDC | Exchange of electricity with national and local grids. | | |
| | Qualitative and Reliable street lights and WiFi in major public locations | Solar street lights and wifi spots in public locations | | Maintenance issue |
| | Promote renewable energy | Mandatory and incentivized renewable energy policy | | Effectiveness of renewable sources |
| **OUTPUT** | public and private ISPs | Quality, affordable and reliable internet and communication facility | Annual report from Nepal electricity authority (NEA), Alternative energy and promotion center ( AEPC), VDC profile, DDC Profile , Nepal telecom, FM Stations | Surveillance from concerned authority |
| | Solar lighting on roads and public spaces | Sustainable energy source for public use | | Operation on adverse weather |
| | Smart Grid infrastrucutre | Encouragement for public in sharing extra generated electricity | | Budget allocation |
| | Incentives for renewable energy usage | Public motivated for renewable energy | | Budget allocation |
| | Involvment of private sector | Waste conversion to energy | | Availability of technology and skilled technicians |
| | Promotion of radio stations | FM stations as the source of entertainment and awareness | | |
| | Wifi Hotspots in public spaces | Easily acessible internet for public | | Maintenance issue |
| **ACTIVITIES** | **TYPES** | **INPUT/RESOURCS** | **COST/SOURCES** | |
| | 1.ST and LT program for Promoting private and government sector for qualitative internet and communication facility | | | |
| | 2.Formulating Energy Policy for promoting renewable energy sources in public and private usage | | | |
| | 3.Investing and Planning for smart grid electricity infrastructure | | | |
| | 4.Solar lights installed on roads and other public spaces | | | |
| | 5.Upgrading electricity infrastructure | | | |
| | 6.Promoting and Monitoring FM stations | | | |

| 6 EDUCATION | | | | |
|---|---|---|---|---|
| **DESCRIPTIONS** | | **INDICATORS OF ACHIEVMENT** | **MEANS OF VERIFICATIONS** | **ASSUMPTIONS** |
| **GOAL** | To develop Chaurjahari Municipality andas educational hub | Good educational facility to cater surrounding VDCs | City Profile, DoE report, VDC report, HDI report. I/NGO's Reports | Lack of budget and prioritization<br>Effective Implementation of IDP |
| **OBJECTIVES** | To literate all the citizen of the city | 100% literacy rate | City Profile, DoE report, VDC report, HDI report. I/NGO's Reports | |
| | Gender equity in education | Girls equally literate as boys | | Prevailing gender discrimination |
| | To ensure all the children to complete a full course of primary schooling | All children completing at least primary school | | Surveillance by concerned authority |
| | Education for all | 100% children attending school | | Awareness and adaptation of new technological innovation in education |
| | Promote education for physically and mentally challenged children | Increase in number of physically and mentally challenged students | | Government prioritization and budget allocation |
| | To promote distance learning and digital education system | Use of digital instrument for scientific teaching method | | Government prioritization and budget allocation |
| **OUTPUT** | Senior citizens and Women Eduation Program | 100% literacy rate | City Profile, DoE report, VDC report, HDI report. I/NGO's Reports | Budget allocation and project prioritizations. |
| | Girl's education Prioritization | Increase in number of girls attending school | | Budget allocation |
| | Establishment of primary secondary and higher secondary schools | Increase in number of school | | People participation |
| | Establishment of good colleges with diversed program | Increase in number of college | | Involvement of private sector |
| | Inclusive education policy promoting backward groups | Poor and dalit students attending school | | Government prioritization and budget allocation |
| **ACTIVITIES** | **TYPES** | **INPUT/RESOURCS** | **COST/SOURCES** | |
| | 1.Awareness campaign | | | |
| | 2.Governmental support to open primary secondary and higher secondary schools | | | |
| | 3.Establishment of primary secondary and higher secondary schools | | | |
| | 4.Establishment of good college for higher education by government and private sector | | | |
| | 5.Cross-subsidies for poor and dalit students in terms of book, dress and Tiffin | | | |
| | 6.Cross-subsidised education for poor and dalit with established VDC fund | | | |
| | 7.Agricultural and livestock resource center at Purkot and Ghosha respectively. | | | |

| 7 HEALTH | | | | |
|---|---|---|---|---|
| **DESCRIPTIONS** | | **INDICATORS OF ACHIEVMENT** | **MEANS OF VERIFICATIONS** | **ASSUMPTIONS** |
| **GOAL** | Affordable, accountable, qualitative and accessible universal health-care facility to be provided for every citizen. | Effective and affordable health services for all citizens | Report from DHO, MoH, HDI, Census data, HDI report. I/NGO's Reports | Approval and Implementation of IDP |
| | | | | Budget allocation |
| **OBJECTIVES** | Reduce dependency to Dolpa , myagdi, Baglungg, Salyan and Kathmandu for health facilities | Increase in number of patient from Gorkha, Tanahu and Manang | Report from DHO, MoH, HDI, Census data, HDI report. I/NGO's Reports | Budget allocation for campaign |
| | Qualitative health facility with facilities of health educations | Increase in awareness level | | Budget allocation |
| | Easy, affordable and accessible health facilities. | Accees of All citizens to health facility | | Availability of land for industrial zone |
| **OUTPUT** | 50-100 Bed District Hospital with paramedical health education facility | Established of hospital | Report from DHO, MoH, HDI, Census data, HDI report. I/NGO's Reports | Availability of Land and Priority of National government |
| | Qualitative Health Posts in each wards | Established health post in all wards | | Regular monitoring and evaluation of health facilities |
| | Private sectors involvement in health facilities. | Establishment of private clinics, hospitals, camps and other health facilites | | Feasibiliy of investment |
| | Health Campaigns for awareness and camps for periodical health check-ups | Establishment of periodic camps and campaigns | | Budget allocation |
| | Control of STD's | Decrease in number of STD's patient | | Availability of technology and precautions |
| | Control of epidemics and communicable disease | Control of epidemics and communicable disease | | Availability of technology and precautions |
| | Free open defecation area | No open defecation | | Provision of toilets in open spaces and public areas |
| | Subsidized health facilities for economically deprived community | 100% citizen with health facility | | Budget allocation |
| **ACTIVITIES** | **TYPES** | **INPUT/RESOURCS** | **COST/SOURCES** | |
| | 1.Upgrading district hospitals to 50 bed with paramedical health educational facility | | | |
| | 2.Establishment of atleast one qualitative health post in every VDC and public toilets | | | |
| | 3.50 Bed hospital establishment with private or community appraoch | | | |
| | 4.Subsidizing health services for economically deprived group | | | |
| | 5.Paramedical college associating with existing hospital at Bhawareta | | | |
| | 6.Program and campaign regarding health education | | | |
| | 7.Organizing free medical camps periodically | | | |
| | 8.Free distribution of precautions for STD's | | | |
| | 9.Program and campaign regarding safe and healthy eating and drinking habits | | | |
| | 10.Precautions and measures to stop the epidemic and communicable disease | | | |

## 8 SECURITY AND SAFETY

| DESCRIPTIONS | | INDICATORS OF ACHIEVMENT | MEANS OF VERIFICATIONS | ASSUMPTIONS |
|---|---|---|---|---|
| **GOAL** | Safe and secure Chaurjahari City environment | Safe, secure and crime free city | GoN Reporta, HDI report, Municipal report, city profile, Traffic Record, local police record,I/ NGOs working for safe and secure environment | Implementaion of IDP<br>Budget allocation |
| **OBJECTIVES** | Community Involvement in Resident Safety | Participatory city safety and security programme | GoN Reporta, HDI report, Municipal report, city profile, Traffic Record, local police record,I/ NGOs working for safe and secure environment | |
| | Community and city police around the city | Involvement of community and police working hand to hand for city safety and security | | Availability of skilled manpower |
| | Promote vehicular safety | Safe Mobility | | Availability of proper road network in the city |
| | Promote Building safety | Implementation of bye-laws | | Monitoring by concerned authority |
| | Promote safety from natural and manmade disasters viz.Land slide, Floods, Fire, Epedemics and Accidents | Effective emergency response | | Avaiability of technology and manpower |
| **OUTPUT** | Integrated city surveillance | City regularly monitored by security personnels | GoN Reporta, HDI report, Municipal report, city profile, Traffic Record, local police record,I/ NGOs working for safe and secure environment | Availability of technology and skilled manpower |
| | Lighting facilities installed on city spaces | Safety for women, children and others while walking on public space | | Level of maintenance |
| | Pedestrian friendly planning and regular monitoring on vehicular safety | People friendly mobility and safetly in mobility | | Provision for pedesterian and cycle lane |
| | Strict implementation of bye-laws | Safe building construction practices | | Monitoring by concerned authority |
| | Identifying open spaces and establishment of emergency response team | Emergency evacuation space or used for open space | | Distribution of open space |
| | Community and city police coordinating for city safety and security | Responsive policing service | | Availability of skilled manpower |
| **ACTIVITIES** | **TYPES** | **INPUT/RESOURCS** | **COST/SOURCES** | |
| | 1.Improvement of survilience by Strengthen and broaden safer cities program and Local security management mechanisms | | | |
| | 2.Solar lights on roads and other public spaces | | | |
| | 3.Create employment for the youth and establish registration centres for the jobless youth – cottage industries | | | |
| | 4.Constructing Separate lanes for pedestrians and vehicular mobility and Community participation on neighbourhood safety | | | |
| | 5.CCTV surveillance to be installed in the city and Fire fighting facility | | | |
| | 6.Establishing police station / booths in city pockets and Establish crime prevention strategy and Emergency Response team for Disaster | | | |

| 9 RECREATION | | | | |
|---|---|---|---|---|
| **DESCRIPTIONS** | | **INDICATORS OF ACHIEVMENT** | **MEANS OF VERIFICATIONS** | **ASSUMPTIONS** |
| **GOAL** | Recreational facilities for all | Access to the recreation facility regardless of physical ability, financial resources, or residence location. | GoN Reports, HDI report, Municipal report, city profile, Traffic Record, local police record, I/ NGOs working for Entertainment/Greenary Development | Implementation of IDP<br>Budget allocation |
| **OBJECTIVES** | Provide access to all people | Green parks and open spaces accessible to all | GoN Reports, HDI report, Municipal report, city profile, Traffic Record, local police record, I/ NGOs working for Entertainment/Greenary Development | Implementation of IDP |
| | Green parks, Play grounds and open space around the city | Safe and secure green pockets around the city, Minimum 5% of total city area | | Maintenance of green spaces |
| | Promote sports and recreation facility around VDC's of Dolpa, Rolpa, jajarkot and Salyan | People visiting to Chaurjahari Municipality andfor sports and recreation | | Budget allocation |
| | Develop Chaurjahari Municipality andas base station before reaching Rara Lake | Increase in number of tourist | | Infrastructural development |
| | Promote Movie Theatre and other modern entertainment centers | Flow of people at Chaurjahari Municipality andfor entertainment | | Culutral degradation |
| **OUTPUT** | Parks and open spaces at every neighborhoods of the town | Center for recreation and outing for local people | GoN Reports, HDI report, Municipal report, city profile, Traffic Record, local police record, I/ NGOs working for Entertainment/Greenary Development | Avalability of open space |
| | Strategic plans for Sports and recreation at nearby VDCs and Districts | Increase in sports infrastructure and open space to settlement ratio | | Budget allocation |
| | Identified recreation zone for daily purpose in closer proximity of settlements | Emergency evacuation zone | | Avalability of open space |
| | Development of plans for recreational open space with community participation | Active involvement of Private and Public | | Surveillance by concerned authority |
| | Increase participation of public and private parties in recreation industries. | Active public participation in management and operation of public space | | |
| **ACTIVITIES** | **TYPES** | **INPUT/RESOURCS** | **COST/SOURCES** | |
| | 1.Land acquisition for open spaces and green parks | | | |
| | 2.Master plan for parks, reserves | | | |
| | 3.Establishment of resorts and hotels for tourist | | | |
| | 4.Formation of community groups for managing parks and spaces | | | |
| | 5.Promotion of water based adventure tourism | | | |
| | 6.Develop proper trekking route | | | |
| | 7.People friendly city design with vegetation around the streets | | | |

## 10 FINANCIAL PLAN

| DESCRIPTIONS | | INDICATORS OF ACHIEVMENT | MEANS OF VERIFICATIONS | ASSUMPTIONS |
|---|---|---|---|---|
| **GOAL** | Restructuring the financial framework of the city to address the financial sustainability | Efficient and effective financial status of city | Reports from TDC/ Municipality, Budget spent on infrastructure (DUDBC/MOFALD), TAX and Land reveneu, Land reforms and survey department, Report from FNCCI, NGOs Working in the economic /Financial sector | Strong, effective and efficient local government, good governance, participation in taxation by public |
| **OBJECTIVES** | Modern taxation | Coverage of larger business group under taxation | Reports from TDC/ Municipality, Budget spent on infrastructure (DUDBC/MOFALD), TAX and Land reveneu, Land reforms and survey department, Report from FNCCI, NGOs Working in the economic /Financial sector | Good governance, effective implementation of taxation, support from central government. |
| | Alternative source for resource mobilization and asset management | Innovative tax collection system so as to make equitable participation in taxation | | Experts involvement in tax reforms and support from local & National government |
| | Participation of all stakeholders in financial planning | Participatory taxation | | Good governance, strong institutional capacity. |
| **OUTPUT** | Introducing Modern/Scientific land and property taxation | Integration of larger property under value based taxation | Reports from TDC/ Municipality, Budget spent on infrastructure (DUDBC/MOFALD), TAX and Land reveneu, Land reforms and survey department, Report from FNCCI, NGOs Working in the economic /Financial sector | Good governance, effective implementation of taxation, support from central government, expert's team in integrating innovative taxation in city development, Strong institutional capacity. |
| | Increase scope of taxation of local government | Increase in tax collection | | |
| | Collection of impact fee from polluting industries | Discouraging the polluting Industries | | |
| | Provision of E-Taxation | Efficient and effective financing | | |
| | Effective monitoring and implementation of financial plan to meet target | Effective collection of taxation | | |
| | Private sector friendly financing model | Increase in investment and business | | |
| **ACTIVITIES** | **TYPES** | **INPUT/RESOURCS** | **COST/SOURCES** | |
| | 1.E-Taxation for increasing transparency | | | |
| | 2.Implementation of combined property tax | | | |
| | 3.GIS Mapping within the city | | | |
| | Provision of Impact fee (Pollution tax) | | | |
| | Asset management | | | |
| | Borrowing, Grants and Funds fro different Stakeholders | | | |
| | Provision of tax relief/exemptions | | | |
| | Extending territory of local taxation | | | |

| 11 ECONOMIC | | | | |
|---|---|---|---|---|
| DESCRIPTIONS | | INDICATORS OF ACHIEVMENT | MEANS OF VERIFICATIONS | ASSUMPTIONS |
| GOAL | To develop Chaurjahari Municipality andas economically sutained region and economic center for nearby VDC's | Employment generation | Report from Ministry of Finance,CBS, HDI ,DDC/ VDC,I/NGO's report | Approval and Implementation of IDP |
| | | Increase in GDP | | Budget allocation |
| OBJECTIVES | Promote sustainable economy | Increase in export of local products | Report from Ministry of Finance,CBS, HDI ,DDC/ VDC,I/NGO's report | |
| | Generate employment for people within VDC's | Increase in IN-migration for job opportunities | | People's mentality toward foreign country |
| | To promote trade linkage with Jajarkot, Dolpa, Salyan, Maygdi, Rolpa and other districts | Accessible roads and storage centers | | Road construction in terrane |
| | To alleviate absolute poverty | No absolute poverty | | Budget allocation |
| | To promote economic growth | Engagement of deprived group and women in economic activity | | Lack of participation of deprived group |
| OUTPUT | Establishment of industries for employment generation | Storage facility, Special Economic zone (SEZ) | Report from Ministry of Finance,CBS, HDI ,DDC/ VDC,I/NGO's report | Not enough resource |
| | "Central Business district(CBD)" as the single step solution for bigger market and economic transaction | Establishment of CBD and market zone | | Lack of space for market center |
| | Road connection with nearby cities | Employed people | | Lack of skilled manpower |
| | Subsidizing livelihood and promoting business for economically backward groups | Equitable economic development of all citizens | | Lack of new techniques and technology |
| | Promotion for agricultral and livestock industries | Increase in agricultural and livestock | | |
| ACTIVITIES | TYPES | INPUT/RESOURCS | COST/SOURCES | |
| | 1. Establish/strengthen the links between informal and formal (e.g., garbage collection, prevention of communicable diseases, water, and sanitation) | | | |
| | 2.Create designated business premises for garages, stalls, etc. | | | |
| | 3.Construction of export/import transfer station | | | |
| | 4.Provide necessary access to markets for businessmen and clients | | | |
| | 5.Promote exporting local goods and services | | | |
| | 6.Promote new technology and techniques in agricultural activity | | | |
| | 7.Upgrade existing market/ build open air market | | | |
| | 8.Introduce modern urban farming; greenhouses, poultry | | | |
| | 9.Monitoring for control of illegal market | | | |
| | 10.Provide both open air and closed modern markets | | | |

| 12 INSTITUTIONAL | | | | |
|---|---|---|---|---|
| **DESCRIPTIONS** | | **INDICATORS OF ACHIEVMENT** | **MEANS OF VERIFICATIONS** | **ASSUMPTIONS** |
| **GOAL** | Strengthen Institutional capacity and efficient mobilization of resources | Effective and efficient Local government | Reports from MoFALD, Public response, Annual report from DDC/VDC, TDC andreport from important INGOs and NGOs working in the field of Governance, Municipal development annual report. | Willingness of bureaucratic system and support from local people |
| **OBJECTIVES** | Accountable, Responsible, Transparent and efficient government offices | Ease and efficiency in public works | Reports from MoFALD, Public response, Annual report from DDC/VDC, TDC andreport from important INGOs and NGOs working in the field of Governance, Municipal development annual report. | No intervention from political groups and strong government |
| | Monitoring and Evaluation | Better results in development works | | Strong legal framework co-operation from NGOs, INGOs |
| | Promoting e-governance for efficient governing | Less paper works and fast public works | | Adaptation of technological advancement |
| **OUTPUT** | Comprehensive plans | No duplication of work | Reports from MoFALD, Public response, Annual report from DDC/VDC, TDC andreport from important INGOs and NGOs working in the field of Governance, Municipal development annual report. | Strong local government and legal framework |
| | Exchange of information and knowledge through common platform | Increase in efficiency and quality of public works | | Willingness and participation of bureaucratic system |
| | Integrated service through single window system | Ease and effective government service | | Improvement in legal framework for co-ordination among different sectorial agencies |
| | Regular monitoring and evaluation of Institutional bodies with reference to public opinion | Work completion in time and reduction in corruption | | |
| | Increased efficiency of government employees | Public friendly service | | Willingness and participation |
| | Devolution of resources for the implementation of plans | Ease in implementation of plans and execution of projects | | Efficient use of resources |
| **ACTIVITIES** | **TYPES** | **INPUT/RESOURCS** | **COST/SOURCES** | |
| | 1.Provide Education and capacity building for Participatory Integrated development plan | | | |
| | 2. Establish communication centres for Common information sharing platform | | | |
| | 3.Create an active interactive website to Minimize Paper work and single window system for similar or interlinked work | | | |
| | 4. Establish information and intelligence gathering systems for Regular trainings and knowledge exchange workshops | | | |
| | 5.Separate authority for monitoring and evaluation of government works for quality and timely completion. | | | |

| 13 ENVIRONMENT | | | | |
|---|---|---|---|---|
| DESCRIPTIONS | | INDICATORS OF ACHIEVMENT | MEANS OF VERIFICATIONS | ASSUMPTIONS |
| GOAL | To promote environment friendly and Sustainable development in Chaurjahari | Eco friendly and Sustainable infrastructure development | Reports from Deparment of Environment, Department of Forests, city profile, Department of | Approval and Implementation of IDP<br>Budget allocation |
| OBJECTIVES | Environment friendly and sustainable development | Sustainable development | Reports from Deparment of Environment, Department of Forests, city profile, Department of Hydrology and Metrology, City Profile, DDC/VDC, DoR and I/NGO's | Approval and Implementation of IDP |
| | Low carbon emission | High reduction on carbon emission | | Availability of alternatives |
| | To protect natural resources , especially water bodies, forest and agriculture resources. | Preserved water bodies, forest and agricultural land | | Implementation of land use plan |
| | To promote open spaces and green areas within the city | eco friendly development | | Maintenance of open spaces |
| OUTPUT | Sufficient Open spaces around city with road side plantation | Follow of ROW and buffer spaces | Reports from Deparment of Environment, Department of Forests, city profile, Department of Hydrology and Metrology, City Profile, DDC/VDC, DoR and I/NGO's | Maintenance and care of plants |
| | Pederstiran friendly city promoting electric vehicles and cycles | Increase in environment friendly transportation mode | | Public preference |
| | Preserved Conservation zone for natural resources in Land Use Plan | Preserved forest | | Surveillance by concerned authority |
| | Preserved agricultural land | Increase in agricultural product | | Surveillance by concerned authority |
| | Separate industrial zone separated with buffer zones | Use of treatment plant, Promoting low carbon emitting technologies | | Availability of space |
| ACTIVITIES | TYPES | INPUT/RESOURCS | COST/SOURCES | |
| | Scientific land Use Planning | | | |
| | Plantation along the road side and Buffer zone along the rivers | | | |
| | Sufficient buffer zone development in forest areas | | | |
| | Protect agricultural land by Laws | | | |
| | Proper zoning of the lands | | | |
| | Provide park and plant tree in open spaces | | | |
| | Promotion of reduce, recycle and reuse | | | |

| 14 DISASTER | | | | |
|---|---|---|---|---|
| **DESCRIPTIONS** | | **INDICATORS OF ACHIEVMENT** | **MEANS OF VERIFICATIONS** | **ASSUMPTIONS** |
| **GOAL** | Safe, Secured and Resilient urban people and areas. | Safe building construction practices | Report from MoUD, MoHA, DWIDP ( Water induced disaster), Daibi Prakop Uddar Samiti, District Administration Office, Department of Soil Conservation (DOSC), Department of Hydrology and Meteorology (DOHM), and Reports of I/NGO's | Approval and Implementation of IDP |
| | | Emergency response team and evacuationzones within the reach of community | | Effectiveness of local government and active community participation |
| **OBJECTIVES** | Effective Risk sensitive land use plans and Bye-laws Implementation | Landuse and Byelaws implementation | Report from MoUD, MoHA, DWIDP ( Water induced disaster), Daibi Prakop Uddar Samiti, District Administration Office, Department of Soil Conservation (DOSC), Department of Hydrology and Meteorology (DOHM), and Reports of I/NGO's | Evidence based planning with information regarding disaster history and possibilities |
| | Enhanced preparedness and adaptive capacity of the local government, community and public | Participatory approach of disaster risk reduction and mitigation plan | | Availability of skilled manpower to train others |
| | Disaster responsive urban design and Constructions | Open spaces and disaster evacuation zones within the neighborhood | | Availability of evacuation areas, safe shelters and water source for fire station |
| **OUTPUT** | Rapid hazard appraisal technique, multi-hazard map of all urban areas. | Prepared Hazard maps and use in land use plans | Report from MoUD, MoHA, DWIDP ( Water induced disaster), Daibi Prakop Uddar Samiti, District Administration Office, Department of Soil Conservation (DOSC), Department of Hydrology and Meteorology (DOHM), and Reports of I/NGO's | Budget allocation and project prioritizations. |
| | RSLUP , Byelaws and effectively implementation | Implementation of RSLUP | | Effectiveness of local government |
| | Identified Open spaces and disaster evacuation zones in each neighbourhoods | 100% easy and timely access to designated emergency area in case of disaster | | Community involvement and Local government |
| | Safe building code implementation | Effective integration of byelaws in building practices | | Willingness and participation of public |
| **ACTIVITIES** | **TYPES** | **INPUT/RESOURCS** | **COST/SOURCES** | |
| | 1.Preparation of multi hazard map and RSLUP | | | |
| | 2.Byelaws implementation | | | |
| | 3.Identification of high-risk areas in all urban areas and relocating disaster prone settlements | | | |
| | 4.Awareness campaign | | | |
| | 5.Mandatory enforcement of land use regulation, by-laws and building code in all urban areas | | | |
| | 6.Plan and implement appropriate periodic drills | | | |
| | 7.Proper Infrastructure Development with Proper Design respect to terrain | | | |
| | 8.Enhance human resource and institutional capacity | | | |
| | Policies for restriction of development on slope greater than 30 degree | | | |

| 15 CLIMATE | | | | |
|---|---|---|---|---|
| DESCRIPTIONS | | INDICATORS OF ACHIEVMENT | MEANS OF VERIFICATIONS | ASSUMPTIONS |
| GOAL | To design climate-responsive Infrastructure development and building environment | Climate responsive built environment | Report from Meteorological Forecasting Division, DOE, city profile, Department of Hydrology | Approval and Implementation of IDP<br>Budget allocation |
| OBJECTIVES | To mitigate climate change impact, and promote adaptation strategies | Increase in level of awareness of public | Report from Meteorological Forecasting Division, DOE, city profile, Department of Hydrology and Metrology, Analysisi of Climatic change data over period of time, and Reports fro I/NGO's | Budget allocation for campaign |
| | Minimize formation of heat island and Glacial Lake OutBurst Floods | No formation of heat island | | Impact of global warming |
| | To enhance the effectiveness, efficiency and safety of mitigation processes | Use of effective technology | | Availability of land for industrial zone |
| OUTPUT | Awared publics | Level of awareness of public | Report from Meteorological Forecasting Division, DOE, city profile, Department of Hydrology and Metrology, Analysisi of Climatic change data over period of time, and Reports fro I/NGO's | Budget for program and campaign |
| | Climate responsive use of material | Wise selection of materials in built environment | | Availability of climate responsive material |
| | To provide basic amenites within walking distance | Basic need within walking distace | | Implementaiton of IDP |
| | Less formation of micro climate | No micro climate formation | | Impact of global warming |
| | Adaption of green archiecture | Green architecture around the city | | Implementaiton of bye laws |
| | Sufficient Ground water recharge and Timely rainings | Increase in ground water table | | Material used in roads and pavements |
| | Separate industrial zone | Land use adaption | | Availability of land for industrial zone |
| ACTIVITIES | TYPES | INPUT/RESOURCS | COST/SOURCES | |
| | 1.Public awareness campaign | | | |
| | 2.Updating the climatic data | | | |
| | 3.Develop pedesterian friendly roads | | | |
| | 4.Water recharging pavements | | | |
| | 5.Land use zoning with buffer around the industrial zone | | | |
| | 6. Sufficient Parks and green buffer around roads | | | |
| | 7.Promotion of energy efficient architecture | | | |
| | 8.Promotion of renewable energy | | | |
| | 9. Promotion of Organic development with resect to terrain | | | |

| 16 TOURISM AND CULTURE | | | | |
|---|---|---|---|---|
| **DESCRIPTIONS** | | **INDICATORS OF ACHIEVMENT** | **MEANS OF VERIFICATIONS** | **ASSUMPTIONS** |
| **GOAL** | To make Chaurjahari as a leader Eco tourism | Increase in number of tourist | Reports from Ministry of Culture, Tourism and Civil Aviation (MoCTCA), DDC,VDC, Tourism information center,I/NGO's | Implementation of IDP |
| **OBJECTIVES** | To make tourism the key source of revenue and To make Chaurjahari a leading tourism destination | Increase in tourist to visit livestock,agriculture production and micro hydropower stations | Reports from Ministry of Culture, Tourism and Civil Aviation (MoCTCA), DDC,VDC, Tourism information center,I/NGO's | Budget allocation |
| | Develop Chaurjahari as the base station for (Non Timber Forest Products) NTFP | Development of Chaurjahari Municipality andas few day stay spot before going to Dhorpatan Huntung Reserve | | Availability and identification of touristic spot |
| | | | | |
| **OUTPUT** | Establish and promote resource center for livestock, agriculture and micro hydropower stations | Established infrastructure | Reports from Ministry of Culture, Tourism and Civil Aviation (MoCTCA), DDC,VDC, Tourism information center,I/NGO's | Budget allocation |
| | Identification of hiking trails, touristic spots and adventurous sports in tourism. | Increase in touristic destinations | | Availability of touristic spots |
| | Promoting toursim friendly hospitality and investment in tourism sector | Hospitable touristic environment, with job opportunity generation | | Willingness of private sector to invest |
| | Integrated institutional body comprising of stakeholders from different sectors (I/NGOs, Local people and other stakeholders) | Strong monitoring and evaluation mechanism for promoting tourism and culture. | | |
| | Regular inspection of quality of services delivered for tourism development | Quality assurance for services provided to tourists | | Availability of skilled manpower |
| **ACTIVITIES** | **TYPES** | **INPUT/RESOURCS** | **COST/SOURCES** | |
| | 1. Create new roads and bridges and improve on existing ones. | | | |
| | 2.Establish cultural centres and other tourism activities. | | | |
| | 3.Allocate a percentage of its budget to tourism infrastructural development. | | | |
| | 4.Quality control mechanism through joint commission for tourism development | | | |
| | 5Train community especially youth on conservation and tourism. | | | |
| | 6.Develop tourism marketing strategy/plan. | | | |
| | 7. Offer incentives for investors in low end facilities | | | |
| | 8. Enact appropriates laws and regulation | | | |

## 4.5 INTEREGIONAL LINKAGE

One of the important aspect this IDP is to grow the town with ambitious target of making it habitable space for around one lakh population. It is well known fact that it is only possible with induced development plans. It is also necessary to understand, most of the people flowing to the region are from the nearby VDCs or from nearby districts. Hence, study of the linkage has been done with aspect of flow of good and flow of people. Basically, Chaurjhari Municipality is a market center or some kind of gateway town for nearby VDCs and other neighboring districts. Furthermore IDP will help to develop Inter Region as well as Intra regional Development in all aspects of the development.

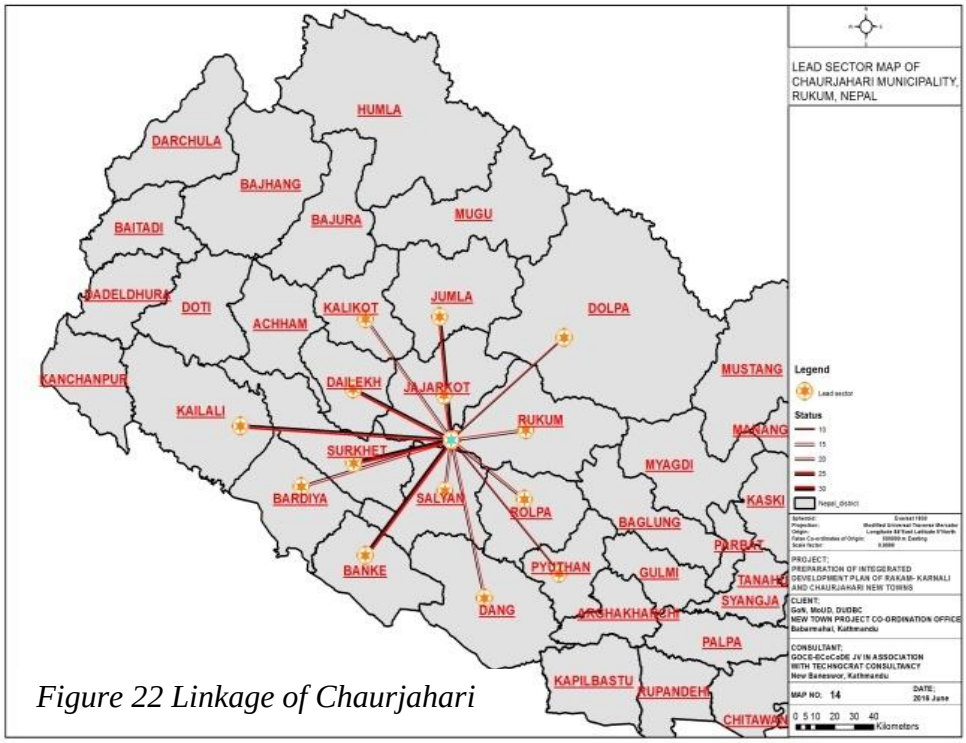



*Figure 22 Linkage of Chaurjahari*

## 4.6 VISION SETTING

One of the most important part of field visit after the data collection was the vision setting of the new town. As the planner, we've taken this task as the preparation of long term strategic vision planning, which will basically form the structural guide for the development of the town. It is expected that long term vision set during the project will be considered as the basic development strategy for next 20-30 years' development plan. Major strategic roads, width of road, size of development blocks and land use plan for major plots are some important aspects which will define the project's future. Some of the lead sectors are identified with the local participation and with the planning workshop carried out in different stages of the time. It is important to consider the fact that government is planning to invest billions of rupees for the sake of resilient healthy city which can accommodate around 1 lakh population and serve as the iconic model city to future development of other cities in Nepal. Vision workshops were carried on Ashad 13 and 14 (June 27/28, 2016), on presence of municipal representatives, representative from district development office, representative from other development departments, local political leaders, representative from local news, community, ethnic groups, women groups and youth groups. It was a fruitful discussion that we had regarding the opportunity and long term vision of the town.

We started with the presentation of the town profile documents which we had collected from the focused group survey, key informant survey and other different modes of data collection. We basically focused on the key opportunity that the town can explore on emerging as the model city and challenges that it would face on its way.

On the first day of the meeting, we made the participant in the workshop aware about the opportunity that the town can explore and weakness that it is facing like: haphazard urbanization and unsafe building practices. We also listened to the voices from the local leaders, intellectual

personality in the town, their expectations and their suggestions. It was an important practice of public participation where we made them aware about the opportunities and involved them in identifying lead sectors for future development. It is important to consider the fact that the intense degree of enthusiasm from local people would certainly help to stimulate the consultant in identifying more opportunities and explore in the direction. We had some fruitful discussion regarding identifying the lead sectors and some of the projects that could have longer and significant impact on the development of the town. Main theme of the meeting was to set the vision.

**Vision**

The NT / Municipal vision is still "To Be the Best Together" and the strategic goals are:

1. To ensure efficient and affordable basic services to all residents & migrants in new towns.
2. To strengthen the economy of NT for sustainable growth and job creation.
3. To develop a municipal / NT governance system that complies with international best practice.
4. Create an institution that can align planning with implementation of effective and efficient service delivery; and
5. To be a financially viable institution geared to providing affordable and sustainable services to the residents of the Chaurjahari Municipality.

## 4.7 LEAD SECTOR IDENTIFICATION

From the analysis of different opportunities and possible threats, we've concluded the lead sectors for Chaurjhari Municipality as:

- Commerce
- Health and Education
- Tourism

As for the longer period of time, Chaurjhari Municipality has been serving as the market center for nearby VDCs,,. With the advantage of highway linkage, it has got tremendous opportunity to serve as the commercial town where it can serve as the supply center for nearby VDCs Developing it as the commercial town will certainly help to create job opportunities and attract larger group of population.

Another important lead sector that we identified and endorsed with the public was Health and Education. For every city to be self-sufficient, basic social infrastructure are the must but in case of Chaurjhari-Municipality it is must to focus on Health and Education. One city can't be self sufficient unless it is equipped with good health and education facilities. Recent projects like medical college and technical institutes have boosted the logic behind the identification. As for now, people of Chaurjhari Municipality have to visit Surkhet or Nepalgunj for better health facilities, even for some minor surgery as well. Hence, a good medical facility will definitely help to increase the sufficiency of the town and help to attract bigger mass for the services. Similar is the case with education, where at present people of the town have to go Surkhet, Nepalgunj, Kathmandu or other places for better higher education. It is assumed and as a matter of fact as well that, good investment in these two sectors and promoting the R&D (Research and Development) in the field of health and education will definitely help to promote the new town development agenda of Chaurjhari Municipality.

Concept of tourism in Chaurjhari Municipality is dialectical on its own. From one perspective it is seen as the touristic base point for nearby touristic destination as Sisne mountain, Syarpu Lake and Rara Lake. Another perspective declines the possibility of staying at Chaurjhari Municipality or considering it as the base point. Practically it is not feasible to consider Chaurjhari as the base point for these touristic destinations but with proper intervention in the growth pattern and developing it as the healthy, clean and resilient city will definitely help to increase the possibility.

## 4.8 LONG TERM VISION

At last the vision was finalized as;

"नँया सहर नगरवासीको एउटै रहर

सुन्दर, शान्त एव प्राकृतिक सम्पदाले भरिपूर्ण चौरजहारी नगर"

"MODERN DEVELOPED TOWN, AN ASPIRATION OF THE PEOPLE,

PEACE, BEAUTIFUL AND PROSPEROUS CHAURJAHARI TOWN"

### 4.8.1 IDENTIFIED PROJECTS

As in line with lead sectors and long term vision, we gathered in the second day of workshop to ask their projects demands. We made them aware about the fact that projects must have direct linkage with the identified lead sectors and for long term vision. In the different thematic categories and with different priority of lead sectors, projects were identified.

**Table 30: Different thematic categories and with different priority of lead sectors**

| | Physical | Social/Economic | Cultural / Tourism |
|---|---|---|---|
| **Commerce and others** | • Bridge construction<br>• Land pooling projects<br>• Ring road<br>• Commercial Trade center<br>• Industrial belt at the northern part and center periphery Modern Buspark | • Dumping Site | • Culture Center |
| **Health and Education** | • Medical college<br>• Technical College<br>• Park construction | • Bio and Agro Park<br>• Agro center | • Cultural: Center |
| **Tourism** | • Tourism Promotion | • Developing home stay touristic | • Water way |

Easy availability of flat land toward Municipality has been one of the most positive aspect for Chaurjahari Municipality. Amongst the different projects, to fulfill the long term vision of the town as commercial town, commercial hub center has been proposed. It is s expected to boost the economy. Linkage of these locations to the highway is being made with the road connection developed by Armed Police Force. To develop the town as the center for education and health, 2 education institutions have been proposed at Municipality. Hence with all those project enlisted, Consultants intends to prepare Base Map Updating work for Chaurjahari Municipality.

# 5. TRANSPORT MASTER PLAN

Urban transportation provision is mainly to improve accessibility of the people to markets and services; and promote economic activities through employment generation and marketing of local products. In context of Nepal, a fixed point system model is adopted for networking where junctions

are confined to a finite set of locations such as markets, historical/archeological locations.

## 5.1 ACCESSIBILITY SITUATION

Chaurjahari Municipality is rich in existing and proposed road networks comprises 2 numbers of strategic roads, 1 numbers of class A municipality roads and 10 numbers of class-B municipality roads. According to municipality sources 28 km graveled and 56 km earthen road, 31.85 Km class A-22m RoW municipality road, 28.37 km class B-14m RoW municipality road, 23.67 km class C-10m RoW municipality road, 12.33km class D-6m RoW municipality road and 214.59km existing foot trail scattered over the municipality should widen by GLD, having 8m Right of Way.

## 5.2 ZONE OF INFLUENCE AREA

National Transport Policy has considered 30 minutes walking distance as the zone of influence (ZoI). Mainly influencing factors such as a) existence of rivers and b) existence of river crossing facilities were used in determining the ZoI. The zone of influence area is determined by two ways concerning the road facility viz. all weather and fair weather service.

According to GIS analysis all potential centers and market centers have been covered by all weather as well as fair weather roads.

## 5.3 DELINEATION OF ACCESSIBLE AREA

Delineation of accessible within ZoI is carried out using the GIS Model for Strategic roads and municipality roads in three different categories viz. 20 minutes.

From the accessibility analysis, approximately 55.16% of people and 49.19% of the areas coverage are within ZoI for strategic road network. Similarly, 62.98% of the areas coverage and 61% of people are within ZoI for strategic and municipality road networks (Table 5.1 and 5.2). This indicates that at present existing and proposed road networks cover almost all areas and population accessible to motorable roads. However, there are still some area and population mainly of hill part of municipality to be linked by new motorable road network.

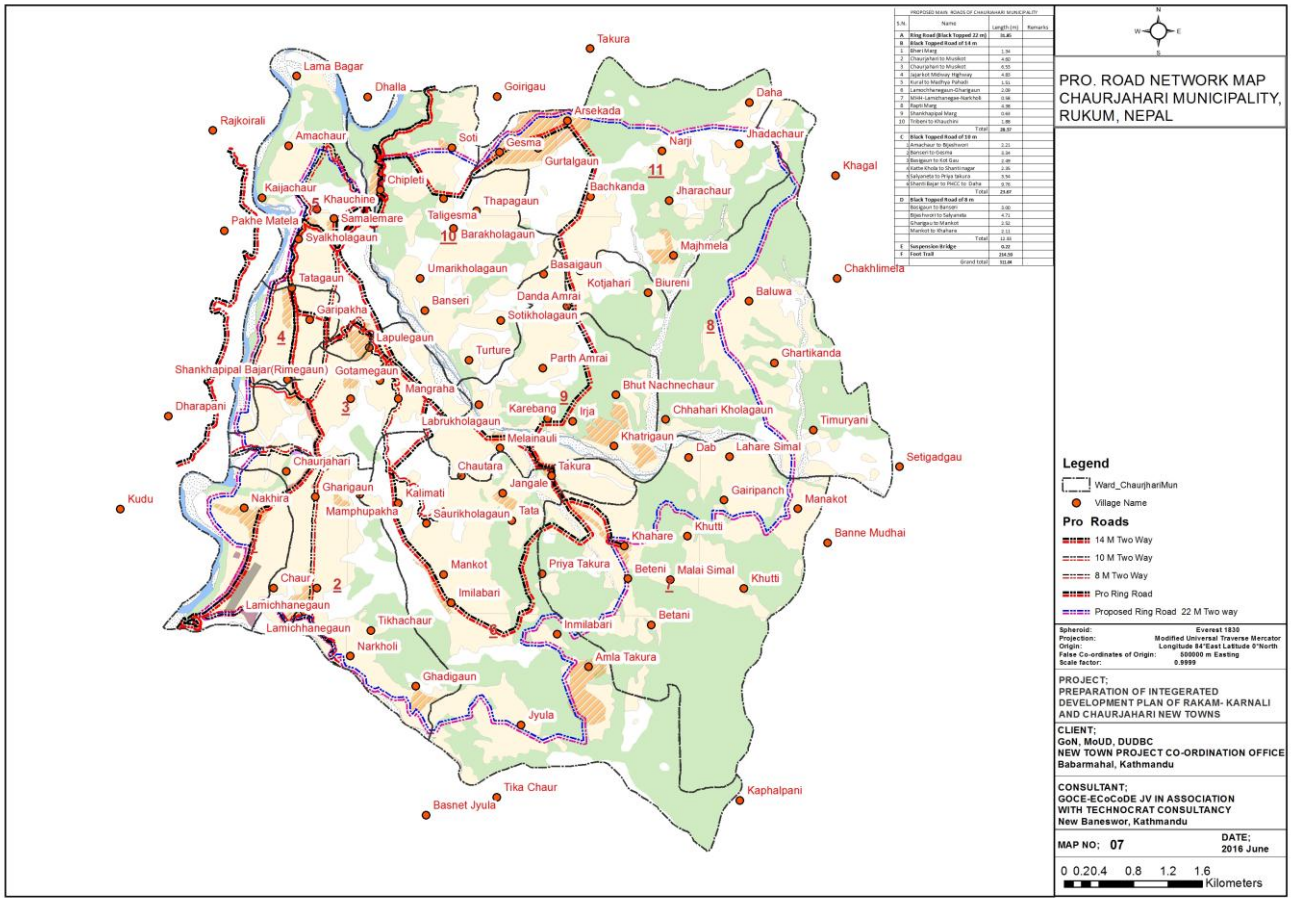
**Table 5.1 All Weather Accessibility with respect to Area Coverage, and Population Coverage**

| Walking Time | Population | Population % | Area coverage excluding forest (Sq.Km) | Area excluding forest % |
|---|---|---|---|---|
| 30 minutes | 8,163 | 55.16 | 18.20 | 49.19 |

**Table 5.2 All weather and Fair Weather Accessibility with respect to Area and Population Coverage**

| Walking Time | Population | Population % | Area coverage excluding forest (Sq.Km) | Area excluding forest % |
|---|---|---|---|---|
| 30 minutes | 9,321 | 62.98 | 21.57 | 61 |

## 5.4 PROPOSED ROAD NETWORK OF CHAURJAHARI MUNICIPALITY

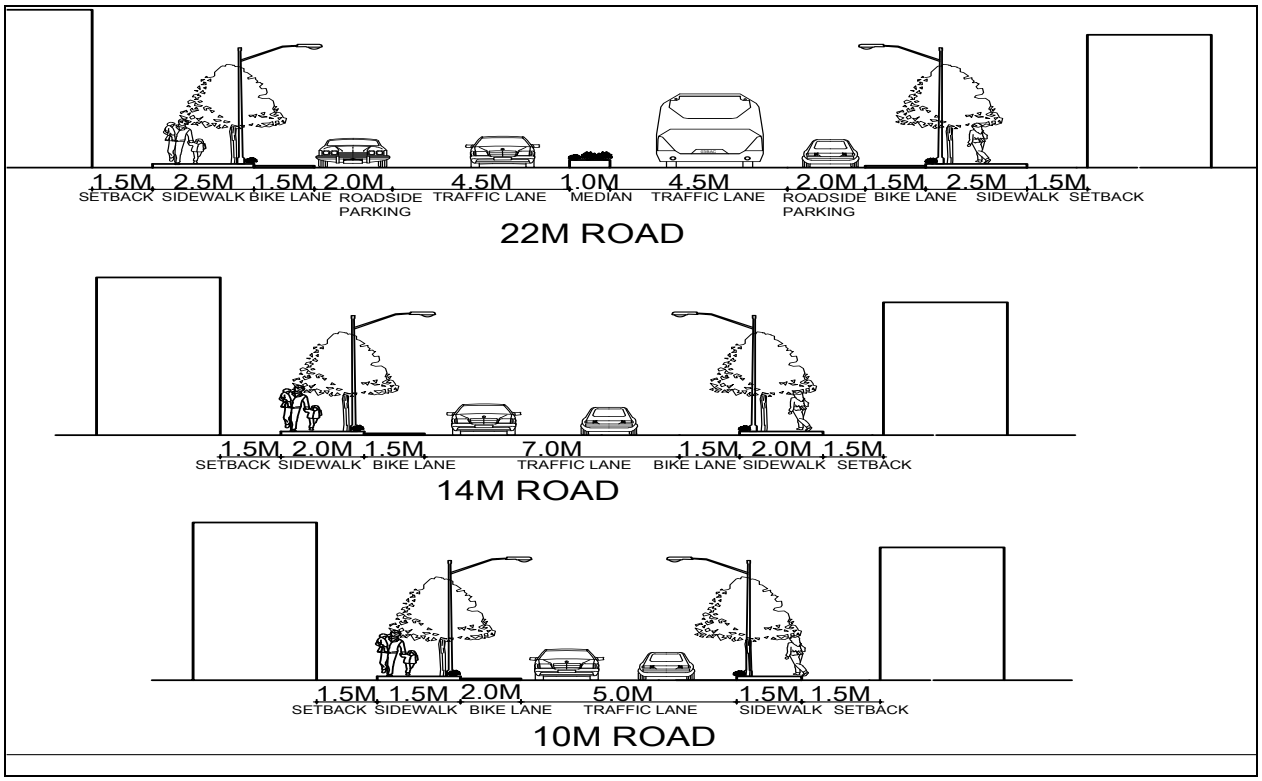



| Road name | ROW (m) | Total length (Km) | Upgrade (km) | New Construction (km) |
|---|---|---|---|---|
| **Class-A (22m Row) upgrade to Black Topped** | | | | |
| Ring Road | 22 | 31.85 | 12 | 19.15 |
| **Class - B (14m RoW) Upgrade to Black Topped Road** | | | | |
| Bheri Marg | 14 | 1.341 | 1.341 | - |
| Chaurjahari to Musikot | 14 | 4.6 | 4.6 | - |
| Chaurjahari to Musikot | 14 | 6.529 | 6.529 | - |
| Jajarkot Midway Highway | 14 | 4.831 | 4.831 | - |
| Kural to Madhya Pahadi | 14 | 1.512 | 1.512 | - |
| Lamochhanegaun-Gharigaun | 14 | 2.089 | 2.089 | - |

| Road name | ROW (m) | Total length (Km) | Upgrade (km) | New Construction (km) |
|---|---|---|---|---|
| MHH-Lamichhanegaun-Narkholi | 14 | 0.58 | 0.58 | - |
| Rapti Marg | 14 | 4.379 | 4.379 | - |
| Shankhapipal Marg | 14 | 0.627 | 0.627 | - |
| Tribeni to Khauchini | 14 | 1.883 | 1.883 | - |
| **Class - C (10 m RoW) Upgrade to Black Topped Road** | | | | |
| Amachaur to Bijeshwori | 10 | 2.211 | 2.211 | |
| Banseri to Gesma | 10 | 3.336 | 3.336 | |
| Basigaun to Kot Gau | 10 | 2.486 | 2.486 | |
| Katte Khola to Shanti nagar | 10 | 2.349 | 2.349 | |
| Salyaneta to Priya takura | 10 | 3.537 | 3.537 | |
| Shanti Bajar to PHCC to Daha | 10 | 9.755 | 9.755 | |
| **Class - D (8 m RoW) Upgrade to Black Topped Road** | | | | |
| Basigaun to Banseri | 8 | 2.996 | | 2.996 |
| Bijeshwori to Salyaneta | 8 | 4.708 | | 4.708 |
| Gharigau to Mankot | 8 | 2.523 | | 2.523 |
| Mankot to Khahare | 8 | 2.106 | | 2.106 |
| **Class - E (6 m RoW) Upgrade to 6m wide Road , GLD** | | | | |
| Foot Trail | 6 | 214.592 | | 214.592 |

Note; Foot Trail detail name are in Annex as existing road name.

**Map showing typical cross section of the road in differerent Right of Way (RoW)**




## 5.5 SUMMARY OF MAJOR ROADS WITH COSTING

| Road name | ROW (m) | Total length (Km) | Upgrade (km) | New Construction (km) | Total Cost in Million (NRs.) |
|---|---|---|---|---|---|
| **Class-A (22m Row) upgrade to Black Topped** | | | | | |
| Ring Road | 22 | 31.85 | 12 | 19.15 | 477.75 |
| **Class - B (14m RoW) Upgrade to Black Topped Road** | | | | | |
| Bheri Marg | 14 | 1.341 | 1.341 | - | 16.092 |
| Chaurjahari to Musikot | 14 | 4.6 | 4.6 | - | 55.2 |
| Chaurjahari to Musikot | 14 | 6.529 | 6.529 | - | 78.348 |
| Jajarkot Midway Highway | 14 | 4.831 | 4.831 | - | 57.972 |
| Kural to Madhya Pahadi | 14 | 1.512 | 1.512 | - | 18.144 |
| Lamochhanegaun-Gharigaun | 14 | 2.089 | 2.089 | - | 25.068 |
| MHH-Lamichhanegaun-Narkholi | 14 | 0.58 | 0.58 | - | 6.96 |
| Rapti Marg | 14 | 4.379 | 4.379 | - | 52.548 |
| Shankhapipal Marg | 14 | 0.627 | 0.627 | - | 7.524 |

| Road name | ROW | Total length (Km) | Upgrade (km) | New Construction (km) | Total Cost in Million (NRs.) |
|---|---|---|---|---|---|
| Tribeni to Khauchini | 14 | 1.883 | 1.883 | - | 22.596 |
| **Class - C (10 m RoW) Upgrade to Black Topped Road** | | | | | |
| Amachaur to Bijeshwori | 10 | 2.211 | 2.211 | | 22.11 |
| Banseri to Gesma | 10 | 3.336 | 3.336 | | 33.36 |
| Basigaun to Kot Gau | 10 | 2.486 | 2.486 | | 24.86 |
| Katte Khola to Shanti nagar | 10 | 2.349 | 2.349 | | 23.49 |
| Salyaneta to Priya takura | 10 | 3.537 | 3.537 | | 35.37 |
| Shanti Bajar to PHCC to Daha | 10 | 9.755 | 9.755 | | 97.55 |
| **Class - D (8 m RoW) Upgrade to Black Topped Road** | | | | | |
| Basigaun to Banseri | 8 | 2.996 | | 2.996 | 23.968 |
| Bijeshwori to Salyaneta | 8 | 4.708 | | 4.708 | 37.664 |
| Gharigau to Mankot | 8 | 2.523 | | 2.523 | 20.184 |
| Mankot to Khahare | 8 | 2.106 | | 2.106 | 16.848 |
| **Class - E (6 m RoW) Upgrade to 6m wide Road , GLD** | | | | | |
| Foot Trail | 6 | 214.592 | | 214.592 | 1287.552 |

## 6. DEVELOPMENT PLANS

**Directive principles/ parameters:**

Chaurjahari is an already developed town with limited availability of land for development. Chaurjahari lacks the availability of developable flat as only around 400 hectare of land is available which is permissible developable area considering parameters of: No forest land / natural conservation area and No land greater than slope of 30 degrees.

In the case of Chaurjahari, a mountainous town along mid-hill highway is expected to cater at least 1 lakh population in next 20 years. In the mean time, to develop Chaurjahari as a sustainable city, following are the directive parameters:

- People
- Inclusiveness
- Disaster Resilient
- Flexibility and
- Economically vibrant city

Hence, in order to achieve these targets of sustainable city, some of the strategies and directive principles of planning have been taken as the basic principles as follows:

**City for All: Chaurjahari for All:**

Referring to the "Goal 11" of Sustainable Development Goals' UN 2015, to make Chaurjahari city for all, the primary focus should be on safe, inclusive, accessible and affordable city, with special attention provided to children, senior citizens and persons with disabilities. thus, city for all is the concept which comprises different aspects such as right provided to pedestrians, opens spaces, emphasis given to public vehicles than private, disabled friendly urban design and all others aspect, which make city for all regardless of their gender, economic status, caste, age group and physical abilities.

Considering the importance of shorter commuting distance and high quality transit, all settlements within city is interlinked with efficient transportation network and most possibly are proposed in walking distance of 5 - 10 minute. Finally, for a city being sustainable economic aspect is the most important. Hence, different economic activities are promoted through government intervention and through good corporate governance.

**People friendly neighborhoods:**

Chaurjahari cannot be a sustainable city until and unless it is related with the existing environmental and social setting and changes that is going to happen in coming years. No city should be utopian in its aspect. House should look and response like the house, so, Chaurjahari should behave like that has evolved within.

**Modern transit:**

No city can be complete with its infrastructure and high quality transit system will definitely help to increase the fringe of the city. With its linkage with neighboring VDC's and Municipalities Chaurjahari will definitely broaden its accessibility with the national or international market. High quality linkage needn't be of road connection, as with the increase in technological advancement, other Cable cars or elevator system could be considered as another option. Thus, within the city as well, high quality transit is must to stimulate the local economy.

**Walkability and Connectivity:**

Chaurjahari is in the high terrain, it is important to understand that, it might be possible to develop a city, which is more walk able and interconnected. Communities should be pedestrian-oriented, with daily needs situated within easy and enjoyable walking distance of each other. Important land uses

within the perimeter of 2 Km radius would make the ideal concept of walk able city, which is beneficial not only in terms of energy and easiness, but in broader social coherence. To promote this access, residential, commercial, recreational, and civic uses should be connected by both public and private transportation options.

**Sustainable water sources:**

Supply of easy accessible potable water within affordable range is one of the challenges in every city building. The current and long-term availability of water should be treated as the vital starting point of any decision making in urban issues. With increase in hard surfaces hindering the natural water recharge system, it might create problem in regional or sub-regional level, hence it is incorporated in earlier plans and policies of this design.

**Sustainable land use zoning:**

A good land use zoning is important reflection of the character of urban form and size. Sustainable land use zoning could be expressed in different issues starting with natural resource management, transportation and connectivity of the city. A land use zoning could guide the development of city within the principles of inclusiveness, resilience, flexibility, environmentally sensitive and economically vibrant.

**Opportunistic city:**

A town of merely 10 thousand scattered populations with decreasing population growth rate needs something reviving and some external development intervention to make it compact city of 100 thousand populations in next 20 years. Unlike other cities along MHH, it is important to understand that Chaurjahari lies in isolated location where other cities merely have any dependency with it has. In linkage with other VDCs, that are closer to Chaurjahari, we can consider it as a strategically important town which has its dependency from nearby VDCs and possible migration might happen from these VDCs, if not from other districts. We must understand the basic fact that city which is expected to cater population must have opportunity for people. Such opportunities are to be provided in terms of job opportunities, urban amenities, goods or any other urban services. To hold population of 1 lakh, we need to have, at least 20 thousand populations with direct job opportunities, which could be service based or industry based or entrepreneurship. It is obvious to create some secondary job opportunities in the longer run and expected to follow the trend of trickledown effect of economy. To hold the economy and keep the city moving, we must facilitate the economic booster and advance some of the important decision to make the city economically viable.

**Planning Strategies:**

All the guidelines explained as in earlier chapter will basically guide the IDP, but still there is some structural setting that needs to be addressed

**Strategic Road**

In case of strategic roads, it was well guided by the demand of social and economic context and as per guided by prevalent planning guidelines and standards. Roads were connected with each wards of VDC to its market center and connecting each important settlement.

**Land use Zonning**

Another important aspect of planning was commenced with the land use zoning of the site. With the base of separation of land into conflicting and non-conflicting zone, we identified some of the major land use classifications as residential, institutional, and commercial, CBD (Center business district), industrial zone and others. With the urbanization process, it is obvious to grow and turn into building plots, hence planning strategies is basically focusing on conservation the ecological footprint of these lands as much as possible. While identifying the built up and non-built up zones, in each built up

zones, different bye-laws are proposed, which will serve as the development control tool in terms of height, built up area and others.

**Land-Use Plan:**

It is very important to utilize the land use very wisely. The regulation of land use is a primary function of local governments but it is primarily guided by the land topography as well. These local planning departments oversee and shape much of the regulation related to land use as they address issues such as infill development, neighborhood master plans, transportation, housing, economic development, and zoning. To start with the basic framework of planning and set out the by-laws within the site, a land use plan for the Chaurjahari has been proposed, based on the existing characteristics of site, natural setting, potential and ownership, linkage with other cities and availability of developable land. Hence, to guide specific purpose of planning and promote the efficient utilization of land use, some basic zones like residential, commercial, Institutional, natural conservation, industrial and others, are proposed.

| PROPOSED LAND USE OF CHAURJAHARI MUNICIPALITY | | | | | | |
|---|---|---|---|---|---|---|
| | | Existing | | Proposed | | Change (+/-) |
| SN | LAND USE TYPE | Area (ha) | Area (%) | Area (ha) | Area (%) | Area (%) |
| 1 | Forest | 1801.62 | 35.95 | 1790.24 | 35.72 | -0.23 |
| 2 | Barren Land | 178.94 | 3.57 | 162.56 | 3.24 | -0.33 |
| 3 | Built Up | 392.56 | 7.83 | 415.85 | 8.30 | 0.46 |
| 4 | River | 60.52 | 1.21 | 60.50 | 1.21 | 0.00 |
| 5 | Cultivation Land | 2578.36 | 51.44 | 2151.27 | 42.92 | -8.52 |
| 6 | Industrial Area | | 0.00 | 27.64 | 0.55 | 0.55 |
| 7 | Urban Expansion Zone | 0.0 | 0.00 | 403.94 | 8.06 | 8.06 |
| | Total | 5012.00 | 100.00 | 5012.00 | 100.00 | |

**Open space**:

The open spaces could also be the restricted spaces which are unavailable for building construction. In case of Chaurjahari, availability of forest land also serves as the open spaces.

**Sustainable water sources:**

In most of the case of Chaurjahari, water pump system is expected to be used. Similarly, with the high terrain and difficult slope it is easier for drainage services as it is equally challenging as well.

**Walkability & connectivity:**

In most of the terrain of Chaurjahari, walking trail is proposed where at the old market at the flat terrain, more waling is promoted by discouraging vehicles with the policy approach and infrastructure approach.

**Strong sense of place:**

As already mentioned, land use plan is the function of local government. It completely depends upon local government for its implementation which is highly influenced by the different local political, social and economical aspect. With strict implementation of land use zoning, half of the planning implementation work will be done. It not only affects the land usage but overall affects the urban eco-system, in terms of transportation, natural resources, connectivity and economics. Hence, land use aspect is primarily considered as the important step of this planning process.

## 6.1 PHYSICAL DEVELOPMENT PLAN:

One of the important aspects of urban planning is its spatial dimension. Structural guidelines of any city with road, water supply and other networks could guide the urban form and shape of upcoming cities. The components of site development extend beyond building placement and configuration, including topography, surrounding uses, retaining walls, landscape design, hard cape considerations, and parking.

Physical development plan comprises of transportation plan, water supply networks, drainage and sewerage networks, solid waste management and electricity and communication plan. Physical strategic plans are basically guided by the National urban development strategy and other existing guidelines and national goals, but in case Chaurjahari we had to consider its geographical terrain as well. It was complicated aspect of the planning to accept the demand of the local people as well as provide necessary physical infrastructure which would have longer impact without loss of any irreversible investment on infrastructure.

## 6.2 ROAD NETWORK AND TRANSPORTATION PLAN

Mountain roads are typically associated with difficult ground access, numerous slope instability problems and shortages of good construction material. These conditions require carefully designed off-site drainage, erosion protection measures and identification of the best locally available materials.

As a result, design and construction of roads in this terrain requires special expertise in relation to:

- geological, geotechnical and route alignment factors
- geometric design
- slope protection and stabilization measures

One of the important aspect to be considered in the strategic level is that it's difficult geographic terrain which hinders the transportation system as well as equally provides opportunity to explore the traditional clustering of high terrain. Right of way of roads usually ranges from 10-30 meters with local to arterial, but in case of such terrain in Chaurjahari, it doesn't seem feasible. Collector roads of 14m will basically act as the arterial road of the area; where as 10 meter road will serve as sub-arterial road instead of 22 meter. Hence, it is important to promote the walking friendly terrain with at least 3 meter (10feet) width, which could be used for emergency vehicular entrance as well. Apart from the, some other strategies which are mentioned as below:

**Objective:**

- Maintain and promote connectivity with each settlement of Chaurjahari with major road of 14m (ROW).
- Promote regional linkage for trade and commerce,
- Encouraging public transportation within the city.
- Exploring new possibilities in modes of transportation like ropeways or cable cars or lift system. (Kotjahari to Bijeshowri)

## Strategy:

- Connecting city area with settlement area of each ward with arterial or sub-arterial road.
- Linkage with nearby districts/cities like Jajarkot, Surkhet, Salyan, Dolpa, Rolpa and Myagdi
- Ring road construction around the Chaurjahari market, connecting major settlements like Nauli Bajar, Narji Bajar, Ollo Bajar, Pallo Bajar, Airport Bajar, Sharma Gaun, and Ran Gaun to Chaurjahari.

- Connecting Chaurjahari market with major settlements: Simalchaur Dharigaun, Nakhira, lamichane Gaun and Rime Gaun.
- Connecting 3 hillocks with suspended bridge. Connecting: Lakule Gaun, Syal khola Gaun and Ama Chaur.
- Connecting mid hill highway with Simalchaur by Bridge construction.
- Construction of Busparks near Chaurjhari and on the way to Bijeshwori gaun at the end of old market.
- Planned development within the new settlement (Simalchaur Dharigaun, Nakhira) with minimum width of 10-meter local road, especially in case of new urban expansion zones where there is flat terrain.
- Provision of GLD for existing roads of at least 6m of roads connecting to major road of 14m RoW.
- Construction of cycle-friendly road networks with minimum width of 2 meter.
- Construction of pedestrian pathways on each local, collector and sub-arterial road, width varying as per requirement but not less than 2 meter on each side.
- Plantation of trees along the road side to provide shading for foot-travelers.
- Investment in public transportation from government or community organization. (Ring road)
- Regular monitoring and evaluation by government bodies on privately owned/managed public transportation.

With above mentioned objective and activities, sustainable transportation system has been proposed which will serve as the planned city network for inter-city and intra city network. It is important to invest on the road infrastructure but it should be long term and inclusive in manner. With the basic principle of each settlement to be connected with market center, the roads have been proposed.. It is important to consider that these roads are proposed for the longer run and as a strategic plan for 20 years accommodating more than one hundred thousand populations. Hence, phase wise development could be done as per the available budget and priority.

**Policy recommendations (Guiding Principle):**

- Primarily focus on connectivity with any modes of transportation, like pedestrian, ropeway, cable car, bridges and definitely road connection.
- The City will implement measures that will relieve pressures on the existing transportation infrastructure by approaches that include, but are not limited to:
    - Multi-modal transportation alternatives
    - Land use coordination
    - Prioritized improvements
- Consideration of engineering and planning guidelines from international cases in case of steep slope comprehensive guidelines for roads and transportation networks.
- Timely Design and improvement of its transportation system to accommodate not only existing conditions, but projected growth based on adopted City and its projections.
- Allow new development only when and where all transportation facilities are adequate at the time of development, or unless a financial commitment is in place to complete the necessary improvements or strategies.
- Encourage the location of bicycle racks at appropriate destination points, such as within the downtown, parks, schools, transit, and park and ride lots.

- Promote pedestrian walks as with the most priority followed by cycling and other motor vehicles.
- Regulatory mechanism for public transportation.

**Guidelines (Documents):**

- Minimum Basic guidelines for roadside infrastructures, bicycle tracks, pedestrian facilities, curbs, bus lay bays, lighting and drainage should be followed as per the guidelines set by Nepal Road Standard 2070. Especially in case of maximum slope and steep terrain road design.
- Furthermore, regarding the general design of urban roads: especially with pedestrian footpaths, cycle lane, bus stops, taxi stands and parking lanes, guidelines defined in "Urban Road Standards 2071: concept note" could be followed.
- If different guidelines are provisioned for same infrastructure, then the standard, which explains the pedestrian friendly transportation most, should be adopted.
- It is important to consider the limitation of availability of land and very steep slope in the town, hence road widths could be limited to two way in high terrain considering the safety aspect and social inclusion factor.

**Strategic Projects:**

Roads are important structures to set the urban forms and shape. With the consideration that the existing market is already developed and needs to be planned in order to preserve the town, the old market is proposed as the center business district where pedestrian movement is encouraged, discouraging vehicular movement. With related to the existing market area some of the projects are proposed as:

- Reviving the existing Buspark as the community parks and parking along with developing the whole surrounding settlement as vehicular calm zone. Ring-road surrounding the existing market area, running through the bank of river and surrounding through Bhabretta.
- Strategic Roads ( as shown in Map) connecting different market center and settlements.
- Bridge connecting MHH to Purtim Kanda, Sankha Pipal Bajar to Chaurjahari.
- Suspended bridge connecting Kotjahari, Naula Khola, Narchi khola.
- Pedestrian footpaths and cycle tracks on the flat terrain along the roads of market, residential areas
- Pedestrian friendly route connecting houses at the terrain slope after primarily connecting with the strategic roads.

## 6.3 WATER SUPPLY PLAN

Water supply plan is another important physical plan which matters for the long term strategy of the town. One of the major criteria for the selection of these 10 towns were availability of water resources, which obviously makes the Chaurjahari good location with sufficient attributes of water supply resources. It is important to consider as present half of the houses are accessed with water supply facility but with intermittent water supply and not all households are facilitated as well. The water supply facility is also promoted by the community approach. Public water supply facilities and water supply for city purpose are often ignored in the planning. The source of the water at the moment is entirely depended upon tow water sources: Jahari khola, For the longer run, as the town is only availed with the water source of Jahari khola it is entirely depended on water pumping system, which is to be engineered in detail manner. With the following strategic frameworks, water supply plan is proposed for the long term strategy.

**Objective (What to achieve):**

- Equitable, safe, adequate and affordable water supply facility to each households and institutions and for municipal purpose
- Sustainable water supply measures

**Strategy (How to achieve):**

- Continues water supply system installed in each household.
- Construction of treatment plant for 3million liter water per day, with area of around 30-40 Ropani. Such treatment plant and storage tanks will be constructed at the high altitude to provide continuous supply of water. Running public utilities up a slope may require additional expense as pumping stations may be required to maintain adequate pressure in the system.
- Provision of water storage from rainwater harvesting in public spaces like Buspark, parks, roadside areas and other public spaces. Such water reservoirs could be used for city cleaning process.
- Promoting rainwater harvesting in household level by subsidizing on money and technical support.
- Regular monitoring of quality of water as defined by WHO guidelines, National water quality standards 2062 or any other, which one is more effective.
- Sustainable usage of water sources and conservation of water resources from illegal encroachment.
- Control in extraction of ground water which could affect the overall water table of the region.
- Provision of public water supply in crowded area or in every settlement.
- Provision of public drinking water in public areas
- Pricing the water cost in reasonable and scientific manner
- Provision of treatment plant that makes water more acceptable for a specific end-use.
- Proper network development for effective distribution of water

Hence, to attend these objectives and goals, proper necessary activities have been approached. The strategic vision of the water supply should be guided by safe, affordable and accessible water supply to all, as in the matter we should also be aware about the sustainable need of water supply plans and conservation of the water sources. Conservation of resources in sustainable manner and efficient use of water should be guiding principle in longer run. It is also important to have some policy guidelines to which could guide in longer run for water supply plan of 1 lakh population.

**Policy recommendations (Guiding Principle):**

- Development and management of water resources shall be undertaken in a holistic, systematic manner, relying on integrated water resources management.
- Water utilization shall be sustainable to ensure conservation of the resource and protection of the environment. Each river basin system shall be managed holistically.
- Private participation will be encouraged on development, implementation, operation and maintenance of water supply and sanitation service delivery systems by fully or partially outsourcing provision of bulk water, system maintenance, management and other components of service delivery, as feasible. (GoN, MoPPW, 2009). Delivery of water services shall be decentralized in a manner that involves autonomous and accountable agencies (e.g., public, private, community and user-based agencies).

- Users involvement will be promoted through enhanced role in decision making at all levels to inculcate community ownership with aims to achieve a long term financial sustainability and consumer responsiveness in system development, implementation, operation and maintenance and effective service delivery (GoN, MoPPW, 2009)
- Poor and the marginalized sections of the communities within the project areas will be mainstreamed as valid customers for service delivery through defining pro-poor strategies for connections and sustained use of services (GoN, MoPPW, 2009). Economic efficiency and social equity shall guide water resource development
- Promotion of rain water harvesting in households, institutions and other organization.

**Strategic Projects:**

With the above-mentioned framework, it is much clear regarding the strategy of water supply. Some of the important projects identified in the short terms are shown in the map. Water supply lines laid on the urban roads along with drainage pipe are some of the primary infrastructure required for the plan. These lines are mentioned in the map and are subject to change as per the road geometry, if new settlements are growing. Bottom-line of the strategy is that, the source, storage, treatment and distribution system must demonstrate the capacity to serve future populations within the water service area with expected population of one lakh.

- Storage tank of total (1 lakhX100lpd X 2 days) 20MLD with treatment plant of capacity of 25 percentages at least.
- Water supply network to be laid as per the detailed project report of the town.
- Conservation of the water resources.
- Pumping system implemented for water lifting from the Badighat khola.

## 6.4 DRAINAGE AND SEWERAGE NETWORK PLAN

Steep slope development has the potential to start a cycle of erosion and flooding. Water that falls on forests, grass and other natural areas has a relatively high infiltration rate into the soil. Roofs, concrete, pavement and other impervious surfaces increase the amount of rainwater that runs off the land surface. On a developed slope, this runoff is often placed onto steep slopes below the house and driveway. Without appropriate measures to control the velocity or volume of the water, excessive soil erosion and increased flooding can potentially occur. The increased volume and velocity of runoff can result in erosion of stream banks as the stream begins to form a larger channel to dissipate the energy of the water. Sediment from eroding stream banks can be deposited or transported directly in the stream. Runoff from steep slopes moves at high velocity and reaches downstream areas quickly, which can result in increased flash flooding.

Sustainable sanitation for healthy, green and clean city is the goal of Chaurjahari City. As demanded by the people of Chaurjahari in many public hearings, they want the city to be free from urban pollutions. One of the major problems in the urban areas is unscientific drainage system along with unsanitary disposal of such drainage and sewerage. After development planning and construction of drainage networks in developed city is another hindrance for infrastructure development. With the goal of clean, safe and sustainable sanitation program within the reach of every citizen, some of the focus sectors have been identified. In order to protect hillside houses from landslides and water damage, drainage devices are necessary to convey storm water quickly away from manufactured slopes and houses.

**Objective (What to achieve):**

- Sanitation facilities in each household and institutions.
- Efficient and effective sewer and drainage networks within the city Open Defecation free zone

**Strategy (How to achieve):**

- Mandatory construction of toilet with septic tank/bio-gas in each household.
- Installation of drainage and sewerage pipe along the road side
- Installation of storm water drain
- Installation of water treatment plant before discharging from the outlet. Such treatment plant should be designed in more sustainable and organic manner, within the area of 5-7 Ropani.
- Promotion of organic treatment plant in institutional level for drainage treatment- Reed Bed Treatment Plant

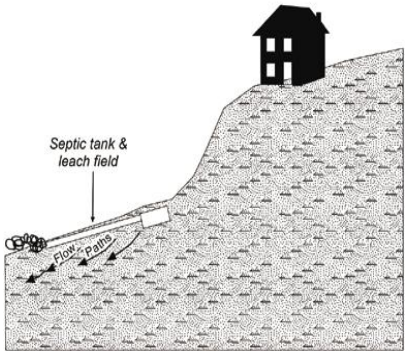



*Figure 23 How steep slopes can affect an On-Lot septic system. Source: (Lehigh Valley Planning Commission, 2008)*

**Policy recommendations (Guiding Principle):**

Some of the important guidelines for drainage and sewerage networks is guided with national goal for sanitation and other action plans. (STEERING COMMITTEE FOR NATIONAL SANITATION ACTION, 2011)

- Enhance synergy among the actors in sanitation development, including municipal government agencies, the private sector, NGOs, and others.
- Encourage the development of community-based sanitation services, especially in areas where public and private services are difficult to establish.
- Create enabling institutional and regulatory frameworks to accelerate sanitation services development.

**Strategic Projects:**

Drainage and sanitation is day to day process, hence needs to have some certain level of awareness in people. Apart from that there are some important large scale infrastructures required to control the drainage mechanism for the city including some required treatment plant. Some of the important projects are identified as:

- Design of the integrated drainage network and laying around the city considering the slope of Chaurjahari.
- Reed Bed Treatment plant in some identified location
- Proper waste water treatment plant at the outflow of the drainage system

- Construction of storm drain at the side of road.

## 6.5 SOLID WASTE MANAGEMENT PLAN

To attain the goal of systematic, effective and sustainable solid waste management, it is very important to proceed through the level of awareness of people in the town. In today's context the proper disposal of waste from household has been a major problem. So segregation of solid waste at household level is also emphasized. It is obvious that clean and dirt free Chaurjahari is envisioned by all the citizen of the city, the sustainable approach will keep city even after long run. Participatory approach of solid waste management is one of the most important aspect of implementation.

**Objective (What to achieve):**

- Extensive promotion reuse, reduce and recycle of solid waste (3R)
- Effective management of sanitary land fill site
- Strong institutional mechanism for solid waste management

**Strategies (How to achieve):**

- Promotion of 3R (Reduce, Reuse and Recycle) for solid waste management at household level
- Discouraging of roadside storage of solid waste by constructing a transfer station within the radius of 5 KM.
- Landfill site construction in valley in-between Sankha Pipli
- Efficient use of landfill site and guiding with principle of zero waste to land fill site.
- Promotion of bio-gas installation to convert degradable waste to energy.
- Strict laws for the reuse and recycling with proper SWM unit in VDCs.
- Installation of solid waste bins along the road side and in public spaces.
- Segregation of waste in household level

**Policy recommendations (Guiding Principle):**

- Separate unit exclusively working in the field of sanitation and SWM, in local government.
- Participatory approach in SWM, so that people take it as asset to their personal level rather than the liability.
- Zero waste to land fill site. Reducing the % of waste generated to the site to as low as 20%.
- Strong institutional and legal mechanism to control the solid waste mechanism. For e.g. Random dumping of the waste in roadside, rivers or any other places except designated one should be severely punishable.

With above mentioned goals and objectives, it is all aware that the city we all want to develop is the green, clean and healthy one. Out of one of the observation, the disposal of solid waste is one of the problem. Hence, good awareness of people and strong institutional mechanism could be milestone achievement in SWM. Apart from above mentioned policies, some of the important strategic projects are identified for short term and long term projects.

**Strategic Projects:**

- Awareness campaign for solid waste management.
- Identification of Sanitary land fill site of around 20 ropani, at around 10-15Km distance of the city area, which would be able to cater as much as settlements around
- Transfer station within each town area of around 5km.

- Separate unit for SWM in the local body.
- Placement of dust bins along the urban roadside and in public spaces.

## 6.6 ELECTRICITY AND COMMUNICATION PLAN

Shortage of electricity is one of the major problems in whole country. Places which are connected to the electricity line if National grid are even facing the problem of power shortage. Chaurjahari just connected to National grid as a whole is popular for having most number of river streams and potential of good micro hydro-electricity. All together 76KW (22+34+40) of three micro-hydro projects are running at the community/private level. In total, the Micro hydro powers are serving more than 800 households. The projects are mostly serving the households from ward 1, 2, 3 and 4. At the market area, during the peak hour, electricity load is not sufficient with micro-hydro. Another important aspect of modern urban planning is development of Information and computer technology .With the primary goal or providing, electricity and communication service to each individual in the town, the electricity and community plan is basically focused on optimization of resources in distribution of electricity and facilitation of communication services. Target of affordable and accessible electricity and communication are to be backed up by some objectives as follows.

**Objective (What to achieve):**

- Access of universal and affordable electricity and communication services.
- Promotion of alternative energy resources: Solar and wind energy
- Techno friendly city development

**Strategies (How to achieve):**

- Connecting power line with National grid
- Provision of smart electricity grid in each settlement for exchange of surplus energy among alternative energy and national grid. The project could be initiated as the pilot project in some of the settlement before experimenting in the whole city.
- Laying of underground wires for electricity and communication purpose.
- Subsidizing on alternative sources of energy, i.e. solar and wind energy, waste to energy and so on
- Technological upgrading of power stations and transmissions.
- Encouraging private and public sector to provide and upgrade the quality of internet and communication services.
- Promotion of FM, radio stations and other communication services through private and community participation.
- Wi-Fi hot-spots in the public spaces like bus parks, parks and other urban squares.
- Encouraging streetlights and other digital boards & devices connected with solar.

**Policy recommendations (Guiding Principle):**

- Regulation and control mechanism for leakage of electricity.
- Promoting energy efficient household or institution devices
- Mandatory provision of installing alternative source of energy for at least 25% of total energy usage in the building. Especially in case of public, institutional and commercial building.

**Strategic Projects:**

With those basic guidelines mentioned above promoting alternative energy and electrification of each household with NEA national grid, some of the important strategic projects identified are:

- Connecting the power line with National grid
- Separate substation for town as per the required electric load
- 3 Phase electricity for industrial and institutional zones as per the demand
- Working for the underground wiring for electric and communication networks
- Regular monitoring to control leakage of electricity
- Promotion from both private and public sector to convert waste to energy.

## 6.7 SOCIAL DEVELOPMENT PLAN:

In order to enhance the quality of life of every citizen of city and to provide direction for future decision-making, strategic social development plan is prepared. Social development plan is important guideline to set the framework for social amenities. Qualitative social services attract population to the town, where it might be floating population, which in longer turn turns into trickle-down effect of economy. Some of the different social sectors are explained below with their strategic plans.

### EDUCATION

The goal of Chaurjahari in educational sector is to make it the educational hub for 17 nearby VDCs. It will so develop that it will provide good educational facility to cater the surrounding VDCs. In the current scenario, Chaurjahari caters more than 2000 students, which is around 20% of whole population. These students are mainly from nearby VDCs and even from another district, Rukum. In addition, focus should be made to control the out-migration for education purpose, especially for education higher than higher secondary level. Some of the strategic objectives for the education development plan are briefed below.

**Objective (What to achieve):**

- To achieve 100% literacy in the town.
- Increase in quality of education and easily accessibility of higher and technical education.
- Education for all: regardless of sex, caste and age group.

**Strategies (How to achieve):**

- Primary and secondary education in the easy accessibility of residential neighborhoods.
- Promotion of technical education from private and government sectors.
- Institutional zoning in Land use plan especially with non-conflicting land use zones.
- Promotion of digital educations.
- Encouraging education facility for backward society, gender equity and other economically deprived groups.
- Regular inspection, monitoring and evaluation of education quality.
- Promoting higher education facility, especially above SLC.
- Provision of primary schools within travel distance of 15minute
- Provision of secondary schools within travel distance of 30minute

**Policy recommendations (Guiding Principle):**

- Cross-subsidized promotion of higher education facility.
- Education facility for Backward society and deprived group, with cross subsidies.

- Provision of proper hostels for students from other district at reasonable rate. (Student hostels)
- Involvement of different actors and stakeholders in terms of establishing technical colleges, university and other institutions.
- Government initiatives in promoting digital education
- Ensuring the qualitative education.

As true in all the regions of Nepal, education sector is mainly driven by the private sectors. Very few cases have been successful where it was started with community approach. Some of the technical educations in higher level initiated by local government or that particular community have been successful in case of KHWOPA group. One of the major role of government policies and strategies will be to encourage private sectors to invest in the field of education and monitor & evaluate the quality of education. Albeit such paradigm of education sector, there are still some of major sectors where government could invest in education sector with some strategic projects. Some of which are identified as below.

**Strategic Projects:**

- Upgrading the quality and physical infrastructure for primary and secondary schools operated by government
- Establishment of agricultural resource center at Chaurjahari and Khola Gaun.
- Establishment of livestock resource center around Chaurjahari area.
- Paramedical college associating with existing hospital at Chaurjahari
- Accommodation facility (Housing) for students and other job seekers in the town regarding education facilities.

**HEALTH**

The goal is to provide affordable, accountable, qualitative and accessible universal health-care facility for every citizen. In current scenario there is one mission hospital with 13 beds with only one permanent doctor. Apart from that, there are 2 other private hospitals with some health clinics and pharmacy. Lack of sufficient equipment and lack in power source has created major hurdle in health sector. The waste water connected to river can also lead to some epidemic disease.

**Objective (What to achieve):**

- Reduce health service dependency towards Surkhet, Nepalgunj, Dang and Lucknow,India.
- Qualitative and quantitative health facilities in the town for all.

**Strategies (How to achieve):**

- Health facilities in the close distance from residential land use.
- Upgrading the current mission hospital to 50 bed from 13 bed.
- Promoting private sectors in investing on health facilities.
- Awareness campaign regarding some of the common diseases like of STDS, and control of epidemics and other communicable disease.
- Health facilities subsidized for economically deprived people.
- At least one health care center for every 20,000 people within the accessible distance of 15-30 minutes.
- Monitoring and evaluating the health services provided by the private sectors.
- Investing in the field of research and development for health services.

**Policy recommendations (Guiding Principle):**

- Encouraging private sectors to invest in health facilities with subsidized taxation or allocating land for the investors.
- Provision of health insurance in local level with some subsidized cost and employer's contributions.
- Establishing and regulating the quality of government hospitals and health posts.
- Medical camps within the town with regular periods and awareness raising campaigns.
- Focusing on cleanliness of town by making it open defecation free zone, availability of public toilets, good SWM and other sanitation programs in the town.
- Establishment of laws for proper disposal of waste that comes from hospital

As already stated, with the national policy guidelines in the health facilities, there is very less to do with the local level or in government level. Most of the health facilities are provided with the private sectors and moderated by the government sectors. Apart from such, few leading health institutions are from the government bodies. Some of the important strategic projects are listed below.

**Strategic Projects:**

- Upgrading the existing 13 bed mission hospital to 50 bed hospital
- Awareness campaign and monthly medical camps.
- Cross subsidies for deprived group
- Paramedical college associating with existing hospital at Chaurjahari

## SECURITY

The ultimate want of any citizen is to reside in safe and secure city. Keeping this in mind the goal of Chaurjahari is set as "Safe and secure Chaurjahari city environment". Current status of crime shows that there is average number of 2-5 criminal cases recorded in the local police station with 30 police staffs. The station is located at the center of the local market. But in longer run as people migrate to this place, the security of city should be strong and it is important responsibility of the city to make the city safe, secure and comfortable for the resident of the town. To attain such need there are some of the policies that needs to be adopted in the longer run.

**Objective (What to achieve):**

- Safe and secure environment for the people
- To ensure tourist safety and security during stay in Chaurjahari
- Safety from the natural disaster and other uninvited incidents.
- Response team from community level and from city level in case of disaster incidents.

**Strategies (How to achieve):**

- Community and city policing for safety and secure local neighborhoods.
- Street lighting and CCTV cameras installed for safe cities and neighborhoods.
- Effective number of security personnel as per the ratio of population.
- Help desks and police post at the major junctions and important public locations. Especially with addressing population of 10000 there must be one police post with one police station in town.
- Make city friendly and safe to every newcomers
- Tourist police to advise and assist tourist in safety and security during stay in Chaurjahari
- Adequate number of fire stations with skilled manpower

**Policy recommendations (Guiding Principle):**

- Integrated city surveillance with CCTV camera or other means.
- Citizen friendly policing and promoting healthy relation between police and public.
- Community participation in keeping city safe and secure.
- Making city livable and walk able 24 hours of the day.

**Strategic Projects:**

- Street lighting and fixing of CCTV camera in every delicate positions.
- Digital board and marks installation in major junctions and public spaces.
- Community interaction program of police with the local people.
- Tourist police to advise and assist tourist in safety and security during traveling, trekking and hotel stay.

## RECREATION

Recreation is an essential part of human life and finds many different forms which are shaped naturally by individual interests but also by the surrounding social construction. Recreational activities can be communal or solitary, active or passive, outdoors or indoors, healthy or harmful, and useful for society or detrimental. It is important to allocate spaces for recreational activities. They may come in form of open space, semi open or closed depending on its type. The major concern in Chaurjahari is, there is lack of pubic open spaces owned by government. Due to the slope constraint, many parts of Chaurjahari can't be used for built environment. So these spaces can be developed as parks and open spaces for recreational activity. The recreational zones developed may be private or public and should be accessible to all. The recreational activity may differ from age groups. Keeping this in mind, different policies and strategies are adopted to fulfill the goal of "Recreational facilities and program for all".

**Objective (What to achieve):**

- Equitable access to different recreational spaces regardless of physical ability and financial resources.
- Promote skills in sports and extra curriculum activities from school level
- Different recreational activities for different age groups

**Strategies (How to achieve):**

- Construction of parks and open spaces in walking distance from each neighborhood.
- At least 5 % of total city area Neighborhood park (Playing equipment). At least 1 for each 800 populations.
- Local Park (.4 ha. per site), Community park (1 ha. per site), and Parade ground (2 ha. per site), for each 10,000; 20,000; and 1 lakh population respectively.
- Promoting private sector to invest in the entertainment industry like movies, theater or other fun theme parks.
- Promotion of water related adventures and promotion of adventure tourism.
- Encouraging Hiking and recreation retreat for all the adventurous activity in the town.
- Promote sports and extra curriculum activities from school level
- Promotion of non-built up areas for parks and recreational zones

**Policy recommendations (Guiding Principle):**

- People friendly city planning with parks, opens spaces and roadside vegetation.
- Tourism activity as to promote national tourism and to attract people to do business in such.

- Encouraging private sector as well as government sector in investing in recreation activity.

**Strategic Projects:**

- Neighborhood parks and local parks construction with at least 5-10% of city occupied area.
- Roadside vegetation and seating area in pedestrian areas.
- Construction of training center for some sports like- football, cricket and other indoor games.
- Park construction with recreational amenities
- Construction of fun parks, movie theatres and other recreation activities by private sector and local government.

## URBAN SOCIAL INFRASTRUCTURES

With the above-mentioned social infrastructures with health, education, security and recreation, there are still many urban amenities that are important for a city to run. Some of the common urban social infrastructures could be identified as library, religious institutions, museums, gallery, old age home and orphanage center for differently able people, exhibition center and many more. These infrastructures are not only important to run the city as a whole but are also important aspect to make the city complete in its own. Some of the important strategic moves for these aspects are pointed below.

**Objective (What to achieve):**

- A city with abundant urban social infrastructure as per the standards
- Ownership of such infrastructure by citizen of the town and sustainable financing mechanism of such infrastructure.

**Strategies (How to achieve):**

- Involvement of private sector and community level in achieving such infrastructure.
- Construction of library in community level promoted by local government. Such library should be provided with all necessary stationary along with digital information sharing system for its advancement.
- Old age home, orphanage and differently able people to be treated and cared by local government.
- Promotion of events and other activities through multipurpose convention hall.
- Provision of community parking bay at difficult terrain
- Provision of local vegetable markets

**Policy recommendations (Guiding Principle):**

- Encouragement of public and community sector for the investment in urban social infrastructure. Management of such infrastructure should be from local government or should be owned by local citizens.
- Economically sustainable and viable infrastructures should be promoted. Annual management of such infrastructure should be handled under single authority or as per the existing bye-laws.
- All such infrastructures should be accessible to every citizen irrespective of their caste, gender and other socioeconomic status.

**Strategic Projects:**

- Construction of 10-12 community library and one central library.
- One old-age home
- One Center for differently able people

- 1 multipurpose convention hall and exhibition center.
- Multipurpose convention hall for catering population of around 600-1000 people.
- Separation of area for religiously identified sector.
- Community parking spaces at difficult terrain
- Preservation of existing micro hydro-power and develop some as live working museum

## 6.8 CULTURAL AND TOURISM DEVELOPMENT PLAN

Chaurjahari itself does not have its typical language, culture, tradition or festivals. People here are heterogeneous and celebrate their own festivals. Chaurjahari lies on the highway that links to Trekking route. Gorilla Trek is renowned tourist spot of Nepal. After the construction and well maintenance of the linked road there is a chance that Chaurjahari will no more have the privilege as the base station. But with good facilities and promotion of Chaurjahari with the goal of Eco-residential tourism, Chaurjahari holds the capacity to develop itself as touristic spot.

With some basic area of focus there are some strategies identified for the longer terms, which are briefed as:

**Objective (What to achieve):**

- To promote Chaurjahari as touristic destination or stay town for touristic purpose
- To make Chaurjahari hub for resource center for agriculture, livestock and micro hydropower stations

**Strategies (How to achieve):**

- Easy accessibility/ connectivity with nearby touristic destination.
- Good facility for hotels, hostels or other sorts of accommodations.
- Training regarding home-stay for hospitality and other tourism related activities.
- Making infrastructure related to tourism activities.
- Separate monitoring and evaluation mechanism for qualitative services to be provided to tourism sector.
- Tourist police to advise and assist tourist in safety and security during traveling, trekking, rock-climbing and other adventurous sports and hotel stay in any part of Chaurjahari.
- Promotion of livelihood program linking with tourism by commercialization of rural products and providing training to them as of such.
- Proper marketing of the tourism related activities.
- Safety and security provided to the tourist visiting the area.
- Investment in the tourism sector by private sectors.
- Establishment of live museums for micro-hydro and resource center for livestock and agriculture

**Policy recommendations (Guiding Principle):**

- Promoting the town as the stay-town for tourists from nearby destination.
- Strong monitoring and evaluation body for the tourism activity in the town.
- Promotion and maintenance of micro hydro-power as museums.

**Strategic Projects:**

- Establishment and promotion of agricultural resource center at Bijeshowri
- Establishment and promotion of areas around Kotjahari as resource center for livestock

- Develop proper trekking route.
- Tourism information desk at the convenient location along with digital information boards.
- Maintenance of existing micro hydro-power and develop some as live working museum.

## 6.9 ECONOMIC DEVELOPMENT PLAN

The prime goal is to develop Chaurjahari as economically sustained sub region and economic center for nearby VDCs. Chaurjahari can be developed to promote the trade linkage with Jajarkot, Khalanga, Surkhet and Kathmandu. Chaurjahari is the junction area of salli Bajar, jajarkot, Aath bis Kot and Kotjahari. Primarily focusing on some commerce and industry, we have identified some of the major sectors that could boost the economy of the town and are presented with some strategic plans below.

**Objective (What to achieve):**

- Promoting sustainable economic development along with equitable and just economic growth.
- Job opportunity for more than 20,000 populations.
- Abolition of absolute poverty
- Promotion in export based economy by increasing linkage with salli Bajar, jajarkot, Aath bis Kot (Rari Bazzar) and Kotjahari

**Strategies (How to achieve):**

- Establishing production based industries resulting in job opportunities and export based economy.
- Promoting small-scale industries and micro enterprises with some local level subsidies.
- Separate Land use zones for: Central Business District (CBD), Industrial zones, and other commercial zones.
- Promoting local goods and local industries.
- Promotion of high value crops in agriculture lands and commercialization of agriculture products.
- Promotion of Non-Timber Forest Product (NTFP), if available. Like herbs, shrubs and others.
- Promotion of tourism industry by subsidizing and investing in such sector.
- Promotion of agricultural and livestock by establishing resource centers in Khola gaun and Chaurjahari respectively.
- Maintenance and promotion of micro hydro-power and converting some to live museum to attract tourist
- Ease in banking and financing facilities.

It is well known that most of the economic activities are promoted by the private sector with facilitation provided by government sector. Government has major responsibility for making the environment, which could bring the investment in the town. Government should primarily focus on facilitating the investors and assuring the safety of their investment. In the meantime, being a service oriented government, it is responsibility to maintain the equity and justice in the market as well. It is very important to control the illegal market or monopoly in the market, which obviously is to be guided by central government but needs to be monitored in local level as well. Hence, there are some policy recommendations, which could guide the economic development of the town.

**Policy recommendations (Guiding Principle):**

- Subsidizing economically backward group and small enterprises.
- Subsidizing agriculture activity and NTFP.
- Investing on the tourism sector.
- Abolition of absolute poverty
- Strict implementation of bylaws regarding the zoning with punishments and awards.

- Promoting export based industries creating job opportunities for local people.

**Strategic Projects:**

- Freight house for collection, storage and transfer of commercial products.
- Special economic zone for industrial and commercial activities.
- Vegetable market or collection center in each settlement.
- Agriculture and livestock resource center at Khola gaun and Chaurjahari respectively.
- Urban service center.

## 6.10 FINANCIAL PLAN

As the world continues to rapidly urbanize, investment in good urbanization holds the key to sustainability. Global challenges like combating poverty, reversing rising inequality, and mitigating climate change will be increasingly won or lost in cities. Financing sustainable urbanization is therefore an investment in our present and future. Local government capacity must be expanded to harness private sector participation, leverage local assets through value capture, and partner with central governments to invest in urbanization. Since financing for infrastructure is insufficient, the path to long-term finance is to diversify sources. One source is more private participation and expanding the territory of taxation for local government.

While quality urbanization demands huge investment, with the right planning and institutional support, it also finances itself. Cities need the ability to access an increasing share of national wealth and revenue, borrow, increase and utilize local revenues, leverage land values, and apply complex financial products.

The implementation of plans for compact, connected, mixed and integrated cities can be made possible by a three-legged approach that joins planning with legal and financial support. Therefore, finance supports good planning, and good planning supports finance through its economic benefits. By linking finance, planning, economic activity and value capture, a virtuous cycle of investment and growth can be created. Building future cities by linking good urban design, effective financing, and good institutions can create growth, jobs and wealth; where it also promises the solution to the challenges of climate change and social inequity in broader term. Well-planned urban finance and investment can unleash a broader base of economic activities, allowing a wider range of participation in the urban economy and stimulating bottom-up prosperity. With the goal of setting a sustainable and stable financial institution as in the form of local government or development institution, major objectives and strategies are identified as follows:

**Objective (What to achieve):**

- Increase taxation base by broadening the territory of tax paying stakeholders
- Introduce innovative and effective measures of resource mobilization and asset management.
- Introduction of transparent and participatory model of financing.

**Strategies (How to achieve):**

- Introduction of innovative land and property taxation with proper land reforms.
- Increasing territory of taxation by broadening the extent of taxation, for larger collection of tax.
- Collecting impact fee from big polluting industries and subsidize for non polluting industries, as means of cross subsidies.
- Provision of E-taxation in close collaboration with E-Governance
- Strict monitoring and implementation of financial plan to meet the target of city development.

- Initiation and promotion of private sector friendly economy.
- Encouraging public private partnership (PPP) modality of financing in larger infrastructure projects.

**Policy recommendations (Guiding Principle):**

- Improved financial systems, like better budgeting and accounting system.
- Improvement of the planning capacity, resulting in the preparation of Municipal financial action plan for poverty alleviation and infrastructure development. Population needs to be consulted and involved in the formulation and execution stage of the project (Participatory planning and execution).
- Introduction of the financial sector infrastructure necessary to support financial market activities and improve outreach to the rural poor,
- Improved personnel management and human resource development cooperation with the program to achieve human resource development at municipal level.
- Improved cost recovery of services delivered.

**Strategic Projects:**

- Development of human resources and specialized knowledge, with expertise intervention in local government.
- Mobilization of the domestic financial resources needed to meet the demands of a fast-growing economy.
- Awareness, preparedness, and close coordination among all key stakeholders
- Effectively implementing of new regulations intended to improve data quality, transparency, corporate governance, business ethics, market disclosures, and achieve fair competition across the financial sector;
- Integration of E-Financing as the tool of good governance.

## 6.11 INSTITUTIONAL DEVELOPMENT PLAN

A good plan is only half work done but to execute any good plan, we need good institutional mechanism that could help to execute the project. Institutional development plan comprises of making strong institutional mechanism for the implementation, monitoring and evaluation of the project. With the goal of strengthening the existing institutional structure, upgrading the weak ones and formation of strong autonomous body, institutional plan aims to strengthen the institutional capacity of different government and non-government bodies for efficient mobilization of resources. After the decentralization act, "Local Self Governance Act-1999", legal provisions have been provided to municipality to act in autonomous manner. Two tier of governance, (Central and Local) was

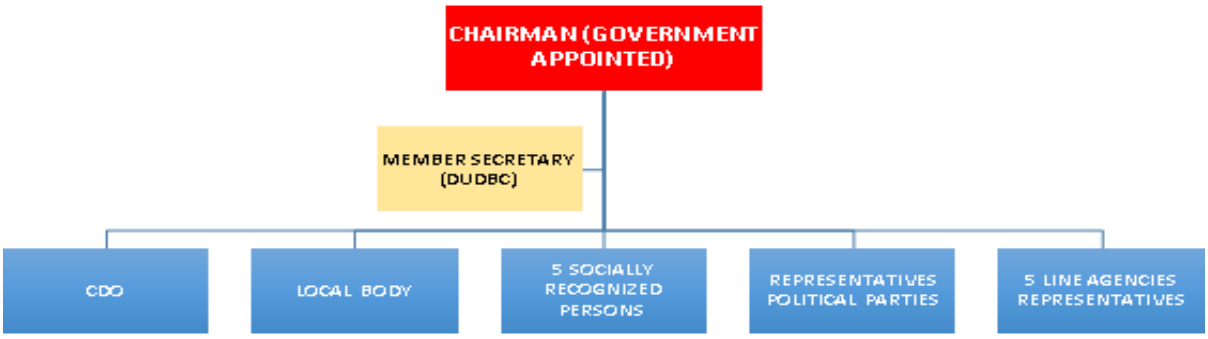
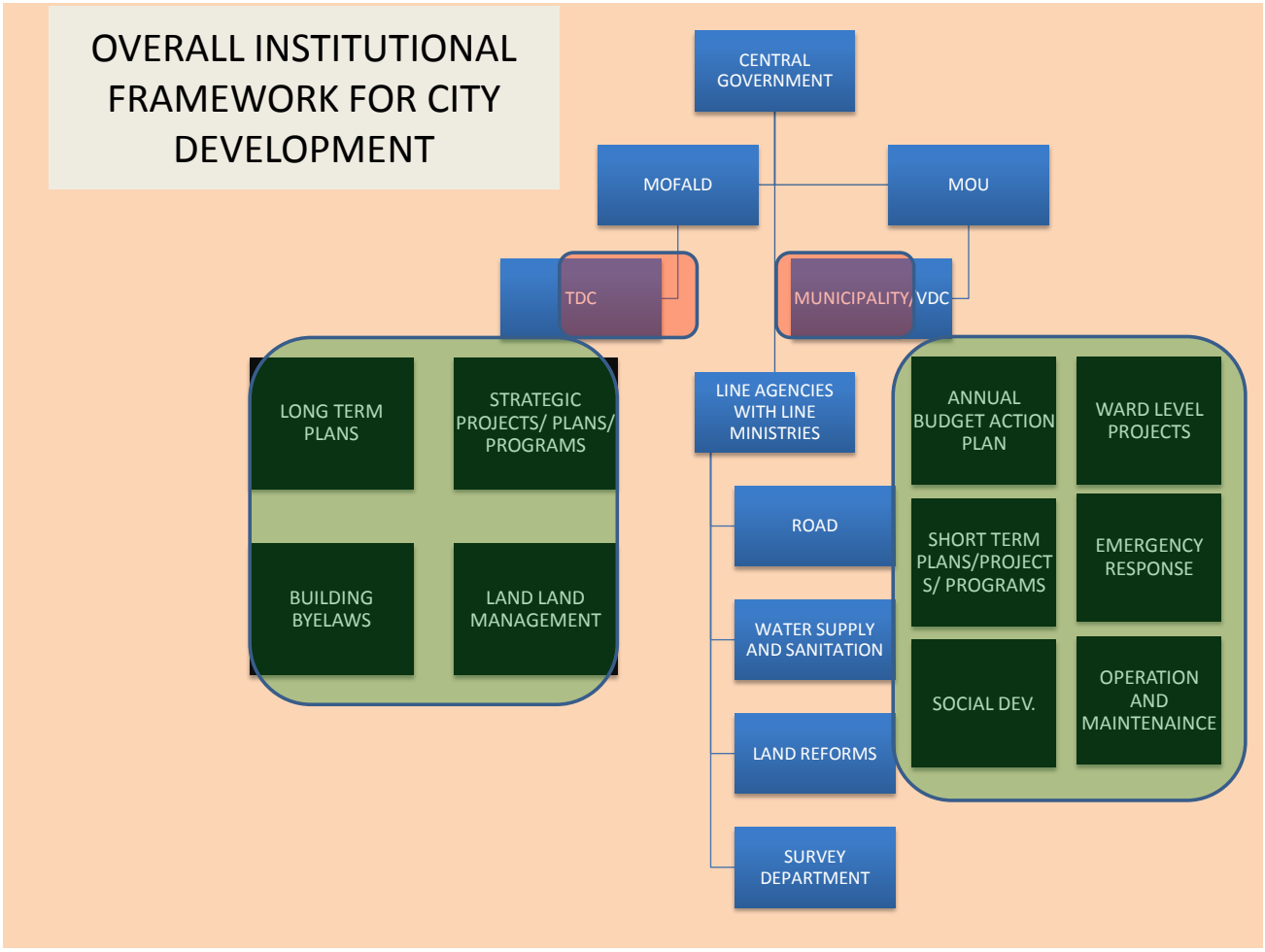



*Figure 22 Formation of TDC (Existing Model)*

considered during LSGA, which is subject to change in its principle after the effective implementation of federal character of nation. It is important to consider that nothing much of the institutional features have been discussed in public forum regarding the decentralization. Especially, devolution of authority, power and responsibility is Figure Never enough until the devolution of resources are done, which has been proved repeatedly. Some of major practices in the field of autonomous instructions in case of Nepal has been Authority, Council and Committee, which are from the decision of Council of ministers. As autonomous, they seem, in most of the cases they lack the resources if not technical input in the body.




With some examples like Kathmandu Valley Development Authority (KVDA) and other development councils formed for specific thematic programs, we could have some special planning and implementation agency in the form of TDC with technical support from DUDBC.

With two of the major local planning implementing agencies: VDC (Chaurjahari VDC) and Town development committee (Chaurjahari TDC), there is always conflict in implementation of bigger project. The case is more complicated when the institutions are not equipped with the resources and are unable to execute the plan of billion rupees. It is also important for the institution to have its own resources (Human resources and physical resources) to execute the plans. With the present modality of TDC to be appointed by cabinet including some government officials and political leaders is very inefficient and ineffective to implement the technical project of such huge budget and ambition.

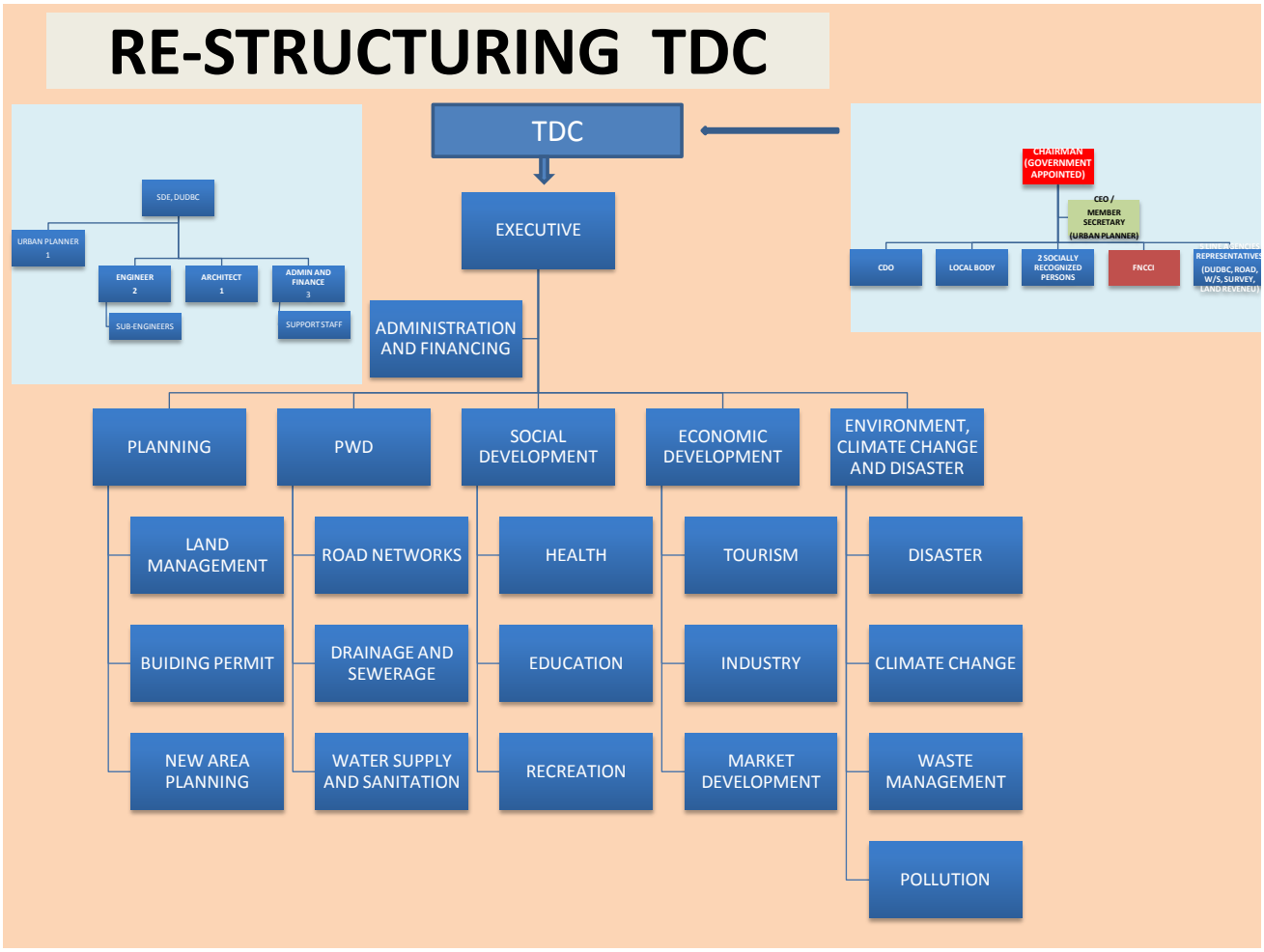
With some major inefficiency of TDC and municipality like some pointed below:

- Excessive political influence
- Weak institutional capacity

- *Technical human resources*
- *Financial resources*
- *Physical resources*

■ Limited to physical development plan, i.e. Land management (for TDC) Excluded: social,


environmental and economic concerns of city




With two institutions led by political leader: one locally elected (Considering case of local election) and appointed by central government, there is some chance of misunderstanding in planning implementation, as there is no clear territory in their work jurisdictions. Municipality being more resourceful than TDC seems to be more dominant but TDC must be strengthened to improve its institutional capacity and execute long term goals. Below is the proposed work jurisdiction amongst two institutions in future, where if there are still some grey areas, they need to be addressed keeping intentions for greater good of the city.

The existing legal provision of TDC is very complicated to change in the quick time period, it is proposed to have best option in the form of improvised TDC where as TDC will be backed up by the

team of technical experts provided by DUDBC through its district unit or from central department. Such team of technical experts should be given high position in the whole planning process where it could be termed as the project implementation unit comprising of all necessary resources. While in the formation of TDC, it is also necessary to incorporate the involvement of private sectors which could be represented through FNCCI.

Apart from this, there are some basic strategies, which could strengthen the existing structure of TDC and municipality as well.

**Objective (What to achieve):**

- Good governance (Accountable, Responsible, transparent and efficient local government)
- Integrated governing bodies
- E-Governance
- Close monitoring and collaboration with all actors involved. (Private, Non-Governmental and Governmental organizations)

**Strategies (How to achieve):**

- Strong implementation and effective execution of comprehensive planning documents.
- Increasing performance and capacity building of the government employees with regular training and exchange of knowledge within the department
- Devolution of resources along with the authority
- Separate authority for monitoring and evaluation of government activities for quality and timely completion.
- Integrated service through single window system: Formation of integrated service center (City Center) could be interesting steps towards it. The integrated service center could be elaborated with further detailed institutional plan, but it needs to have one single data entry system which would ease the costumer for any government service rather than running for every single department for single task.

**Policy recommendations (Guiding Principle):**

- Digitization or paper less governance by promoting E-governance
- Integrated governing mechanism through single window system.
- Effective implementation and execution of comprehensive long-term documents.
- Common platform for information sharing regarding the inter-related topics.
- Controlling and monitoring mechanism for effective co-ordination with governmental, non-governmental and private organizations.

**Strategic Projects/ Programs:**

- Setting up and upgrading the resource capacity of TDC.
- Monthly training programs for capacity building of government employees
- Data infrastructure system for integrated E-Governance
- Integrated service center / complex

## 6.12 ENVIRONMENT MANAGEMENT PLAN

One of the major evolving topics of new urban planning is environment management plan. With reference to Ebenzer Howard's Garden city concept of 3 Magnets, all citizen want is greenery and beauty of rural setting and facilities of urban areas. Chaurjahari is situated at the bank of Bheri River. Chaurjahari settlement is surrounded by green forest and agriculture terrains all around. Most of the

land in gradient and respecting the contours, organic development is focused. Without compromising the serene green environment, urban area is developed.. Special care should be taken while extracting the ores. Detail assessment of EIA and IAA should be done during the process of extraction. With the goal of environment friendly city planning, Chaurjahari has set some basic green and sustainable planning features. Some of them are drafted as below.

**Objective (What to achieve):**

- Environment friendly and sustainable development trends.
- Low carbon emission and preventing ecological footprints.
- Protect water, land, forest and air from possible pollution and destruction.
- Green and healthy city environment.

**Strategies (How to achieve):**

- Provision of EIA and IAA for bigger influencing project with third party evaluation criteria.
- Strict laws or bylaws for protection of water bodies and forest areas.
- Promotion of 3R concept in Solid waste management and segregation of organic and non-organic waste at HH level.
- Promotion of environment friendly materials to use in households and in commercial purpose.
- Provision of treatment of waste-water/ waste product from industries or hospitals.
- Promotion of electrical vehicles.
- Preservation of agriculture land and clear delineation of conservation zone for natural resources.
- Roadside plantation.
- Identification of green pockets within the different areas of town.
- Formation of artificial water bodies to address the micro-climate and manage rainwater.
- Cycle friendly and pedestrian friendly mobility plan
- Separate industrial zone and buffer zone identified from water bodies.

**Policy recommendations (Guiding Principle):**

- Effective implementation of land use plan.
- Strict bye-laws for protection of water resources, agriculture lands and forest areas
- Developing city with roadside plantation, green parks and water bodies.
- Reduction of carbon footprints and increase in green pockets within the city.
- Subsidies in electric vehicles and bicycle.

**Strategic Projects/ Programs:**

- Roadside vegetation
- Urban Parks and water bodies
- Campaign regarding environmental protection
- Environment conservation action plan

## 6.13 DISASTER RISK MANAGEMENT PLAN

With basic guidelines and strategies secured in National Strategy for Disaster Risk Management (NSDRM), DRM plan focuses on institutional capacity to strengthen regarding Disaster risk and promote participatory resilience of disaster risk management. With 5 priority actions from institutional mechanism, identifying and assessment of risks, knowledge building regarding disaster, reducing risk factors and enhance preparedness of risk factor, NSDRM highlights all the strategy that

could be done in national level and local level to strengthen the capacity building of local people against disaster. The disaster management plan is guided by national strategy but it is important for local government for implementation while coordinating other different stakeholders like: Civil society, including NGOs, volunteer groups, the academia and private sector; the UN system; and other external development partners. Chaurjahari area has slope land. The care has been taken during the process of policy making for development. The area greater than 30 degree has been classified as land not suitable for construction. The roads are developed as per the contour. With basic goal of disaster resilient Chaurjahari City, there are some of the basic strategies identified, which are briefly mentioned below.

**Objective (What to achieve):**

- Enhance preparedness and adaptive capacity of local government, community and local groups.
- Participatory approach of disaster risk reduction.
- Disaster responsive urban design features.
- Implementation of disaster resilient building bye-laws.

**Strategies (How to achieve):**

- Preparation of Risk Sensitive Land Use Plan (RSLUP) and strict implementation.
- Implementation of bye-laws and building codes.
- Enhance human resource and institutional capacity of local government by regular training and safety drills.
- Participatory approach in community level and local level for disaster risk management program.
- Regular awareness campaign regarding pre-disaster and post-disaster events.
- Identification of high-risk areas with hazard mapping and resettlement of such, if necessary.
- Identification and delineation of disaster evacuation zone.
- No built up development in land which is greater than 30 degree.

**Policy recommendations (Guiding Principle):**

- Effective implementation of RSLUP
- Effective implementation of building byelaws and building codes.
- Awareness regarding the pre and post disaster management by incorporating in the daily newspapers, academics (curriculums), or any other means of interaction methods.
- Policy Guiding documents:
    - Local Disaster Risk Management Planning Guideline-LDRMP, 2068
    - National Strategy for Disaster Risk Management in Nepal, 2008

**Strategic Projects/Programs:**

- Fire stations within the 5-7 km radius of the city or 1 fire engine for 50000 population.
- Evacuation Zone located at every community with the escapable distance.
- Awareness campaign regarding the pre and post disaster incidents.
- No development in landslide prone area.

## 6.14 CLIMATE CHANGE ADAPTATION PLAN

The global climate is changing and the impacts of this change are being felt across the world, and it's challenging for the country like Nepal, which holds the Himalayan regions, and depends on it for water sources. Significantly, climate change is the national issue, but it could be addressed with the

local actions as well. Conservation of agriculture land and forest land, protection of water resources could overall summarize for climate responsive action. There are some of the adverse effects of global climate change in local level as well; some of them are change in temperature, flash floods, climatic change and many more. Adaptation plan to climate change also responds to such changes in global level and tries to cope with the changes in local level. There are some of strategies identified in the strategic level which are briefly penned down below:

**Objective (What to achieve):**

- Creating resiliency and reducing the carbon footprint of urban development
- To conserve and enhance the health of natural systems (including climate) and areas of environmental significance.

**Strategies (How to achieve):**

- Plantation of trees along the roadside.
- Protection of forest, agriculture land and water bodies.
- Identification of green parks, if not, delineation of green pockets as the lungs to the city.
- Promotion of electric or low carbon emission vehicles.
- Pedestrian friendly city planning.
- Provision of environmental friendly building material in building construction.
- Climate responsive urban design
    - Pervious Pavement (Pervious asphalt, Pervious concrete etc.)
    - Urban forestry
    - Bio-sale/ Vegetated sale
- Strong implementation of environment protection laws: especially regarding boring of water, encroachment of urban open spaces, water bodies and others.
- Energy efficient building technology.
- Implementation of sustainable building design guidelines
- Preservation of terrain land

**Policy recommendations (Guiding Principle):**

- Strong implementation of environment protection laws
- Awareness regarding the impact of climate change in longer run.
- Promoting ground water recharge system and conservation of urban forestry.
- Promoting alternative source of energy

**Strategic Projects:**

- Construction of parks
- Plantation of road side vegetation and trees.
- EIA and IEE before implementation of big projects

## PROPOSED LAND USE PLAN

**Table 31: Proposed Land Use**

| PROPOSED LAND USE OF CHAURJAHARI MUNICIPALITY | | | | | | |
|---|---|---|---|---|---|---|
| SN | LAND USE TYPE | Existing | | Proposed | | Change (+/-) |
| | | Area (ha) | Area (%) | Area (ha) | Area (%) | Area (%) |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Forest | 1801.62 | 35.95 | 1790.24 | 35.72 | -0.23 |
| 2 | Barren Land | 178.94 | 3.57 | 162.56 | 3.24 | -0.33 |
| 3 | Built Up | 392.56 | 7.83 | 415.85 | 8.30 | 0.46 |
| 4 | River | 60.52 | 1.21 | 60.50 | 1.21 | 0.00 |
| 5 | Cultivation Land | 2578.36 | 51.44 | 2151.27 | 42.92 | -8.52 |
| 6 | Industrial Area | | 0.00 | 27.64 | 0.55 | 0.55 |
| 7 | Urban Expansion Zone | 0.0 | 0.00 | 403.94 | 8.06 | 8.06 |
| | Total | 5012.00 | 100.00 | 5012.00 | 100.00 | |

**Table 32: Main Residential Sub Zone with less than 30 $^0$ Slope**

| Main Residential Sub Zone with less than 30 $^0$ Slope | | | | |
|---|---|---|---|---|
| **S.N.** | **Particulars** | **Area in ha** | **Proposed Density/ha** | **Projected Population** |
| 1 | Residential Existing | 392.56 | 150 | 58884 |
| 2 | Planned Residential | 2.04 | 175 | 357 |
| 3 | Residential Expansion | 403.94 | 150 | 60591 |
| | Total | 798.54 | | 119832 |

## 6.15 MULTI-SECTOR INVESTMENT PLAN (MSIP)

As we've already discussed in earlier sections of financial plan and economic development plan, a city development of 20-year plan with ambition of one lakh population needs lots of investment. With model of public private partnership modality of infrastructural

Investment, it is also expected to have investment of private sector in city infrastructure projects. Apart from security and major strategic roads, in most of the sector we can expect the investment from private sectors and from other donor agencies.. We have to understand that this entire budget should be funneled down through the single channel of local project implementation body, which could be TDC or any other new autonomous body. For this projects are identified under different sections, which could be new construction, upgrading existing scenario or upgrading the existing quality or capacity. With some standard rate of similar contemporary projects, under different headings, cost estimation is allocated. As we know that these development plans have target period of 20 years, we've divide into 3 major milestones, short term, midterm and long term projects. Depending upon the priority of the project and possible budget required, different projects are put under different time frame. Some longer term projects may fall under different time period and some of the projects are continuous process throughout the development, like: training and updating the institutional capacity.

With total estimated budget of around 4.56 Billion Rs for 20 years' plan, around 51 percent is expected to be spent from central government with different department sections along with new town development office. Around 35 percent of the total budget is to be spent from the local government over the range of 20 years. Remaining investments are to be expected from private sectors followed by NGO/INGOs and other community sectors. It is expected that around more than 200 crores are to be spent every year where in earlier year more investment is to be done in short term goals (0-3 years) where in longer goal are to be spent on improving quality and standards of the town.

Highest investment is done under infrastructures like road and sanitations and others. Apart from the road, health and education are the most prioritized sector under social development plan to increase the dependency of the town within VDC and between the cities. In yearly basis, budget will be spent on training and awareness campaigns on various issues on longer term. It is also important to consider that large amount of investment are put under the recreation, where as that will be spent on buying chunk of lands on urban areas, as the city is already grown or cost is very high. Good investment is allocated on improving the institutional capacity of the different service oriented institutions in the form of institutional development plan, financial plan or in terms of security as well by making citizen friendly city. Large investment is expected from private sectors as well, especially in the field of housing, job opportunities, entertainments, recreations and others. Private sectors are obvious to focus on profit oriented investment such as in industries, economic field along with some well-known field like education and health. In the field of solid waste management, disaster risk mitigation plan, environment conservation plan or in the field of climate change, non-governmental organizations are expected to be in good part. Such national and international organizations will help to improve the institutional capacity as well as promote the awareness regarding the topic. Finally, it is expected that more participatory model of investment is promoted which not only eases the investment burden of central government but also helps to build the ownership among the resident of that city. Basic summary of the MSIP is shown below:

| S.N. | Projects | | Cost Estimation | | | | Phase-Wise Development | | | Investment Sector | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Unit | Qty | Rate (Milion Rs) | Amount (Milion Rs) | Short Term (0-3 Yrs) | Mid Term (3-5 Yrs) | Long Term (5-20Yrs) | Central Govt | Local Govt | NGOs/INGOs | Private Sectors | Others/Community | |
| **A. PHYSICAL INFRASTRUCTURE DEVELOPMENT PLAN (1-5)** | | | | | | | | | | | | | | | |
| 1 | **Road Network and Transportation Development Plan** | | | | | | | | | | | | | | |
| 1.01 | | Ring Road (Black Topped 22 m) | KM | 31.85 | 10 | 318.5 | | | | 90% | 10% | 0% | 0% | 0% | |
| 1.02 | | Public Transportation | Number | 10 | 10 | 100.0 | | | | 30% | 30% | 0% | 40% | 0% | |
| 1.03 | | Pedestrian Improvement | KM | 30 | 2 | 60.0 | | | | 50% | 40% | 10% | 0% | 0% | |
| 1.04 | | BIcycle Track | KM | 30 | 2 | 60.0 | | | | 25% | 75% | 0% | 0% | 0% | |
| 1.05 | | Buspark 1 | Number | 1 | 20 | 20.0 | | | | 100% | 0% | 0% | 0% | 0% | |
| 1.06 | | Buspark 2 | Number | 1 | 20 | 20.0 | | | | 25% | 25% | 0% | 50% | 0% | |
| 1.07 | | Existing Buspark Upgradatoin | Number | 1 | 20 | 20.0 | | | | 25% | 25% | 0% | 50% | 0% | |
| 1.08 | | Bridge 1 | Number | 1 | 100 | 100.0 | | | | 100% | 0% | 0% | 0% | 0% | |
| 1.09 | | Bridge 2 | Number | 1 | 100 | 100.0 | | | | 100% | 0% | 0% | 0% | 0% | |
| 1.1 | | Suspended Bridge | Number | 3 | 10 | 30.0 | | | | 100% | 0% | 0% | 0% | 0% | |
| 1.2 | | Black Topped Road of 14 m | | | | | | | | | | | | | |

| S.N. | Projects | Cost Estimation | | | | Phase-Wise Development | | | Investment Sector | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Unit | Qty | Rate (Milion Rs) | Amount (Milion Rs) | Short Term (0-3 Yrs) | Mid Term (3-5 Yrs) | Long Term (5-20Yrs) | Central Govt | Local Govt | NGOs/INGOs | Private Sectors | Others/Community | |
| | Bheri Marg | KM | 1.341 | 10 | 13.4 | | | | 50% | 50% | 0% | 0% | 0% | |
| | Chaurjahari to Musikot | KM | 4.6 | 10 | 46.0 | | | | 50% | 50% | 0% | 0% | 0% | |
| | Chaurjahari to Musikot | KM | 6.529 | 10 | 65.3 | | | | 50% | 50% | 0% | 0% | 0% | |
| | Jajarkot Midway Highway | KM | 4.831 | 10 | 48.3 | | | | 50% | 50% | 0% | 0% | 0% | |
| | Kural to Madhya Pahadi | KM | 1.512 | 10 | 15.1 | | | | 50% | 50% | 0% | 0% | 0% | |
| | Lamochhanegaun-Gharigaun | KM | 2.089 | 10 | 20.9 | | | | 50% | 50% | 0% | 0% | 0% | |
| | MHH-Lamichhanegaun-Narkholi | KM | 0.58 | 10 | 5.8 | | | | 50% | 50% | 0% | 0% | 0% | |
| | Rapti Marg | KM | 4.379 | 10 | 43.8 | | | | 50% | 50% | 0% | 0% | 0% | |
| | Shankhapipal Marg | KM | 0.627 | 10 | 6.3 | | | | 50% | 50% | 0% | 0% | 0% | |
| | Tribeni to Khauchini | KM | 1.883 | 10 | 18.8 | | | | 50% | 50% | 0% | 0% | 0% | |
| | Black Topped Road of 10 m | | | | | | | | | | | | | |
| | Amachaur to Bijeshwori | KM | 2.211 | 8 | 17.7 | | | | 50% | 50% | 0% | 0% | 0% | |
| | Banseri to Gesma | KM | 3.336 | 8 | 26.7 | | | | 50% | 50% | 0% | 0% | 0% | |
| | Basigaun to Kot Gau | KM | 2.486 | 8 | 19.9 | | | | 50% | 50% | 0% | 0% | 0% | |

| S.N. | Projects | | Cost Estimation | | | | Phase-Wise Development | | | Investment Sector | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Unit | Qty | Rate (Milion Rs) | Amount (Milion Rs) | Short Term (0-3 Yrs) | Mid Term (3-5 Yrs) | Long Term (5-20Yrs) | Central Govt | Local Govt | NGOs/INGOs | Private Sectors | Others/Community | |
| | | Katte Khola to Shanti nagar | KM | 2.349 | 8 | 18.8 | | | | 50% | 50% | 0% | 0% | 0% | |
| | | Salyaneta to Priya takura | KM | 3.537 | 8 | 28.3 | | | | 50% | 50% | 0% | 0% | 0% | |
| | | Shanti Bajar to PHCC to Daha | KM | 9.755 | 8 | 78.0 | | | | 50% | 50% | 0% | 0% | 0% | |
| | | Black Topped Road of 8 m | | | | | | | | | | | | | |
| | | Basigaun to Banseri | KM | 2.996 | 6 | 18.0 | | | | 50% | 50% | 0% | 0% | 0% | |
| | | Bijeshwori to Salyaneta | KM | 4.708 | 6 | 28.2 | | | | 50% | 50% | 0% | 0% | 0% | |
| | | Gharigau to Mankot | KM | 2.523 | 6 | 15.1 | | | | 50% | 50% | 0% | 0% | 0% | |
| | | Mankot to Khahare | KM | 2.106 | 6 | 12.6 | | | | 50% | 50% | 0% | 0% | 0% | |
| | | Foot Trail | KM | 214.592 | 6 | 1287.6 | | | | 50% | 50% | 0% | 0% | 0% | |
| | | | Total | | | 2663.15 | | | | 55% | 40% | 0% | 5% | 0% | |
| 2 | | | | | | | | | | | | | | | |
| 2.01 | **Water Supply Development Plan** | Water Storage Tanks (12.5ML) at Mankot | Number | 16 | 5 | 80 | | | | 40% | 20% | 10% | 15% | 15% | |
| 2.02 | | Water Treatment Plant (3ML) | Number | 6 | 5 | 30 | | | | 75% | 25% | 0% | 0% | 0% | |

| S.N. | Projects | | Cost Estimation | | | | Phase-Wise Development | | | Investment Sector | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Unit | Qty | Rate (Milion Rs) | Amount (Milion Rs) | Short Term (0-3 Yrs) | Mid Term (3-5 Yrs) | Long Term (5-20Yrs) | Central Govt | Local Govt | NGOs/INGOs | Private Sectors | Others/Community | |
| 2.03 | | Water Supply Networks , Churjahari Settlement | KM | 50 | 4 | 200 | | | | 50% | 40% | 0% | 10% | 0% | |
| 2.04 | | Public Water Supply Churjahari Settlement | Number | 100 | 0.2 | 20 | | | | 10% | 40% | | 50% | | |
| 2.05 | | Community/Public water storage | Number | 10 | 1 | 10 | | | | 0% | 50% | 0% | 0% | 50% | |
| 2.06 | | Rain Water Harvesting | Number | 10 | 3 | 30 | | | | 0% | 25% | 25% | 25% | 25% | |
| 2.07 | | Water Source Conservation Bheri River | Number | 3 | 5 | 15 | | | | 40% | 40% | 0% | 10% | 10% | |
| | | | Total | | | 385.00 | | | | 55% | 40% | 0% | 5% | 0% | 0% |
| 3 | | | | | | | | | | | | | | | |
| 3.01 | **Drainage and Sanitation Development Plan** | Drainage Networks and Pipes Churjahari Settlement | KM | 40 | 1 | 40 | | | | 50% | 40% | 0% | 10% | 0% | |
| 3.02 | | Treatment Plants | Number | 6 | 2 | 12 | | | | 100% | 0% | 0% | 0% | 0% | |
| 3.03 | | Storm Water Drain, KotJhari | KM | 60 | 1 | 60 | | | | 40% | 40% | 10% | 10% | 0% | |
| 3.04 | | Organic Treatment Plant , Chaurjahari | Number | 10 | 3 | 30 | | | | 25% | 25% | 50% | 0% | 0% | |

| S.N. | Projects | | Cost Estimation | | | | Phase-Wise Development | | | Investment Sector | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Unit | Qty | Rate (Milion Rs) | Amount (Milion Rs) | Short Term (0-3 Yrs) | Mid Term (3-5 Yrs) | Long Term (5-20Yrs) | Central Govt | Local Govt | NGOs/INGOs | Private Sectors | Others/Community | |
| 3.05 | | Public Toilets | Number | 50 | 2 | 100 | | | | 25% | 75% | 0% | 0% | 0% | |
| 3.06 | | Awareness and Training | Number | 20 | 1 | 20 | | | | 0% | 50% | 25% | 25% | 0% | |
| | | | Total | | | 262.00 | | | | 40% | 38% | 14% | 8% | 0% | |
| 4 | | | | | | | | | | | | | | | |
| 4.01 | Solid Waste Management Development Plan | Landfill site, Chaurjahari | Number | 1 | 50 | 50 | | | | 50% | 50% | 0% | 0% | 0% | |
| 4.02 | | Transfer Station Chaurjahari | Number | 3 | 10 | 30 | | | | 50% | 50% | 0% | 0% | 0% | |
| 4.03 | | Bio-gas promotion Chaurjahari | Number | 1000 | 0.5 | 500 | | | | 0% | 50% | 25% | 25% | 0% | |
| 4.04 | | Awareness (3R) | Number | 100 | 1 | 100 | | | | 25% | 25% | 25% | 25% | 0% | |
| 4.05 | | Waste Bins | Number | 1000 | 0.2 | 200 | | | | 0% | 40% | 40% | 20% | 0% | |
| 4.06 | | Waste to Energy | Number | 1 | 20 | 20 | | | | 25% | 25% | 25% | 25% | 0% | |
| | | | Total | | | 900.00 | | | | 25% | 40% | 19% | 16% | 0% | |
| 5 | | | | | | | | | | | | | | | |
| 5.01 | Electricity and Communications Development Plan | Electricity Grid Connection (National grid ) | Number | 1 | 50 | 50 | | | | 100% | 0% | 0% | 0% | 0% | |
| 5.02 | | Promoting Microhydro | Number | 1 | 10 | 10 | | | | 50% | 20% | 10% | 10% | 10% | |

| S.N. | Projects | | Cost Estimation | | | | Phase-Wise Development | | | Investment Sector | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Unit | Qty | Rate (Milion Rs) | Amount (Milion Rs) | Short Term (0-3 Yrs) | Mid Term (3-5 Yrs) | Long Term (5-20Yrs) | Central Govt | Local Govt | NGOs/INGOs | Private Sectors | Others/Community | |
| 5.03 | | High Speed Internet | Number | 1 | 1 | 1 | | | | 20% | 20% | 0% | 60% | 0% | |
| 5.04 | | Alternative energy Promoting | Number | 1 | 50 | 50 | | | | 25% | 25% | 50% | 0% | 0% | |
| 5.05 | | Street Lights | Number | 20 | 2 | 40 | | | | 20% | 50% | 10% | 0% | 20% | |
| 5.06 | | Digital Information Boards | Number | 20 | 0.1 | 2 | | | | 50% | 50% | 0% | 0% | 0% | |
| 5.07 | | Underground Wiring | KM | 60 | 3 | 180 | | | | 50% | 50% | 0% | 0% | 0% | |
| 5.08 | | Wifi Hotspots | Number | 100 | 0.5 | 50 | | | | 0% | 20% | 0% | 80% | 0% | |
| 5.09 | | Monitoring Quality and Leakage Control | Number | 1 | 20 | 20 | | | | 25% | 25% | 25% | 15% | 10% | |
| | | | Total | | | 403.00 | | | | 38% | 29% | 11% | 18% | 4% | |
| **B SOCIAL INFRASTRUCTURE DEVELOPMENT PLAN (6-10)** | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 6.01 | **Education Development Plan** | Upgrading Physical infrastructure of public education institutions | Number | 10 | 50 | 500 | | | | 80% | 10% | 10% | 0% | 0% | |
| 6.02 | | Agriculture Research center ,Chaurjahari | Number | 1 | 100 | 100 | | | | 50% | 30% | 20% | 0% | 0% | |

| S.N. | Projects | | Cost Estimation | | | | Phase-Wise Development | | | Investment Sector | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Unit | Qty | Rate (Milion Rs) | Amount (Milion Rs) | Short Term (0-3 Yrs) | Mid Term (3-5 Yrs) | Long Term (5-20Yrs) | Central Govt | Local Govt | NGOs/INGOs | Private Sectors | Others/Community | |
| 6.03 | | Paramedical College | Number | 1 | 200 | 200 | | | | 80% | 20% | 0% | 0% | 0% | |
| 6.04 | | Livestock Research center ,Kotjhari | Number | 1 | 100 | 100 | | | | 0% | 40% | 10% | 50% | 0% | |
| 6.05 | | ICT development Chaurjahari | Number | 1 | 100 | 100 | | | | 80% | 0% | 20% | 0% | 0% | |
| 6.06 | | Higher Education Development | Number | 1 | 100 | 100 | | | | 100% | 0% | 0% | 0% | 0% | |
| 6.07 | | Cross-Subsidies | Number | 1 | 100 | 100 | | | | 50% | 50% | 0% | 0% | 0% | |
| | | | Total | | | 1200.00 | | | | 60% | 23% | 8% | 8% | 0% | |
| 7 | **Health Development Plan** | | | | | | | | | | | | | | |
| 7.01 | | 50 Bed Hospital Chaurjahari Hospital | Number | 1 | 100 | 100 | | | | 80% | 20% | 0% | 0% | 0% | |
| 7.02 | | 50 Bed community hospital, Kotgau | Number | 1 | 100 | 100 | | | | 50% | 25% | 0% | 25% | 0% | |
| 7.03 | | Health Posts | Number | 9 | 30 | 270 | | | | 100% | 0% | 0% | 0% | 0% | |
| 7.04 | | Awareness Campaigns | Number | 1 | 2 | 2 | | | | 50% | 50% | 0% | 0% | 0% | |
| 7.05 | | Cross-Subsidies | Number | 1 | 100 | 100 | | | | 0% | 100% | 0% | 0% | 0% | |
| 7.06 | | Health Insurance | Number | 1 | 200 | 200 | | | | 100% | 0% | 0% | 0% | 0% | |

| S.N. | Projects | | Cost Estimation | | | | Phase-Wise Development | | | Investment Sector | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Unit | Qty | Rate (Milion Rs) | Amount (Milion Rs) | Short Term (0-3 Yrs) | Mid Term (3-5 Yrs) | Long Term (5-20Yrs) | Central Govt | Local Govt | NGOs/INGOs | Private Sectors | Others/Community | |
| 7.07 | | Monitoring and Evaluation | Number | 1 | 10 | 10 | | | | 25% | 50% | 25% | 0% | 0% | |
| | | | Total | | | 782.00 | | | | 58% | 35% | 4% | 4% | 0% | |
| 8 | Security Development Plan | | | | | | | | | | | | | | |
| 8.01 | | CCTV Survilence and Street Lights | Number | 100 | 0.5 | 50 | | | | 50% | 50% | 0% | 0% | 0% | |
| 8.02 | | Security Facilities | Number | 1 | 50 | 50 | | | | 100% | 0% | 0% | 0% | 0% | |
| 8.03 | | Police station, Chaurjahari | Number | 1 | 10 | 10 | | | | 100% | 0% | 0% | 0% | 0% | |
| 8.04 | | Community Policing | Number | 1 | 100 | 100 | | | | 50% | 50% | 0% | 0% | 0% | |
| 8.05 | | Traffic Development Plan, Chaurjahari | Number | 1 | 100 | 100 | | | | 100% | 0% | 0% | 0% | 0% | Traffic lights/ instruments |
| 8.06 | | Community/ Citizen friendly capacity Building of Security personnel | Number | 1 | 10 | 10 | | | | 50% | 50% | 0% | 0% | 0% | |
| | | | Total | | | 320.00 | | | | 75% | 25% | 0% | 0% | 0% | |
| 9 | Recreation Development Plan | | | | | | | | | | | | | | |
| 9.01 | | Parks , Play ground and | Number | 10 | 10 | 100 | | | | 0% | 50% | 0% | 25% | 25% | |

| S.N. | Projects | | Cost Estimation | | | | Phase-Wise Development | | | Investment Sector | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Unit | Qty | Rate (Milion Rs) | Amount (Milion Rs) | Short Term (0-3 Yrs) | Mid Term (3-5 Yrs) | Long Term (5-20Yrs) | Central Govt | Local Govt | NGOs/INGOs | Private Sectors | Others/Community | |
| | | Opens Spaces | | | | | | | | | | | | | |
| 9.02 | | Greenary development | Number | 1 | 20 | 20 | | | | 0% | 50% | 25% | 0% | 25% | |
| 9.03 | | Fun Parks | Number | 1 | 100 | 100 | | | | 0% | 0% | 0% | 100% | 0% | |
| 9.04 | | Covered / Open Theatre | Number | 5 | 20 | 100 | | | | 0% | 50% | 0% | 0% | 50% | |
| 9.05 | | Entertainment (Movies/ Theatre) | Number | 1 | 100 | 100 | | | | 0% | 0% | 0% | 100% | 0% | |
| | | | Total | | | 420.00 | | | | 0% | 30% | 5% | 45% | 20% | |
| 10 | **Urban social infrastructures Development Plan** | | | | | | | | | | | | | | |
| 10.01 | | Social Housing | Number | 3 | 20 | 60 | | | | 50% | 50% | 0% | 0% | 0% | |
| 10.02 | | Old Age Home | Number | 1 | 20 | 20 | | | | 50% | 50% | 0% | 0% | 0% | |
| 10.03 | | Library | Number | 6 | 10 | 60 | | | | 0% | 50% | 25% | 0% | 25% | |
| 10.04 | | Multipurpose Hall | Number | 1 | 50 | 50 | | | | 80% | 0% | 0% | 0% | 20% | |
| 10.05 | | Youth Center/ City hall/Covered Hall | Number | 2 | 50 | 100 | | | | 0% | 80% | 0% | 20% | 0% | |
| 10.06 | | Resource Center | Number | 1 | 50 | 50 | | | | 0% | 100% | 0% | 0% | 0% | |
| | | | Total | | | 340.00 | | | | 30% | 55% | 4% | 3% | 8% | |

| S.N. | Projects | | Cost Estimation | | | | Phase-Wise Development | | | Investment Sector | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Unit | Qty | Rate (Milion Rs) | Amount (Milion Rs) | Short Term (0-3 Yrs) | Mid Term (3-5 Yrs) | Long Term (5-20Yrs) | Central Govt | Local Govt | NGOs/INGOs | Private Sectors | Others/Community | |
| **C. MISCELENIOUS DEVELOPMENT PLAN (11-18)** | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 11.01 | **Cultural and Tourism Development Plan** | Campaigning/Marketing of tourism scope | Number | 1 | 10 | 10 | | | | 0% | 50% | 0% | 50% | 0% | |
| 11.02 | | Cultural Musuems | Number | 1 | 50 | 50 | | | | 0% | 50% | 0% | 0% | 50% | |
| 11.03 | | Walking trail | Number | 1 | 50 | 50 | | | | 0% | 100% | 0% | 0% | 0% | |
| 11.05 | | Tourism Action Plan | Number | 1 | 200 | 200 | | | | 0% | 80% | 0% | 0% | 20% | |
| | | | Total | | | 310.00 | | | | 0% | 70% | 0% | 13% | 18% | |
| 12 | | | | | | | | | | | | | | | |
| 12.01 | **Economic Development Plan** | Industrial Zone | Number | 1 | 500 | 500 | | | | 100% | 0% | 0% | 0% | 0% | |
| 12.02 | | Agriculture Zone | Number | 1 | 500 | 500 | | | | 50% | 50% | 0% | 0% | 0% | |
| 12.03 | | Freight House | Number | 1 | 200 | 200 | | | | 0% | 50% | 0% | 50% | 0% | |
| 12.04 | | Markets center | Number | 5 | 5 | 25 | | | | 0% | 50% | 0% | 50% | 0% | |
| 12.05 | | Urban Market Center | Number | 5 | 10 | 50 | | | | 0% | 50% | 0% | 50% | 0% | |
| 12.06 | | Promoting CBD | Number | 1 | 100 | 100 | | | | 0% | 50% | 0% | 50% | 0% | |

| S.N. | Projects | | Cost Estimation | | | | Phase-Wise Development | | | Investment Sector | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Unit | Qty | Rate (Milion Rs) | Amount (Milion Rs) | Short Term (0-3 Yrs) | Mid Term (3-5 Yrs) | Long Term (5-20Yrs) | Central Govt | Local Govt | NGOs/INGOs | Private Sectors | Others/Community | |
| 12.07 | | Developing old market's infrastructures | Number | 1 | 500 | 500 | | | | 80% | 20% | 0% | 0% | 0% | |
| | | | Total | | | 1875.00 | | | | 33% | 39% | 0% | 29% | 0% | |
| 13 | Financial Development Plan | | | | | | | | | | | | | | |
| 13.01 | | Financial Action Plan | Number | 1 | 10 | 10 | | | | 80% | 20% | 0% | 0% | 0% | |
| 13.02 | | Capacity Building | Number | 1 | 10 | 10 | | | | 20% | 50% | 30% | 0% | 0% | |
| 13.03 | | E-financing | Number | 1 | 10 | 10 | | | | 50% | 50% | 0% | 0% | 0% | |
| 13.04 | | Strict Implementation Strategy | Number | 1 | 10 | 10 | | | | 0% | 100% | 0% | 0% | 0% | |
| | | | Total | | | 40.00 | | | | 38% | 55% | 8% | 0% | 0% | |
| 14 | Institutional Development Plan | | | | | | | | | | | | | | |
| 14.01 | | Setting independent planning authority | Number | 1 | 30 | 30 | | | | 80% | 20% | 0% | 0% | 0% | |
| 14.02 | | Capactiy building of institutions | Number | 1 | 20 | 20 | | | | 50% | 30% | 20% | 0% | 0% | |
| 14.03 | | Integrated Service Center | Number | 1 | 50 | 50 | | | | 100% | 0% | 0% | 0% | 0% | |
| 14.04 | | E-Governance | Number | 1 | 50 | 50 | | | | 50% | 50% | 0% | 0% | 0% | |

| S.N. | Projects | | Cost Estimation | | | | Phase-Wise Development | | | Investment Sector | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Unit | Qty | Rate (Milion Rs) | Amount (Milion Rs) | Short Term (0-3 Yrs) | Mid Term (3-5 Yrs) | Long Term (5-20Yrs) | Central Govt | Local Govt | NGOs/INGOs | Private Sectors | Others/Community | |
| | | | Total | | | 150.00 | | | | 70% | 25% | 5% | 0% | 0% | |
| 15 | | | | | | | | | | | | | | | |
| 15.01 | | Plantation | Number | 20 | 1 | 20 | | | | 50% | 50% | 0% | 0% | 0% | |
| 15.02 | | Subsidies in Electric Vehicles | Number | 100 | 0.2 | 20 | | | | 0% | 50% | 0% | 0% | 50% | |
| 15.03 | **Environment Management Plan** | Awareness Campaign | Number | 10 | 1 | 10 | | | | 50% | 25% | 25% | 0% | 0% | |
| 15.04 | | Resource Conservations | Number | 1 | 20 | 20 | | | | 50% | 50% | 0% | 0% | 0% | |
| 15.05 | | Urban Parks | Number | 1 | 100 | 100 | | | | 0% | 50% | 0% | 0% | 50% | |
| 15.06 | | Water Bodies | Number | 1 | 100 | 100 | | | | 0% | 50% | 0% | 0% | 50% | |
| | | | Total | | | 270.00 | | | | 25% | 46% | 4% | 0% | 25% | |
| 16 | | | | | | | | | | | | | | | |
| 16.01 | | DRM Preparation and Implementation | Number | 1 | 200 | 200 | | | | 50% | 50% | 0% | 0% | 0% | |
| 16.02 | **Disaster Risk Reduction Plan** | Disaster Response team | Number | 1 | 20 | 20 | | | | 0% | 50% | 0% | 0% | 50% | |
| 16.03 | | Awareness and Training | Number | 1 | 5 | 5 | | | | 50% | 50% | 0% | 0% | 0% | |
| 16.04 | | Strict Building Code Implementation | Number | 1 | 10 | 10 | | | | 0% | 100% | 0% | 0% | 0% | |

| S.N. | Projects | | Cost Estimation | | | | Phase-Wise Development | | | Investment Sector | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Unit | Qty | Rate (Milion Rs) | Amount (Milion Rs) | Short Term (0-3 Yrs) | Mid Term (3-5 Yrs) | Long Term (5-20Yrs) | Central Govt | Local Govt | NGOs/INGOs | Private Sectors | Others/Community | |
| 16.05 | | Capacity Building | Number | 1 | 20 | 20 | | | | 0% | 50% | 25% | 0% | 25% | |
| 16.06 | | Fire Station | Number | 1 | 200 | 200 | | | | 50% | 50% | 0% | 0% | 0% | |
| 16.07 | | Disaster Evacuation Zone | Number | 1 | 10 | 10 | | | | 50% | 50% | 0% | 0% | 0% | |
| | | | Total | | | 465.00 | | | | 29% | 57% | 4% | 0% | 11% | |
| 17 | **Climate Change Adaptation Plan** | | | | | | | | | | | | | | |
| 17.01 | | Awareness and Training | Number | 1 | 2 | 2 | | | | 25% | 50% | 25% | 0% | 0% | |
| 17.02 | | Plantation and Conservation of resources | Number | 20 | 10 | 200 | | | | 50% | 25% | 25% | 0% | 0% | |
| 17.03 | | Pervious Pavement | Number | 20 | 2 | 40 | | | | 25% | 75% | 0% | 0% | 0% | |
| 17.04 | | Promoting Building friendly technology and materials | Number | 1 | 20 | 20 | | | | 0% | 100% | 0% | 0% | 0% | |
| 17.05 | | Implementation of Environment Protection law | Number | 1 | 50 | 50 | | | | 50% | 50% | 0% | 0% | 0% | |
| | | | | | | 312 | | | | 30% | 60% | 10% | 0% | 0% | |

## Table 33: MSIP Summary Sheet

**SUMMARY SHEET OF CHAURJAHARI MUNICIPALITY**

| S.NO. | SUBJECT | TOTAL BUDGET ( Million Rs.) | Phase-Wise Development | | | INVESTMENT SECTOR | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ST (0-5 YRS) | MT (5-10 YRS) | LT (10-20 YRS) | Central Govt | Local Govt | I/NGO's | Pvt Sectors | Others | |
| **A. PHYSICAL INFRASTRUCTURE DEVELOPMENT PLAN** | | | | | | | | | | | |
| 1 | Road Network and Transportation Plan | 2663.15 | 20% | 20% | 60% | 55% | 40% | 0% | 5% | 0% | |
| 2 | Water Supply | 385.00 | 20% | 20% | 60% | 55% | 40% | 0% | 5% | 0% | |
| 3 | Drainage and Sanitation | 262.00 | 20% | 20% | 60% | 40% | 20% | 10% | 15% | 15% | |
| 4 | Solid Waste Management | 900.00 | 30% | 30% | 40% | 75% | 25% | 0% | 0% | 0% | |
| 5 | Electricity and Communications | 403.00 | 40% | 60% | 20% | 50% | 40% | 0% | 10% | 0% | |
| | Sub Total | 4613.15 | | | | | | | | | |
| **B. SOCIAL INFRASTRUCTURE DEVELOPMENT PLAN** | | | | | | | | | | | |
| 6 | Education | 1200.00 | 20% | 30% | 50% | 60% | 23% | 8% | 8% | 0% | |
| 7 | Health | 782.00 | 20% | 30% | 50% | 58% | 35% | 4% | 4% | 0% | |
| 8 | Security | 320.00 | 30% | 40% | 30% | 80% | 20% | 0% | 0% | 0% | |
| 9 | Recreation | 420.00 | 20% | 30% | 50% | 50% | 25% | 0% | 25% | 0% | |
| 10 | Urban and social infrastructures | 340.00 | 20% | 20% | 60% | 100% | 0% | 0% | 0% | 0% | |
| | Sub Total | 3062.00 | | | | | | | | | |
| **C. MISCELLENIOUS DEVELOPMENT PLAN** | | | | | | | | | | | |
| 11 | Cultural and Tourism Development Plan | 310.00 | 20% | 30% | 50% | 0.00% | 70.00% | 0.00% | 12.50% | 17.50% | |
| 12 | Economic Development Plan | 1875.00 | 30% | 30% | 40% | 32.86% | 38.57% | 0.00% | 28.57% | 0.00% | |
| 13 | Financial Development Plan | 40.00 | 40% | 30% | 30% | 37.50% | 55.00% | 7.50% | 0.00% | 0.00% | |
| 14 | Institutional Development Plan | 150.00 | 40% | 40% | 20% | 70.00% | 25.00% | 5.00% | 0.00% | 0.00% | |
| 15 | Environment Management Plan | 270.00 | 30% | 30% | 40% | 25.00% | 45.83% | 4.17% | 0.00% | 25.00% | |

| S.NO. | SUBJECT | TOTAL BUDGET ( Million Rs.) | Phase-Wise Development | | | INVESTMENT SECTOR | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ST (0-5 YRS) | MT (5-10 YRS) | LT (10-20 YRS) | Central Govt | Local Govt | I/NGO's | Pvt Sectors | Others | |
| 16 | Disaster Risk Reduction Plan | 465.00 | 40% | 30% | 30% | 28.57% | 57.14% | 3.57% | 0.00% | 10.71% | |
| 17 | Climate Change Adaptation Plan | 312.00 | 40% | 30% | 30% | 30.00% | 60.00% | 10.00% | 0.00% | 0.00% | |
| | Sub Total | 3422.00 | | | | | | | | | |
| | **Total Investment Reqd in M Rs.** | | | | | 18521.38 | 13589.91 | 1155.49 | 2451.78 | 1493.16 | |
| | **Contribution in %** | | | | | 49.77% | 36.52% | 3.11% | 6.59% | 4.01% | |
| | **POTENTIAL INVESTORS** | | | | | **Central Govt** | **Local Govt** | **I/NGO's** | **Pvt. Sectors** | **Others** | |

# 7. PLANNING BYE LAWS

## 7.1 FIELD INVESTIGATION AND VERIFICATION

The outcome of discussion held with Planning and Building Byelaws Preparation Task force and the information from the workshop was juxtaposed with conceptual framework for bylaws preparation envisaged in inception report and the necessary revision was made to arrive at preliminary guidelines for the field investigation and verification. One of the important revisions made to the conceptual framework included the mapping of existing built up and the urban expansion areas as field verification identified the shortcoming of the maps of built up and expansion areas given in Integrated Development plans. So mapping activity was carried out using GPS tracking and taking reference from Integrated Action Plans. This essentially included;

- Mapping of the existing built up areas was carried out according to the type, use of existing buildings in relation to the access and topographical features of the land.
- Mapping was carried out for the possible residential expansion areas based upon on the current trend of the building activities (substantiated by building permit data of past three years, land subdivision and sales and on site observation)
- Mapping and verification of new landuse zones as suggested by the group discussions and their on-site investigation in terms of topography, topographical limitation to expansion, access and applicability of existing road and its Right of Way (RoW) based upon standard density calculations
- Mapping of existing institutional areas and expansion areas was carried out
- Field observation of the environmentally sensitive areas as indicated in the periodic plan, IAP plan and according to the workshop outcomes.
- Tracking tentative area of proposed landuse by using GPS and new alignments of the road network was carried out.

## 7.2 OBSERVATIONS

- Field observation of existing residential plot size, setbacks, ground coverage, storey/FAR was carried out
- Field observation of existing urban design elements of building façade, streetscape and volumetric disposition of building in relation to the open space in case of Chaurjahari Municipality was carried out for urban design control
- Field observation of existing urban design elements of building façade, streetscape and volumetric disposition of building in relation to the terraced terrain in case of Chaurjahari Municipality was carried out for urban design control
- Field data collection was carried out regarding the possible boundaries by names, landmarks, land value, land transaction and its locational attributes
- For the preservation of existing heritage area, design of building façade is going to decorate day by day in Chaurjahari municipality.

Some specific and important comments made during the presentation were as follows.

- The architectural control proposed needs to be compatible with the architectural code section of NBC

- The minimum plots size requirements for the public building needs to be worked on the basis of the per person use standards of the spaces taking reference for architectural code section of NBC
- The definition sections of the report needs to be simplified and the English terminology to be used alongside the Nepali headings far as possible
- A proper coding the hierarchy of roads in each municipality and need for assessing the potential expansion of proposed commercial streets
- A judicious assessment of FAR with the alternatives of designating the no of floors

During the visit, minor comments were made which were mainly related to ROW and minimum size of the plot. During the third visit respective municipalities decided in writing to present the proposed planning and building bylaws to municipal board/council for the approval and then enactments.

The suggestions made were:

- Clarity on agricultural areas indication in landuse plan
- Concerned were raged about some of the ROW delineation and the naming of the road
- Local leaders were of the opinion that the proposal made in bylaws should be discussed at ward level or rather Tole level and they agreed that on the submission of the draft final they will discuss the bylaws prepared by consultant at ward level before recommending it to municipal council for final approval
- Few ambiguities related to definitions and some of the bylaws provisions were pointed out and discussed for its practical implementation

**After all the field visit and discussions, the IDP Team Proposed Final Draft documents for the Planning and Building byelaws as follows:**

# परिच्छेद १ योजना मापदण्ड (Planning Bylaws)

## सामान्य व्यवस्था (General Provision)

यस परिच्छेदको सामान्य व्यवस्था अन्तर्गत पर्ने नियमनका प्रावधानहरू भूखण्डीकरण गरी गरिने योजनाबद्ध आवास विकासको हकमा केही फरक पर्ने भए पनि सामान्यतया यस मापदण्डले समेटेका सबै क्षेत्रमा लागू हुनेछ । भूखण्डीकरण गरी गरिने योजनाबद्ध आवास विकासको हकमा फरक पर्ने प्रावधानहरू भएमा सोको उल्लेख सम्बन्धित उपखण्डहरूमा गरिएको छ ।

## १.१ पहुँच बाटो (Means of Access)

भूखण्डीकरण गरी गरिने योजनाबद्ध आवास विकासदेखि बाहेक कुनै पनि भवन वा प्लटमा आवतजावतको निमित्त निजी वा सार्वजनिक बाटो जोडिएको हुनुपर्नेछ र कुनै पनि भवन निर्माण गर्दा आवत जावतको निमित्त आवश्यक पर्ने बाटो अतिक्रमण हुनेगरी वा क्षेत्रफल घट्नेगरी बनाउन पाइने छैन । कुनै प्रकारको निर्माण गर्दा अर्को भवन वा निर्माणलाई यस्तो प्रवेशको माध्यमबाट वञ्चित गर्न पाइने छैन । सबै आवासीय प्लटहरू सार्वजनिक बाटो वा त्यस्ता बाटोसम्म पुग्ने अन्य कुनै माध्यमसँग जोडिएको हुनुपर्नेछ (**तालिका नं. १**) ।

| तालिका नं. १ | | | | |
|---|---|---|---|---|
| क्र. सं. | भवनको प्रकार र प्रयोजन | पहुँच बाटोको चौडाइ (मी.) | पहुँच बाटोको लम्बाइ (मी.) | कैफियत |

| | | | | |
|---|---|---|---|---|
| १.१ | आवासीय भवनहरू (सार्वजनिक भवनहरू अन्तर्गत उल्लेख भएबाहेकका आवासीय वा मिश्रित उपयोग वा प्रयोजन भएका भवनहरू) | ४.०<br>६.०<br>८.० | ५०<br>२००<br>१००० | भूखण्डीकरण गरी विकास गरिने जग्गाको हकमा बाटोको चौडाइ बाटोको मुखभन्दा भित्र सानो चौडाइको बनाउन पाइने छैन । |
| १.२ | सार्वजनिक भवनहरू (टेबल नं. १ को १.१ मा उल्लेख भएका आवासीय भवनहरूबाहेकका सार्वजनिक उपयोग वा प्रयोजन भएका भवनहरू) | ६.०<br>८.०<br>१०.०<br>१५.० | १००<br>२००<br>३००<br>५०० | |

## १.२ खुला क्षेत्रहरू (Open Spaces)

क) निजी, आवासीय तथा सार्वजनिक भबनहरू निर्माण गर्दा छाड्नु पर्ने खुला क्षेत्र अधिकतम ग्राउण्ड कभर तथा एफएआरबाट नियन्त्रण गरिनेछ ।

ख) ३ रोपनीभन्दा कम क्षेत्रफल भएको जग्गालाई योजनाबद्ध आवासीय क्षेत्र विकासको लागि भूखण्डीकरण गर्न स्वीकृति दिइने छैन र यसरी गरिने योजनाबद्ध आवासीय क्षेत्रमा खुला सार्वजनिक क्षेत्रका लागि छुट्याइएको जमिनको क्षेत्रफल निम्न अनुसार हुनेछ :

| | |
|---|---|
| ३ रोपनीदेखि माथी | जम्मा जग्गाको ५ प्रतिशत |

## १.३ प्लटसम्बन्धी व्यवस्था (Plot Regulations)

क) कुनै पनि जमिनमा खुला भाग, प्यासेज आदि सहित उचित प्रकारले पानी निकास हुने व्यवस्था हुनुपर्नेछ र ढल (Sewer) मा कुनै पनि प्रकारको निकास (Sub soil or surface water drain) जोड्नु परेमा सम्बन्धित अधिकारीको लिखित स्वीकृति लिनुपर्नेछ ।

ख) विद्युत नियमावलीले तोकेको विद्युत लाइनको दायाँ बायाँको दुरीभित्र कुनै पनि प्रकारको निर्माण गर्न वा भवनको कुनै पनि भाग उठाउन वा फेरबदल गर्नसमेत पाइने छैन । यससम्बन्धी व्यवस्था ***परिच्छेद २ को खण्ड २.९ उपखण्ड २.९.५*** मा दिइए अनुसार हुनेछ ।

ग) पुरानो आवासीय तथा व्यापारिक क्षेत्रबाहेकको अन्य भू-उपयोग क्षेत्रहरूमा एक वा सोभन्दा बढी कित्ताहरू हुनसक्ने कुनै एक आवासीय प्लटको कुल न्यूनतम क्षत्रेफल ४ आना भन्दा कम हुनेगरी कित्ताकाट भएको प्लटमा निर्माण स्वीकृति दिइने छैन । भूखण्डीकरण गरी गरिने योजनाबद्ध सामूहिक आवास विकास क्षेत्रको हकमा भने न्यूनतम क्षत्रेफल ***परिच्छेद २ को खण्ड २.१ उपखण्ड २.१.३*** मा दिइए अनुसार हुनेछ । सिमित पैतृक सम्पत्तिको बण्डा गर्दा वा यो मापदण्ड लागूहुनुभन्दा पहिले नै न्यूनतम क्षेत्रफल ४ आना भन्दा कम कायम भएको अवस्थामा भने यो प्रावधान लागू हुनेछैन ।

घ) एक आपससँग जोडिएका साना ठुला कित्ताहरुको क्षेत्रफल घटबढ गरि मिलान गर्न परेको खण्डमा न्यूनतम तोकिएको क्षेत्रफल ४ आना भन्दा कम हुने गरि मिलान भएको पाइए त्यस्ता प्लटहरुमा निर्माण स्वीकृति दिइने छैन ।

ङ) योजनाबद्ध आवासीय क्षेत्रको लागि भूखण्डिकरण गर्दा निर्माणको प्रकृति अनुसार जग्गाको न्यूनतम मोहडा निम्नानुसार हुनुपर्नेछ :

| निर्माणको प्रकृति | मोहडा/अग्रभाग (Frontage) |
|---|---|
| असम्बद्ध (Detached) भवन वा निर्माण | ९ मी. वा सोभन्दा माथि |
| आपसमा सम्बद्ध (Semi-detached) भवन वा निर्माण | ८ मी. वा सोभन्दा माथि |
| पङ्क्तिबद्ध (Row type) भवन वा निर्माण | ६ मी. |
| प्लट र मोहडाको गहिराइ अनुपात | १:२ अथवा १:२.५ |

च) भूखण्डीकरण गरी गरिने योजनाबद्ध सामूहिक आवास विकास क्षेत्र र योजनाबद्ध औद्योगिक क्षेत्रको हकमा सोसम्बन्धी मापदण्डमा उल्लेख भए अनुसार प्लट साइज हुनेछ । अन्यथा औद्योगिक क्षेत्रको प्लटको क्षेत्रफल न्यूनतम पनि २०० वर्ग मी. र यसको चौडाइ १० मी. भन्दा कम हुनुहुँदैन ।

छ) नयाँ खोलिने सडकहरूको न्यूनतम चैडाइ ६ मी. भन्दा कमको दिइने छैन तर प्लटमा पुग्ने साबिकका साना बाटाहरूको चौडाइ ४ मी. भन्दा कम भएमा र यस्ता सडकहरूमा छाडिनु पर्ने खुला भाग (Setbacks) सोसम्बन्धी खण्ड १.४ को उपखण्ड १.४.२ मा दिइए अनुसार हुनेछ ।

## १.४ खुला भाग (Setbacks)

### १.४.१ खुला भाग मापदण्ड ( Open Space Bylaws)

| तालिका नं. २ | | | |
|---|---|---|---|
| क्र.सं. | भवनको प्रकार | अधिकतम भवनको उचाइ ( मी.) | भवनको खुला छाड्नु पर्ने (Setbacks) |
| १. | आवासीय | १० मिटरसम्म | तल १.४.२ र १.४.४ मा लेखिएबमोजिम |
| २. | आवासीय (मिश्रित आवासीय) | १० देखि १५ मिटरसम्म | तल १.४.३ र १.४.४ मा लेखिएबमोजिम |
| ३. | सार्वजनिक भवनहरू | १५ मिटरसम्म | तल १.४.५ मा लेखिएबमोजिम |
| ४. | औद्योगिक भवनहरू | १२ मिटरसम्म | ४ मिटर चारैतिर |

### १.४.२ घर अगाडिको खुला भाग सम्बन्धी व्यवस्था ( Front Setback Provision)

आवासीय घरको हकमा अगाडिको विद्यमान मोटर बाटो ६.० मी. वा सोभन्दा माथि भएमा १.५ मी. सेटब्याक छाड्नु पर्नेछ । ६ मी. भन्दा कम चौडाइ भएको मोटर बाटोका लागि भवन वा निर्माणरेखा बाटोको केन्द्रबाट कम्तीमा पनि ४.५ मी. हुनुपर्नेछ ।

### १.४.३ घरपछाडिको खुला भाग सम्बन्धी व्यवस्था ( Rear Setback Provision)

आवासीय घर निर्माण गर्दा पछाडिपट्टि खुला भागको औसत चौडाइ १.५ मी. हुनुपर्नेछ र कुनै पनि ठाउँको चौडाइ १.५० मिटरभन्दा कम हुनुहुँदैन । साइटको प्रकृति ब्याक-टु-ब्याक साइट (Back-to-back site) भएमा पछाडिको खुला भागको चौडाइ सबैतिर १.५ मी. हुनुपर्नेछ ।

### १.४.४ घरको साइडको खुला भाग सम्बन्धी व्यवस्था ( Side Setback Provision)

आवासीय घर वा निर्माणको हकमा कुनै पनि आपसमा सम्बद्ध (Semi-detached) र असम्बद्ध (Detached) भवन वा निर्माणमा निम्न अनुसारको खुला भाग हुनुपर्नेछ :

क) असम्बद्ध भवन वा निर्माणको दुवैतर्फ कम्तीमा १.५ मी. को खुलाभाग हुनुपर्नेछ ।

ख) आपसमा सम्बद्ध भवन वा निर्माणको एकातर्फ कम्तीमा १.५ मी. को खुला भाग हुनुपर्नेछ ।

ग) पङ्क्तिबद्ध भवन वा निर्माणका हकमा साइडतर्फ खुला भाग आवश्यक पर्ने छैन ।

### १.४.५ सार्वजनिक भवनको खुला भाग (Public Buildings Setback)

क) शैक्षिक प्रयोजनका लागि बन्ने भवन वा निर्माण (नर्सरी स्कुलबाहेक अन्ये का लागि त्यस्तो भवन वा निर्माणवरिपरिको खुला भाग कम्तीमा ३.० मी. हुनुपर्नेछ ।

ख) संस्थागत ९क्ल्कतष्तगतष्यलबा० भवन वा निर्माणहरू वरिपरिको खुला भाग कम्तीमा पनि ३.० मी. हुनुपर्नेछ ।

ग) सभा, सम्मलेन वा भीड जम्मा हुने ९ब्ककभ्कर्दाथ० भवन वा निर्माणहरूको निमित्त अगाडिको खुला भाग कम्तीमा १२ मी. र साइडका खुलाभाग कम्तीमा ६ मी. को हुनुपर्नेछ ।

### १.४.६ सेटब्याकमा छूट (Incentives on Setbacks)

क) चौडाइ ०.५० मी. भन्दा बढी नहुनेगरी कर्निस (Cornice) छाना वा वेदर सेड (Weather shade) राख्न पाइनेछ तर यस्तो वेदर सेड सम्पूर्ण तलाका छानाबाट निकाल्न अनुमति दिनसकिने छ ।

ख) चौडाइ ०.५० मी. भन्दा बढी नहुनेगरी सबै भ्याल, ढोका आदिमा सनसेड (Sun shade) का लागि अनुमति दिन सकिनेछ ।

ग) भइरहेको भवन वा निर्माणको पछाडिपट्टिको खुला भागमा प्लटको सिमानाबाट १ मी. को दुरीमा खुला भागमा जमिनमुनि बन्ने सेनिटरी (Sanitory) सम्बन्धी निर्माण गर्न दिइनेछ ।

घ) पार्किङका निमित्त साइड वा पछाडिको खुला भागमा २.४ मी. उचाइसम्मको ग्यारेज बनाउन अनुमति दिन सकिनेछ ।

ङ) २.५ वर्ग मी. सम्म क्षेत्रफलको पम्प हाउसलाई अनुमति दिन सकिने छ ।

## १.५ सडक अधिकार क्षेत्र (Road Right of Way )

सडक तथ भवनहरूमा पर्याप्त प्रकाश, हावा तथा पैदल तथा आवतजावतको सुगमताका लागि नगरभित्रका सडकहरूको आवश्यक न्यूनतम सडक अधिकार क्षेत्र तोक्ने र तत्सम्बन्धी व्यवस्था ***परिच्छेद (सडक मापदण्ड)*** मा दिइए अनुसार हुनेछ ।

## १.६ पार्किङसम्बन्धी व्यवस्था (Parking Provision)

### १.६.१ आवासीय भवन तथा निर्माण (Residential Buidlings/Construction)

कारका लागि पहुँच सडक उपलब्ध भएको खण्डमा :

क) एकल हकभोग (Single occupancy) भएको भवनका लागि कम्तीमा १ कारको लागि पार्किङ क्षेत्र

ख) दोहोरो हकभोग (Double occupancy) भएको भवनका लागि कम्तीमा १ कार तथा १ मोटरसाइकलको लागि पार्किङ क्षेत्र

### १.६.२ सार्वजनिक भवन तथा निर्माण (Public Building/Construction)

| | | (कुल जग्गाको क्षेत्रफलको) |
|---|---|---|
| क) | ठुला होटलहरु | २० प्रतिशत |
| ख) | सिनेमा हल, सभागृह, थियटर आदि | २० प्रतिशत |
| ग) | व्यापारिक कम्प्लेक्स, सुपरमार्केट आदि | २० प्रतिशत |
| घ) | नर्सिङहोम, पोलिक्लिनिक आदि | १५ प्रतिशत |
| ङ) | सरकारी, अर्धसरकारी कार्यालय | २० प्रतिशत |
| च) | स्कुल, क्याम्पस | १५ प्रतिशत |

## १.७ वास्तुशिल्पीय नियन्त्रण (Architectural Control)

आवास प्रयोगकर्ताको स्वास्थ, ठाउँको प्रभावकारी उपयोग तथा भवनको सुन्दरताका लागि आवश्यक न्यूनतम वास्तुशिल्पीय नियन्त्रणसम्बन्धी व्यवस्था ***परिच्छेद ३ को खण्ड ३.८*** मा दिइए अनुसार हुनेछ ।

## १.८ विपद् जोखिम न्यूनीकरण नियमनहरू (Disaster Risk Reduction Regulations)

### १.८.१ नदी एवं कुलाको किनाराबाट छाड्नु पर्ने दुरी (Setbcks for Riveredge)

क) भेरी नदी किनारबाट निर्माणका लागि छाड्नु पर्ने न्यूनतम दुरी २०० मीटर हुनेछ ।

ख) अन्य खोलाहरुको हकमा किनारबाट निर्माणका लागि छाड्नु पर्ने न्यूनतम दुरी ३० मीटर हुनेछ ।

*पुनश्चः * सिञ्चाइ विभागले तोकेको न्यूनतम स्तरमान भएको तटबन्ध सम्झनु पर्दछ ।*

### १.८.२ पहिरोसम्बन्धी नियमन (Landslide Regulation)

कुनै पनि जमिनको भू-सतह ३० डिग्रिभन्दा बढी भिरालो (Slope) भएमा तथा बिगत १० वर्षभित्र पहिरो गएको इतिहास भएमा त्यस्तो क्षेत्रमा भवन तथा अन्य निर्माण गर्न निम्न शर्तहरू पूरा गर्नु पर्नेछ ।

क) निर्माणको लागि स्वीकृति लिदा निर्माणकर्ताले योग्य प्राविधिक ईन्जिनियर वा सम्बन्धीत प्राविधिक निकायद्वारा तयार पारेको भौगर्भिक तथा स्लोपसम्बन्धी विस्तृत इन्जिनियरिङ्ग विश्लेषण अध्ययन प्रतिवेदनका आधारमा स्थायी प्रकृतिको निर्माण गर्न इजाजत दिइनेछ ।

ख) विद्यालय, स्वास्थ्य संस्था आदि जनधनका हिसाबले संवेदनशील भवन तथा निर्माणहरू गर्न दिइने छैन ।

### १.८.३ अग्निसुरक्षा (Fire Safety)

सुरक्षित शहरी बसाइ तथा अग्निप्रकोपको जोखिम तथा यसको सुरक्षासम्बन्धी आवश्यक न्यूनतम अग्निसुरक्षा व्यवस्था ***परिच्छेद २ को खण्ड २.८ उपखण्ड २.९.८*** मा दिइए अनुसार हुनेछ ।

### १.८.४ भूकम्पीय सुरक्षा (Seismic Safety)

सुरक्षित शहरी बसाइ तथा भूकम्पीय प्रकोपको जोखिम तथा यसको सुरक्षासम्बन्धी आवश्यक न्यूनतम भूकम्पीय सुरक्षा व्यवस्था (जस्तै : भवनको संरचनागत निर्माणका लागि चाहिने जग (Foundation, Reinforced Concrete, Structural Steel, Timber, आदि सम्बन्धी डिजाइन) National Building Code अनुरूप हुनेछ ।

ANNEX D -Building Bye laws

## परिच्छेद २ : भवन मापदण्ड (Building Bylaws)

### २.१ आवासीय क्षेत्र (Residential Zone)

आवासीय क्षेत्र भन्नाले भू-उपयोग नक्सामा अङ्कित न्यूनतम भौतिक, सामाजिक, आर्थिक तथा वातावरणिय पूर्वाधारहरू भएको र मुख्यत: आवासका निमित्त प्रयोग भएको क्षेत्र (अनुसूची २) लाई जनाउँदछ । विद्यमान शहरी जग्गा विकासका सूचकहरूलाई आधार मानी तथा भू-उपयोग नक्सामा देखाइएको आवासीय क्षेत्रहरूको स्थलरूप, मोटामोटी क्षेत्रफल तथा सम्भाव्य जनघनत्वका आधारमा यस क्षेत्रलाई निम्न उपक्षेत्रमा विभाजन गरी सोको आवासीय मापदण्ड तर्जुमा गरिएको छ ।

क) पुरानो आवासीय तथा बजार उपक्षेत्र

ख) आवासीय विस्तार उपक्षेत्र

ग) योजनाबद्ध आवासीय उपक्षेत्र

घ) व्यापारिक उपक्षेत्र

ङ) संस्थागत उपक्षेत्र

च) औधोगिक उपक्षेत्र

छ) कृषि क्षेत्र

### २.१.१ पुरानो आवासीय तथा बजार उपक्षेत्र (Old Residential & Commercial Sub Zone)

पुरानो आवासीय तथा वजार उपक्षेत्र भन्नाले पुरानो परम्परागत आवासीय तथा बजार क्षेत्रभित्र रहेका ऐतिहासिक, पुरातात्विक एवं सांस्कृतिक हिसाबले महत्वपूर्ण सम्पदा ९जभचष्तबनभ० हरू रहेको, संरक्षण रणनीति अनुसार अतिक्रमण आदिको जोखिम न्यूनीकरणको प्रयास भइरहेको क्षेत्र (अनुसूची १) लाई जनाउँदछ । यस क्षेत्रभित्र निम्न भू-भागहरूलाई समेटिएको छ ।

क) बिजेश्वरी गाँउ, लापुले गाँउ, नाखिरा

ख) यस क्षेत्रमा निर्माण हुने भवनहरूको घडेरीको क्षेत्रफल, अधिकतम ग्राउण्ड कभरेज, अधिकतम एफएआर, अधिकतम बनाउन पाउने क्षेत्रफल र अधिकतम उचाइ तालिका नं. ३ बमोजिम हुनेछ ।

**तालिका नं. ३**

| क्र. सं. | भवनको प्रकार | अधिकतम ग्राउण्ड कभरेज (%) | अधिकतम FAR | अधिकतम तला | अधिकतम उचाइ |
|---|---|---|---|---|---|
| १ | नयाँ आवासीय भवन | ८० | | ३ | ३० फिट (९.१० मी.) |
| २ | पुन:निर्माण हुने घरहरूको हकमा | १०० | | ३ | |

ग) संरक्षित स्मारक क्षेत्र अन्तर्गत कला, वास्तुकला एवं धार्मिक दृष्टिकोणबाट महत्वपूर्ण रहेको स्मारक वा स्मारकको कम्पाउण्डको वरिपरिका पहिलो पङ्क्तिका घरहरू चाहे अन्य जुनसुकै भूक्षेत्र क्षेत्रिकरणमा परेता

पनि स्मारकभन्दा होचो हुनेगरी वा अधिकतम उचाइ ३० फिट (९.१० मी.) भन्दा नबढने गरी निर्माण गर्नु पर्नेछ ।

घ) यस उपक्षेत्रमा निम्न कार्यहरूलाई निषेध गरिएको छ । तल उल्लेख भएका निषेधित कार्यहरु बाहेक यस उपक्षेत्रको सांस्कृतिक तथा ऐतिहासिक पक्षलाई जोगाइराख्न नगरपालिकाले यस उपक्षेत्रमा गर्न पाइने वा निषेध गरिएका भूउपयोग सम्बन्धी क्रियाकलापहरुलाई सुचना प्रकासित गरी बिभिन्न समयमा आवश्यकता अनुसार परिमार्जन गर्न सक्नेछ ।

- यस क्षेत्रमा कुनै प्रकारका पर्चा, पोष्टर, ब्यानर आदि टाँस्न वा राख्न पाइने छैन ।
- यस उपक्षेत्रभित्रका भवनहरू भत्काउनु पर्दा पुरातत्व विभागको स्वीकृति लिनु पर्नेछ ।
- धार्मिक, सांस्कृतिक तथा भौतिक वातावरणलाई प्रतिकुल वा दूषित पार्ने अन्य क्रियाकलापहरू गर्न,
- अग्नि, प्रज्वलनशील पदार्थ, जस्तै : ग्यास, पेट्रोल, दाउरा, कोइला, मट्टितेल र बिस्फोटक तथा रासायनिक पदार्थ व्यापारिक दृष्टिकोणबाट सञ्चय र बिक्री वितरण गर्न,
- व्यापारिक दृष्टिकोणबाट भिडियो प्रदर्शन गर्न,
- निर्माण सामग्रीहरू, जस्तै : सिमेन्ट, इँटा, छड, जस्तापता आदिको पसल राख्न,
- तोकिएको ठाउँबाहेक अन्य ठाउँमा घुम्ती वा स्थायी तरकारी पसल राख्न,
- काँचो माछा, मासु बेच्ने पसल तथा साइकल, मोटरसाइकल, मोटर, ठेला आदि मर्मत गर्ने पसल राख्न,
- ग्रिल वा वेल्डिङसम्बन्धी उद्योग वा वर्कशप सञ्चालन गर्न,
- कुखुरा, हाँस वा चौपाया (गाई, भैँसी, बङ्गुर आदि) पालन उद्योग सञ्चालन गर्न,
- यस उपक्षेत्रमा अरूको घरलाई असर नपर्ने तथा वरिपरिका स्मारक, धाराको मुहान आदिलाई प्रतिकुल असर नपर्ने गरी बेसमेण्ट, सेमिबेसमेण्ट बनाउन स्वीकृति दिन सकिनेछ ।
- यस उपक्षेत्रको विशेषतामा प्रतिकुल असर नपर्ने किसिमका आवासीय र आवाससँग सम्बन्धित व्यापारिक, शिल्पकला, धार्मिक र सांस्कृतिक उपयोगहरूका लागि अनुमति दिन सकिनेछ ।

### २.१.२ आवासीय क्षेत्र (Residential Zone)

आवासीय क्षेत्र भन्नाले आवासीय प्रयोजनको मिश्रण भएका भवनहरू रहेको क्षेत्रलाई जनाउँछ । यस क्षेत्रभित्र मूलतः निम्न भू-भागहरूलाई समेटिएको छ ।

क) चौरभ्कारी, कोटभ्कारी, नार्जि

ख) यस क्षेत्रमा निर्माण हुने भवनहरूको घडेरीको क्षेत्रफल, अधिकतम ग्राउण्ड कभरेज, अधिकतम एफएआर, अधिकतम बनाउन पाउने क्षेत्रफल र अधिकतम उचाइ **तालिका नं. ४** बमोजिम हुनेछ ।

**तालिका नं. ४**

| क्र. सं. | भवनको प्रकार | अधिकतम ग्राउण्ड कभरेज (%) | अधिकतम FAR | अधिकतम तला | अधिकतम उचाइ |
|---|---|---|---|---|---|
| १ | नयाँ आवासीय भवन | ७० | १.५ | ३ | ३० फिट (९.१० मि) |
| २ | पुनःनिर्माण हुने घरहरूको हकमा | ७० | १.५ | ३ | |

ग) यस उपक्षेत्रमा निम्न कार्यहरूलाई निषेध गरिएको छ । तल उल्लेख भएका निषेधित कार्यहरु बाहेक यस उपक्षेत्रको सांस्कृतिक तथा ऐतिहासिक पक्षलाई जोगाइराख्न नगरपालिकाले यस उपक्षेत्रमा गर्न पाइने वा निषेध गरिएका भूउपयोग सम्बन्धी क्रियाकलापहरुलाई सुचना प्रकासित गरी बिभिन्न समयमा आवश्यकता अनुसार परिमार्जन गर्न सक्नेछ ।

- भवनको प्रयोग र प्रयोजन परिवर्तन,
- कुखुरा तथा चौपाया पालन गर्न,
- घर बनाउँदा डिस्कवाला काठ चिर्ने मेसिनबाहेक स-मिल तथा काठ चिर्ने मेसिन प्रयोग गर्न,
- वातावरणलाई दूषित पार्ने वा प्रतिकुल असर पर्ने क्रियाकलापहरू सञ्चालन गर्न,
- अत्यधिक ज्वलनशील पदार्थ, जस्तै : ग्यास, पेट्रोल र अन्य रासायनिक पदार्थ भण्डार गर्न ।

### २.१.३ आवासीय विस्तार उपक्षेत्र (Residential Expansion Sub Zone)

आवासीय विस्तार उपक्षेत्र भन्नाले न्यूनतम भौतिक पूर्वाधार भएको, विद्यमान पूर्वाधार क्षेत्रबाट यातायात वा अन्य हिसाबले सामिप्य भएको, भौतिक तथा सामाजिक पूर्वाधारहरूको स्तरबृद्धि गर्नुपर्ने क्षेत्रलाई बुझ्नुपर्दछ (अनुसूची २) । यस उपक्षेत्रमा मुख्य आवासीय तथा बजार उपक्षेत्रमा उल्लेख गरिएभन्दा बाहेकका निम्न क्षेत्रहरू पर्दछन् :

क) नाखिरा, नार्जि, पुर्तिम काँडा

ख) यस क्षेत्रमा निर्माण हुने भवनहरूको घडेरीको क्षेत्रफल, अधिकतम ग्राउण्ड कभरेज, अधिकतम एफएआर, अधिकतम बनाउन पाउने क्षेत्रफल र अधिकतम उचाइ **तालिका नं. ५** बमोजिम हुनेछ ।

**तालिका नं. ५**

| क्र. सं. | भवनको प्रकार | जग्गाको क्षेत्रफल | अधिकतम ग्राउण्ड कभरेज (%) | अधिकतम FAR | अधिकतम उचाइ |
|---|---|---|---|---|---|
| १ | आवासीय | ४ आना<br>व देखि माथि | ७० | २.४० | उचाइ = (सडक चौडाइ X १.०) + २ सेटब्याकको योगफल* |
| २ | साना (७५ देखि १०० प्रयोगकर्ताकोलागि) शैक्षिक भवनहरु (किण्डरगार्डन, प्राइमरी बिद्यालय, डेकेयर सेण्टर आदि ) | न्यूनतम १६ आना | ४० | १.५ | उचाइ = (सडक चौडाइ X १.०) + २ सेटब्याकको योगफल* |
| ३ | संस्थागत भवन | न्यूनतम १६ आना | ५० | २.० | |
| ४ | तारे होटल | न्यूनतम ४८ आना | ४० | ३.० | |
| ५ | मझौला होटल, लज, डर्मिटरी तथा ब्यापारिक भवनहरू | न्यूनतम १६ आना | ४० | २.० | |
| ६ | सिनेमा हल, थिएटर, सभागृह फिक्सड सिटिङ्ग भएमा | न्यूनतम ४० आना | ४० | २.० | |

| | | | | | |
|---|---|---|---|---|---|
| | फिक्सड सिटिङ्ग भएमा | न्यूनतम २४ आना | | | |
| ७ | मिश्रित उपयोगको भवन (पसल, कार्यालय आदि) | न्यूनतम ८ आना | ६० | २.५ | |
| ८ | क्लिनिक, पोलिक्लिनिक | न्यूनतम १६ आना | ५० | २.५ | |
| *सडक किनारको दायाँ र बायाँ जोडिएका कित्ताहरूमा घर बनाउनु पर्दा छाड्नु पर्ने खुला क्षेत्र (setback) को कुल योगफल | | | | | |

ग) यस क्षेत्रको न्यूनतम घडेरी क्षेत्रफल ४ आनाभन्दा कमको कित्ताकाट गर्न पाइने छैन । तर, पुरानो कित्तामा कायम साबिकको घर भत्काई पुनःनिर्माण गर्नुपरेमा न्यूनतम क्षेत्रफल ४ आनाभएको जग्गामा १ मी. सेटब्याक छाडी साबिकको घर निर्माण गर्न दिइनेछ ।

घ) माथि उपखण्ड १.४.२ उल्लेख गरिए अनुरूप यस क्षेत्रमा भवनको अधिकतम उचाइ प्लटको मोहडातर्फ भएको बाटोको चौडाइ र मोहडातर्फबाट छाड्नु पर्ने सेटब्याकको अनुपात अनुसार हुनेछ ।

ङ) यस उपक्षेत्रमा बन्ने व्यापारिक तथा सार्वजनिक भवनहरूका लागि कम्तीमा पनि कुल क्षेत्रफलको २० प्रतिशत पार्किङ प्रयोजनका लागि छुट्याउनु पर्दछ ।

च) यस उपक्षेत्रमा बन्ने आवासीय प्रयोजनबाहेक मिश्रित प्रयोजनका हिसाबले बनाइएका भवन तथा निर्माण ( आवासीय तथा व्यापारिक अदि) हरूका हकमा कम्तीमा पनि कुल क्षेत्रफलको १५ प्रतिशत पार्किङ प्रयोजनका लागि छुट्याउनु पर्दछ ।

**छ) यस क्षेत्रमा निषेध गरिएका उपयोगहरू (क्रियाकलापहरू) अनुसूची १ मा दिइएको छ ।**

### २.१.४ योजनाबद्ध आवासीय उपक्षेत्र (Planned Residential Sub Zone)

योजनाबद्ध आवासीय उपक्षेत्र भन्नाले न्यूनतम भौतिक पूर्वाधार भएको, जग्गाको अनुकुल स्थलरूप, प्रकृति, विद्यमान भूखण्डीकरण तथा किनबेचको प्रवृत्ति र पूर्वाधारको स्तरबृद्धिको सम्भाव्यतालाई आधारमानी अङ्कत गरिएको क्षेत्रलाई बुझ्नुपर्दछ । यस उपक्षेत्रभित्र निम्न क्षेत्रहरूलाई समेटिएको छ :

क) नाखिरा, नार्जि, पुर्तिम काँडा, खोला गाँउ,

ख) नगर क्षेत्रभित्र व्यवस्थित तथा योजनाबद्ध आवास विकास गरिँदा सम्बन्धित नगरपालिकाबाट आधारभूत सुविधाहरूको स्तर (जस्तै बाटो, ढल, खानेपानी, विजुलीको स्तर) तालिका नं. ६ बमोजिमको योजना मापदण्ड अनुसार खुलाएर योजना बनाई स्वीकृत गराउनु पर्नेछ ।

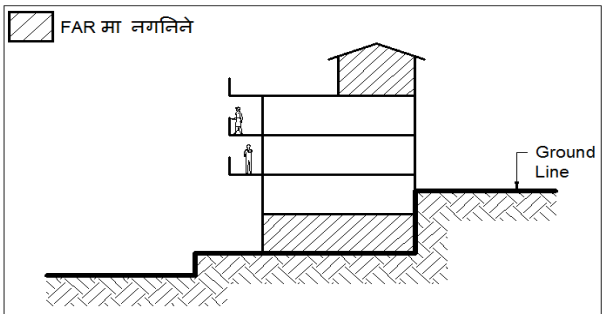
**तालिका नं. ६** मा दिइएको योजना मापदण्ड योजनाबद्ध आवासीय उपक्षेत्रदेखि बाहेक अन्य जुनसुकै क्षेत्रमा निजी तथा सार्वजनिक क्षेत्रले भूखण्डीकरण गरी गरिने योजनाबद्ध आवास विकास गर्ने सन्दर्भमा लागू हुनेछ ।

**तालिका नं. ६**

| क्र. सं. | पूर्वाधारको प्रकार | न्यूनतम नाप | कैफियत |
|---|---|---|---|
| १ | योजनाबद्ध आवासीय क्षेत्र विकासको लागि चाहिने जग्गाको न्यूनतम क्षेत्रफल | • ३ रोपनी | |

| | | | |
|---|---|---|---|
| १ | मूल सडक जोड्ने बाटो | • १४ (आठ) मिटर न्यूनतम[1]देखि ठाउँ तथा प्रस्तावित घनत्व हेरी अधिकतम २२ मिटरसम्म | |
| २ | ब्लक ब्लकमा जानेबाटो | • १० (पाँच) मिटर न्यूनतम | |
| ३ | प्लट प्लटमा जाने बाटो | • ८ (चार) मिटर न्यूनतम | |
| ४ | टुङ्गिने बाटो (cul de sac) को अधिकतम लम्बाइ | • ४० मिटर | |
| ५ | विकसित घडेरीको न्यूनतम क्षेत्रफल | • ३ आना | |
| ६ | घडेरीको चौडाइ | • १० मिटर न्यूनतम | |
| ७ | घडेरीको गहिराइ (plot depth) | • ४ आनाभन्दा बढी ८ आनासम्म चौडाइको २ गुणा<br>• ८ आनाभन्दा बढी १२ आनासम्म चौडाइको २.५ गुणा<br>• १२ आना भन्दा बढि भएमा चौडाइको ३ गुणा | |
| ८ | खुला सार्वजनिक क्षेत्र (बाटोबाहेक ) | • ३ रोपनीदेखि माथी जम्मा जग्गाको ५ प्रतिशत | |
| ९ | सामुदायिक सुविधाहरूका लागि आवश्यक क्षेत्र | • ७५ रोपनीभन्दा माथि भएमा जम्मा जग्गाको थप ३.० प्रतिशत | |

ग) पहाडी सिँढिदार जमिन (terraced land) तथा सडकको दृश्य (streetscape) लाई अक्षुण्ण राख्न भवनको अग्लो भाग (जस्तै भ्याङ्ग छोप्ने stair cover) सडकतर्फ र माथिल्लो कौसी सिँढिदार जमिन (terraced land) पट्टि फर्काएरमात्र बनाउन दिइनेछ ***(हेरौं चित्रः टेरेस लाइनमा बनिने घर)***।



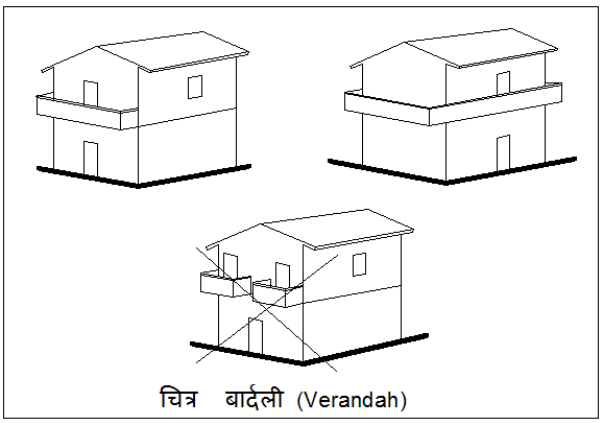
चित्र टेरेस (Terrace) लाइन मा बनिने घर

घ) योजनाबद्ध आवासीय उपक्षेत्रमा बन्ने भवनहरूले सडक अधिकार क्षेत्रपछि भवन बनाउँदा छाड्नु पर्ने खुला क्षेत्र (set back) १.५ मी. हुनेछ।

ङ) यस क्षेत्रमा बन्ने आवासीय तथा व्यापारिक दुवै प्रकारका घरहरूका छाना असम्बन्धित (detached) घरहरू भए दुईपाखे छानो हाली बनाइएको हुनुपर्दछ र यसरी दुईपाखे छाना हाल्दा बुँइगल (attic) बनेमा सोको क्षेत्रफल FAR मा गणना गरिने छैन। सम्बन्धित (row) घरहरू भए एकपाखे छानो हाल्न सकिनेछ।

[1] पहाडी स्थलरूरूप तथा भिरालो भू-भाग, जहाँ एउटै सडक बाटमात्र प्रवेश तथा निस्कनु पर्ने अवस्थामा न्यूनतम ६ मी.

च) यस क्षेत्रमा बन्ने आवासीय तथा व्यापारिक दुवै प्रकारका घरहरूको चारै मुखाकृति (façade) हरूमा छज्जा निकाल्न पाइने छैन । निकाल्नुपरेको खण्डमा यसलाई यस क्षेत्रमा परम्परागत हिसाबले प्रचलित बार्दलीको रूपमा कुनै वा चारै मुखाकृतिको एक छेउबाट अर्को छेउसम्म अनवरतरूपमा निर्माण गरेको हुनुपर्दछ । यस्तो बार्दली कम्तीमा १.० मी. चौडाईको हुनुपर्दछ र यो खुला क्षेत्र (set back) मा बनाउन पाइने छैन । ***(हेर्नै चित्रः बार्दली)***



चित्र बार्दली (Verandah)

छ) यस क्षेत्रमा निर्माण हुने भवनहरूको घडेरीको क्षेत्रफल, अधिकतम ग्राउण्ड कभरेज, अधिकतम एफएआर, अधिकतम बनाउन पाउने क्षेत्रफल र अधिकतम उचाइ **तालिका नं. ७** मा दिइएबमोजिम हुनेछ ।

**तालिका नं. ७**

| क्र. सं. | भवनको प्रकार | जग्गाको क्षेत्रफल | अधिकतम ग्राउण्ड कभरेज (%) | अधिकतम FAR | अधिकतम उचाइ |
|---|---|---|---|---|---|
| १ | आवासीय | ४ आनादेखि ८ आनासम्म<br>८ आनादेखि माथि | ७०<br>६० | २.१<br>१.८ | उचाइ = (सडक चौडाइ X १.७५) + २ सेटब्याकको योगफल* |
| २ | साना (७५ देखि १०० प्रयोगकर्ताकोलागि) शैक्षिक भवनहरु (किण्डरगार्डन, प्राइमरी बिद्यालय, डेकेयर सेण्टर आदि ) | न्यूनतम १६ आना | ४० | १.५ | उचाइ = (सडक चौडाइ X १.५) + २ सेटब्याकको योगफल* |
| ३ | संस्थागत भवन | न्यूनतम १६ आना | ५० | १.७५ | |
| ४ | मिश्रित उपयोगको भवन (पसल, कार्यालय आदि) | न्यूनतम ८ आना | ६० | २.५ | |
| ५ | क्लिनिक, पोलिक्लिनिक, | न्यूनतम १६ आना | ५० | २.५ | |
| *सडक किनारको दायाँ र बायाँ जोडिएका कित्ताहरूमा घर बनाउनु पर्दा छाड्नु पर्ने खुला क्षेत्र (setback) को कुल योगफल | | | | | |

***ठ) यस क्षेत्रमा निषेध गरिएका उपयोगहरू (क्रियाकलापहरू) अनुसूची १ मा दिइएको छ ।***

### २.१.५ व्यापारिक उपक्षेत्र (Commercial Subzone)

मुख्य आवासीय तथा बजार उपक्षेत्र, आवासीय विस्तार क्षेत्र र योजनाबद्ध आवासीय उपक्षेत्रभित्र पर्ने; विद्यमान सडक अधिकार क्षेत्र बढाउन सकिने, आवासीय क्षेत्रको आर्थिक क्रियाकलाप तथा व्यापारिक सुविधा पुऱ्याउने सम्भाव्यता भएका, अनुकुल भू-स्वरूप भएको र कम्तीमा १० मी. चौडाइ भएको बिद्यमान तथा भविश्यमा खुल्न सक्ने सडकहरूसँग जोडिएका कित्ताहरूको हकमा फरक मापदण्ड लागूहुनेछ । यस उपक्षेत्र अन्तर्गत निम्न सडक खण्डहरूलाई समेटिएको छ ।

क) नार्जि, खत्री गाँउ, टाकुरा

ख) यस क्षेत्रमा निर्माण हुने भवनहरूको घडेरीको क्षेत्रफल, अधिकतम ग्राउण्ड कभरेज, अधिकतम एफएआर र अधिकतम बनाउन पाउने क्षेत्रफल **तालिका नं. ८** मा दिइएबमोजिम हुनेछ ।

**तालिका नं. ८**

| क्र. सं. | भवनको प्रकार | जग्गाको क्षेत्रफल | अधिकतम ग्राउण्ड कभरेज (%) | अधिकतम FAR | अधिकतम उचाइ |
|---|---|---|---|---|---|
| १ | आवासीय | ४ आनादेखि ८ आनासम्म<br>८ आनादेखि माथि | ७०<br>६० | ३.०<br>२.८ | उचाइ = (सडक चौडाइ X १.७५) + २ सेटब्याकको योगफल* |
| २ | साना (७५ देखि १०० प्रयोगकर्ताकोलागि) शैक्षिक भवनहरु (किण्डरगार्डन, प्राइमरी बिद्यालय, डेकेयर सेण्टर आदि ) | न्यूनतम १६ आना | ४० | १.५ | उचाइ = (सडक चौडाइ X १.५) + २ सेटब्याकको योगफल* |
| ३ | संस्थागत भवन | न्यूनतम १६ आना | ५० | २.० | |
| ४ | तारे होटल | न्यूनतम ४८ आना | ४० | ३.० | |
| ५ | मझौला होटल, लज, डर्मिटरीहरू तथा व्यापारिक भवनहरू | न्यूनतम १६ आना | ४० | २.० | |
| ६ | सिनेमा हल, थिएटर, सभागृह<br>फिक्स्ड सिटिङ्ग भएमा<br>फिक्स्ड सिटिङ्ग भएमा | <br>न्यूनतम ४० आना<br>न्यूनतम २४ आना | ४० | २.० | |
| ७ | मिश्रित उपयोगका भवन (पसल, कार्यालय आदि) | न्यूनतम ८ आना | ६० | २.५ | |
| *सडक किनारको दायाँ र बायाँ जोडिएका कित्ताहरूमा घर बनाउनु पर्दा छाड्नु पर्ने खुला क्षेत्र (set back) को कुल योगफल | | | | | |

ग) यस उपक्षेत्रमा न्यूनतम घडेरी क्षेत्रफल १ रोपनीमा बन्ने व्यापारिक तथा सार्वजनिक भवनहरूका लागि चारैतिर सेटब्याक १.५ मिटर तथा १ रोपनीभन्दा बढी भएको खण्डमा चारैतिर सेटब्याक २.० मिटर हुनेछ र कम्तीमा पनि कुल क्षेत्रफलको १५ प्रतिशत पार्किङको प्रयोजनका लागि छुट्याइनु पर्दछ ।

घ) यस क्षेत्रको न्यूनतम घडेरी क्षेत्रफल ४ आनाभन्दा कमको कित्ताकाट गर्न पाइँने छैन तर पुरानो कित्तामा कायम साबिकको घर भत्काई पुनःनिर्माण गर्नुपरेमा न्यूनतम क्षेत्रफल ४ आनाभएको जग्गामा १.५ मिटर सेटब्याक छाडी साबिकको घर निर्माण गर्न दिइनेछ ।

***ढ) यस क्षेत्रमा निषेध गरिएका उपयोगहरू (क्रियाकलापहरू) अनुसूची १ मा दिइएको छ ।***

## २.१. संस्थागत क्षेत्र (Institutional Zone)

संस्थागत क्षेत्र भन्नाले विद्यमान संस्थागत भवनहरूको सघन तथा छिटपुट उपस्थिति, पूर्वाधारहरूसहितको संस्थागत संरचनाहरूको विस्तार गर्न जग्गाको उपलब्धता भएको भू-क्षेत्रलाई बुझ्नुपर्दछ । यस क्षेत्रभित्र निम्न भू-भागहरूलाई समेटिएको छ :

क) चौरझारी, कोटझारी, खोलागाँउ

ख ) यस क्षेत्रमा निर्माण हुने भवनहरूको घडेरीको क्षेत्रफल, अधिकतम ग्राउण्ड कभरेज, अधिकतम एफएआर, अधिकतम बनाउन पाउने क्षेत्रफल र अधिकतम उचाइ **तालिका नं. ९** मा दिइएबमोजिम हुनेछ ।

**तालिका नं. ९**

| क्र. सं. | भवनको प्रकार | जग्गाको क्षेत्रफल | अधिकतम ग्राउण्ड कभरेज (%) | अधिकतम FAR | अधिकतम उचाइ |
|---|---|---|---|---|---|
| १ | आवासीय भवनहरू | ४ आनादेखि ८ आनासम्म<br>८ आनादेखि माथि | ७०<br>६० | २.४५<br>२.१ | उचाइ = (सडक चौडाइ X १.७५) + २ सेटब्याकको योगफल* |
| २ | इन्जिनियरिङ्ग क्याम्पस तथा शैक्षिक संस्थानहरू | न्यूनतम घडेरी नेपाल इन्जिनियरिङ्ग काउन्सिलको मापदण्ड अनुकुल हुनेगरी | ४० | २.० | उचाइ = (सडक चौडाइ X १.५) + २ सेटब्याकको योगफल* |
| ३ | अस्पताल तथा मेडिकल कलेजहरू | न्यूनतम घडेरी स्वास्थ्य मन्त्रालय तथा नेपाल मेडिकल काउन्सिलको मापदण्ड अनुकुल हुनेगरी | ४० | २.० | |
| ४ | साधारण शैक्षिक भवन | न्यूनतम ३२ आना | ४० | १.५ | |
| ५ | संस्थागत भवन | न्यूनतम २४ आना | ४० | २.० | |
| ६ | तारे होटल | न्यूनतम ३२ आना | ४० | २.५ | |
| ७ | मझौला होटल, लज, डर्मिटरी तथा व्यापारिक भवनहरू | न्यूनतम १६ आना | ४० | २.५ | |

| | | | | | |
|---|---|---|---|---|---|
| ८ | सिनेमा हल, थिएटर, सभागृह<br>फिक्स्ड सिटिङ्ग भएमा<br>फिक्स्ड सिटिङ्ग भएमा | न्यूनतम ४० आना<br>न्यूनतम २४ आना | ४० | १.५ | |
| ९ | मिश्रित उपयोगको व्यापारिक भवन (पसल, कार्यालय आदि) | न्यूनतम ८ आना | ६० | २.५ | |
| १० | क्लिनिक, पोलिक्लिनिक, | न्यूनतम २० आना | ५० | २.० | |
| *सडक किनारको दायाँ र बायाँ जोडिएका कित्ताहरूमा घर बनाउनु पर्दा छाड्नु पर्ने खुला क्षेत्र (set back) को कुल योगफल | | | | | |

ग) यस क्षेत्रको न्यूनतम घडेरी क्षेत्रफल ४ आनाभन्दा कमको कित्ताकाट गर्न पाइने छैन तर पुरानो कित्तामा कायम साबिकको घर भत्काई पुनःनिर्माण गर्नुपरेमा न्यूनतम क्षेत्रफल ४ आनाभएको जग्गामा १.५ मिटर सेटब्याक छाडी साबिकको घर निर्माण गर्न दिइनेछ ।

घ) यस उपक्षेत्रमा बन्ने आवासीय तथा मिश्रित आवासीय प्रयोजनबाहेकका सबै प्रकारका ठूला सार्वजनिक भवनहरूको न्यूनतम चारैतिर सेटब्याक ३ मी. हुनेछ र कम्तीमा पनि कुल क्षेत्रफलको २० प्रतिशत पार्किङको प्रयोजनका लागि छुट्याइनु पर्दछ ।

***ङ) यस क्षेत्रमा निषेध गरिएका उपयोगहरू (क्रियाकलापहरू) अनुसूची १ मा दिइएको छ ।***

## २.२ औद्योगिक क्षेत्र (Industrial Zone)

औद्योगिक क्षेत्र भन्नाले विद्यमान औद्योगिक क्रियाकलापहरू भइरहेको हकमा उद्योगका लागि न्यूनतम भौतिक पूर्वाधार भएको तथा पूर्वाधारको स्तरबृद्धिको सम्भाव्यता भएको र वातावरणीय तथा प्रदूषण नियमन गर्नु पर्ने र व्यवस्थित औद्योगिक क्षेत्र (Industriat Estate) निर्माणका लागि निर्दिष्ट गरिएको क्षेत्रलाई बुझ्नुपर्दछ । यस नगरपालिकामा व्यावसायिक कृषि तथा वन पैदावारमा आधारित मध्यमस्तरका घरेलु तथा कृषि उद्योगहरूलाई नियमन गर्ने मापदण्डहरू दिइएका छन् । यस क्षेत्रमा कुनै पनि व्यक्ति वा संस्थाले भवन निर्माण गर्न चाहेमा नगरपालिकाको स्वीकृतिबेगर निर्माण कार्य गर्न पाइने छैन । नगरपालिकाले योजना मापदण्डमा निषेधित क्रियाकलापहरूका लागि भवन निर्माण गर्न दिइने छैन तर मापदण्डमा स्वीकृत वा विशेष स्वीकृति लिएर सञ्चालन गर्न पाइने भवनको प्रयोगलाई भने नक्सापास गरी निर्माण स्वीकृति दिनेछ । यस क्षेत्रभित्र निम्न भू-क्षेत्रहरूलाई समेटिएको छ :

क) चौरझारी, कोटझारी,

ख) यस क्षेत्रमा ***आवासीय तथा अन्य निर्माणका लागि आवासीय विस्तार क्षेत्रकै मापदण्ड लागू*** हुनेछ । यस क्षेत्रमा निर्माण हुने औद्योगिक भवनहरूको हकमा भने घडेरीको क्षेत्रफल, अधिकतम ग्राउण्ड कभरेज, अधिकतम एफएआर, अधिकतम बनाउन पाउने क्षेत्रफल र अधिकतम उचाइ **तालिका नं. १०** बमोजिम हुनेछ ।

ग) यस क्षेत्रमा बन्ने औद्योगिक भवन सडकबाट न्यूनतम १५ मिटरमा बनाइनु पर्नेछ । ठुला तथा वातावरणमा असर गर्न सक्ने औद्योगिक भवनको निर्माण स्वीकृति लिँदा वातावरणीय प्रभाव मूल्याङ्कन गराइएको हुनुपर्नेछ । पानी र हावा दूषित हुनेखालका उद्योगहरू सर्वसाधारण जनताको आवासदेखि ३०० मिटरभित्र राख्न दिइने छैन ।

घ) यस क्षेत्रमा साना घरेलु तथा कृषि उद्योगका लागि व्यवस्थित औद्योगिक क्षेत्र (Industriat Estate) निर्माणका लागि न्यूनतम क्षेत्रफल १५ हजार वर्ग मिटर हुनुपर्नेछ, जसका लागि भिन्नै मापदण्ड लागू हुनेछ ।

| तालिका नं. १० | | | | |
|---|---|---|---|---|
| क्र. सं. | प्लटको साइज (वर्ग मिटर) | अधिकतम ग्राउण्ड कभरेज (%) | अधिकतम FAR | अधिकतम उचाइ ( मिटरमा) |
| १ | १,००० सम्म | ५० | १.५ | १२ |
| २ | १,००० माथिदेखि ५,००० सम्म | ५० | १.२५ | १८ |
| ३ | ५,००० भन्दा माथि | ४० | १.० | - |

ङ) प्याराफिट पर्खालसहित भवनको उचाइ ९ मिटरभन्दा बढी निर्माण गर्न पाइने छैन । तर, भऱ्याङ छोप्ने भाग, पानी ट्याङ्की तथा स्लोपिङ्ग छानासहितका लागि थप २.४० मिटर उचाइ निर्माण गर्न पाइनेछ । निर्माण हुने भवनको सम्पूर्ण स्ट्रक्चरल डिजाइन पेश गर्नु पर्नेछ ।

च) कोठाको न्यूनतम उचाइ ३.० मिटर हुनुपर्नेछ र बाटोको मध्यरेखादेखि कालोपत्रे सडकमा ०.४० मिटर, ग्राबेल सडकमा ०.६० मिटर, कच्ची सडकमा ०.७५ मिटर उचाइमा भवनको प्लिन्थ बनाउन सकिनेछ । निर्माणस्थल सडकभन्दा होचो वा उचाइमा भए ढल निकास सुचारुरूपले सञ्चालन हुने किसिमको प्लिन्थ बनाउनु पर्नेछ ।

छ) भवनको न्यूनतम चौडाइ २.४० मिटर हुनुपर्नेछ । तर, भवनको लम्बाइ र चौडाइको अनुपात ५:१ भन्दा बढी हुनुहुँदैन । यदि चौडाइको अनुपातमा लम्बाइ ५ गुना बढी भएमा ५० एमएम (50mm) को निर्माण जोडाइ राख्नुपर्नेछ ।

ज) प्लट जग्गाको सिमानाबाट न्यूनतम १.५ मिटर जग्गा छाडेरमात्र भवनमा भ्याल, ढोका, तथा भेन्टिलेशन राख्न पाइनेछ । तर, संस्थागत भवन, सभा भवन, हल, औद्योगिक, व्यापारिक भवन आदिको हकमा प्लट जग्गाको सिमानाबाट न्यूनतम ३.० मिटर जग्गा छाड्नु पर्नेछ । प्रत्येक भवनका लागि सेटब्याक छुट्टाछुट्टै हुनुपर्नेछ ।

झ) संस्थागत भवन, सभा भवन, हल, औद्योगिक, व्यापारिक भवनहरूका लागि सवारी पार्किङका निमित्त कुल जग्गाको क्षेत्रफलको न्यूनतम २० प्रतिशत क्षेत्रफल छाड्नु पर्नेछ ।

***ञ) यस क्षेत्रमा निषेध गरिएका उपयोगहरू (क्रियाकलापहरू) अनुसूची १ मा दिइएको छ ।***

## २.३ कृषि क्षेत्र (Agriculture Zone)

कृषि क्षेत्र भन्नाले न्यूनतम भौतिक पूर्वाधार भएको, विद्यमान पूर्वाधारको विस्तारको सिमित सम्भाव्यता भएको तथा प्रमुख आर्थिक सामाजिक गतिविधि कृषिमा आधारित रहेको क्षेत्रलाई बुझ्नुपर्दछ । यस क्षेत्रभित्र निम्न भू-भागहरू समेटिएका छन् ।

क) खोला गाँउ, चौरझारी, अम्ला टाकुरा

ख) यस क्षेत्रमा निर्माण हुने भवनहरूको घडेरीको क्षेत्रफल, अधिकतम ग्राउण्ड कभरेज, अधिकतम एफएआर र अधिकतम बनाउन पाउने क्षेत्रफल **तालिका नं. ११** बमोजिम हुनेछ ।

ग) यस क्षेत्रमा तालिका नं. ११ मा उल्लिखित भवनहरूको निर्माण नगरपालिकासँग विशेष स्वीकृति लिएरमात्र गरिनुपर्छ र यस्ता भवनहरूको योजना सम्बन्धित मापदण्डका हकमा परिच्छेद २ मा व्यवस्था गरिएको योजना मापदण्ड लागू हुनेछ ।

***घ) यस क्षेत्रमा निषेध गरिएका उपयोगहरू (क्रियाकलापहरू) अनुसूची १ मा दिइएको छ ।***

| तालिका नं. ११ | | | | | |
|---|---|---|---|---|---|
| **क्र. सं.** | **भवनको प्रकार** | **जग्गाको क्षेत्रफल (रोपनी)** | **अधिकतम ग्राउण्ड कभरेज (%)** | **अधिकतम FAR** | **अधिकतम उचाइ (मीटर)** |
| १ | आवासीय भवनहरू | ६ आनादेखि ९ आनासम्म<br>९ आनादेखि माथि | ६०<br>६० | १.८<br>१.८ | ९ |
| २ | शैक्षिक संस्थानहरू ( कृषिसम्बन्धी) | न्यूनतम घडेरी नेपाल इन्जिनियरिङ्ग काउन्सिलको मापदण्ड अनुकुल हुनेगरी | ५० | २.५ | ९ |
| ३ | हेल्थ पोष्ट, हेल्थ सेन्टरहरू | न्यूनतम घडेरी स्वास्थ्य मन्त्रालय मापदण्ड अनुकुल हुनेगरी | ५० | २.० | ९ |
| ४ | संस्थागत भवनहरू ( कृषिसम्बन्धी) | न्यूनतम ३२ आना | ५० | १.७५ | ९ |

## २.४ संरक्षण क्षेत्र (Preserved Zone)

संरक्षण क्षेत्र भन्नाले पर्यटकीय, विविध मनोरञ्जन तथा शहरको खुलाक्षेत्रका रूपमा विकास हुनसक्ने क्षेत्रलाई बुझ्नुपर्दछ । यस क्षेत्र अन्तर्गत निम्न ठाउँहरू पर्दछन् :

क) शंख पिप्ली (चौरझारी), खोलागाँउ

ख) खण्ड २.१ (क) मा उल्लेख भएको पुरानो आवासीय तथा बजार उपक्षेत्र अन्तर्गत पर्ने संरक्षित स्मारक क्षेत्र र परम्परागत आवासीय क्षेत्रबाहेकका अन्य स्मारकका क्षेत्र तथा स्मारकले चर्चेको क्षेत्र तथा कम्पाउण्डसँग जोडिएका कित्ताहरूमा ४ तला (१३.७० मिटर) उचाइसम्मको घर निर्माण गर्न सकिनेछ

ख) यस क्षेत्र तथा स्मारकहरूपट्टिको मोहडाहरू स्थानीय शैलीमा निर्माण गर्नुपर्नेछ ।

ग) संरक्षण क्षेत्रभित्रका तोकिएका स्मारकका वरिपरि पर्ने कित्ताहरूमा घर, भवन निर्माण गर्दा स्मारकपट्टि कम्तीमा ३ मिटर छाडेरमात्र निर्माण गर्न पाइनेछ ।

***घ)*** **यस क्षेत्रमा निषेध गरिएका उपयोगहरू (क्रियाकलापहरू) अनुसूची १** मा दिइएको छ । यसबाहेक उक्त क्षेत्रमा निम्न क्रियाकलापहरूसमेत निषेध गरिएको छ :

- यस क्षेत्रहरूमा लामो समयका लागि कुनै प्रकारको पर्चा, पोष्टर, व्यानर (जस्तै : सिनेमाका पोष्टर तथा व्यापारिक प्रचार प्रसारका सामानहरूका पोष्टर आदि) टाँस्न वा राख्न,
- ऐतिहासिक मठ मन्दिर, तलाउ आदिको खाली भाग (जस्तै : तलाउको डिल) मा निर्माण गर्दा उक्त स्थलहरूको दृश्यावलोकन छेक्ने तथा वातावरणमा प्रतिकुल असर पर्ने हुँदा उक्त भागमा कुनै पनि प्रकारका निर्माणहरू (अस्थायीरूपमा समेत) गर्न,
- सार्वजनिकस्थलहरू तथा ताल-तलाउछेउको वातावरणमा असर पर्ने कुनै पनि प्रकारका भवन निर्माण गर्न ।

## २.५ FAR मा गणना नहुने भाग

निम्न लिखित भागहरूलाई FAR मा गणना गरिने छैन :

क) पाहाडी सिँढिदार जमिन भएको अवस्थामा सुविधा हेरी पार्किङ ग्यारेज सडक सिमानादेखि नै बनाउन पाइनेछ । स्टिल्ट तला (Stilt floor ) मा पार्किङ प्रयोजनका लागि प्रयोग गरिएको क्षेत्रफललाई FAR मा गणना गरिने छैन

ख) पार्किङ प्रयोजन वा Storage का लागि प्रयोग हुने भूमिगत तला अर्धभूमिगत तलाहरू FAR मा गणना हुनेछैन । भुइँ तला पार्किङका लागि मात्र प्रयोग हुने भएमा र सोही अनुसार खुला रहेको अवस्थामा FAR मा गणना हुनेछैन ।

ग) दुईपाखे छानाहाल्दा बुँइगल (attic) बनेमा सोको क्षेत्रफल FAR मा गणना गरिनेछैन ।

घ) परम्परागत अथवा परिमार्जितरूपको नेपाली वास्तुकता झल्कने भवन निर्माण गर्दा साविकको FAR मा ०.२५ थप सुविधा प्राप्त हुनेछ तर यो सुविधा प्राचीन स्मारक क्षेत्रमा लागू हुनेछैन ।

ङ) आवासीय तथा व्यापारिकबाहेक अन्य प्रयोजनका लागि निर्माण गरिने बेसमेन्ट तथा सेमिबेसमेन्ट, सबैभन्दा माथिल्लो तलामा रहेको भऱ्याङको छोप्ने भाग (कुनै पनि कोठा नभएको अवस्थामा), लिफ्टको मेशिन रुम ।

च) कम्पाउण्डवाल, ढोका, तला नउठाइएको पोर्च, खुला भऱ्याङ, ऱ्याम्प, जमिनमुनिको पानीट्याङ्की, पौडी खेल्ने खुला पोखरी आदि । भवनको उचाइ प्लिन्थ लेभलदेखि माथिल्लो तला (भऱ्याङ) छोप्ने वा लिफ्ट (Lift) को मेसिन राख्ने कोठाबाहेकको छानासम्मको उचाइ गनिने छ ।

छ) Void को साइज १.५ मी X १.५ मी. भएमा Void ग्राउण्ड कभरेजमा गणना हुनेछैन । सोभन्दा सानो Void भएमा ग्राउण्ड कभरेजमा गणना हुनेछ ।

ज) दुईतर्फ सडक भएको अवस्थामा भवन निर्माण गर्दा दुवैतर्फ सेटब्याक छाड्नु पर्ने अवस्थामा सहायक सडक ( मुख्य मोहडा नपर्ने सडक) तर्फ छाड्नु पर्ने सेटब्याकको क्षेत्रफलबराबरको क्षेत्रफल एफएआरमा गणना नगरिने ।

## २.६ विशेष प्रकारका भवन वा निर्माणहरू (Special Type Buildings/Constructions)

### २.६.१ संयुक्त आवास (Apartments)

संयुक्त आवास निर्माणसम्बन्धी मापदण्ड देहायबमोजिम हुनेछ :

क) संयुक्त आवासस्थलसँग जोडिने प्रवेशमार्गको न्यूनतम चौडाइ ४ वटा आवास एकाइ (Dwelling unit) सम्मका लागि ५ मिटर, १० आवास एकाइसम्मका लागि ६ मिटर, ५० आवास एकाइसम्मका लागि ८ मिटर हुनुपर्नेछ र योजनास्थलभित्र अन्य मार्गमा कल डे स्याक बाटोको लम्बाइ अधिकतम १०० मिटर हुनुपर्नेछ । कल डे स्याक सिधा बाटोमा मात्र राख्न पाइनेछ ।

ख) गाडी घुमाउने स्थान ९९ मिटरको वर्गाकार वा वृत्ताकार क्षेत्र राख्नु पर्नेछ । दुई सडकको इन्टरसेक्सन कर्भको रेडियस न्यूनतम सडक चौडाइको आधा हुनुपर्दछ ।

ग) सेटब्याकको सीमा भवनको उचाइको अनुपातमा वृद्धि हुनेछ । १७ मिटरसम्म उचाइ भएको भवनका लागि साविक ३ मिटरको सेटब्याक नै पर्याप्त हुने र सोभन्दा बढी उचाइमा भएको भवनको तीनतिरको खुला भागको चौडाइ कम्तीमा पनि भवनको उचाइको २० प्रतिशत (उचाइको पाँचौँ भाग) वा ६ मिटरमध्ये बढी भएको अङ्कलाई **तालिका नं. १२** अनुसार कायम गरिने छ :

**तालिका नं. १२**

| क्र.सं. | भवनको अधिकतम उचाइ, मिटर | अगाडिको सेटब्याक मिटर | ३ साइडको सेटब्याक, मिटर | प्रवेशमार्गको न्यूनतम सडक चौडाइ, मिटर | न्यूनतम आवास एकाइ* |
|---|---|---|---|---|---|
| १ | १७ मिटरसम्म | ३ | ३ | ६ मिटर | २५ |
| २ | १८ देखि ३३ सम्म | ६ | ६.० | ८ मिटर | |
| ३ | ३३ देखि ५५ सम्म | १० | १० | १० मिटर | |
| * न्यूनतमभन्दा कम आवास एकाइ बनाउन अनुमति दिनुपरेमा खण्ड ३.७ को उपखण्ड ३.७.१ (क) अनुसार भई जाने | | | | | |

घ) अधिकतम फ्लोर एरिया अनुपात पुरानो शहरी क्षेत्रबाहेकको अन्य क्षेत्रमा ३ हुनुपर्नेछ । पुरानो शहरीक्षेत्रमा परम्परागत वास्तुकला कायम राख्नेगरी सम्बन्धित प्राधिकरण, समिति वा नगरपालिकाले तोकिदिएबमोजिम हुनेछ । अधिकतम ग्राउण्ड कभरेज ५० प्रतिशत हुनुपर्नेछ तर ४ रोपनीभन्दा कम क्षेत्रफको प्लटमा अधिकतम जमिन चर्चिन पाउने क्षेत्रफल ४० प्रतिशत कायम हुनेछ ।

ङ) न्यूनतम खुला क्षेत्र अन्तर्गत भू-सतह खुला राख्नेको हकमा २० प्रतिशत र अन्य भागको हकमा ३० प्रतिशत हुनुपर्नेछ । भू-सतह खुला राख्ने क्षेत्रमा हरियाली बगैँचाको रूपमा प्रयोग गर्न सकिन्छ तर जमिनमुनि पानी जाने मार्ग ढाक्न पाइने छैन ।

च) दुई ब्लकको बीचको न्यूनतम दुरी ६ मिटर हुनुपर्नेछ र सम्पूर्ण डिजाइन तथा अन्य सुविधाको व्यवस्था राष्ट्रिय भवन संहिता अनुरूप हुनुपर्नेछ ।

छ) भुइँतला, बेसमेन्ट, सेमिबेसमेन्ट आवासीय प्रयोजनका लागि नभई स्टोर, व्यायामशाला, पार्किङ, तथा अन्य सुविधाहरू, जस्तै : लिफ्ट बेल, इलेक्ट्रिकल रुम, पानीट्याङ्की आदिको प्रयोजनका लागि भएमा त्यस्तो प्रयोजनका लागि उपयोग गरिएको भुइँतला, बेसमेन्ट, सेमिबेसमेन्ट तथा माथि निर्माण हुने लिफ्टको मेशिन कोठा, पानीट्याङ्की आदिले ओगटेको क्षेत्रफल FAR मा गणना गरिनेछैन ।

ज) सेवा दिनु पर्ने एकाइको परिमाणका आधारमा ५० एकाइका लागि १०० व. मी., १०० एकाइका लागि १५० व. मी., १५० एकाइका लागि २०० व. मी. र २०० एकाइका लागि ३०० व. मी. न्यूनतम सामुदायिक क्षेत्रको व्यवस्था गर्नु पर्ने । यस्ता सामुदायिक क्षेत्रलाई कुल जमिन चर्चेको क्षेत्रफलमा गणना गर्ने तर भुइँ क्षेत्र अनुपातमा भने गणना गरिनेछैन ।

### २.६.२ सामूहिक आवास (Group Housing)

सामूहिक आवाससम्बन्धी निर्माणकार्य सामान्यतया र अपेक्षितरूपमा धेरै तलाहरू भएका ब्लक नै हुनुपर्नेछ । यस्तो सामूहिक आवास चलनचल्तीका हिसाबले जमिनलाई प्लट र बाटोहरूको विभाजन गर्नेखालको हुनुहुँदैन । सामूहिक

आवासका तलाहरू र उचाइसम्बन्धी सिमानालगायतका मापदण्डहरूका विषयमा विभिन्न क्षेत्र तथा उपक्षेत्रका लागि तोकिए अनुसार नै हुनेछ (**तालिका नं. १३**)।

**तालिका नं. १३**

| क्र. सं. | जग्गाको न्यूनतम क्षेत्रफल | अधिकतम ग्राउण्ड कभरेज (%) | अधिकतम FAR | न्यूनतम प्रवेशमार्ग मिटर | न्यूनतम सेटब्याक (साइडको सेटब्याक भ्याल राख्ने भएमात्र लागू हुने) | | |
|---|---|---|---|---|---|---|---|
| | | | | | अगाडि | पछाडि | साइडमा |
| १ | ३ रोपनी | ४० | विभिन्ना क्षेत्र तथा उपक्षेत्रका लागि तोकिए अनुसार | ८ | १.० मी. | १.५ मी. | १.५ मी. |

### २.६.३ न्यून आयरविपन्न वर्गका लागि आवास (Housing for Low Income Group)

विपन्न वा न्यून आय वर्गको भन्नाले नगरको भू-उपयोग क्षेत्रीकरण (Landuse Zoning) अन्तर्गत छुट्याइएको न्यून क्रयशक्ति भएका तथा विपन्न वर्गले सुगम मूल्यमा आवास खरिद गर्न सकिने भौतिक पूर्वाधार भएको, वातावरणीय तथा कानुनी हिसाबले सुरक्षित समावेशी क्षेत्र (Inclusionary Zone) भन्ने सम्झनु पर्दछ। यस नगरपालिकाको हकमा समावेशी क्षेत्र हाल नछुट्याइएको भए पनि न्यून आय तथा विपन्न वर्गका लागि सामूहिक तथा न्यून लागत आवास योजना लागू गर्नुपरेको खण्डमा **तालिका नं. १४** अनुसारको मापदण्ड लागू हुनेछन।

**तालिका नं. १४**

| विवरण | विपन्न वर्गका लागि आवास विकास | पुनःस्थापनाका लागि अस्थायी प्रावधान |
|---|---|---|
| विकासको किसिम | सामूहिक आवास | सामूहिक आवास |
| प्लटको न्यूनतम आकार | ४० व. मी. | ४० व.मी. |
| अधिकतम तला संख्या | २ (दुई) | २ (दुई) |
| जमिन चर्चिने अधिकतम क्षेत्रफल | ८० प्रतिशत | ८० प्रतिशत |
| अधिकतम जनघनत्व | २७५ घरपरिवार प्रतिहेक्टर | |

क) विकसित घडेरीको १० प्रतिशत जग्गा खुला भाग रहनुपर्नेछ, जसको ६ भागको १ भाग सामुदायिक क्षेत्रका लागि छुट्याउनु पर्नेछ। यो क्षेत्रफलमा प्रवेशमार्ग तथा सडकको क्षेत्रफल गणना गरिने छैन।

ख) पङ्क्तिबद्ध भवनका हकमा प्रत्येक ८ घडेरीपछि आकाशतर्फ खुला रहने कम्तीमा ४ मिटर चौडा क्षेत्र पैदलमार्ग वा अग्निरेखाको रूपमा खुला छाड्नु पर्नेछ।

ग) प्रवेशमार्गको न्यूनतम चौडाइ स्थायी तथा अस्थायी पुनःस्थापनाका हकमा ३ मिटर हुनुपर्नेछ।

घ) अगाडि तथा पछाडिको न्यूनतम सेटब्याक १.५ मिटर हुनुपर्नेछ।

### २.६.४ पेट्रोलपम्प निर्माण (Petrol Pump Construction)

नगरपालिकाभित्र साधारण बिक्रेता, प्याक्ड बिक्रेता र मट्टितेल वितरकले पेट्रोलियम पदार्थको बिक्रीवितरण गर्न पेट्रोलपम्प खोल्न चाहेमा सोसम्बन्धी मापदण्ड नेपाल आयल निगमले तोकेको मापदण्ड अनुसार हुनुपर्नेछ, जसका महत्वपूर्ण पाटाहरू तल दिए अनुसार हुनेछ ।

क) नगरपालिकाभित्र प्रस्तावित बिक्रीस्थल राख्ने जग्गाको कुल क्षेत्रफल न्यूनतम १.५ (डेढ) रोपनी हुनुपर्नेछ ।

ख) नगरपालिकाभित्र प्रस्तावित बिक्रीस्थल राख्ने जग्गाको सडकतर्फको मोहडा कम्तीमा पनि ३० मी. कुल हुनुपर्नेछ । हल्का गाडीको प्रयोजनका लागि राखिने बिक्रीस्थलको हकमा जग्गाको सडकतर्फको मोहडा कम्तीमा पनि १५ मी. कुल हुनसक्नेछ ।

ग) माथि (क) र (ख) अन्तर्गत वर्गीकरणभित्र नपर्ने तर नगरपालिका भएर जाने कुनै पनि राष्ट्रिय राजमार्गमा प्रस्तावित बिक्रीस्थल राख्ने जग्गाको सडकतर्फको मोहडा न्यूनतम ४० मिटर भई कुल क्षेत्रफल न्यूनतम २.५ (अढाइ) रोपनी हुनुपर्नेछ ।

घ) यदि प्रस्तावित बिक्रीस्थल मूलसडकमा नजोडिएको अवस्थामा यस्तो मूलसडकबाट बिक्रीस्थलसम्म पुग्ने प्रवेश मार्ग कम्तीमा ५.५ मिटर चौडाइको दोहोरो सवारी साधन चल्नसक्ने हुनुपर्दछ ।

ङ) साधारण बिक्रेताले प्रस्तावित बिक्रीस्थल निर्माण गर्दा सडकबाट छाड्नु पर्ने दुरी प्रवेश तथा निकासद्वारका लागि क्रमशः घटीमा पनि ६ मिटरको हुनुपर्नेछ ।

च) पेट्रोलपम्प कुनै पनि सडक चोकमा निर्माण गर्न पाइने छैन र निर्माण आवश्यक भएमा यस्त चोकबाट कम्तीमा पनि १०० मिटर परमात्र निर्माण गर्न दिइनेछ ।

छ) पेट्रोलपम्प र मूलसडकको बीचमा एउटा कम्तीमा १२ मी. लामो र २ मी. चौडाइ भएको मध्यवर्ती पट्टि (Buffer Strip) को निर्माण गर्नुपर्नेछ । यस्तो मध्यवर्ती पट्टि आफ्नै जग्गाको सिमानाभित्र बनाउनुपर्छ र यसको बाहिरी किनारा मूलसडकको तोकिएको अधिकार क्षेत्रको बाहिरी सिमानासम्म पाइनेछ । हल्का गाडीको प्रयोजनका लागि राखिने बिक्रीस्थलका हकमा यस्तो मध्यवर्ती पट्टिको नाप कम्तीमा १० मी. लामो र ३ मी. चौडाइ भएको हुनुपर्दछ ।

ज) पेट्रोलपम्पको कार्यालय, मोबिल भण्डारण तथा शौचालय आदि भवन वा निर्माणहरू पम्पदेखि न्यूनतम ४ मी.को दुरीमा बनाइनु पर्दछ ।

### २.६.५ सिनेमा हल निर्माण (Cinema Hall Construction)

यो मापदण्ड बिनियममा उल्लेख भएका सिनेमा हल भवन निर्माण सम्बन्धी मापदण्ड बाहेकका अन्य सिनेमा हलसम्बन्धी नियमनहरू (जस्तै चलचित्र

निर्माण, प्रदर्शन तथा वितरण) चलचित्र नियमावली, २०४६ अनुसार हुनेछ ।

## २.७ वास्तुशिल्पीय नियन्त्रण (Architectural Control)

वास्तुशिल्पीय नियन्त्रणको हकमा तल उल्लेख भए अनुसार मापदण्ड लागू हुनेछ । अन्य व्यवस्था Architectureal Design Requirements, 206 (Revised Version) अनुसार हुनेछ ।

### २.७.१ प्लिन्थ (Plinth)

क) मुख्य भवन (पुरानो शहरी क्षेत्रमा बन्ने भवनहरूबाहेक) साइडमा पर्याप्तमात्रामा ढल निकासको सुविधा हुनेगरी जमिनको सतहभन्दा भवनको प्लिन्थको सतह कम्तीमा ४५ से. मी. हुनुपर्नेछ । भित्री चोक- कुनै पनि भित्री

चोकहरू त्यस्तो चोकको नजिकैको बाटोको केन्द्रीय रेखाको सतहदेखि कम्तीमा १५ से. मी. माथि उठाइएको हुनुपर्दछ ।

### २.७.२ आवासयोग्य कोठाहरू (Habitable rooms)

क) उचाइ- प्रत्येक कोठाको उचाइ (भुइँको सतहदेखि सिलिङसम्म) २.३० मिटरभन्दा कम हुनुहुँदैन । भिरालो छाना भएको खण्डमा कोठाको उचाइ सालाखाला २.३ मिटरभन्दा कम हुनुहुँदैन । यो प्रावधान शैक्षिक र औद्योगिक भवनबाहेक सबै प्रकारका भवनहरूमा लागू हुनेछ ।

ख) उचाइ- शैक्षिक भवनहरूका हकमा एक तलाको भुइँदेखि माथिल्लो तलाको भुइँको उचाइ कम्तीमा पनि २.७ मी. हुनुपर्नेछ । औद्योगिक भवनहरूको हकमा एक तलाको भुइँदेखि माथिल्लो तलाको भुइँको उचाइ ३.६ मी. हुनुपर्नेछ ।

ग) उचाइसम्बन्धी छूटहरू- छानामा रहेको भऱ्याङ छोप्ने भाग, पारापेट, ट्याङ्की र तिनीहरूलाई अड्याउने गाह्रो वा टेवा, भेन्टिलेशन, एयर कन्डिसन, लिफ्टको कोठा आदिसँग सम्बन्धित यन्त्र वा निर्माणकार्यहरूलाई भवन वा निर्माणको उचाइमा समावेश गरिने छैन ।

घ) नाप- मानिसहरू बस्नका निमित्त प्रयोगमा आउने एउटामात्र कोठा भए न्यूनतम चौडाइ २.४ र कोठाको क्षेत्रफल ७.५ वर्ग मिटर हुनुपर्नेछ । यस्ता कोठाहरू दुई वा सोभन्दा धेरै भए एउटा कोठाको न्यूनतम क्षेत्रफल ७.५ वर्ग मिटर र अर्को कोठाको न्यूनतम क्षेत्रफल ७.० वर्ग मिटर हुनुपर्नेछ र चौडाइ कम्तीमा १.८ मिटर भए हुनेछ ।

### २.७.३ भऱ्याङ (Staircase)

भऱ्याङको न्यूनतम चौडाइ निम्न अनुसार हुनुपर्नेछ :

| | | |
|---|---|---|
| क) | आवासीय भवन (घरहरू) | ०.९ मी. |
| ख) | आवासीय अपार्टमेण्टहरू | १.२ मी. |
| ग) | होटल भवनहरू | १.२ मी. |
| ग) | मानिसहरू जम्मा हुने (५०० जनासम्म अडिटोरियम, नाचघर आदि) भवन | १.५ मी. |
| | ५०० जनाभन्दा बढी क्षमताको भएको खण्डमा | २.५ मी. |
| घ) | शैक्षिक भवनहरू | १.२ देखि १.५ मी. |
| ङ) | संस्थागत भवनहरू | १.२ देखि १.५ मी. |
| च) | अस्पताल | १.५ मी. देखि २.२ सम्म |

छ) नोजिङ्गबाहेक खुड्किला (Tread) को चौडाइ- आवासीय भवनहरूका लागि खुड्किलाको चौडाइ २५ से. मी. र अन्य भवनहरूका लागि २८ से. मी. भन्दा कम हुनुहुँदैन ।

ज) खुड्किलाको उचाइ (Riser)- आवासीय भवनहरूका लागि खुड्किलाको उचाइ १९ से. मी. र अन्य भवनहरूका लागि १५ से. मी. भन्दा बढी हुनुहुँदैन । भऱ्याङको प्रत्येक चढाइ (Flight) मा १५ वटासम्म मात्र खुड्किलाहरू राख्नु पर्नेछ ।

### २.७.४ ग्यारेज (Garage)

क) उचाइ- यसको उचाइ २.१ मी. भन्दा कम हुनुहुँदैन ।

ख) नाप- निजी ग्यारेजको हकमा साइज न्यूनतम २.५ मी.X ५ मी. हुनुपर्नेछ । सार्वजनिक ग्यारेजको साइज पार्किङ गर्ने वाहनहरूको संख्या आदिका आधारमा हुनुपर्नेछ ।

### २.७.५ भूमिगत तला (Basement)

भूमिगत तलालाई आवासका निमित्त प्रयोग गर्न पाइनेछैन । भूमिगत तला आवश्यकता अनुसार दुई तलासम्म पनि निर्माण गर्न पाइनेछ । स्थानीय निर्माणसम्बन्धी व्यवस्थाहरू तथा जग्गा उपयोगसम्बन्धी व्यवस्थाहरूसँग मेलखानेगरी मात्र भूमिगत तला निर्माण गर्न सकिनेछ । विभिन्न क्षेत्र, उपक्षेत्र र बाटोहरूका लागि तोकिएको निर्माणरेखा र सेटब्याक छाडी बाँकी सम्पूर्ण जग्गामा बेसमेण्टको परिभाषाको उपयोगभित्र बनाउन पाउनेछ ।

### २.७.६ मेजानिन फ्लोर (Mezzanine Floor)

क) उचाइ- यसको उचाइ कम्तीमा २.१ मी. हुनुपर्नेछ ।

ख) नाप- मेजानिन फ्लोरको नाप लिभिङ्ग रुम (Living room) को रूपमा उपयोग गरिने भए ७.५ वर्ग मी. भन्दा कम हुनुहुँदैन । यस्तो मेजानिन फ्लोरको भुइँको भवनको प्लिन्थको क्षेत्रफल १/२ भागभन्दा बढी हुनुहुँदैन ।

### २.७.७ बुइँगल (Attic)

मानिस बस्नको निमित्त बुइँगललाई प्रयोग गरिने भएमा यसमा पर्याप्तमात्रामा भेन्टिलेशन र प्रकाशको व्यवस्था भएको हुनुपर्नेछ र यस्तो बुइँगलको उचाइ होचो भागमा १.२ मी. र धुरी वा माथिल्लो भागमा २.३ मी. भन्दा कम हुनुहुँदैन ।

### २.७.८ भान्सा कोठा (Kitchen)

क) उचाइ- भान्सा कोठाको उचाइ (भुइँदेखि सिलिङसम्म) २.२ मी. भन्दा कम हुनुहुँदैन ।

ख) नाप- खाना खाने छुट्टै ठाउँ भएमा भान्सा कोठा न्यूनतम १.८ मी. चौडाइ र क्षेत्रफल ६.० वर्ग मी. भन्दा कम हुनुहुँदैन । स्टोरको निमित्त छुट्टै व्यवस्था गरिएमा भान्सा कोठाको क्षेत्रफल ४.५ वर्ग मी. सम्म गर्न सकिनेछ । खाना खानको निमित्तसमेत उपयोग गर्ने भान्सा कोठा भए न्यूनतम चौडाइ २.१ मी. र क्षेत्रफल ७.५ वर्ग मी. हुनुपर्नेछ ।

### २.७.९ सिमाना पर्खाल (Boundary Wall)

क) कुनै पनि निजी जग्गामा (सार्वजनिक चौर वा पर्ती जग्गासँग जोडिएको समेत) सिमाना घेर्दा (Boundary Wall) घरको नक्सा पास गरेसरह साइट प्लान र सिमाना पर्खालको नक्सा तथा अन्य आवश्यक कागजातहरू पेश गरी स्वीकृति लिनुपर्नेछ ।

ख) कुनै पनि सिमाना पर्खालको उचाइ अगाडिको सडकको केन्द्ररेखाको सतहबाट बढीमा २ मिटरसम्म स्वीकृत गर्न सकिनेछ ।

ग) २ मिटरभन्दा बढी उचाइको कम्पाउण्ड पर्खाल आवश्यक पर्ने अवस्थामा सोको प्रकृति र प्रयोजन हेरी नगरपालिकाले बढी उचाइका लागि विशेष स्वीकृति प्रदान गर्न सक्नेछ ।

घ) सडक अधिकार क्षेत्रको किनाराबाट कम्पाउण्ड पर्खाल लगाउन पाइने छ तर यस्तो पर्खालसँग कुनै पनि किसिमको स्थायी/अस्थायी निर्माण गर्न वा जोड्न पाइने छैन ।

## २.८ सेवा सुविधाहरू (Services and Facilities)

### २.८.१ बाथरुम र शौचालय (Bathroom and Toilet)

क) उचाइ- बाथरुम वा शौचालयका निमित्त कोठाको उचाइ २ मी. भन्दा कम हुनुहुँदैन ।

ख) साइज- बाथरुमका लागि कोठाको साइज १.३ मी.X १.० मी. भन्दा कम हुनुहुँदैन । शौचालयको निमित्त चौडाइ न्यूनतम ०.९ मी. र न्यूनतम क्षेत्रफल १.१ वर्ग मिटर हुनुपर्नेछ । बाथरुम र शौचालय एउटैमा भए त्यस्तो कोठाको साइज २.२ मी X १.२ मी. भन्दा कम हुनुहुँदैन

ग) कम्तीमा पनि एउटा गाह्रोमा बाहिरी हावाका लागि खुलाभाग भएको हुनुपर्नेछ । बाथरुम वा शौचालयका भुइँहरू पानीको निकास वा ढल भएतिर भिरालो पारिएको हुनुपर्नेछ । कोठा वा वरण्डातिर त्यस्तो बाथरुम वा शौचालयको पानी जानेगरी भिरालो पार्नु हुँदैन । कुनै शाफ्ट वा खुलाभागतर्फ खुलेको भ्याल वा भेन्टिलेशन हुनुपर्नेछ र त्यस्तो भ्याल वा भेन्टिलेशनको क्षेत्रफल कम्तीमा ०.३ वर्ग मी. र चौडाइ कम्तीमा ०.३ मी. हुनुपर्नेछ ।

### २.८.२ सतह ढल (Surface Drain)

क) प्रस्तावित प्लटबाट नगरपालिका वा सम्बन्धित निकायले तोकिदिएको दुरीभित्रमा सतह ढल छ भने प्लटभित्र वर्षाका कारणले जम्मा हुने आकासे पानी, ''आकासे पानी संकलन (Rainwater Harvesting)'' गर्ने व्यवस्था नभएको खण्डमा सतह ढलमा जोड्नु पर्दछ । यस्तो जडान गर्दा नगरपालिका वा सम्बन्धित निकायले तोकेबमोजिम जडान गर्नुपर्दछ ।

ख) आवासिय तथा रेस्टरण्ट भवनहरुको भान्साबाट निस्कने प्रयोग भएको फोहर पानी निकासलाई म्यानहोलमा बिसर्जन गर्नु अघि ग्रीज ट्राप (Greese Trap) मा जोडिएको हुनु पर्दछ । सतह ढलमा कुनै पनि किसिमको ठोस फोहरमैला एवं विषालु पदार्थ पठाउन पाइने छैन ।

### २.८.३ ढल निकास र नाला व्यवस्थापन (Drainage and Sewerage System)

क) चर्पी नभएको भवन निर्माणका लागि स्वीकृति दिइनेछैन ।

ख) प्लटबाट ३० मी. सम्मको दुरीमा ढल निकास (Sewer line) छ भने चर्पी/सेप्टिक ट्याङ्कीबाट निस्कने निकास पाइप यसमा जडान गर्नुपर्नेछ । यदि सो दुरीसम्ममा Sewer line छैन भने सेप्टिक ट्याङ्की र सोकपिटको वा अन्य कुनै उचित व्यवस्था गर्नु पर्नेछ । Swer line मा जडान गर्दा सम्बन्धित निकायले तोकेबमोजिम गर्नुपर्दछ ।

ग) सडक अधिकार क्षेत्रभित्र सेप्टिक ट्याङ्की र सोकपिट निर्माणगर्न पाइनेछैन । यस्तो निर्माणका लागि प्लट-सिमानाबाट १.५ मिटर छाड्नु पर्दछ ।

### २.८.४ खानेपानी (Water Supply)

क) जमिनमुनि खानेपानीको ट्याङ्की बनाउँदा सडक अधिकार क्षेत्रभित्र बनाउन पाइनेछैन ।

ख) मीटरसहितको खानेपानीको पाइप जडान गर्दा सम्बन्धित निकायले तोकेबमोजिम गर्नुपर्दछ ।

ग) खानेपानीको बैकल्पिक व्यवस्था (ईनार, बोरिङ तथा आकासे पानी संकलन) गर्नु परेको खण्डमा त्यसको व्यवस्था नगरपालिकाको स्वीकृति लिई गर्न पाइनेछ ।

घ) ईनार, बोरिङ तथा आकासे पानी संकलन गर्न भवनको साईड तथा पछाडिको सेटब्याक प्रयोग गर्न पाईनेछ तर यी सेटब्याक क्षेत्रमा छानो भएको कुनैपनी संरचना भने बनाउन पाइने छैन् ।

### २.८.५ विद्युत नियमावली र छाड्नु पर्ने दुरी (Electric Regulation and Setbacks)

निर्माणका लागि प्रस्तावित भवन/प्लटबाट विद्युतको तार नजिकै भएको अवस्थामा निर्माण/तला थप गर्नुपर्दा, कुनै पनि विद्युत प्रसारण वा विद्युत वितरण लाइनका तारहरूबाट विद्युत नियमावली- २०५० अनुसार नेपाल विद्युत

प्राधिकरणले तोकेको दुरी छाडेरमात्र निर्माण गर्न पाइनेछ । यस सम्बन्धमा सोही विद्युत नियमावली अनुसार निम्न नियमन मापदण्डहरू लागू हुनेछन् ।

क) कुनैपनि भवन वा अन्य निर्माण गर्दा २५०/४४० भोल्टेजदेखि ११ हजार विद्युत भोल्टसम्मको नाङ्गो तार भएको अवस्थामा उक्त तारको छेउ (सिमाना) बाट कम्तीमा १.२५ मी. छाडेरमात्र निर्माण गर्न पाइनेछ ।

ख) कुनै पनि भवन वा अन्य निर्माण गर्दा ११ हजार भन्दामाथि देखि ३३ हजार विद्युत भोल्टको तार भएको अवस्थामा उक्त तारको छेउ (सिमाना) बाट कम्तीमा २ मिटर छाडेरमात्र निर्माण गर्न पाइनेछ । ३३ हजार भोल्टभन्दा बढी भोल्टको लाइन लैजानु आवश्यक भएमा ३३ हजार भोल्टका लागि तोकिएको न्यूनतम दुरीमा प्रत्येक ३३ हजार भोल्टका लागि ०.३०५ मी. का हिसाबले अतिरिक्त दुरी थप गर्दै लैजानु पर्नेछ ।

ग) विद्युत भोल्टेजको स्तर २५०/४४० भोल्टेजदेखि ११ हजार विद्युत भोल्टसम्मको अवस्थामा तारदेखि भुइँसम्मको हुनु पर्ने न्यूनतम दुरी सडक वारपार गर्दा ५.८ मी., सडकको छेउ हुँदा ५.५ मी. र अन्य स्थानमा ४.६ मी. हुनुपर्नेछ ।

घ) विद्युत भोल्टेजको स्तर ११ हजार भन्दामाथि देखि ३३ हजार विद्युत भोल्टसम्म हुने अवस्थामा तारदेखि भुइँसम्म हुनुपर्ने न्यूनतम दुरी क्रमशः सडक वारपार गर्दा ६.१ मी., सडकको छेउ हुँदा ५.८ मी. र अन्य स्थानमा ५.२ मी. हुनुपर्नेछ । ३३ हजार भोल्टभन्दा बढी भोल्टको लाइन लैजानु आवश्यक भएमा ३३ हजार भोल्टका लागि तोकिएको न्यूनतम दुरीमा प्रत्येक ३३ हजार भोल्टका लागि ०.३०५ मी.को हिसाबले अतिरिक्त दुरी थप गर्दै लैजानु पर्नेछ ।

ङ) घरमाथिबाट कुनै किसिमको विद्युत लाइन लैजान पाइने छैन । तर, ग्यारेज, टहरा वा पर्खालमाथिबाट विद्युत लाइन लैजानु परेमा ४००-२३० भोल्टसम्मको लाइन लैजान सकिनेछ । यसरी लगिएको विद्युत लाइन ग्यारेज, टहरा वा पर्खालको सबैभन्दा अग्लो ठाउँबाट कम्तीमा ३ मिटरको दुरीमा पर्नेगरी लैजान पाइनेछ ।

च) घनाबस्ती भएको ठाउँमा ११ हजार भोल्टभन्दा बढी क्षमताको विद्युत लाइन सडकको वारपार गर्नुपर्दा दोहोरो रोधन (Double Insulation) प्रणालीको प्रयोग गर्नुपर्नेछ ।

छ) थ्री फेज लाईन जोडदा तथा ट्रान्सफर्मर राख्दा पनि यहि नियमावलीमा उल्लेख भए अनुसार गर्नु पर्दछ ।

### २.८.६ फोहरमैला (Solid Waste)

आफ्नो घरबाट निस्कने फोहरमैलाको व्यवस्थापन आफैँले गर्नुपर्दछ । सम्बन्धित निकायले तोकिदिएको स्थानमा मात्र फोहरमैला फाल्नु पर्दछ । निर्माण सामाग्रीहरू सार्वजनिक बाटो, पेटी, चोक, गल्ली आदिमा राख्न पाइने छैन ।

### २.८.७ अतिरिक्त प्रावधानहरू (Extra Provision)

क) भवनको छानामा पर्ने वर्षातको पानी पाइपद्वारा जमिनको सतहसम्म ल्याउनु पर्नेछ ।

ख) सार्वजनिक चोक वा सडक अधिकार क्षेत्रभित्र पर्नेगरी क्यान्टिलेभर, बालकोनी र घर अगाडिको भर्‍याङ आदि बनाउन पाइने छैन ।

ग) कायम रहेको ढल वा पानीको निकासालाई कुनै पनि किसिमको निर्माणकार्य गर्दा बन्द गर्न पाइनेछैन ।

घ) भवन निर्माण कार्य सम्पन्न भएको भवन निर्माण सम्पन्न प्रमाणपत्र अनिवार्यरूपमा लिनुपर्नेछ ।

ङ) यस मापदण्डले नसमेटेका प्रसङ्ग र बुँदाहरूमा व्याख्या र निर्णय दिनुपर्दा प्राविधिक सम्मिलित मापदण्ड कार्यान्वयन बोर्डको सिफारिसमा निर्णय गरिनेछ ।

### २.८.८ अग्नि सुरक्षासम्बन्धी प्रावधानहरू (Fire Safety Provisions)

अग्नि सुरक्षासम्बन्धी प्रावधानहरू तथा व्यवस्थाहरू ***राष्ट्रिय भवन संहिताको अनुसूची ५*** मा उल्लेख गरिए अनुसार हुनेछ, जसका महत्वपूर्ण मापदण्डहरू तल दिइएका छन् ।

यसमा बहुतले भवनहरू (अग्ला भवनहरू), १५ मी. वा सोभन्दा बढी उचाइ भएका भवनहरू र तल दिइएका जस्ता ठूलो समूह जम्मा हुने स्थानहरूलाई आगलागीबाट बचाउन केही प्रावधान समावेश गरिएको छ ।

क) सभा भवन, संस्थागत भवन र शैक्षिक भवन (दुई तलाभन्दा बढी र १००० व. मी. भन्दा बढी निर्मित क्षेत्र भएको)

ख) व्यावसायिक उपयोग (प्लटको क्षेत्रफल ५०० व. मी. भन्दा बढी भएको )

ग) व्यापारिक (कुल ढाकेको क्षेत्रफल ७५० व. मी. भन्दा बढी भएको)

घ) होटल तथा अस्पताल र नर्सिङ होमहरू

ङ) जमिनमुनिका भवनहरू

च) औद्योगिक भण्डारण

छ) बैठक/पार्टी प्यालेस/हलहरू

ज) खतरापूर्ण उपयोगहरू

भवन निर्माण गर्ने प्रत्येक व्यक्तिले कुनै पनि बेला पहुँचको माध्यमका रूपमा छुट्याइएको क्षेत्रमा अतिक्रमण हुनेगरी कुनै भवन निर्माण गर्न/गराउन वा पुनःनिर्माण गर्न पाइने छैन । संयुक्त आवास/बहुतले (५ तलाभन्दा अग्ला) भवनहरूका लागि तल दिइएका प्रावधानहरू र पहुँचको माध्यम लागू हुनेछ ।

(क) भवनतिर फर्केको मुख्य सडकको चौडाइ १२ मी. भन्दा कम हुनेछैन । पहुँचमार्गमा कुनै घुमाउरो (bends/curves) भएमा दमकलहरू फर्कनसक्ने गरी पर्याप्त चौडाइ हुनुपर्नेछ । (Turning circle) ९ मी. रेडियसभन्दा कमको हुनेछैन ।

(ख) दमकलको बोझ लिनसक्नेगरी पहुँच तथा खुलाक्षेत्रहरूको जमिन कडा सतहको हुनुपर्नेछ । उपयुक्त खुला क्षेत्र कुनै अड्चन नभएको हुनुका साथै गाडी चलाउन सक्ने हुनुपर्नेछ ।

(ग) दमकलको सहज पहुँच हुनेगरी भवन क्षेत्रको मुख्य प्रवेशद्वारा पर्याप्त चौडाइको हुनुपर्नेछ । चौडाइ कुनै हालतमा पनि ६ मी. भन्दा कमको हुनेछैन । प्रवेशद्वारा प्लटभित्रको बाहिरी पहुँचमार्ग दमकलहरू आउन जमिनमा बाधा नहुने गरी भवनक्षेत्रको कम्पाउण्डभित्रै फर्काएर राख्नमिल्ने हुनुपर्नेछ । मुख्य प्रवेश द्वारामा archway राखिएको भए सोको उचाइ ६ मी. भन्दा कम हुनेछैन ।

(घ) एउटै योजना क्षेत्रमा निर्माण हुने बहुतले समूह आवास आयोजना (Group Apartment Housing Scheme) हरूका लागि पहुँचमार्ग २० मी. वा स्थानीय एरियाप्लान/विकास योजनामा व्यवस्था भए अनुसार हुनेछ । छुट्टाछुट्टै भवनहरूबीचको ठाउँ घटीमा ६ मी. चौडाइको हुनेछ ।

### २.८.९ भवनवरिपरिको बाहिरी खुलाक्षेत्र (Open Spaces Around Buidling)

(क) तोकिएका भवनहरूको सेटब्याकहरू लोकल एरिया प्लान, भू-उपयोग योजना, ले-आउट योजना, अघिल्ला परिच्छेदमा व्यवस्था भए अनुसार हुनेछ ।

(ख) संयुक्त आवास/बहुतले अग्ला भवनका लागि तालिकामा लेखिए अनुसार खुला क्षेत्र राख्दा उपयुक्त हुन्छ ।

| तालिका नं. १४ भवनवरिपरिको बाहिरी खुलाक्षेत्रहरूसम्बन्धी प्रावधानहरू | | |
|---|---|---|
| सिं.नं. | अधिकतम भवनको उचाइ (मी.) | भवनको चारैतर्फ खुला छाड्नु पर्ने बाहिरी खुलाक्षेत्र मिटरमा (प्लट अगाडि र पछाडि दुवैतर्फ) |
| १. | १७ मिटरसम्म | तोकिएको सेटब्याक अनुसार |
| २. | १८-३३ | ६ मिटर |
| ३. | ३३-५५ | १० मिटर |
| ४. | ५५ भन्दा बढी | १५ मिटर |

### २.८.१० निकाससम्बन्धी आवश्यकताहरू (Exit Needs)

निम्नलिखित सामान्य आवश्यकताहरू कुनै पनि निकासका लागि लागू हुनेछ :

(क) आगलागी वा अन्य आकस्मिक अवस्था आइपरेमा भवनभित्रका व्यक्तिहरूलाई सुरक्षितरूपमा बाहिर ल्याउन मिल्नेगरी प्रत्येक भवनमा निकासको व्यवस्था गरिएको हुनुपर्दछ ।

(ख) प्रत्येक भवनमा निकासको व्यवस्था यस मापदण्ड अनुसार गर्नुपर्नेछ ।

(ग) सबै निकासहरू बाधा-अड्चनबाट मुक्त हुनुपर्दछ ।

(घ) न्यूनतम आवश्यकताभन्दा कम हुनेगरी निकासहरूको संख्या चौडाइ आदिमा कमी आउनेगरी कुनै पनि भवनमा परिवर्तन गर्न पाइनेछैन ।

(ङ) निकासहरू राम्ररी प्रष्ट देखिने हुनुपर्दछ र त्यहाँसम्म पुग्ने मार्गहरू उपयुक्त चिन्हहरू राखी प्रष्टरूपमा देखाइएको हुनुपर्नेछ ।

(च) सबै निकास पुग्ने बाटाहरू राम्ररी उज्यालो पारिएको हुनुपर्नेछ ।

(छ) आगलागी प्रतिरोधक औजारहरू निकासमाँगै राखिएको भए प्रष्टरूपमा देखिनेगरी राख्नुपर्नेछ र तिनले निकासमार्गमा अवरोध पुऱ्याउन दिनुहुँदैन । निकासमार्गको दुवैतर्फबाट यिनको अवस्थिति प्रष्टरूपले देखिने हुनुपर्दछ ।

(ज) आवश्यकता अनुसार तत्काल भवनभित्र बस्नेहरूलाई भवन खाली गराउन Alarm संयन्त्रहरू जडान गर्नुपर्नेछ ।

(झ) घर कम्पाउण्डबाहिर वा सडकसम्म पुग्न निर्वाधरूपमा निकास हुनुपर्नेछ ।

### २.८.११ निकासका प्रकारहरू (Exit Types)

(क) निकासहरू तेर्सो वा ठाडो प्रकारका हुनेछन् । निकास भित्री भऱ्याङ, बाहिरी भऱ्याङ, ऱ्याम्प बरण्डा वा टेरेस पुग्नसक्ने ढोकाको बाटो, करिडर आदि हुनसक्छ । सडक वा भवनको छानासम्म पहुँच भएको निकासमा त्यहीसरहको अर्को जोडिएको भवनसम्म पुग्ने तेर्सो निकास पनि समावेश हुनसक्छ ।

(ख) लिफ्ट, Escalator र घुम्ने ढोकाहरूलाई निकास मान्नसकिने छैन ।

नोट : आपत्कालीन निकाससम्बन्धी अन्य व्यवस्थाहरू ***राष्ट्रिय भवन संहिताको अनुसूची*** ..मा उल्लेख गरिए अनुसार हुनेछ ।

### २.८.१२ जमिनमुनिको तला (Basement )

भू-उपयोग योजना/जोनिङ्ग योजना अन्तर्गत तोकिएका भू-उपयोग तथा अन्य प्रावधानहरू अनुसार नगर विकास समिति/प्राधिकरण/नगरपालिकाले बेसमेन्ट निर्माणका लागि अनुमति दिनसक्नेछ । बेसमेन्टका लागि निम्न आवश्यकताहरू हुनेछन् :

(क) प्रत्येक बेसमेन्ट सबै भागमा भुइँदेखि सिलिङ्गसम्म २.५ मी. भन्दा कम उचाइको वा ४.५ मी. भन्दा बढी उचाइको हुनेछैन ।

(ख) बेसमेन्टमा पर्याप्त भेन्टिलेसनको व्यवस्था बेसमेन्टगरिनेछ । भवन मापदण्ड अनुसार खास उपयोगका लागि आवश्यक पर्ने मापदण्ड बेसमेन्टका लागि पनि लागू हुनेछ । कुनै कमी भएमा blower, exhaust पंखा (५० वर्ग. मी. का लागि एउटाका दरले), एयर कण्डिसनिङ्ग सिस्टम आदिबाट सो कमी पूर्ति गर्न सकिनेछ ।

(ग) सतह ढल बेसमेन्टभित्र नछिरोस् भन्नाका लागि आवश्यक व्यवस्थाहरू गरिनेछ । यस प्रयोजनका लागि पानी बाहिर फ्याँक्ने पम्प (Dewatering Pump) को व्यवस्था गरिने छ ।

(घ) बेसमेन्टका गारोहरू र भुइँ पानी नपस्ने हुनुपर्दछ । यिनको डिजाइनमा वरिपरिको माटो तथा moisture को असरलाई समावेश गरिएको हुन्छ र पर्याप्त damp proofing को व्यवस्था गरिएको हुन्छ ।

(ङ) बेसमेन्टसम्मको पहुँच भवनमा पहुँच दिने वैकल्पिक भऱ्याङबाट हुनेछ । सडकबाट सोझै प्रवेशको अनुमति दिइने छैन । बेसमेन्टको भऱ्याङ २ घन्टाभन्दा कम नहुने अग्नि प्रतिरोधक क्षमता भएको निर्माण प्रविधि प्रयोगगरी निर्माण गरिनेछ ।

(च) बेसमेन्टको पार्टिसनलाई अनुमति दिइएको भए कुनै पनि भाग ५० व. मी. भन्दा कमको हुनेछैन र प्रत्येक भागमा ventilation सम्बन्धी मापदण्ड पालना भएको हुनुपर्नेछ । साथै अग्नि प्रतिरोधकका नर्म्सहरू पनि लागू हुनेछन् ।

### २.८.१३ सर्भिस डक्ट रिफ्यूज सुट (Service Ducts/Refuge Chute)

(क) Service duct हरू २ घण्टा अग्नि प्रतिरोधक क्षमता भएको गारो तथा ढोकाले घेरिएको हुनुपर्दछ । यदि duct हरू १० व. मी. भन्दा ठूला छन् भने भुइँले तिनलाई seal गर्नुपर्नेछ तर पाइपहरू छिराउन उपयुक्त opening हरू राखिएको हुनुपर्नेछ । खाली ठाउँहरू सबै सिल हुनुपर्दछ ।

(ख) Refuge chute २ घण्टाभन्दा बढी अग्नि प्रतिरोधक क्षमता भएको आगोले नखाने सामग्रीबाट बनेको हुनुपर्नेछ । Chute हरू निकासबाट सकेसम्म टाढा राखिनु पर्दछ ।

(ग) सर्भिस डक्ट तथा रिफ्यूज सुटहरूलाई भऱ्याङको गारो र एयरकन्डिसनिङ आदिमा राखिने छैन ।

### २.८.१४ अग्नि प्रतिरोधक यन्त्र जडानसम्बन्धी (Fire Resistant Equipment Installation )

यस नगरपालिका अधिकृतले उल्लिखित जडानहरू आवश्यक ठाउँमा उपयोग अनुसारको उपयुक्त स्पेसिफिकेसन अनुसार अग्नि प्रतिरोधक यन्त्र जडानहरू राखिने छ । यस्ता यन्त्र Fixed CO2/Foam/Water Spray Extinguishing System आदि जस्ता व्यवस्था भएको हुनेछन् ।

### २.८.१५ अग्निसूचक यन्त्र (Fire Alarm system )

आवासीय भवनहरूका साथै १५ मी. वा सोभन्दा बढी उचाइ भएका सबै भवनहरूमा Fire Alarm System (FAS) जडान गरिएको हुनुपर्दछ ।

(क) आवास एकाइहरू वा प्लान्टहरू भएको बोर्डिङ्ग छात्रावास जस्ता सबै आवासीय भवनहरूमा प्रत्येक तलामा एक वा बढी call box हरू राखी हातबाट बल्ने विद्युतीय FAS जडान भएको हुनेछ । २२.५ मी. भन्दा बढी हिड्नु नपर्नेगरी आ-आफ्ना तला अनुसार call box राख्ने ठाउँ यकिन गरिनेछ ।

(ख) Call box हरू कुनै चल्ने भाग भएको break glass type बाट बनाइएको हुनेछ । Call box सञ्चालन गर्ने व्यक्तिले केही नगरी कुनै नियन्त्रण कक्षबाट स्वतः call प्रसारण गर्न सक्नेछ ।

(ग) कुनै पनि call box क्रियाशील हुँदा तलामा रहेका सबैले सुनून् भन्नका लागि एक वा बढी साउन्डरहरूबाट आवाज आउनेगरी कल बक्सहरू मिलाइएको हुनेछ ।

(घ) बहिर्गमनका बाटाहरूमा बाधा नहुने गरिनुका साथै दुवै दिशाबाट तिनीहरू राखिएको ठाउँ देखिनेगरी call box हरू जडान गरिएको हुनेछ । Call box को base भुइँ सतहबाट १.५ मी. उचाइको हुनेछ ।

(ङ) माथि लेखिएका बाहेक सबै भवनहरूमा हातले सञ्चालन हुने विद्युतीय FAS का साथै स्वचालित FAS पनि जडान गरिएको हुनेछ ।

**पुनश्च :** बजारमा धेरै प्रकारका fire detector उपलब्ध छन् । प्रत्येकको उपयोग सिमित छ । त्यसकारण खतराको प्रकार तथा भवनको स्ट्रक्चर हेरी उपयुक्त डिटेक्टरको छनोट गर्नुपर्ने हुनेछ ।

### २.८.१६ नियन्त्रण कक्ष (Control Room)

विभिन्न तलाहरूबाट सन्देशहरू पाउन भवनको प्रवेश तलामा सबै तलाहरू र सबै सुविधाहरूको सञ्चार व्यवस्था भएको नियन्त्रण कक्ष राखिने छ । यस कक्षमा fire fighting औजारहरू र तिनका जडानहरूबारे विस्तृत जानकारीका साथै फ्लोर प्लानहरूको विस्तृत विवरणहरू राखिएको हुन्छ । सबै तलाहरूमा fire detection र अलार्म सिस्टमसँग जोडिएका सूचना बोर्डहरूमार्फत कुनै पनि तलामा भएको आगलागीको जानकारी थाहा पाउने सुविधा पनि नियन्त्रण कक्षमै राखिनेछ । नियन्त्रण कक्षमा कार्यरत कर्मचारी सबै प्रकारका सेवाहरू, fire fighting औजारहरू तथा जडानहरूप्रति जवाफदेही रहनेछन् । तालिम प्राप्त fire fighting कर्मचारीहरूबाट नियन्त्रण कक्ष २४ सै घण्टा सञ्चालन गरिएको हुन्छ ।

### २.८. १६ भवन निर्माणमा प्रयोग हुने सामग्री (Building Materials)

(क) पार्टिसन, गारो प्यानल, फल्स सिलिङ्ग आदिका लागि प्रज्वलनशील सामग्रीहरू प्रयोग गरिने छैन । आगो लागेमा toxic ग्याँस/धुँवा निकाल्ने कुनै पनि सामग्री पार्टिसन, गारो प्यानल, फल्स सिलिङ्गका लागि प्रयोग गरिने छैन । सम्पूर्ण फल्स सिलिङ्गमा फ्रेमवर्क धातुको हुनेछ र यसका लागि काठको प्रयोग गरिने छैन ।

(ख) स्ट्रक्चरको निर्माण तत्वहरू राष्ट्रिय भवन संहिता अनुसारको हुनेछ ।

### २.८.१७ विज्ञापन बोर्डसम्बन्धी (Hoarding Boards)

विज्ञापनसम्बन्धी वा अन्य कुनै पनि होर्डिङ्गबोर्डहरू राख्नु पर्दा नगरपालिकाको स्वीकृति लिएरमात्र राख्न पाइनेछ ।

### २.८.१८ दण्ड सजाय (Penality)

यस मापदण्डमा उल्लेख भएका प्रबधानको उल्लङ्घन भएमा स्थानीय स्वायत्त शासन ऐन- २०५५ र २०५६ को नियमावली तथा अन्य प्रचलित कानुनबमोजिम आवश्यक कारवाही गर्न सकिनेछ ।

## सडक अधिकार क्षेत्रसम्बन्धी मापदण्ड (Bylaws for Right of Way )

### ३.१ सडक अधिकार क्षेत्र (Road Right of Way)

सडकहरूलाई सडक विभाग र शहरी विकास तथा भवन निर्माण विभागले निर्धारण गरे अनुरूप निम्नानुसार वर्गीकरण गरिनेछ ।

क) राजमार्ग (Highway)

ख) शाखा सडक (Arterial road)

ग) प्रशाखा सडक (Connector road)

घ) सहायक सडक (Feeder road)

ङ) प्रवेशमार्ग (Access road)

### ३.२ नगरस्तरीय सडक अधिकार क्षेत्र (Urban Road Right of Way)

क) नगरस्तरीय सडक : क श्रेणी (Class A) - २२ मिटरभन्दा माथिका सडक अधिकार क्षेत्र

ख) नगरस्तरीय सडक : ख श्रेणी (Class B)- १४ मिटर सडक अधिकार क्षेत्र

ग) नगरस्तरीय सडक : ग श्रेणी (Class C)- १० मिटर सडक अधिकार क्षेत्र

घ) नगरस्तरीय सडक : घ श्रेणी (Class D)- ६ मिटर देखि ८ मिटरसम्म सडक अधिकार क्षेत्र

**नगरपालिकामा रहेका सडकहरू मध्ये मुख्य सडकहरूका सडक अधिकार क्षेत्र र सेट व्याकहरू तल उल्लेखित तालिकामा दिएबमोजिम रहनेछ ।**

## क) नगरस्तरीय सडक : क श्रेणी (Class A)- २२ मिटर सडक अधिकार क्षेत्र

| सिं.नं. | Road Code(सडक कोड) | विवरण | हालको चौडाइ (मी.) | प्रस्तावित सडक अधिकार क्षेत्र | केन्द्र रेखाबाट छोडने दुरी | | सेट व्याक | | कैफियत |
|---|---|---|---|---|---|---|---|---|---|
| | | | | मापदण्ड (मी.) | दायाँ | बायाँ | दायाँ | बायाँ | |
| १ | A01 | Ring Road | १२ | २२ | ११ मी. | ११ मी. | १.५ मी. | १.५ मी. | |

## ख) नगरस्तरीय सडक : ख श्रेणी (Class B)- १४ मिटर सडक अधिकार क्षेत्र

| सिं.नं. | Road Code | विवरण | हालको चौडाइ | प्रस्तावित सडक अधिकार क्षेत्र | केन्द्र रेखाबाट छोडने दुरी | | सेट व्याक | | कैफियत |
|---|---|---|---|---|---|---|---|---|---|
| | | | | मापदण्ड | दायाँ | बायाँ | दायाँ | बायाँ | |
| १ | B01 | Bheri Marg | ८ मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |
| २ | B02 | Chaurjahari to Musikot | ८ मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |
| ३ | B03 | Chaurjahari to Musikot | ८ मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |
| ४ | B04 | Jajarkot Midway Highway | ८ मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |
| ५ | B05 | Kural to Madhya Pahadi | ८ मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |
| ६ | B06 | Lamochhanegaun-Gharigaun | १० मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |

| सिं.नं. | Road Code | विवरण | हालको चौडाइ | प्रस्तावित सडक अधिकार क्षेत्र | केन्द्र रेखाबाट छोडने दुरी | | सेट व्याक | | कैफियत |
|---|---|---|---|---|---|---|---|---|---|
| ७ | B07 | MHH-Lamichhanegaun-Narkholi | ८ मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |
| ८ | B08 | Rapti Marg | ६ मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |
| ९ | B09 | Shankhapipal Marg | ६ मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |
| १० | B10 | Tribeni to Khauchini | ६ मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |

## ग) नगरस्तरीय सडक : ग श्रेणी (Class C)- १० मिटर सडक अधिकार क्षेत्र

| सिं.नं. | Road Code | विवरण | हालको चौडाइ | प्रस्तावित सडक अधिकार क्षेत्र | केन्द्र रेखाबाट छोडने दुरी | | सेट व्याक | | कैफियत |
|---|---|---|---|---|---|---|---|---|---|
| | | | | मापदण्ड | दायाँ | बायाँ | दायाँ | बायाँ | |
| १ | C01 | Amachaur to Bijeshwori | ८ मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |
| २ | C02 | Banseri to Gesma | ८ मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |
| ३ | C03 | Basigaun to Kot Gau | ८ मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |
| ४ | C04 | Katte Khola to Shanti nagar | ८ मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |
| ५ | C05 | Salyaneta to Priya takura | ८ मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |
| ६ | C06 | Shanti Bajar to PHCC to Daha | १० मी. | १४ मी. | ७ मी. | ७ मी. | १.५ मी. | १.५ मी. | |

### घ) नगरस्तरीय सडक : घ श्रेणी (Class D)- ६ देखि ८ मिटर सडक अधिकार क्षेत्र

| सिं.नं. | Road Code | विवरण | हालको चौडाइ | प्रस्तावित सडक अधिकार क्षेत्र | केन्द्र रेखाबाट छोडने दुरी | | सेट व्याक | | कैफियत |
|---|---|---|---|---|---|---|---|---|---|
| | | | | मापदण्ड | दायाँ | बायाँ | दायाँ | बायाँ | |
| १ | D01 | Basigaun to Banseri | ४ मी. | ८ मी. | ४ मी. | ४ मी. | १.५ मी. | १.५ मी. | |
| २ | D02 | Bijeshwori to Salyaneta | ४ मी. | ८ मी. | ४ मी. | ४ मी. | १.५ मी. | १.५ मी. | |
| ३ | D03 | Gharigau to Mankot | ४ मी. | ८ मी. | ४ मी. | ४ मी. | १.५ मी. | १.५ मी. | |
| ४ | D04 | Mankot to Khahare | ४ मी. | ८ मी. | ४ मी. | ४ मी. | १.५ मी. | १.५ मी. | |

### ङ) नगरस्तरीय सडक : ङ श्रेणी (Class E)- ६ मिटर सडक अधिकार क्षेत्र

| सिं.नं. | Road Code | विवरण | हालको चौडाइ | प्रस्तावित सडक अधिकार क्षेत्र | केन्द्र रेखाबाट छोडने दुरी | | सेट व्याक | | कैफियत |
|---|---|---|---|---|---|---|---|---|---|
| | | | | मापदण्ड | दायाँ | बायाँ | दायाँ | बायाँ | |
| १ | E01 | Foot Trails | १.५र २ मी. | ६ मी. | ३ मी. | ३ मी. | १ मी. | १ मी. | |

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**Table 34: Calculation of road**

| S.N. | Road Name | ROW (m) | Total Length (Km) | Existing Condition | Settlement Through | No. of HHs | Service Population | Advantages | Priority |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Thapa Village-Majh Village-Gharti Village-Shanti Bajar | 7 | | New Track | Thapa Village, Majhi Village, gahrti Village | 375 | 1875 | Transportation for Agriculture products and Transportation of Sand, Gravel from local Khola construction work. | 3 |
| 2 | Kalapathar PSS-Jardhari Khola- Sauri | 8 | | New Track | | | | Way to School and way to river | 2 |
| 3 | Chaujhharri-Narji- Health Post-Higher Secondary School-Chainbagar Road | 8 | | New Track | | | | Way o Chaujhharri, Way to Healthpost for treatment, School and way to Chainbagar. | 1 |

| Name | width | Length | Road Type |
|---|---|---|---|
| Lamochhanegaun-Gairigaun Marg | 5 | 2089 | Gravelled road |
| Bheri Marg | 3 | 1341 | Gravelled road |
| North-South Road | 3 | 739 | Gravelled road |
| Shankhapipal Marg | 2 | 627 | Gravelled road |
| North-South Road | 4 | 1427 | Gravelled road |
| North-South Road | 5 | 580 | Gravelled road |
| Amachaur Marg | 4 | 958 | Gravelled road |
| Amachaur Marg | 4 | 301 | Gravelled road |
| Amachaur Marg | 3 | 951 | Gravelled road |
| Gairipakha Marg | 4 | 1883 | Gravelled road |
| Rapti Marg | 2 | 4379 | Gravelled road |
| Mid-Hill Highway | 6 | 4600 | Gravelled road |

| Name | width | Length | Road Type |
|---|---|---|---|
| Mid-Hill Highway | 6 | 6529 | Gravelled road |

**PROBLEMATIC SCENARIO FOR THE EXISTING POPULATION**

These ward wise demand and problem is collected during the ward level workshop.

## Ward No 1

1. Road extension required from Maiki Darka – Mission Hospital – Kural Bheri river bridge
2. Road extension required from Nakhira Main Road- Fulbari- Mission Hospital
3. Road extension required from Bridge from Mid Hill Highway – Tallo Adhere- Mission Hospital Road
4. Road Extension required from Jolte Simal- Thosa Thika – Maiki Darka
5. Road extension required from Ghaari Gaon – Lamichhane Gaon present at east of Thosa Thika.
6. Extension and rehabilitation of existing canal from Mathillo Chaur- Maiki Darka – Bhraman Gaon at Thosa Thika
7. Extension of Irrigation Project from Dalule Khola Dhamka- Jolte Simal and Baaghmare.
8. Special focus programme required for Animal and Bird Husbandry
9. Horticulture in Kukhya and Mukhiya Island in Bheri River
10. Promotion of Pulse (Arhar) farming in Mathillo Chaur, Lamasaal, Samada Gairo and Rawat Tata.
11. Extension of Central Transmission line in all wards.
12. Treatment of water of Bheri River for the drinking water purpose.
13. Necessary infrastructures like Building, Barbed wire and other facilities required for Nakhira Primary School
14. Promoting Kalika Mandir and Shivalaya Mandir as tourism places.
15. Provision of canal from 19500 point to Kuiri.

## Ward No 2

1. Necessity of Road from Fulbari Khola- Thapa paakha- Padheri Dhunge pani- Nepal Telecom Tower
2. Provision of Protection works in the following river and Gorge which are effected by Soil erosion and Landslides
   - Fulbari Khola Protection
   - Uteri Paakha Khola Protection
   - Rote Paakha Khola Protection
   - Saala Khola Protection
   - Bhure Saal gorge Protection
   - Charme Pipal gorge Protection
3. Extension of Water Supply project from Rote Khola Source to Ghaari Gaon
4. Extension of Central Transmission Line
5. Construction of Building for the Nagarik Sachetana Kendra

6. Promotion of Horticulture in the areas from Sala Khola- Uture Paakh- Kuisi- Rote paakha and also till Lamichhane Tikachaur.
7. Extension of Water Supply Project from Belaini source for lamichhane Gaon
8. Extension of Road from Ghaari Gaon main Road- Jolte Simal – Baadi Gaon Paakha
9. Provision of Water Supply for the Old Market existing in this ward
10. Provision of Irrigation project from 19500 point- Lamichhane gaon – Tikachaur.

## Ward No 3

1. Construction of Road from Tribeni- Khatri Aala- Gotame Gaon- Bijeshwori
2. Construction of Road from Kumhaale Khaani- Bista Aala- Khadka Tole – Bijeshwori
3. Construction of Road from Shahid gate- Jhakri Khola- Bista Aala- Bijeshwori
4. Construction of Road from Buspark- Shital Campus- Shree HSS- Milan Chowk
5. Construction of Road from Bijeshwori- Gotame Gaon- Puraano Thaado Baato- Khaali Pipal – Mid Hill Highway
6. Construction of Road from Bijeshwori- Khaal Takura- Phulbaari- Bureli
7. Construction of Road from Buspark- Bhinge tata- Syang Khola- Khaali Khola
8. Construction of Road from Bijeshwori- Malle Khola- Kalapatthar
9. Rehabilitation of Road Stretch from Buspark- Naya Bazaar – Shahid gate areas as well as provision of providing Gabion Protection works on those stretch of rock extraction and accident prone areas
10. Protection works on the following rivers and gorge affected by landslides and Soil Erosion
    - Sisau Khola
    - Simle Khola
    - Simle Khola
    - Piteni Khola
11. Providing Irrigation systems on all the cultivable land of ward no 2
12. Protection of source of Malle Khola.
13. Protection of Rukume Padhera present at Rukume Gaon and establishing Water tank in that place
14. Extension of existing track to graveled road from Khaali Pipal- Jumli- Naika Tole- Bijeshwori
15. Treatment of Water of bheri river and use it for drinking water and Irrigation purpose.
16. Construction of international level stadium at the existing land named under the stadium
17. Construction of conference hall for the ward
18. Commencement of Hydropower projects on saano bheri and Thulo Bheri
19. Maintenance of Chaujahari Hydropower and extract electricity from it
20. Extension of Cenral transmission line in every wards
21. Construction of building for Child education
22. Construction of public toilets in public areas like buspark, markets etc
23. Construction of ‘Pratikshyalaya’ at the Bar Pipal tree present on the bank of Bheri River
24. Necessity of proper building for Bijeshwori primary school, Sheetal Campus, Sheetal HSS.
25. Maintenance of Bijeshwori temple and developing it as tourism destination
26. Construction of temple at Bhailmara Takura
27. Protection of gorge against Soil erosion and landslide in following gorge:
    - Syang Khola- Marilya River
    - Pitani River – Thaari Khola
    - Mul baato – Rukume Gaon

- Shahid gate – Jhaakri khola
- Chote bagar – Mul baato (till Khaali Khola)

**Ward No.4**

1. Commencement of water supply project at Tata Gaon of ward no 4
2. Construction of road from Fulbari – Ramjanaki Mandir
3. Construction of Road from Khayur- Gothaale- Mid Hill Highway
4. Construction of Road from Paanchpuni Gaon – Mid Hill Highway
5. Rehabilitation and extension of road from Ghaati Paakha – Mid Hill Highway
6. Establishing of link road from saaune khola – tatagaon – Mid Hill Highway
7. Establishing of Link road from chipleti – Bisaauna – Mid Hill highway
8. Rehabilitation and extension of track of Tatagaon
9. Provision of sewerage in all the area of ward no 4
10. Extension of Central transmission line all the area of ward no 4
11. Provision of Barbed wire for the protection of forest and gabion works for the river protection
12. Training of pottery to the kumal people of ward no 4 to strength their skill and protect the pottery culture
13. Extension of irrigation project in every areas of ward no 4
14. Providing hybrid seed and other agicultural tools and products to the farmers
15. Intiating programme regarding Child development, Child club, vocational trainings and women empowerment trainings
16. Construction of Public toilets in the public places.
17. Construction of building in the vicinity of Ram Janaki temple
18. Construction of resting place in the Rani sagar cemetery

**Ward No 5**

1. Construction of road from Mid hill highway- Amba chaur- Laambagar
2. Constuction of road from Khauchane- Mokshya dwari temple
3. Construction of road from Bijeshwari- Lapule Gon- Khauchane- Mokshyadwari Temple
4. Constuction of road from Ambachaur – Mokshyadwari temple
5. Construction of road from Mid Hill highway- Naichi Ukaalo- Pul matela
6. Construction of road from Khauchine- Mid Hill Highway- Mokshyadwari as well as construction from Khauchane- Batala Dhara- Jahari Khola
7. Construction of road from water tank at Lapule Gaon- bhuinauri- Jahari Khola
8. Construction of building of forest committee
9. Construction of building of Jana Jyoti primary school.
10. Construction of building for Ward office
11. Protection of Laple Dhara source and construction of water tank for it
12. Extension of Titke Kharkha water supply project from Syal Khola Danda to syal Khola basti
13. Protection of Tori Dhaara source
14. Protection of Btala Dhaara padhera source
15. Protection of Khari Bhor source
16. Provision of Pumping of water of Bheri Khola at Ambachaur and treatment of water for water supply project
17. Pumping of water from Pisa source and utilizing that water for Laple gaon Water Supply Project.

18. Commencement of Syal Khola, Ambachaur, Lamabagar water supply project
19. Preparation of Jahari Jiyula source and making use of that water in Lamabagar irrigation project
20. Rehabilitation of irrigation canal from Khauchane- Ambachaur
21. Construction of canal from Khauchane – Burimaare
22. Provision of Child development programme in the ward level
23. Extension and rehabilitation of Jana Jyoti primary school as well as supply of sports and other learning material to the students to encourage them in study
24. Construction of Dharamsala and Buildings in the Mokshyadwari Mandir situated at Maikhara Danda and developing it as a tourist destination
25. Construction of Dharamsala and Buildings in the Shiv Deval situated at Laple gaon and developing it as a tourist destination
26. Extension of central transmission line at ward no 5
27. Construction of Hydropower at Lamabagar Chipleti source
28. Establishment agriculture service center
29. Training on the agriculture and animal husbandry as well as providing funds for agricultural products
30. Construction of collection centers agricultural and animal products
31. Providing protection works to all the cultivable lands to prevent them from soil erosion and landslides.
    - Jahari Khola ( Chisapani, Aireni, Chaabisaar)
    - Thara Khola ( Ambachaur)
    - Sauni pani ( Syal Khola)
    - Laple Gaon reservoir tank protection ( Laple Gaon)
    - Chisapani protection ( Chisapani)
32. Construction of playground at open space present in Syal Khola of ward no 5
33. Providing different facilities and skill development trainings to the endangered Baadi group of almost 25 households of Syal Khola area

## Ward no 6

1. Connection of 10 km road from Munkot- Amlatakura- Salyan Neta.
2. Necessity of 6 roomed building for the primary level in Malika Proimary school
3. Construction of road from NT tower- Jibrani- Tata Road
4. Provision of required budget for the construction of Reservoir tank at Amla takura- Chahari Khola- Kalimati Danda Irrigation project
5. Extension of National transmission line at all the areas of Ward no 6
6. Construction of building and view Tower at Malika Temple for tourism purpose and opening of trekking route till the temple.
7. Construction of building for the purpose of health post and Wada Nagarik munch t Pipalneta lying at the centre of Munkot and Amlatakura.
8. Extension of Water supply project from Mathillo Saanghaari – Munkot Maajh Gaon
9. Provision of drinking water from Amlatakura Gaon – Haate Danda Jiula – Takura Munkot – Bhuwa takura – Kalimati.
10. Connection of road from Ghaari Gaon – Munkot- Kalimati – Tata – Takura.
11. Connection of road from Amla takura – Primary School. Construction of irrigation canal from Jibrreni – Mathillo Tata.

12. Provision of required technical assistance or training to the local farmers for tea and coffee farming. Construction of irrigation canal from Khahare Khola – Tata Tole.
13. Construction of water supply line to carry water from Mul Khet source and Simal Bot Source to Takura Tole.
14. Programme of afforestation at the open space of Rajapani and Siuri Khola.
15. Construction of buildings for munkot school.

**Ward No. 7**

1. Construction of water supply line to carry water from Syana Khola source and Ramshya Source to Khahare Tole.
2. Approval of Khahare HSS and increasing of quota for staffs with the construction of buildings, Toilets and barbed wire.
3. Extension and rehabilitation of Tribeni – Khahare- Lahare Simal road and construction of Munkot- Betaini- Khahare Lahare Simal.
4. Extension of Central transmission line in all the areas of Ward no 7
5. Opening of track from Suwagare- Khurkhuri tole- Khahare Tole- Khahre Khola.
6. Provide necessary assistance for forest conservation, fencing and afforestation.
7. Implemenatation of Khahare Khola Irrigation Project to irrigate all the cultivable lands f Khahare Tole.
8. Construction of collection centre of seeds, animals and birds.
9. Provide assistance for the construction of buildings, fencing and computer labs in Lahare Simal Primary School.
10. Construction of road from Jogi Danda- Khuti Danda- Malyasim- Achaale kot- Chaakhle Danda- Barmadhan- Ratamata- Kalya Khola- Kamire Kholi- Wada Chaur- Simdanda- Khara.
11. Construction of Water supply line with the concept of 1 tap per household in Lahare Simal Gaon.
12. Extension of Lahare Simal Irrigation Project by providing necessary technical assistance and coverage area.
13. Construction of protection works in river to prevent the cultivable lands from being eroded. These protection works are required in
    - Resham Khola
    - Salli Bot, Dhule Khet
    - Galgale, Daab Khola
    - Katle Khola and Bada chaur
    - Khahare Khola
14. Construction of suspension bridge at Jahari Khola to connect Lahare Simal and Ward No.8
15. Construction of Deuti Bajai Mandir at Khahare tole.
16. Implementation of necessary project for the banana farming as this land is very suitable for the farming
17. Assistance required for breeding purpose of Rainbow trout at Resham Khola Lahare Simal
18. Extension of beds at Health Post present in Ward No 7 along with the construction of Building, Fencing, Toilets and Drinking Water.
19. Construction of Irrigation canal from Padhero Khola- Betaini- Priya Takuri.
20. Extension of Resham Khola – Ratamata irrigation project.

## Ward No 8

1. Construction of road from Aairage- Gharti Kaanda School- Malika Road
2. Construction of Narji- Gharti kaanda road.
3. Construction of road from Nyauli Bajar- Gharti Kaanda
4. Construction of road from Chaurjahari- Bijeshwori- Mailenauli- Narji- Gharti kaanda.
5. Construction of Road from Lahare Simal- Gharti Daanda.
6. Extension of water supply line in all the areas of ward no 8 as this area is suffering from deficit of water.
7. Extension of Irrigation project in all the cultivable areas of Ward no 8
8. Extension of Central transmission line in Ward No 8

## Ward No 9

1. Construction of road from Narji- Khatri gaon- Kumaai Gaon- Kotjahari- Nyauli bajar
2. Construction of road from Chaurjahari- Narji- Kapra- Khatri Gaon- Kotgaon
3. Rehabilitation and Extension of Mailenauli- Soti Khola- Kapra- Kumaai Gaon
4. Extension of water supply line in all the areas of ward no 9 as this area is suffering from deficit of water.
5. Extension of Irrigation project in all the cultivable areas of Ward no 9
6. Extension of Central transmission line in Ward No 9

## Ward No 10

1. Construction of road under Mid Hill Highway from Soti- Gesma- Wadakola- Basi Gaon- Soti Khola
2. Construction of road from Soti- Laiyata- Nyauli.
3. Construction of Road from BasiGaon- Soti khola- Daande Aap- Kotgaon
4. Extension of Water supply line in all the areas of Ward No 10
5. Provision of Irrigation system in all the cultivable areas of Ward No 10
6. Extension of Central transmission line in all the areas of Ward No 10

## Ward No 11

1. Construction of Road from Kapra- Thapagaon- maajhKhola- Gharti Gaon- Shanti bajar
2. Construction of Pra. Bi. Kalapatthar- Jahari Khola- Sauri Khola Road.
3. Construction of Chaurjahari – Narji- Health Post- Higher Secondary School- Chinabajar Road
4. Extension of Water supply line in all the areas of Ward No 11
5. Provision of Irrigation system in all the cultivable areas of Ward No 10
6. Extension of Central transmission line in all the areas of Ward No 10

**Table 35: Suspension Bridge List**

| Name | Type | Left | Right | River/Khola |
|---|---|---|---|---|
| Nakhira suspension Bridge | D | Jajarkot | Nakhira | Thulibheri |
| Matela | N | Jajarkot | Matela | Thulibheri |
| Jaharikhola Chipleti | D | Kotjahari | Bijeshwori | Jaharikhola |
| Bhakunde | D | Kotjahari | Bijeshwori | Jaharikhola |
| Jaharikhola Kha | D | Kholagau | Bijeshwori | Jaharikhola |

**Table 36 : Water Source Description**

| Ward no. | HH no. using tap or piped water | HH no. using Tubewell water | HH no. using well & springs water | HH no. using river &pond water |
|---|---|---|---|---|
| 1 | 138 | 3 | 4 | 1 |
| 2 | 86 | 5 | 57 | 7 |
| 3 | 181 | 0 | 3 | 0 |
| 4 | 106 | 0 | 14 | 11 |
| 5 | 139 | 1 | 34 | 0 |
| 6 | 63 | 0 | 4 | 3 |
| 8 | 125 | 0 | 1 | 0 |
| 9 | 86 | 0 | 0 | 0 |

**Table 37: Religious & tourism places**

| SN | Name | Location | Remarks |
|---|---|---|---|
| 1 | Kural Shiva Temple | Chaujahari-1, Kural | |
| 2 | Maika Kalika Temple | Chaujahari-1 | |
| 3 | Shivalaya Dewal | Chaujahari-3, Bijeshwori | |

| SN | Name | Location | Remarks |
|---|---|---|---|
| 4 | Mokchyadwari Temple | Chaujahari-5, Mokchaydwari | |
| 5 | Bijeshwori Temple | Chaujahari-3, Bijeshwori | |
| 6 | Mankot Bhagawati Temple | Chaujahari-6, Mankot | |
| 7 | Malika Bhagawati Temple | Chaujahari-7, Malika | |
| 8 | Ramjanaki Temple | Chaujahari-4, Tatagau | |
| 9 | Mahadev Maiki Darga Kotjahari | Chaujahari-9, Kotgaun | |
| 10 | Maha Kalika Temple | Chaujahari-9, Kotgaun | |

| SN | Type of land | Area(Sq meter) | Parcel No | Ownership status | VDC/Municipality/Sheet No |
|---|---|---|---|---|---|
| 1 | Public open space | 1810 | 181 | GoN | Bijeshwari 1/0978 |
| 2 | Parti | 155 | 198 | GoN | Bijeshwari 1/0978 |
| 3 | Public Tap | 70 | 321 | GoN | Bijeshwari 1/0978 |
| 4 | Barren | 1550 | 398 | GoN | Bijeshwari 1/0977 |
| 6 | Barren | 285 | 443 | GoN | Bijeshwari 1/1017 |
| 7 | Barren | 100 | 453 | GoN | Bijeshwari 1/1017 |
| 9 | Bhagawati Than | 40 | 325 | GoN | Bijeshwari 2/977 |
| 10 | Parti | 255 | 430 | GoN | Bijeshwari 2/977 |
| 11 | Parti | 350 | 576 | GoN | Bijeshwari 2/938 |
| 12 | Parti | 905 | 667 | GoN | Bijeshwari 2/976 |

| SN | Type of land | Area(Sq meter) | Parcel No | Ownership status | VDC/Municipality/Sheet No |
|---|---|---|---|---|---|
| 13 | Parti | 415 | 712 | GoN | Bijeshwari 2/976 |
| 14 | Suwakoti Than | 515 | 963 | GoN | Bijeshwari 2/976 |
| 15 | Parti | 1240 | 998 | GoN | Bijeshwari 2/976 |
| 16 | Barmathan | 555 | 1147 | GoN | Bijeshwari 2/1017 |
| 17 | Bhagawati Mandir | 345 | 1243 | GoN | Bijeshwari 2/1016 |
| 18 | Parti | 550 | 492 | GoN | Bijeshwari 3/935 |
| 19 | Chautara | 50 | 368 | GoN | Bijeshwari 3/935 |
| 20 | Parti | 550 | 492 | GoN | Bijeshwari 3/935 |
| 21 | Braham Sthan | 145 | 671 | GoN | Bijeshwari 3/975 |
| 22 | Parti | 10 | 1682 | GoN | Bijeshwari 3/975 |
| 23 | Parti | 20450 | 2923 | GoN | Bijeshwari 3/1015 |
| 24 | Parti | 310 | 2932 | GoN | Bijeshwari 3/1015 |
| 25 | Parti | 137270 | 44 | GoN | Bijeshwari 4/974 |
| 26 | Parti | 1630 | 854 | GoN | Bijeshwari 4/975 |
| 27 | Parti | 1710 | 881 | GoN | Bijeshwari 4/975 |
| 28 | Parti | 50510 | 1055 | GoN | Bijeshwari 4/975 |
| 29 | Parti | 35 | 1088 | GoN | Bijeshwari 4/975 |
| 30 | Parti | 225 | 1089 | GoN | Bijeshwari 4/974 |
| 31 | Chautara | 90 | 1091 | GoN | Bijeshwari 4/974 |
| 32 | Parti | 280 | 940 | GoN | Bijeshwari 4/974 |
| 33 | Parti | 1080 | 959 | GoN | Bijeshwari 4/974 |

| SN | Type of land | Area(Sq meter) | Parcel No | Ownership status | VDC/Municipality/Sheet No |
|---|---|---|---|---|---|
| 34 | Parti | 660 | 2531 | GoN | Bijeshwari 4/934 |
| 35 | Mai Temple | 3330 | 2699 | GoN | Bijeshwari 4/1014 |
| 36 | Parti | 15760 | 2698 | GoN | Bijeshwari 4/1014 |
| 37 | Parti | 7290 | 2700 | GoN | Bijeshwari 4/1014 |
| 38 | Parti | 39780 | 2703 | GoN | Bijeshwari 4/1014 |
| 39 | Parti | 85 | 2586 | GoN | Bijeshwari 4/935 |
| 40 | Parti | 33050 | 2588 | GoN | Bijeshwari 4/1015 |
| 41 | Mai Temple | 200 | 2748 | GoN | Bijeshwari 4/1014 |
| 42 | Mai Temple | 150 | 2749 | GoN | Bijeshwari 4/1014 |
| 43 | Mai Temple | 150 | 2750 | GoN | Bijeshwari 4/1014 |
| 44 | Parti | 2490 | 2751 | GoN | Bijeshwari 4/1014 |
| 45 | Parti | 300 | 17 | GoN | Bijeshwari 5/936 |
| 46 | Parti | 75 | 28 | GoN | Bijeshwari 5/936 |
| 47 | Parti | 60 | 41 | GoN | Bijeshwari 5/936 |
| 48 | Barren | 620 | 43 | GoN | Bijeshwari 5/936 |
| 49 | Parti | 210 | 129 | GoN | Bijeshwari 5/936 |
| 50 | Kal Jaisi Sthan | 1380 | 220 | GoN | Bijeshwari 5/936 |
| 51 | Parti | 5230 | 295 | GoN | Bijeshwari 5/936 |
| 52 | Parti | 1759 | 304 | GoN | Bijeshwari 5/936 |
| 53 | Parti | 5440 | 314 | GoN | Bijeshwari 5/936 |
| 54 | Parti | 305 | 334 | GoN | Bijeshwari 5/936 |
| 55 | Parti | 5190 | 353 | GoN | Bijeshwari 5/936 |

| SN | Type of land | Area(Sq meter) | Parcel No | Ownership status | VDC/Municipality/Sheet No |
|---|---|---|---|---|---|
| 56 | Parti | 970 | 1625 | GoN | Bijeshwari 5/935 |
| 57 | Parti | 5435 | 1780 | GoN | Bijeshwari 5/935 |
| 58 | Parti | 775 | 1784 | GoN | Bijeshwari 5/935 |
| 59 | Chautara | 285 | 1887 | GoN | Bijeshwari 5/935 |
| 60 | Chautara | 30 | 1897 | GoN | Bijeshwari 5/935 |
| 61 | Parti | 2210 | 2107 | GoN | Bijeshwari 5/935 |
| 62 | Parti | 545 | 2137 | GoN | Bijeshwari 5/935 |
| 63 | Parti | 21840 | 2147 | GoN | Bijeshwari 5/935 |
| 64 | Parti | 3415 | 20 | GoN | Bijeshwari 6/856 |
| 65 | Parti | 100 | 42 | GoN | Bijeshwari 6/856 |
| 66 | Parti | 3270 | 50 | GoN | Bijeshwari 6/856 |
| 67 | Parti | 5010 | 70 | GoN | Bijeshwari 6/856 |
| 68 | Parti | 1990 | 118 | GoN | Bijeshwari 6/896 |
| 69 | Parti | 65470 | 121 | GoN | Bijeshwari 6/896 |
| 70 | Parti | 33820 | 151 | GoN | Bijeshwari 6/896 |
| 71 | Parti | 3810 | 152 | GoN | Bijeshwari 6/896 |
| 72 | Parti | 5790 | 154 | GoN | Bijeshwari 6/896 |
| 73 | Parti | 3335 | 167 | GoN | Bijeshwari 6/896 |
| 74 | Parti | 4770 | 178 | GoN | Bijeshwari 6/896 |
| 75 | Parti | 485 | 183 | GoN | Bijeshwari 6/896 |
| 76 | Parti | 285 | 219 | GoN | Bijeshwari 6/896 |
| 77 | Parti | 345 | 224 | GoN | Bijeshwari 6/896 |
| 78 | Parti | 4390 | 234 | GoN | Bijeshwari 6/896 |

| SN | Type of land | Area(Sq meter) | Parcel No | Ownership status | VDC/Municipality/Sheet No |
|---|---|---|---|---|---|
| 79 | Shiv Mandir | 50 | 238 | GoN | Bijeshwari 6/896 |
| 80 | Parti | 3410 | 268 | GoN | Bijeshwari 6/896 |
| 81 | Parti | 1540 | 283 | GoN | Bijeshwari 6/896 |
| 82 | Parti | 3215 | 285 | GoN | Bijeshwari 6/896 |
| 83 | Parti | 1005 | 567 | GoN | Bijeshwari 6/855 |
| 84 | Parti | 200 | 346 | GoN | Bijeshwari 6/896 |
| 85 | Parti | 205 | 359 | GoN | Bijeshwari 6/896 |
| 86 | Parti | 5875 | 369 | GoN | Bijeshwari 6/896 |
| 87 | Parti | 425 | 933 | GoN | Bijeshwari 6/855 |
| 88 | Brahmadev Sthan | 500 | 939 | GoN | Bijeshwari 6/855 |
| 89 | Parti | 705 | 940 | GoN | Bijeshwari 6/855 |
| 90 | Parti | 5265 | 876 | GoN | Bijeshwari 6/855 |
| 91 | Parti | 3640 | 885 | GoN | Bijeshwari 6/855 |
| 92 | Parti | 345 | 1101 | GoN | Bijeshwari 6/855 |
| 93 | Parti | 1330 | 1162 | GoN | Bijeshwari 6/855 |
| 94 | Parti | 475 | 1176 | GoN | Bijeshwari 6/855 |
| 95 | Parti | 7370 | 1009 | GoN | Bijeshwari 6/855 |
| 96 | Parti | 3955 | 1060 | GoN | Bijeshwari 6/855 |
| 97 | Mast Than | 50 | 1066 | GoN | Bijeshwari 6/855 |
| 98 | Chatur man Barma Devi Than | 2170 | 1011 | GoN | Bijeshwari 6/855 |
| 99 | Bhngor Than | 2085 | 1075 | GoN | Bijeshwari 6/855 |

| SN | Type of land | Area(Sq meter) | Parcel No | Ownership status | VDC/Municipality/Sheet No |
|---|---|---|---|---|---|
| 100 | Parti | 405 | 1087 | GoN | Bijeshwari 6/855 |
| 101 | Parti | 14710 | 1195 | GoN | Bijeshwari 6/895 |
| 102 | Chautara | 565 | 1201 | GoN | Bijeshwari 6/895 |
| 103 | Parti | 3765 | 1190 | GoN | Bijeshwari 6/895 |
| 104 | Bramadev Sthan | 510 | 1191 | GoN | Bijeshwari 6/895 |
| 105 | Mast Than | 645 | 1194 | GoN | Bijeshwari 6/895 |
| 106 | Parti | 5945 | 2285 | GoN | Bijeshwari 6/835 |
| 107 | Parti | 10200 | 2287 | GoN | Bijeshwari 6/835 |
| 108 | Devi Than | 20 | 26 | GoN | Bijeshwari 6/895 |
| 109 | Pokhari | 690 | 37 | GoN | Bijeshwari 6/895 |
| 110 | Parti | 6690 | 55 | GoN | Bijeshwari 8/979 |
| 111 | Parti | 205 | 584 | GoN | Bijeshwari 8/980 |
| 112 | Barma Than | 95 | 442 | GoN | Bijeshwari 8/980 |
| 113 | Parti | 50 | 1695 | GoN | Bijeshwari 9/1058 |
| 114 | Parti | 325 | 250 | GoN | Bijeshwari 9/1058 |
| 115 | Parti | 4210 | 275 | GoN | Bijeshwari 9/1058 |