

## PROJECT INFORMATION

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## Contents

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<b>LIST OF TABLES</b> .....	<b>V</b>
<b>LIST OF FIGURES</b> .....	<b>VI</b>
<b>ABBREVIATIONS</b> .....	<b>VII</b>
<b>ACKNOWLEDGEMENT</b> .....	<b>VIII</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>IX</b>
<b>कार्यकारी सारांश (नेपालीमा)</b> .....	<b>XI</b>
<b>1. INTRODUCTION</b> .....	<b>1</b>
1.1 BACKGROUND .....	1
1.2 OBJECTIVES OF THE STUDY .....	3
1.3 SCOPE OF WORK .....	3
1.4 EXPECTED OUTPUT .....	4
1.5 LIMITATIONS .....	8
<b>2. APPROACH AND METHODOLOGY</b> .....	<b>9</b>
2.1 THE APPROACH .....	9
2.2 THE METHODOLOGY .....	9
2.3 DETAIL FIELDWORK .....	12
2.4 ANALYSIS .....	19
2.5 FORMULATION OF INTEGRATED DEVELOPMENT PLAN (IDP) .....	23
2.6 BLOCK PHYSICAL MODEL OF TOWN .....	26
2.7 FLOW CHART OF PREPARATION OF INTEGRATED DEVELOPMENT PLAN (IDP) .....	27
<b>3. REVIEW OF LITERATURE</b> .....	<b>28</b>
3.1 INTERNATIONAL CASES REVIEWED .....	28
3.2 REVIEW OF PLANNING APPROACHES AND METHODS .....	29
3.3 REVIEW OF BUILDING BYE-LAWS .....	31
3.4 REVIEW OF LEGISLATION, POLICIES, LAWS AND GUIDELINES .....	32
3.5 REVIEW OF DEVELOPMENT PLANNING ATTEMPTS .....	37
3.6 PAST PLANNING EFFORTS .....	41
3.7 REVIEW OF MUNICIPAL TRANSPORT MASTER PLAN (PHIDIM), 2015 .....	42
3.8 REVIEW OF SETTLEMENT PLAN, URBAN PLAN, BUILDING .....	43
3.9 BUILDING CONSTRUCTION MODEL BYE-LAWS, MINISTRY OF URBAN DEVELOPMENT .....	45
3.10 NEPAL, INCLUSIVE CITIES: RESILIENT COMMUNITIES, .....	45
3.11 NATIONAL SETTLEMENT (AWAS) PLAN, 2014 .....	46
3.12 URBAN DEVELOPMENT (SAHARI BIKASH): SPECIAL ISSUE ON WORLD HABITAT .....	47

3.13 CONCLUDING REMARKS: LESSON LEARNED .....	47
<b>4. SITUATION ANALYSIS OF THE NEW TOWN.....</b>	<b>49</b>
4.1 URBANIZATION TREND .....	49
4.2 BUILDING CONSTRUCTION TREND AND PATTERN.....	50
4.3 SETTLEMENT PATTERN AND URBAN FORM .....	52
4.4 LEAD SECTORS OF NT .....	52
<b>5. VISIONING OF NEW TOWN .....</b>	<b>72</b>
5.1 VISION OF THE NEW TOWN.....	72
5.2 MISSION .....	73
5.3 GOAL.....	73
5.4 OBJECTIVE .....	73
5.5 STRATEGIES .....	74
5.6 GUIDING PRINCIPLES .....	75
5.7 INTEGRATED LFA ANALYSIS FOR LONG-TERM PLAN .....	77
<b>6. SECTORAL DEVELOPMENT PLANS .....</b>	<b>82</b>
6.1 INTRODUCTION .....	82
6.2 PHYSICAL DEVELOPMENT PLAN.....	83
6.3 SOCIAL DEVELOPMENT PLAN.....	103
6.4 ECONOMIC DEVELOPMENT PLAN .....	115
6.5 TOURISM AND CULTURAL DEVELOPMENT PLAN .....	123
6.6 INSTITUTIONAL AND FINANCIAL DEVELOPMENT PLAN .....	131
6.7 ENVIRONMENTAL MANAGEMENT AND DISASTER MITIGATION PLAN .....	149
6.8 CLIMATE CHANGE ADAPTATION PLAN .....	155
<b>7. PLAN IMPLEMENTATION STRATEGY AND RESPONSIBLE LINE AGENCIES .....</b>	<b>164</b>
7.1 INTRODUCTION .....	164
7.2 NEW TOWN DEVELOPMENT STRATEGY.....	164
7.2 PLAN IMPLEMENTING AGENCIES .....	172
<b>8. CONCLUSION AND RECOMMENDATION .....</b>	<b>177</b>
8.1 CONCLUSION.....	177
8.2 RECOMMENDATION .....	178
REFERENCES .....	179

## **Annexes**

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Annex 1: Strategic sectoral plan (in Nepali)

Annex 2: Community Level projects

Annex 3: Strategic meeting minutes

Annex 4: Photographs of the Modal

Annex 5: Maps

## List of Tables

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Table 1: Legislative Frameworks in the Urban Sector .....	32
Table 2: Major Features of Settlement Plan, Urban Plan and Building Construction Guidelines 2015 .....	43
Table 3: Urbanization Trend of Phidim Municipality .....	49
Table 4: Urbanization Trend of Phidim Municipality .....	50
Table 5: Demand Forecast of Phidim .....	54
Table 6: SWOT Analysis .....	63
Table 7: Demand Frequency Table of Phidim New Town .....	64
Table 8: Integrated Long Term LFA .....	78
Table 9: Present Physical Condition of Phidim .....	84
Table 10: Proposed Land Use of Phidim .....	86
Table 11: Land Suitability analysis for Land use zoning .....	87
Table 12: Road Condition and Width of Phidim .....	89
Table 13: LFA of Road and Transport.....	93
Table 14: LFA of Drinking Water and Sanitation .....	94
Table 15: LFA of Drainage and Sewerage Network .....	96
Table 16: LFA of Irrigation .....	98
Table 17: LFA of Electricity and Communication .....	99
Table 18: Present Status of Physical Infrastructure .....	104
Table 19: LFA of Education .....	106
Table 20: LFA of Health.....	108
Table 21: LFA of Women, Children and Target Groups.....	109
Table 22: LFA of Sports .....	112
Table 23: Economic indicators and Status of Phidim.....	117
Table 24: LFA of Agriculture Development .....	119
Table 25: Present Status Tourism in Phidim.....	124
Table 26: LFA of Tourism Development .....	127
Table 27: Present Institutional Development Status.....	131
Table 28: Funding and Revenue Mobilization Strategy .....	133
Table 29: List of various Taxes, Surcharges, Charges, Fees and Tolls .....	134
Table 30: Expenditures Categories .....	137
Table 32: Existing Key Human Resources .....	141
Table 33: Proposed Key Human Resources.....	141
Table 34: Plan Formulation Strategy .....	143
Table 35: Proposed Institutional Development Plan .....	144
Table 36: LFA of Institutional Development.....	146
Table 37: Present Status of Environment Management and Disaster Mitigation.....	150
Table 38: LFA of Environmental Management and Disaster Mitigation .....	152
Table 39: Present Status of Environmental Indicators.....	157
Table 40: Key Factors Enabling Adaptation.....	160
Table 41: LFA of Climate Change Adaptation Plan.....	161

## List of Figures

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Figure 1: Consultation meetings at Ilam Division .....	12
Figure 2: Pre-planning Workshop in Phidim .....	13
Figure 3: Public consultation meetings and discussion .....	14
Figure 4: Informal Discussion with Local Political Representatives.....	15
Figure 5: Observation about the Development trend.....	15
Figure 6: Observation the City.....	15
Figure 7: GPS Points and Map updating Work .....	15
Figure 8: Flow Chart of Preparation of Integrated Development Plan.....	27
Figure 9: Trend of Growing Phidim, 2002, 2007 and 2016 respectively .....	49
Figure 10: Increasing trend of high rise building.....	51
Figure 11: Distribution of Tall building in Bazar area .....	51
Figure 12: Compact and Scattered settlement in Phidim.....	52
Figure 13: Lead sector and Connection with Vision .....	53
Figure 14: Interlinkage of Phidim NT .....	71
Figure 16: Process of Planning .....	82
Figure 17: Concept of Economic Development.....	116
Figure 18: Characteristics of Good Governance.....	140
Figure 19: Coordination between LUBs .....	140
Figure 20: Framework for Capacity Development Plan .....	142
Figure 21: Proposed Institutional Development Framework.....	145
Figure 22: Basic Principle of Town Development Strategy .....	165

## Abbreviations

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ADB	Asian Development Bank
BoQ	Bill of Quantity
CBD	Community Based Development
CC	Climate Change
DDC	District Development Committee
DPR	Detail Project Report
DUDBC	Department of Urban Development and Building Construction
EIA	Environmental Impact Assessment
FAR	Floor Area Ratio
GESI	Gender Equality Social Inclusion
GIS	Geographical Information System
GoN	Government of Nepal
IAP	Integrated Action Plan
IDP	Integrated Development Plan
IEE	Initial Environmental Examination
INGO	International Non-governmental Organization
IUDP	Integrated Urban Development Project
LFA	Logical Framework Analysis
LSGA	Local Self Governance Act
MHH	Mid-Hill Highway
MoUD	Ministry of Urban Development
MSIP	Multi Sectoral Investment Plan
NBC	National Building Code
NGO	Non-governmental Organization
NPC	National Planning Commission
NT	New Town
NTPCO	New Town Project Coordination Office
PDP	Physical Development Plan
PPP	Public Private Partnership
ROW	Right of Way
STUEIP	Secondary Town Urban Environment Improvement Project
SWOT	Strength, Weakness, Opportunity, Treat
TDC	Town Development Committee
ToR	Terms of Reference
UGDP	Urban Governance and Development Program
VDC	Village Development Committee

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## EXECUTIVE SUMMARY

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*Preparation of integrated development plan of Phidim New Town is one of the important planning attempt still the date for this NT. This plan will be the guiding document to develop sustainable and liveable city in the future. Integrating physical, social, economic, environmental, institutional, tourism and cultural development plan, this plan document will be the basis for investing sectoral line agencies in the New Town. The sectoral plans have been formulated through the scientific and valid participatory planning methods and tools which means political actors should take ownership to it. This IDP focuses primarily Phidim New town but also covers entire municipality area through its strategic projects.*

*Municipal profile, base map (reports and maps), building construction bye-laws, physical block model are major component including main sectoral planning report within this integrated development plan. Municipal profile and participatory consultation meetings were the basis for formulating sectoral plan, contextualizing its existing situation where as base maps and consultation meetings were the basis for examining/assessing the existing physical condition, and proposing the infrastructure projects according to planning standards and norms. Bye-laws is a product prepared to guide/regulate city development for the future based on the spatial niche of an area. Profile, base map and building bye-laws are prepared in separate volumes within this assignment. Similarly, physical block model is prepared to translate existing situation as well as proposed infrastructure in the city so that the form of future city will be reflected and visualized in the model.*

*Baseline information relating to this plan formulation was acquired through the secondary and field base data but demand and potentialities were analyzed relating to the planning norms and standards as well and field base data (public consultations and discussions). Sectoral development plans such as physical development plan has focussed to develop city as physically sound infrastructure (e.g. ROW, standards, road hierarchy, settlement linkages, open spaces, parks and basic urban facilities) where as social development plan has focused to develop education, health, social inclusion, participation, gender inclusion, development of needy people and so on. Similarly, economic development plan has focused agriculture, employment, trade and business in the NT area with particular focus to marginalized and needy community/people. Environmental management and disaster mitigation plan mainly focus to identify the major environmental problems, sanitation, solid waste management, disaster prone area delineation, risk sensitive area restriction etc. with reference to slope, altitude, geology and fragile landform for safer and sustainable city development. Tourism and cultural development plan has mainly highlighted to develop NT's tourism potentiality and investment in tourism focus development. Institutional development plan advocates to institutional aspects required for new town development in the future, particularly for institutional capacity, cooperation, management of infrastructure, resources, sustainability, implementation strategy and appropriate framework for integrated town development of the town.*

There are huge potentialities of urban development and growth in Phidim particularly for a being district headquarter of Panchthar and a potential hill town of Eastern Development Region. Phidim has been growing as a potential growth centre after declaration it as a new town. It has potentiality to develop as one of the major business and trading centre of eastern hill cluster. Tourism sector can lead to development of Phidim in the future. Having the national prominent figure Falgunanda Lingdel' place, Phidim can be developed as historical and cultural tourism sector. With the potentiality of cluster as well as pocket urban growth and development in Phidim, Phidim will be a centre business and other settlements inside the municipality such as Siwa, Chokmagu, Nawamidanda, Jorsal, Tallotar, Mathillo gaun will be the pocket area of development.

The long-term vision of Phidim New Town is "**Agriculture, Tourism, Infrastructure are the main basis of Prosperous Phidim**". It advocates that agricultural development, tourism and physical infrastructure are the major leading sector of development of Phidim. To make vision functionable stakeholders and line agencies should give emphasis for agriculture (cash crop such as tea, cardamom, Zinger, fruits and cattle harvesting) and tourism focus development to Phidim. It means development objective should go through linking to agriculture, tourism by improving/investing in physical infrastructure development, which is the future development course of the town. If investment goes in direction of the long-term vision, the city will be a prosperous city through agriculture and tourism.

However, challenges are ahead to face in implementation of the project. For this effective institutional set up should be established in the town. Municipality, TDC and TNPCO are recognized directly implementing agencies of the projects in Phidim. Effective/functional coordination is required among those three institutions. Level of effectiveness of those local bodies will be the basis of performance measure of the new town development, reflections are observed in many cases.

नेपाल सरकारको राष्ट्रिय गौरवका आयोजनाहरू मध्ये मध्य-पहाडी लोकमार्गको निर्माण पनि एक हो । नेपाल सरकारले मध्य-पहाडी क्षेत्रलाई पूर्वबाट पश्चिम जोड्ने राजमार्गको निर्माणगरी ती क्षेत्रमा संभाव्य शहर छनौट गरी १० वटा ठूला आकारका शहरहरू निर्माण गरी योजनाबद्ध वस्ती विकास गर्ने रणनीति लिएको पाइन्छ । यसको मूल उद्देश्य पहाडी क्षेत्रबाट तराईतिर हुने बसाइसराई नियन्त्रण गर्नु रहेको छ । यसै पृष्ठभूमिमा छानिएको प्रदेश नं १ को पाँचथर जिल्लामा अवस्थित फिदिम एक प्रमुख नया शहर हो ।

शहरी विकास तथा भवन निर्माण विभाग अन्तर्गत नया शहर आयोजना समन्वय कार्यालयको समन्वयमा तयार भएको यस एकीकृत शहरी विकास योजना, नया सहर फिदिमको महत्वपूर्ण योजना दस्तावेज भएकोले यो फिदिम नया शहर विकासको लागि प्रमुख आधार दस्तावेज हुनेछ । यसले फिदिमको दिगो तथा बस्नयोग्य शहर विकासमा उल्लेखनीय योगदान दिनेछ । भौतिक, सामाजिक, आर्थिक, वातावरणीय, संस्थागत र पर्यटन तथा संस्कृतिलाई एकीकृत गरी तयार पारिएको यस योजना दस्तावेजको आधारमा नै फिदिम नया शहर (फिदिम नगरपालिका) मा रहेका सरोकारवाला निकायहरूले योजना कार्यान्वयन गर्दै जानु जरुरी छ । सहभागितामुलक वैज्ञानिक पद्धतिद्वारा तयार गरिएको यस योजनालाई स्थानीय राजनैतिक निकायले समेत अपनत्व ग्रहण गर्नु जरुरी छ । यस एकीकृत विकास योजनाले फिदिम नया सहलाई मुख्य केन्द्रविन्दु मानेतापनि रणनीतिक योजनाहरूको लागि फिदिम नगरपालिका क्षेत्रलाई समेटेको छ ।

नगर पार्श्वचित्र, आधार नक्शा, भवन निर्माण मापदण्ड, शहरको नमुना तयार गर्नु यस योजना तयारीको मुख्य कार्यक्षेत्रहरू हुन् । नगरको पार्श्वचित्र तथा सहभागितामुलक कार्यशाला गोष्ठी, भेलाहरूबाट प्राप्त सूचना एवं स्थलगत अध्ययनका आधारमा क्षेत्रगत योजना तयार गरिएको छ भने आधार नक्शा र अन्तर्क्रिया तथा छलफलका आधारमा विद्यमान शहरी नर्स र स्ट्याण्डर्डलाई मनन गरी भौतिक पक्षको मूल्याङ्कन/निरीक्षणको र आयोजनाहरूको प्रस्ताव गरिएको छ । यसैगरी निर्माण मापदण्डले भोलिका दिनमा शहर/वस्तीको स्थानिक महत्वका आधारमा अझ बढी व्यवस्थित बनाउने छ । यो योजना तयारीको क्रममा पार्श्वचित्र, योजना, आधार नक्शा (प्रतिवेदन), निर्माण मापदण्ड छुट्टा छुट्टै भागमा तयार गरिएको छ । यसैगरी, शहरको नमुना सम्बन्धित शहरमै लगी भोलिका दिनमा कस्तो शहर निर्माण हुन्छ भन्ने कुरा झल्किनेगरी राखिने छ ।

योजना तयार पार्दा आवश्यक हुने आधारभूत सूचनाहरू द्वितीय तथ्याङ्क, परामर्श छलफलबाट प्राप्त गरिएको थियो भने नगरको आवश्यकता, संभावनालाई योजनाको नर्स, स्ट्याण्डर्ड तथा नागरिकहरूसँगको प्रत्यक्ष परामर्श छलफलबाट प्राप्त सूचनालाई नै आधार बनाइएको थियो । क्षेत्रगत विकास योजनाहरू जस्तै: भौतिक विकास योजनाले शहरको विद्यमान तथा भावि भौतिक पक्षलाई जोड दिएको छ भने सामाजिक विकास योजनाले शिक्षा, स्वास्थ्य, समावेशीकरण, सहभागिता, लैङ्गिक सहभागिता तथा लक्षित समूहको आवश्यकतालाई आधार बनाएको छ । यसैगरी, आर्थिक विकास योजनाले कृषि, रोजगारी, व्यपार तथा व्यवसायलाई जोड दिई लक्षित समूहलाई विशेष जोड दिने प्रयत्न गरेको छ । वातावरण विकास तथा प्रकोप न्यूनकरण योजनाले वातावरणीय समस्याहरू पहिचान, सरसफाई, फोहोर व्यवस्थापन, जोखिम क्षेत्र पहिचान, जमीनको ढाल, भौगर्भिक संरचना, जमीनको जोखिम अवस्था समेतलाई समेटेको छ । पर्यटन तथा संस्कृति विकास योजनाले पर्यटकीय संभावना, पर्यटन मैत्री लगानीलाई जोड दिनुपर्ने कुरालाई अघि

सारेको छ । संस्थागत विकास योजनामा संस्थागत स्रोत परिचालन, संस्थागत सुदृढीकरण, समन्वय र उपयुक्त संस्थागत संरचना सहित प्रस्ताव गरिएको छ ।

वसन्तपुरको सन्दर्भमा शहरी विकासलाई पर्यटकीय क्षेत्रसँग सापिप्यता राखी विकास गर्दैजानुपर्ने देखिन्छ । वसन्तपुर पूर्वी क्षेत्रको पहाडमा अवस्थित पर्यटकीय शहर बन्ने संभावना बोकेको शहर हो, जसले वरिपरिका अन्य बजार तथा वस्तीहरूलाई सेवा सुविधा प्रदान गर्दछ । तेह्रथुम, धनकुटा, संखुवासभाको मिलन बिन्दुमा रहेको यो शहर प्रमुख केन्द्रको रूपमा विकास हुने देखिन्छ । पूर्वाञ्चल विकास क्षेत्रकै प्रमुख गन्तव्य हुने संभावना रहेको यस वसन्तपुर नया शहरमा पैदल पर्यटन, मनोरञ्जनात्मक पर्यटन, सहाशिक पर्यटन, सांस्कृतिक पर्यटनको संभावना रहेको छ । राजमार्गको आसपासमा रेखाकार रूपमा शहरी विकासको संभावना रहेको लालीगुरास नगरपालिका भित्र वसन्तपुर, चित्रे, देउराली, लसुने, सोल्मा, सुडनाम, दागपा, फुलेक मुख्य शहरी विकासका संभाव्य पकेट क्षेत्रहरू हुन् । यो नगर भविष्यमा हरियाली भित्र 'छरिएको पकेट वस्ती'को रूपमा विकास हुने देखिन्छ ।

वसन्तपुर नया शहरले 'कृषि, पर्यटन, पूर्वाधार र संस्कृति: लालीगुरासको राजधानी वसन्तपुरको समृद्धि' भन्ने दीर्घकालीन सोच निर्धारण गरेको छ । यसको अर्थ कृषि, पर्यटन, पूर्वाधार र संस्कृतिको विकास गरी यस नगरलाई समृद्ध बनाउन सकिन्छ भन्ने हो । निर्धारित दीर्घकालीन सोच प्राप्त गर्नको लागि सरोकारवाला निकायहरूले आ-आफ्ना कार्यक्रमहरूमा कृषि (अलैची, चिया, तरकारी, पशुपालन), पर्यटनलाई लक्षित गरी योजना कार्यान्वयन गर्दै जानुपर्ने देखिन्छ । यसको अर्थ विकासको उद्देश्य कृषि, पर्यटन र संस्कृतिलाई जोड्नु नै वसन्तपुरको भविष्य हुन आउँछ । सरोकारवाला निकायको लगानीलाई सोही अनुरूप केन्द्रित गर्न सकेमा पक्कै पनि भविष्यमा वसन्तपुर समृद्ध बन्नेछ ।

योजना कार्यान्वयनको लागि अगाडि थुप्रै चुनौतीहरू छन् । प्रभावकारी योजना कार्यान्वयनका लागि संस्थागत सुदृढीकरण तथा सुधारको खाँचो रहेको छ । नगरपालिका, नगरविकास समिति, नया शहर आयोजना कार्यालयहरू यो एकीकृत विकास योजना कार्यान्वयनकाप्रत्यक्ष र मुख्य निकायहरू हुन् । प्रभावकारी र कृयाशील समन्वय यी तीनै निकायहरूबीच हुनु अत्यन्त जरुरी छ । यी निकायहरूबीचको प्रभावकारी समन्वयले नै नयाशहरको विकासको प्रगति मूल्याङ्कन हुनेहुँदा पनि समन्वयात्मक प्रयास अत्यन्त जरुरी छ ।

# 1 INTRODUCTION

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## 1.1 Background

Large number of towns and cities are growing rapidly in Nepal and our society is being more urbanized. The history of urban growth in Nepal begins since 1944. Since then Nepal has also experienced a rapid growth of urbanization. Many small towns and city were developed in around the Kathmandu valley and the Terai region. In 1952-54 (2009-11 BS) there were 10 urban centres delineated in Nepal. Among them five were in the Kathmandu valley and remaining five were out of Kathmandu particularly southern Terai region of Nepal. The number of urban centres rose up to 16 in 1961, which were 23 in 1981. Similarly, the number of urban centres in 1991, 2001 and 2014 were recorded 33, 58 and 191 respectively. Most of them are developed in the Terai and mid-hills mountain region. There are a very few municipalities/urban centre developed in the high mountain region. In addition to 191 municipalities, there are several small towns and market centres which are also providing goods and services for the rural areas and that of the backbone of the economic development and the catalyst of change. As a result, the rural areas emulate the development-oriented changes that occurred or going to occur in the urban areas.

The number of towns and market centres has been increasing with the construction of new roads and highway. Increasing population pressure in the newly emerging towns have made more difficult to provide basic physical and social infrastructure and services, even the local bodies have made more difficult to managed urban areas in a plan way. During 1960s, many people from hill and mountain were resettled in the Terai due to displace from natural disaster and national parks. In 1969, Physical Development Plan of Kathmandu Valley was prepared. Kathmandu Valley Physical Development Concept (1984), Kathmandu Valley Urban Development Policy (1990) and Kathmandu Valley Urban Development Plans and Programmes (1990) were conducted. But due to lack of institutional and legal mechanism and financial resources, these were largely failures and not implemented properly.

In 1970s, Regional Development concept was initiated in Nepal. Four growth poles (Koshi growth axis, Gandaki growth axis, Karnali growth axis and Kathandu growth axis) and several other growth centres were identified in order to reduce the regional disparity in Nepal. Koshi growth axis: Biratnagar-Hedangma, Gandaki growth axis: Bhairahawa-Jomsom, Karnali Growth axis: Nepalgunj-Jumla and Kathmandu Growth axis: Birgunj-Dhunch-Barbise were identified as a main centre of development. Other growth centres were planned at a strategically significant location. In this period, series of north-south growth axis (development corridor) linking the diverse region have been defined. Each growth axis has a road constructed and planned. These roads will link a series of growth centres where development efforts will be concentrated in order to achieve full economics of scale and encourage agglomeration economies (Gurung, 1969). The important aspects of the growth centres is the positive nature of polarized development as it takes place and the mechanisms

whereby the growth centres spreads growth to the surrounding areas (Dahal, 2001). Master plan of four regional headquarter (e.g. Dhankuta, Pokhara, Surkhet and Dipayal) was prepared and implemented in this period. But proper implementation of these master plans was not successes due to lack of institutional and legal mechanism.

In late 1980s, structure plans of all designated urban centres was prepared whereas in 1090s, Integrated Action Plans (IAP) was popular theme and some urban areas were prepared and introduced IAP but at the end of the 1990s the Government of Nepal was introduced Self Governance Act.

In 2000, Long Term Concept of Kathmandu Valley (Vision 2020) was prepared. After that many municipalities have been prepared their periodic plans, and implemented. The current national plan (13th National Plan) has also encouraged to municipality to make their own periodic plan. On the other hand, Department of Urban Development and Building Construction (DUDCB) has prepared physical Development Plan and GIS Based Urban Map of some selected municipalities and urban centres in Nepal. The main aim of these activities is to make balance national urban structure, promote healthy and economically vibrant urban environment and strengthen the effective urban management.

Despite these attempts, it provided neither approved land use plan nor concrete physical plan implementation mechanism regarding the major urban centres in the country. Municipal plan prepared in the past employing IAP technique. 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 show 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.

The Government of Nepal has already enacted and has been implementing National Urban Policy 2007. The policy conspicuous by prioritizing investment to the lagging regions of the country while fostering development of regional cities and intermediate towns. Therefore, with an objective of reducing migration to Kathmandu and other larger Cities, encouraging planned development of potential hill cities and building infrastructure that can facilitate about one hundred thousand population in the hilly cities, the Government of Nepal has initiated to develop 10 new towns (Phidim, Basantapur, Khurkot, Baireni-Galchhi, Dumre-Bhansar, Burtibang, Chaurjahari, Rakam-Karnali, Safebagar and Patan) in the junctions of Mid-Hill Highway and North-South road corridor. Hence, the government prioritization on the development of Mid-Hill Highway and the recent policy intention through its budget speech for the development of these New Towns comprises significant economic base of the national development.

Government of Nepal initiate to develop planned city of all kind of facilities, and is providing technical and financial supports to facilitate the Integrated Development Plan (IDP) preparation, urban base map and profile of base information, building by-laws, and to

promote their planned development and improvement in the quality of life of people of new towns along the Mid-Hill Highway.

In the above context, this Draft Final Report on “**Preparation of Integrated Development Plan of Phidim New Towns**” has been prepared and submitted by **RIBS Engineering Consult and Nepal Development Consultancy (NDC) JV** as per the agreement made between **New Town Coordination Office, Department of Urban Development and Building Construction (DUDBC)** and above mentioned JV consultants.

## 1.2 Objectives of the Study

The main objective of this assignment is to prepare integrated development plan, building bye-laws of Phidim new town of the corridor of Mid Hill Highway. Following are the specific objectives of this assignment;

1. To set out Long term Vision and overall Goal, objectives and strategies for new town development.
2. 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-sectoral investment plan (MSIP etc on the basis of sectoral goal, objectives, output and programs
3. To prepare building bye-laws to regulate development in the towns integrating land use and road network plan and long-term vision of the town
4. To update GIS based Base Maps

## 1.3 Scope of Work

The main scope of the assignment is to prepare Integrated Development Plan and Building Bye-Laws of Phidim New Town which include the following;

- Update GIS based base maps of new towns
- Preparation of long-term vision of the town in a participatory way
- Prepare overall integrated development plan of entire area including existing and future (5,10 and 20 years) land use plan.
- 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. Analyse present and future (5, 10 20 years) housing needs/market, stock, condition and recommend strategies for land acquisition, distribution of land and housing in the 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. Recommendation about complete street pattern, major roads, highways, arterial roads, traffic circulation, truck yard, bus bays and bus parks have also been done.

- Study of existing social infrastructure such as health/education/sports/communication/ security centres and other community facilities by addressing present deficiencies and future (5, 10, 20 years) demands has also been done.
- Identify and assess critical, sensitive and other natural resources including parks, green belts, recreational area, along with strategic for their protection, preservation and stewardship against the adverse impact of future development and land use changes has also been done.
- Verification about Government, Guthi and Public Land Identification by NTPCO and assess the area required for future development and expansion of the town including land required for government and public purposes has also been done.
- Prepare the proposed land use plan for 5, 10, 20 years based on: i) the policies enunciated for different urban activities ii) population to accommodate minimum one hundred thousand, iii) Requirement of additional social and physical infrastructure iv) transportation and work centres v) parks, green belt, recreational areas, vi) cultural and historical resources vii) others.
- Provide a full study of land use zone and recommend bye-laws for the construction of building and other infrastructure 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 bank zone, ix) green zone x) apartment housing xi) petrol pump/electric line/cinema theatres and xii) others.
- Prepare Building Bye-laws that clearly spells minimum in the following areas regarding the construction of buildings: a) Minimum land area b) Maximum ground coverage c) Maximum floor area ration (FAR), d) Maximum building height e) maximum number of floors f) right of way of roads g) set back in four sides of buildings h) minimum parking area i) lift j) minimum distance to be left in both sides of stream/river
- The building bye-laws of the town has been prepared in accordance with bye-laws 2064 of Kathmandu valley prepared by Kathmandu Valley Town Development Committee, model building bye-laws prepared by MoUD, NBC, Building Act and Apartment Act of Nepal.
- Recommend an implementation strategy (including a suggested action program that generally describes the action, costs, time frame, responsibilities, procedure and towns capacity to use them) necessary for implementing the Integrated Development Plan of the town.
- Prepare summary of IDP of each town in Nepali language for the purpose of approval from government of Nepal
- Prepare physical model of each town. The scale (1:1000) was finalized based on the area covered by the town

## 1.4 Expected output

The completed Integrated Development Plan, programme and building bye-laws/project report include the followings;

**a) Town Profile:** Town planning profile has been prepared comprising of base line information of the existing physical, social, economic, environment, financial and organizational state of NT. Apart from the key statistics, such base line information including textual descriptions, maps, charts, diagram and key problems prevailing in the settlements and the municipality/VDC are also included.

**b) Analysis:** the section contains at least the followings:

**Trend Analysis:** The analysis reveals growth trend of population, migration, land use, infrastructure provisions, import-export of goods, agriculture outputs, jobs and other economic opportunities.

**SWOT Analysis:** This reveals the potentiality of the NT based on its strength and opportunities. The analysis also reveals the weaker side of the town which tends to pose threat to the future development of the NT.

**Spatial Analysis:** this analysis reveals demand and supply situation of vacant land including land develop-ability analysis. The analysis therefore clearly shows the location where the future growth can be channelized.

**Financial Analysis:** this analysis reveals 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, standard principles were followed. Vision and principles were formulated with broadly participated TD committee meetings.

**d) Sectoral goal, objectives, output, programme:** These have been formulated by using Logical Framework Approach (LFA), and has been supplemented by performance indicators and means of verification of such indicators as far as practicable. Within sectoral goal, objectives, output and programmes, baseline data, projected output have also been included. Such sectoral plans and programme have been formulated by forming sub-steering committees.

**e) Long-term Physical Development Plan (PDP):** Such physical plan reveals the future desired urban form of the new town, keeping in view of planning horizon of 20 years and also classify the town broad urban areas, urban expansion areas, natural resources areas and also calamity prone area. Similarly, land use zoning, road network and hierarchy, risk sensitive area were also identified and proposed in this section.

**f) Social Development Plan:** Social development plan significantly contributes to bring qualitative improvement in the lives of the common people. Attention was given to cover the following aspects:

- Education
- Public health
- Security (physical as well as social)

- Main streaming GESI: inclusion of women, dis-advantages groups, child elder, physically challenged etc.
- Cultural and sports
- Parks and open spaces
- Other urban social service enters (information, library and space for social gathering)

**g) Cultural and Tourism Development Plan:** in cultural and tourism development plan, preservation of tangible and intangible cultures, local cultures, tourism and cultural linkages, tourism development were main concern.

- Identification and conservation of important cultural heritages 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 centre (local craft, paint, architecture, museum, culture exchange, exhibition)

**h) Financial Development Plan:** within the financial development plan, resource mobilization, use, capacity etc were included

- Financial analysis and assessment of possible financial resources for the implementation of IDP in NT
- Analysis and projection of town income and expenditure, revenue improvement action plan
- Allocation of development budget (for coming five year) cost sharing among sectoral agencies and expenditure management action plan
- Promotional strategy of private sector and civil society (PPP)
- Financial and economic analysis of proposed priority sub-projects

**i) Institutional Development Plan:** Within institutional development plan, existing human resources and capacity, organizational development/structure, proposed appropriate institutional structure have been covered as follows;

- Decentralization, good governance and mobilization of people's participation
- Appropriate and optimum use of local resources and skills
- Institutional coordination and establishment of network
- Organizational capacity and capacity building

**j) Environmental Management Plan:** The environmental management plan has been formulated by studying and analysing in details of the following;

- 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 etc.

- Control and management of built environment
- Conservation of requirement of EIA/IEE of major sub-projects

**k) Disaster Management Plan:** The risk sensitive land use planning/mapping of the NT due to the following disaster causes were done and included the following;

- Landslide/soil erosion, floods areas
- Pre-disaster plan
- Action plan for during or immediate after disaster
- Post-disaster plan
- Disaster/calamity occurred previously in that area were overlapped in the updated geological and disaster event maps (overlays o historical events)

**l) Climate change adaptation plan:** the climate change perspective study covers:

- Studying increasing climate change impact
- Adaptation plan/measures
- Agriculture practice and changes according to climate change impact

**m) Building bye-laws:** the complete planning and building bye-laws were formulated based on the review of existing bye-laws, construction practice and so on. This was based on the NT vision and Land use objectives. This covers the following:

- General definition
- Zoning classification and bye-laws/regulation
- Implementation mechanism & procedures etc
- Expected behavioural change from NT citizens

**n) Multi-sectoral investment plan (MSIP):** Such plan reveals short and long-term programme/projects, cost estimate, and probable financing sources prioritized in sequential manner for the planning period of each five years. Major stakeholders in project implementing were identified and their roles and responsibilities were categorically explained so that implementation of strategic projects could be easily implemented.

**o) Block Physical Model of Town:** Physical block model with 1:10000 has been prepared and installed at the site so that future city could be observed.

### **Maps**

- Index map/location map
- Hinterland map
- Existing and proposed land use map and zoning maps including an overlay of cadastral map, and contour line with approved intervals ( $\leq 5$  m)
- Urban expansion areas map, total land area required for future town development. The planned area were also justified by the road network plan.
- Existing and proposed road network map, by bays/stop, bus park (inter/intra city), truck yards, and location of underground infrastructures etc.
- Existing and proposed water supply network plan

- Existing and proposed sewerage/drainage network map
- Existing and proposed electricity network map
- Existing and proposed communication network map
- Proposed solid waste disposal/landfill site map with an overlay of contour line of agreed interval
- Environmental sensitive maps
- Geological sensitive map
- Maps showing government/public/Guthi land
- Proposed public infrastructure maps

## **1.5 Limitations**

In preparation of IDP of Phidim New Town, following limitations are applicable;

- 1) Preparation of Town profile mostly based on secondary data sources. However, some of the data sources were field verified.
- 2) Base Map of the town is prepared based on the latest archive satellite imagery and field update was done at local and strategic level consultation meetings, field observation.
- 3) Cadastral database has been overlaid covering main town area. It was not possible to cover cadastral data of the entire municipality.
- 4) Strategic project locations are identified through the local stakeholders consultation meetings.
- 5) Local names were assigned through the local people'/stakeholders' consent.

# 2 APPROACH AND METHODOLOGY

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This chapter provides the approach and detail methodology for carrying out the assignment.

## 2.1 The Approach

As proposed in the inception report, we had planned to accomplish assignment through the following approaches, which will meet the intended objective and expectations of the client.

### 2.1.1 General Approach

To accomplish the project objectives, general approach comprises of the following:

- Selection and mobilization of appropriate technical experts;
- Selection of tested and proven methods and technologies;
- Close contacts and effective co-ordination with the client, and with all concerned agencies;
- Full utilization of the Municipality's feedback and comments;
- Full use of the available and applicable documents, drawings, standards etc.; and
- Regular briefing to the client on the progress of the report

### 2.1.2 Management Approach

To accomplish the project objectives, management approach comprises of the following:

- Define clearly the roles and responsibilities of management and the Team leader;
- Define roles and responsibilities of each member of the proposed team;
- Strict adherence to the work schedules;
- Sufficient flexibility to respond to desired changes and directions;
- Systematic application of procedures for technically and scientifically and
- High quality job performance.

During the planning process the above mentioned approaches were the basis for IDP.

## 2.2 The Methodology

To achieve the objectives stipulated in the ToR, the study has been undergoing through the following steps of the methodology

### 2.2.1 Preliminary work and Collection of Secondary Data

At the first stage before the consultant's team being started for the field survey, preliminary works including interaction/consultation at NTPCO, DUDBC and collection of existing documents were conducted. The preliminary works includes the collection and review of relevant documents, literature, maps, photographs and preparation of the data sheet for the records physical, socio-economic data as well as preparation of inventory sheets of existing

infrastructures. The desk study and preliminary survey comprised along with the methodology to be adopted for the execution of the work and the timing for the breakdown of work with manning schedule. Detail checklist, data record sheets, questionnaire etc were prepared.

The following procedure was adapted to make the assignment's output more reliable and quality standard for IDP.

### **2.2.2 Start-up Meeting with the Client**

Before start of the works, the Team Leader along with his concerned technical experts conducted discussion with the officials of the Client's (NTPCO). The agendas for the discussion were:

- Review/ refinement on the proposed methodology,
- Define the brief scope of works relevant to the project,
- Assistance required from the NTPCO/NTPO for the collection of data services and their source,
- Start up the fieldwork,
- Planning process and strategic projects to be covered during the planning process,

### **2.2.3 Consultants' Internal Project Staff Meeting**

The consultant organized a brief meeting between the staffs who would be involved in entire planning period. During this meeting, the Team Leader described about all the scope, objective, problems and issue that would arise during fieldworks and the strategies of the consultant to complete the project with stipulated time frame. Actually it was preparatory works for the fieldwork in which specific role of each expert was briefly discussed.

### **2.2.4 Collection and Review of Reports, Maps of the NTs**

Data, reports and documents relevant to the project were collected from the DUDBC, NTPCO and other related sources from the central government body. The documents were thoroughly reviewed and some outlines of study scope were framed out. Following maps and documents were collected and reviewed before team mobilization in the field:

#### **i. Maps**

- Topographic maps prepared by Survey Department / Finida 1:25000 scale
- VDC/municipal map prepared by Survey Department 1:15000 scale
- District map of the concerned new towns
- Aerial Photographs/Digital maps of the concerned new town
- GIS base map prepared by the project office of the concerned settlements
- Satellite images of the town area

#### **ii. Existing Literature, Reports and Other Documents**

- Local Self Governance Act (LSGA) 1998, LSGA Regulation 1999

- Building bye-laws of Kathmandu Valley, 2050
- NBC
- Existing planning documents / reports (including IAP and previous studies report) of the concerned settlements.
- National Urban Policy, 2007
- National Urban Development Strategy 2015
- Planning Norms and Standard, 2013
- National Transport Policy, 2001
- National Agriculture Policy, 2004
- Tourism Policy, 2008
- National Industrial Policy, 2011
- National Landuse Policy, 2012
- Urban Expansion, Urban Development and Building Construction Guidelines, MOFALD, 2072
- Inclusive Cities: Resilient Communities, Preliminary Draft Report, Ministry of Urban Development, 2025

### **2.2.5 Finalization of Appropriate Procedures and Specification for the Study**

After discussion in the proposed staffs meeting, an appropriate procedures, design specification and project requirements were finalized to adopt during the project fieldwork. Main concern of this process was to finalize the detail study methodological framework for the study and planning process.

### **2.2.6 Preparation of the Field Team**

After finalization of appropriate procedures and detailed study methodology with the consultation with NTPCO specifications, the consultant conducted orientation training to all their staffs (Field and Office) to be involved in this project. Such orientation focussed on the followings:

- Process for Coordination and Liaison with the NT/NTPCO/TDC/Municipality/VDC/Local Community;
- Coordination with Other Agencies at the field level;
- Client's roles and Activities;
- Consultant's roles Activities;
- Conduction of effective and efficient fieldwork;
- Collection of sectoral plans and strategies for IDP;
- Project assessment and prioritization;
- Preparation of Building bye-laws;
- Long-term development plan;
- LFA analysis;
- MSIP Preparation;
- Preparation of Physical Block Model;
- Other scopes of the consultancy services relating to IDP.

### 2.2.7 Mobilization of Consultant's Field Team

The Consultant mobilized the field team for the detail fieldwork. All the key technical experts were present in the team. The concerned stakeholders, NTPO, TDC and Municipality in particular were informed in advanced about the field schedule.

## 2.3 Detail Fieldwork

Detailed fieldwork for preparation IDP was carried out as described below;

### 2.3.1 Coordination and Telephone Conversation with Stakeholders

As per the terms of reference, it was planned to conduct fieldwork in various stages. At the first stage, coordination with TDC, New Town Project Office, Municipality, New Town Project Coordination Office had been done for pre-planning workshop/consultation meetings at the town level. Such coordination with local stakeholders was conducted by phone. Formal notification to NTPCO was also done before mobilizing the field team.

### 2.3.2 Preliminary Consultation with Division Office

Before formalization the planning process, preliminary consultation with concerned Division Office DUDBC was carried out. The consultation meeting was conducted by the planning team of the consultant. Issues relevant to New Town were covered and discussed during the consultation meeting. It was also informed to the Division Office regarding the process of IDP and method for carrying out the study. Preliminary consultation meeting was conducted at Division Office,



**Figure 1: Consultation meetings at Ilam Division**

Ilam regarding Phidim New Town. However, telephonic conversation was conducted as preliminary consultation before mobilizing the team in the field with Division Office Dhankutta.

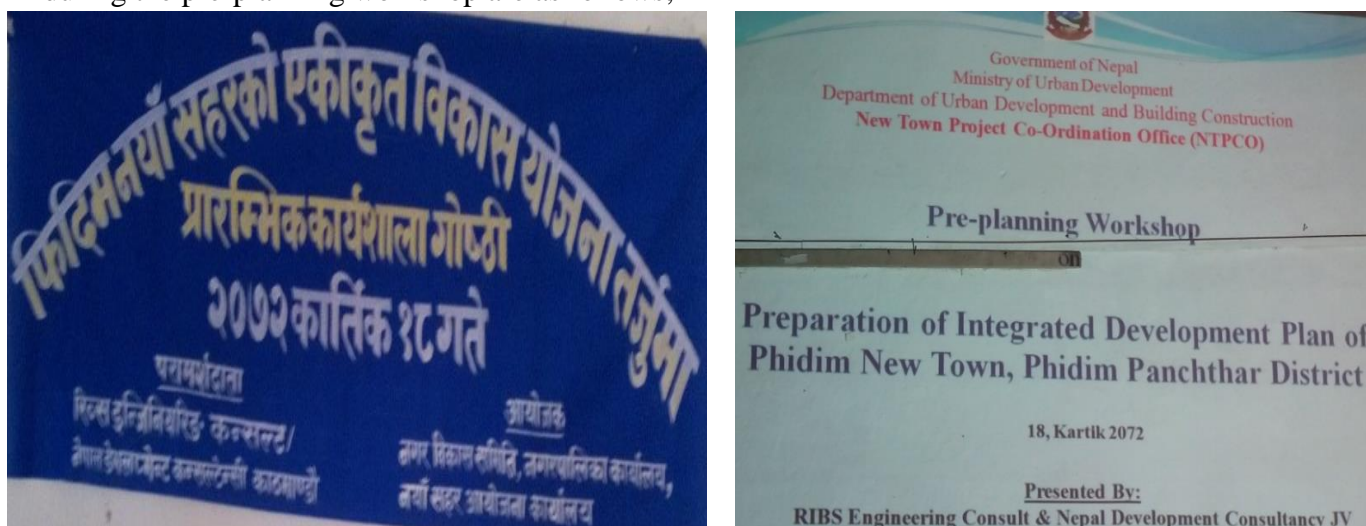
### 2.3.3 Pre-planning Workshop and Formation of Steering Committee

As planning process begins with mobilization of local stakeholders and dissemination them about project objectives, scopes and outputs, it was important to conduct pre-planning workshop. The pre-planning workshop date was fixed with consultation of local key

stakeholders (TDC, Municipality, New Town Project Office). In the pre-planning workshop, all the line agencies and stakeholders including local political representatives, academicians, professionals, social actors and possible key actors of the concerned new towns were formally invited to participate. List of possible actors (political, social, official) were prepared first in consultation with (TDC, Municipality and NTPO). The main objective of such preparation was to make active participation from all sectors of all stakeholders in the planning process.

In the pre-planning workshop, consultant had presented the overall process, methods, issues, time table and so on regarding for preparation of IDP. All the participant stakeholders were given open forum to provide views and suggestions in the IDP. In this workshop most of the stakeholders such as: Chief district officer, Local development Officer, as well as other related district level government officers and their representatives, line agencies' representative, journalist, non-governmental office's representative, civilian, district and NT level political leaders were present. Most of the participants express their views and curiosity one by one during the workshop. Their views and ideas were thoroughly noted out as information for preparation of IDP.

Similarly, steering committee was formed for guiding and monitoring the overall planning process and effective mobilization of the sub-committees as well as local stakeholders under the chairmanship of TDC. During the consultant presentation, role of steering committees were briefly presented. Minute of pre-planning workshop including with formation of steering committees and sectoral committees is shown in the annex 1. Some photographs during the pre-planning workshop are as follows;



**Figure 2: Pre-planning Workshop in Phidim**

The pre-planning workshop was organized in DDC Office Panchthar, Phidim, on the date of Nov 4<sup>th</sup> 2015. It was one day intensive workshop for dissemination of the project and its scope. All the stakeholders were actively participated in the programme.



**Figure 3: Public consultation meetings and discussion**

### 3.3.4 Formation of Sub-committees

Main objectives, including other of the pre-planning workshop was to formulate sectoral sub-committees for planning of new town. As per the project scope and objectives and contextual demand, following sectoral sub-committees were formed;

- 1) Physical Development Plan
- 2) Social Development Plan
- 3) Economic Development Plan
- 4) Environmental Management, Climate Change Adaptation and Risk Reduction Plan
- 5) Institutional Development Plan

## 6) Cultural and Tourism Development Plan

Before formation of sectoral sub-committees, their role and task during the planning process were defined so that they could provide the planning team required data and information.

### 3.3.5 Field Visit, Observation and Informal Interaction/Consultation

During the fieldwork of pre-planning workshop, consultant team visited entire new town area for conceptualization and visualization for plan preparation. Field observation was conducted mainly covering the major potential sites for planning and development including with major infrastructure construction sites. Following are the some of the photographs of fieldwork:



Figure 7: Informal Discussion with Local Political Representatives



Figure 7: Observation the City



Figure 7: GPS Points and Map updating



Figure 7: Observation about the Development trend

### 2.3.6 Consultation Meetings with Local Level Communities and Target Groups

Local level issues have been collected through local level consultation meetings. For this purpose, strategic locations were selected for consultations. Different communities such as ward level marginalized communities, poverty clusters, youths, children, women groups were identified as target group in coordination with steering committee and sub-committees. Specific focus was given to those marginal communities in which specific attention should be given. Following strategies were applied to conduct local level meetings;

- Selection of strategic location for groups/public participation in the meetings
- Pre-informed to local Ward Coordination Committee (WCC) for pre-preparation on the local level problems and issues
- Specific attention for participation of women, disadvantages groups, Children, Dalit/Janajati in the meetings
- Revisit of the sensible area indicated by the community meetings so that plan would address the ground level real problems
- Formation of contract groups at local level in case some further clarification would be required during plan finalization

Local level community meeting was also conducted to collect local issues and problems. For consultation at local level, major issues were categorically noted out. Such meeting were conducted by mobilizing Ward Civil Committees to make active participation of the locals. WCCs were pre-informed about the meetings and information to be covered in the consultations. Such consultation meetings were conducted to collect specific issues for strategic planning.

Similarly, during the local level consultation meeting period, verification of the Bases map (Topographic/Cadastral Map) were also performed so that basic information on the map would not miss.

### 2.3.7 Town Level Consultation Meetings and Workshops

Consultation meetings and workshops at NT level were carried out to prepare master plan of the new town. Town level issues such as major determinants of development, constrains, obstacles of development, priority projects, potential sectors, specific areas of intervention in the plan, preliminary assessment etc were thoroughly discussed and categorised. To collect relevant information and issues for sectoral planning, consultation meeting were important. Such meetings focus on identifying major prominent lead sector of development of the town. Following consultations/workshops were held in different stages at different time in the new town office;

#### a) Consultation meetings/workshop with Steering Committee

Consultation meetings and workshop with steering committee were done particularly for vision setting, modification/correction of sectoral issues and drafting of the IDP. Steering committee is expected to provide guidance not only to the technical team but also lead to all sectoral thematic committees to provide feedback to the technical team. As mentioned above, the steering committee was comprised of representative of political parties, representative of

TDC/DDC/Municipalities and other local stakeholders as well as local political, this team thus would be the leading team for finalizing the IDP. The steering committee also guide to formulate Vision, mission, objectives for long-term development for the NT. As we know, development plan would be guided by the vision, all the sectoral plans were formulated accordingly. Steering team was also expected to guide to sectoral sub-committees and technical expertise for formulating NT's vision, goal, objectives and strategies for long-term development.

#### **b) Consultation with Sectoral Sub-committees**

Consolation meetings/workshop were conducted with sectoral sub-committees to formulate sectoral plans. Issues relating to the concerned sectoral committees were presented and discussed in-depth so that relevant issues would not miss in the plan document. Sectoral goals, objectives, problems, potentialities etc were formulated through the concerned sectoral committees. Issues and plans were presented within and among the sectoral committees so that relevant issues would not miss in the plan document.

#### **c) Identification of Lead Sector of New Town**

If the new town development proceeds by identifying, mobilizing and utilizing its development potentials, it will accelerate the pace of development and thereby helps in realizing the long-term vision. Lead development sector (such as tourism, agriculture, industry, etc) would be the leading development for New Town. The sector, thus, identified for long-term development could be one or more than one which lead the development for new town. Generally tourism, health, industry, trade and commerce may play an equally important role but among these sectors some leading sectors could be identified as the most important as leading sector of development. In some cases more than one sectors would be the leading sector for development. However, as lead sector identification is basically concerned with potentialities, therefore identification detail analysis of economic situation, pace of development, development potentialities etc. were analysed to know the role of different sectors as well as to determine which sector is going to play the lead role.

Lead development sectors were identified by consultation meetings/workshop with steering committee and sectoral sub-committees and data analysis of the new town.

#### **d) Problem Identification of NT**

The problems were analysed and prioritized according to participatory meeting through various stages. Local level communities meetings, sectoral sub-committees meetings and steering committees meeting were the basis for problem identification. Sectoral problems, specific problems and overall town level problems were identified by analyzing the data. Based on the existing situation and consultation meetings at various level in the New Town, problems were categorically identified and prioritized. To capture local level problems, local community meetings were conducted at ward level covering entire municipal area.

Local level community meetings such as ward level (two or three wards combined to same case), cluster meetings (poor and marginalized groups), backwarded communities were conducted to find out the relevant issues and problems. Such meetings were participatory in nature and consultative in its form.

Similarly, focussed groups (professional organizations, intellectuals, businessmen, teachers, social workers, women, industrialists etc) were also organized at different locations so that focussed issues could be covered. Specific issues such as women, excluded groups, child etc were also collected through FGD.

In order to get better participation, the meeting locations were fixed at strategic points in consultation with local political/social leaders. Main concern to this was to make possible for all level and all class peoples participation in the meetings. Community meetings were focussed on the following issues;

- Identification of local level problems
- Prioritization of the problems
- Locate important information on the map
- Provide basic idea about the specific problems of the area
- Identify the strategic projects for the area
- Identification of potentials of the area

#### **e) Setting of Long-term Vision of New Town**

The long-term vision can be taken as a long-term goal of the NTs which would guide to formulate development plan (including sectoral plan). Long term vision implies a desired future situation achieved from present condition which must be understood in the sense of improved and better situation than the present condition. The long-term vision or goal cannot be achieved without effective implementation of the plan. It is therefore, long-term vision would be the guiding development strategy for the NT.

In order to determine the vision of the new town, consultation meetings/workshops with the steering committee and sub-committees were conducted before finalizing the vision plan. Participatory planning meeting was held for vision setting. All the stakeholders were invited for vision plan workshop. In such meetings present status of the New Town were presented based on the fieldwork data and consultation meetings. Overall present situation of the NT was the basis for formulating the Vision. In order to translate the vision into reality, the linkage was established right from the analysis of problems, lead sector identification, physical development plan as well as social, economic development plan and environmental management plan of the new town. In this way, the relation of problem identification was tied up with the projects and investment plan. It is therefore, all sectors of development plan would be interlinked to achieve vision of the NT.

#### **f) Awareness Creation and Preparation for Building Bye-laws**

One of the tasks of this assignment was to prepare building bye-laws of the NT. For this, our team disseminate about the building bye-laws from the beginning so that they would be ready for ROW, compliance of building construction norms for Building Construction, FAR, minimum plot etc. Our concern for this was to make aware to local and key actors for preparing building bye-laws and the municipality could implement the bye-laws accordingly. Following activities were carried out for preparing building bye-laws:

##### **➤ Mobilization of Sub-committees**

Sectoral sub-committees were mobilized to prepare awareness for building bye-laws preparation. Coordinators of sectoral sub-committees were particularly mobilized to coordinate among the members of concern sub-committees. Orientation to the sub-committees and specific task for preparing bye-laws as well as task including identification of sectoral strategic projects was provided to them. This strategy was effective for preparing building bye-laws because political actors were mobilized effectively for community mobilization.

➤ **Consultation with Sub-committees**

Consultation with sub-committees was another method for bye laws preparation. For this purpose, detail consultation and discussion with sub-committees were done to make public awareness as well as readiness for the ownership of locals in building bye-laws. Before mobilizing the team, coordinator and some key members of each sub-committee were provided training and orientation to identify the sectoral projects.

➤ **Consultation with Key Stakeholders**

Consultation with key stakeholders (government and private) was conducted to finalize the building bye-laws. Once sectoral sub-committees prepared some draft sketch of the bye-laws, consultation with concerned stakeholders including municipality, TDC, new town project coordination office was conducted to finalize the building bye-laws.

### **2.3.8 Collection of Secondary Data**

Plan preparation rely on both primary and secondary data. It was therefore very important to collect both primary and secondary data. Secondary data from the concerned offices such as District Agricultural Office, DDC, Municipality, District Veterinary Office, District Health Office, INGOs/NGOs, Chamber of Commerce etc were collected. Likewise, central level data were also collected from CBS, DUDBC, NTPCO etc. Such secondary data was important for preparing town profile.

### **2.3.9 Preparation of Town Profile**

Town profile of the new town has been prepared by arranging the collected data and information in order. Profile has been prepared based on both primary and secondary sources of data but. Likewise data validation and verification were done through consultation/presentation and workshop during the fieldwork. Questionnaire and checklist were used to collect data and local enumerators were mobilized to collect primary data. Secondary data was collected through the concerned government offices and line agencies of the town. Town profile with base line data has been prepared in separate volume (vol iii).

## **2.4 Analysis**

The data and information collected through the secondary and primary sources were analysed in detail objectively with supporting data. All the data were analysed under the concerned sections as described below;

### **2.4.1 Geographical Analysis**

Based on the Information about geographical situation, area, location, hydrology etc. geographical condition and location analysis were done. Since geography plays vital role in every sectors (land use zoning, infrastructure planning, establishment of economic activities, settlement planning etc); geographic suitability analysis were done. Similarly, the potentiality and problems resulting from geographical condition were also analysed to see location advantages and potentialities of the particular areas within the NT.

### **2.4.2 Analysis of Social Condition**

In the analysis of social condition, population, population growth rate, fertility rate, birth, death, migration, age, sex group, density, religion, caste, language etc. were studied and analysed. Based on such data, future projection was done to see the trend of social condition. In the case of social infrastructure special attention was given to subjects like education, health, sports, entertainment etc. In the study of education the parameters like boys and girls student ratio, teacher-student ratio, dropouts, and physical facilities were covered. Existing health condition and need assessment have been done based on the planning norms and standards.

### **2.4.3 Analysis of Economic Condition**

Economic condition including agricultural area, agricultural products and vegetable farming, import export are analyzed. The relation of surrounding VDCs with the New Town (rural-urban linkage) has been studied and analysed. As urban area is the market centre of village, the relationship between settlements have been looked at the production and trading system of the New Towns.

Industrialization and urbanization are complimentary to each other therefore the condition and possibilities of industries in the new town is studied. The situation of raw materials availability and possibility of industrial development expansion etc were studied and analyzed. The situation of export of goods produced in the NT and imports of products from outside, transport and storage facilities etc have been studied and analysed.

### **2.4.4 Physical and Environmental Condition Analysis**

The condition and use of physical infrastructure like road/transport, communication system, drainage system, river control, drinking water, and electricity etc were covered. Such infrastructure networks have been mapped and updated in the base map. Infrastructure networks have been overlaid in the base map and sectoral development plans have been prepared accordingly.

Similarly, waste generated and collection in the New Town has been studied under solid waste management and environment theme. Attention was given to drainage provision, solid waste management, pollution, emerging environmental issues within the NT area.

Likewise, conservation and protection area within the NT area such as world /national heritage, public land and other public property were categorically identified and conservation plan has been prepared. The open spaces like parks, green areas within the New Town were studied so that urbanizing areas could be managed for the future. While proposing the urban expansion and public infrastructures, such land would be most appropriate.

Moreover, as the recent disaster has pinched to all development professionals, land suitability analysis were done based on the previous data. Land suitability analysis for proposing infrastructures, urban area, buildings and other large structures would be the best way for safety and risk reduction. Slope map, vulnerability map, disaster risk/sensitive maps were prepared based on the situation analysis.

#### **2.4.5 Institutional Analysis**

As there is a lead role of the New Town in the fulfilment of long-term vision, goal and objectives, therefore the institutional capacity of the New Town needs to be analyzed in detail. While looking into the institutional aspects of the new town, following things were considered;

**Analysis of Organizational Capacity:** In the context of Phidim new town, three institutions namely New Town Project Coordination Office (DUDBC), Phidim Municipality, TDC are key actors for implementing the plans and programmes. It is therefore important to assess present condition of those institutions and need gap analysis.

Similarly, other institutions such as DDC, Government body, line agencies, private institutions are also responsible for implementing the plans and programmes. For this, the structure of the organization (particularly NTPO, Municipality, TDC), human resources, technical capability, working style/approach, values and strategies were thoroughly studied. Institutional analysis was done through Strength, Weaknesses, Opportunities and Threats (SWOT) techniques.

**Analysis of Human Resources:** The existing knowledge, skills, capacity, enthusiasm of the human resources of the New Town and other institutions including Municipality and TDC and the use of these elements play a crucial role in mobilizing and utilizing the resources to achieve the goal and objectives of the New Town. Existing human and their multidimensional nature were studied. Thus, the adequacy/inadequacy, use/misuse, productive/unproductive, motivation/non-motivation factors of existing manpower along with the skills and capacity of the citizens were studied on the basis of the works and work load to be performed according to long term vision and goal of the New Town in the assessment of human resources.

The institution can easily attain its goal provided this aspect is strong if there are sufficient human resources for plan implementation, monitoring and management. Therefore, in order to materialize the target set by IDP it is necessary to study the availability skilled manpower as per organizational structure.

**Existing Revenue Analysis:** Based upon the last five years information about revenue of the New Town like tax, fees, charges, grant from Government, loan and grant from other agencies the trend analysis of financial sources were carried out by collecting information on remittances, private sector contribution, investment made by government line agencies, revenue received from industries and commerce sector etc.

**Future Projections:** The new town project is an intervention programme made by the government of Nepal for urban development along the Mid Hill Highway in the hilly area. Therefore, on the basis of existing physical, social, environmental and economic analysis of respective town/municipality, future potential analysis was done in particularly for institutional planning, development and extension.

#### 2.4.6 Specific Analysis

**Trend Analysis:** Trend analysis reveals among other things population trend, land use pattern, infrastructure provisions, import-export of goods, agricultural outputs, jobs, and other economic opportunities. The trend analysis was done based on the past two/five years or more data with field validation.

**SWOT Analysis:** Such analysis reveals the potentiality of the New Town based on its strength and opportunities. Such analysis was the basis for identifying the strength and weakness areas of New Town to be focussed.

**Bottleneck Analysis:** Such analysis helps to find out the bottlenecks and barriers encountered in implementation of IDP. Such analysis was useful for focusing the major issues to be given priority in implementation.

**Spatial Analysis:** The analysis clearly reveals demand and supply situation of vacant land including land develop-ability. The analysis, therefore, indicated the location where the growth can be channelized and where the growth should be restricted/stopped. Identification of risk sensitive area, conservation/protected area, potential area, land use zoning and mapping were done through the spatial analysis.

**Cross-cutting Issues:** Cross-cutting issues such as social inclusion, participation, child and women friendly development, inclusions of scheduled/marginalized case ethnic groups etc was analysed. Similarly, emerging issues such as climate change responsive plan, hazard risk reduction, disaster mitigation, climate change resilience and adaptive plan and mechanism, sustainable ecological planning, green city development etc are the major issues covered in the plan document.

**Financial Analysis:** Financial analysis including the resource mobilization for implementing the project is very crucial for plan implementation. Within the budget plan, possible sources were clearly indicated in the report.

## 2.5 Formulation of Integrated Development Plan (IDP)

Based on the fieldwork data and the analysis, IDP was formulated with sectoral plan and programmes. Sectoral objectives, strategies outcomes and major projects were formulated in the LFA format. As per scope of work and objectives of this assignment, following plans were formulated;

### 2.5.1 Formulation of Long-term Physical Development Plan

Long-term physical development plan provides necessary directions for the systematic urban development process of a city. This Plan requires the preparation of policies and maps regarding where the city will be expanded in the future (urban expansion areas) and for what purposes the available urban land where urban expansion take place.

Similarly, for the effective implementation of the urban expansion areas and land use zoning, various programmers and regulations including infrastructure development plans and investment policies for infrastructure development were also identified. Within this physical development planning process, road network plan, drainage/sewerage network plan, communication network plan, electricity network plan, urban expansion area delineation and zoning etc were done to regulate urban development in a planned way. Long-term physical development plan was formulated through the following procedure:

#### Procedure for Delineating Urban Expansion Area for Future Development

Urban expansion areas of the new town were delineated by identifying the strengths, weaknesses, opportunities and threats in the process of urban expansion of the city and by carrying out proper analysis of the available facilities. Delineation of urban expansion areas involves careful analysis of various thematic maps, resource maps, potential analysis maps, understanding of environmentally sensitive areas and availability of existing physical Infrastructures and facilities. Following areas can be regarded as constraints and opportunities for urban expansion:

#### Constraints

- Environmentally sensitive areas (forests, rivers, streams, lakes, landfill sites, riverbanks etc.)
- Steep slope areas which prone to landslides
- Existing built up areas (areas occupied by settlements, market areas, industries, etc.)
- Right of ways and high voltage line areas, as identified by the concerned line agencies
- Areas where the provision of basic amenities becomes very expensive
- Fault line and earthquake affected areas, areas affected by natural calamities

#### Opportunities

- Infill areas within the existing settlements
- Areas having provision of physical infrastructures or areas where infrastructure extension can easily be carried out

- Government owned areas
- Areas with high land transaction rate
- Areas having good water resources
- Area having future expansion land
- Area which are safer for urban expansion

### **Thematic Map Preparation**

Thematic maps help for understanding the status of physical and social infrastructures and facilities of an area. These maps are used for necessary analysis in preparing a Physical Development Plan for the master planning. Separate maps for different themes of physical and social infrastructures and facilities were prepared to simplify the process of physical analysis. For instance, thematic map of road showing road network and related information is an example of a thematic map. Similarly, as per requirement, maps on various themes such as drainage, electricity, drinking water supply, telecommunication, tourist sites, environmental sensitive area, river, streams and rivulets, religious sites and monuments, education, health etc have been prepared.

### **Predominant Land Use Zone**

To ensure planned development of the city it is necessary to take judicious decisions regarding what uses were useful. A land use zoning map, hence, was prepared identifying the predominant land use zones. Land use zones such as residential zone, commercial zone, Industrial zone, agricultural zone, institutional zone, open spaces, protected zone, etc were prepared. Regulations regarding which uses are to be permitted and which not to be permitted were also identified and indicated in the bye-laws report.

### **2.5.2 Preparation of Sectoral Plan**

As per specified in the ToR, sectoral development were prepared within this IDP. Sectoral plans were prepared with sectoral goal, objectives, output and programmes in LFA approach with verifiable indicators. Sectoral plans were formulated based on the issues raised by the sub-committees formed during the pre-planning workshop. Besides the physical development plan, following sectoral plans were formulated in LFA framework with justified verifiable indicators;

- Social development plan
- Economic development plan
- Environmental management, climate change adaptation and disaster risk reduction plan
- Institutional development plan
- Tourism and cultural development plan

Prepared sectoral plan will guide to the New town for future development course. It will guide to investors and development practitioners for channelize the development/investment direction in the NT. Government authority will also be guided by the priority sectors and lead to development sector for sustainable NT management and Development. Concerned line agencies and Donor will also be guided by the sectoral plan so that their investment could be rightly allocated.

### 2.5.3 Multi Sectoral Investment Program (MSIP)

Lack of co-ordination between different organizations and sectoral programs result the basic problems of urban development in Nepal. The MSIP is an attempt to resolve this by taking a multi-sector approach to bring them in consolidated development. Such plan was prepared for the new town which includes all those agencies who are involved in urban development, i.e. line agencies, non-government and semi government organizations and donors. Such multi-sectoral development plan will be the basis for investment planning and project implementation for New Towns. This will also guide to invest to the line agencies in the concerned sector in development projects.

#### Objective of MSIP

- To coordinate and consolidate all the programs and investment of the different agencies working within the new town.
- To provide guidelines to the new town about how to spend their annual development budget in a planned and rational way so that the benefits of development are maximized.
- To bring a balance between required and available resources of new towns and different agencies
- To utilize the limited resource of different agencies according to the needs of the local people
- To support the implementation of the master plan

Following are the steps of preparation of the MSIP:

- Financial resource analyses,
- Project formulation,
- Project prioritization,
- Project programming,
- Defining the role of the concerned line agencies in implementing.

Such plan reveals short and long-term programme/projects, cost estimate, and probable financing sources prioritized in sequential manner for the planning period. Such programme/projects link closely to long-term development plan, sectoral goals and objectives, and the vision. 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 project has been done according to LS district rate of concerned NT.

### 2.5.4 Preparation of Building Bye-laws

The IDP consists of sectoral plan including building bye-laws of the town. At this stage of preparing for building bye-laws of NT, strategic road network of the NT has been categorized. The bye-laws was prepared based on the consultation meetings, existing building construction practice, road network and review of existing bye-laws of Nepal Government. The strategic road networks of both towns have been prepared in the GIS environment.

Similarly, potential urban expansion area, availability of developable land, environmental sensitive area etc have been identified and delineated on the map. Following things were given in attention for preparing the building bye-laws;

- General definition
- Zoning classification and bye-laws/regulation
- Implementation mechanism & procedures etc
- Expected behavioural change from NT citizens
- Existing bye-laws prepared by the MoFALD
- Bye-laws of Other towns

Such building bye-laws will be the guiding documents for urban development, sustainable city management, controlling haphazard urban growth and sustainable urban development to the new town. As explained in the literature review section, ‘Building Bye-laws’ of Kathmandu Valley and recent urban development and building construction guidelines prepared by MoFALD were major basis for preparation new towns building bye-laws.

## **2. 6 Block Physical Model of Town**

The consultant is expected to 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 be visualize in the model. Block physical model was prepared at 1:10000 scale covering entire municipal area. Existing condition including with the existing infrastructure as well as proposed infrastructures are presented in the model. Photographs of the model are presented in the annex 4.

## 2.7 Flow Chart of Preparation of Integrated Development Plan (IDP)

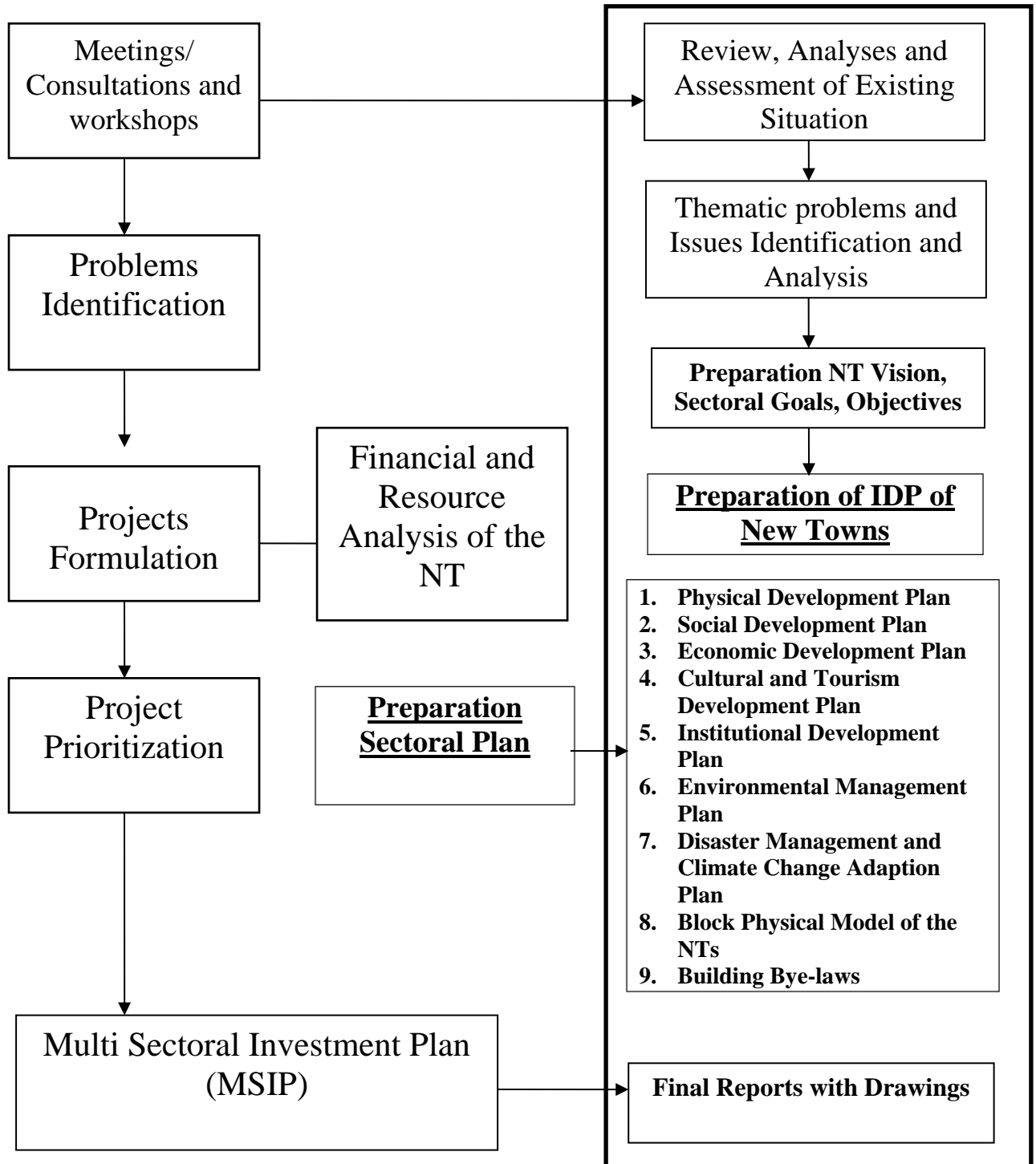


Figure 8: Flow Chart of Preparation of Integrated Development Plan

# 3 REVIEW OF LITERATURE

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To make this assignment scientific and valid, literature review of various cases and documents have been done so that integrated development plan of New Towns would be realistic and implementable. Here for the practical and theoretical ideas various cases, approaches related to integrated development plan have been reviewed.

## 3.1 International Cases Reviewed

**South Africa:** South African municipalities find themselves confronted with a harsh reality and that is that after 12 years of legislated Integrated Development Planning (IDP), poverty remains widespread and persists alongside affluence, while inequalities are increasing. The mechanism of service delivery in municipalities is hampered by bureaucratic settings within Local Government and the ambiguity attached to some of the projects. The service and infrastructural developments targeted for the poor, and the involvement of communities in the affairs of the Local Government might be seen as a partial panacea for poverty alleviation in South Africa, however the capacity of Local Governments to effectively carry out this developmental challenge assigned to them might be a new twist in the developmental challenge facing Local Governments in South Africa.

The commonly-employed approach to local development to the challenges of co-ordinating and integrating efforts has revealed clear evidence of the usefulness of sustainable local development which helps to promote effective planning methods based on a multi-sectorial approach to poverty reduction and community development for an integrated local development planning process.

This document reveals that integrated development planning in Africa only focused on the physical aspects rather than socio-economic so poverty gap is increasing and socio-economic growth stagnant.

**Romania:** Romanian cities were experiencing a remarkable phase of transition. This passage could be seen under many viewpoints; the historical background is the change from a centrally planned to a market-based economy. As this process of change started 18 years ago (with the Romanian revolution and the end of the Ceausescu regime), it still doesn't achieve that "good balance" providing quality of life and tangible example of sustainable development. Romania, among the eastern European countries, still presents substantive delay in many relevant fields. Cities lag behind in infrastructure, services, economy and environmental protection. The quality of life of Romanian citizens is still low under many aspects. There are a number of factors contributing to the present state of art in the Romanian urbanism and in the way Romanian towns and cities developed during the last 18 years. Drawbacks of Romanian integrated development planning were notices as:

- A weak planning system with an urgent need of innovative planning instruments (lack of suitable planning tool for managing urban transformations).

- Political Agendas (at central and local level) that don't consider as crucial the urban questions.
- A rare diffusion of strategic visioning among politicians and professionals in municipalities
- Local government reforms in the country (decentralization, devolution of power, and privatization) not well defined and often in deadlocks.
- A scarce effort in introducing more local autonomy, citizen participation and rebalancing of public and private sector roles.

Romanian case seems very similar to Nepal since we are in transition phase of political stability and country is suffering for federal constitution writing for long time. In such transitional phase, integrated development plan of new Town can be another challenge for sustainable development plan which should be considered while formulating IDP of New Towns.

### 3.2 Review of Planning Approaches and Methods

Literature review about planning approaches and methods have been done as follows;

#### a) Planning as Vision for New Town Development

If you give a man a fish, you will feed him once  
 If you take a man fishing, you will feed him for a week  
 If you teach a man to fish, he will never be hungry  
 (*Leo Tse*)

Similarly, there is an Oriental saying:

Where the vision is one year, cultivate flowers.  
 Where the vision is ten years, cultivate trees.  
 Where the vision is eternity, cultivate people.

Oriental saying

Above proverb, direct to a planner and development activists to adopt vision oriented development planning within the given socio-economic context. These also indicate that a planner should know and adopt local context and situation so that the planning concept can be adopted in a regional development perspective. Planner needs to look at the core and potential issues to direct a city or a region in planning way. Planning is vision for future which guides line agencies to work with. To look at the urban planning in the context of new town development in Nepal, structural as well functional plan should be prepared which ultimately helps development practitioners for sustainable development of the new town. In the context of new town development plan, long-term development plan with vision, mission and objectives in an integrated way is necessary. Therefore, this document will be the basis for managing emerging issues of new town for sustainable city development planning.

**b) Linkage of Centre and Periphery: Forward Backward Linkages**

Market centres are the centres which provide services to its surrounding areas. These centres provide specific goods and services to its hinterland people. Therefore, market centres develop at some strategic location and people living at its hinterland will get services. As proposed by Christaller, 1933 (Central Place Theory), some market centres can function as specialized centres and some other function as some other specialized function, thus developing settlement hierarchy in a given region. While studying small and large market towns, it should be taken in mind about the settlement system and market centre functions. The possible developable areas lying nearby the settlement, therefore, should be considered while studying emerging market centres. Therefore, Christaller's Central Place theory would be applicable while studying the development growth centre and its linkage to its periphery of new town which will be the growth centre and its vicinity and other settlements will be the hinterland.

The idea within in this approach is that proposed new town would be the growth centre and surrounding settlements would be the hinterland. Growth centre would provide services to the hinterland benefiting by the production and labour from its vicinity i.e. hinterland. Thus the entire settlement of the area would balance growth.

**c) Flow of Goods and Services between Settlements/Markets**

Rural urban linkage is most popular for exchange of rural urban services between two different settlements. As urban settlement provides market for rural population in terms of labour work, rural products and others, urban settlements are important for providing goods and services. Similarly, rural settlement can sell its product to urban market centres and these two settlements are interconnecting by goods and services.

Traditionally, development policy and related research have adopted a simplified concept of rural and urban areas, with the words rural referring to more "remote farming areas" and urban to "crowded cities." To a larger extent, this view has facilitated the isolated treatment of issues affecting each space, and it has as a result failed to acknowledge the important poverty-reducing inter-linkages that exist between the two spaces and the many variants of the spaces. In reality, farming areas (the very rural) and the megacity (the very urban) coexist along a continuum with multiple types of flows and interactions happening between those two spaces.

While studying new towns located in the corridor of Mid Hill Highway as the growth centre, it should therefore, focus to see the flow of goods and services between small and large market centres and their function. If this approach would be applied for studying new towns as growing settlements and rural settlements would exchange goods and services and finally will emerge as developed town, then we need planning for sustainable urban development.

This approach not only would be applicable for studying the goods and services exchange between hinterland and the growth centre but creates opportunities for employment, physical

development, infrastructure planning, development of urban infrastructures and sustainable urban development. Within this background, this approach would be applicable and we are considering this approach as tool of planning for new town.

### 3.3 Review of Building Bye-laws

Building bye-law can foster the following components;

- a) Prior organization of land use, infrastructure and structure to guarantee optimal
  - Economic Outcomes
  - Social Stability and Harmony Outcomes
  - Aesthetic and Cultural Outcomes
  - Environmental/Ecological Outcomes
  - One, some, all and in that order of objectivity?
- b) Seek APPROPRIATE SOCIAL BEHAVIOUR/ACTION in the town
  - Private citizen,
  - Private corporative
  - Public bodies
  - And Conform to an order, cause sought outcomes and not hamper these.

It means building bye-laws Seek appropriate social behaviour/action of the town. It helps for planned development for land use, infrastructure and structure to guarantee optimal Economic Outcomes, Social Stability and Harmony Outcomes, Aesthetic and Cultural Outcomes, Environmental/Ecological Outcomes and development a healthy city. In the context of Nepal, building bye-laws has not been implemented well. In case of New towns, formulation and implementation of building bye-laws is necessary. It prohibits unplanned development and haphazard urban growth.

Since, Nepal government is planning to develop new potential towns in the corridor region of Nepal, it is better from the beginning that enforcement/implementation of building bye-laws is necessary. It will be helpful for land use planning, zoning, spatial planning, infrastructure planning and ultimately for developing sustainable city.

**Building Bye-laws of Kathmandu Valley:** Building bylaws and regulations are one of the major factors which play a vital role in shaping urban form and built environment. People have become more aware of the urban forms and their impact the built environment. Practices have already been started in most of the cities where codes are developed which will help to control the haphazard urban growth and create a better urban form and the built environment. But in the case of Kathmandu city, the building bylaws and regulations limited with floor area ratio (FAR), ground coverage, setbacks, height of the building and right of way (ROW), which only controls the physical components of the building. In addition, all the laws and codes are specified for the individual building only.

Nothing has been formulated to address the various issues of urban design such as the relationship between the buildings, urban form, public realm, streetscapes, public open spaces

etc. There is no urban design vision in any sector of the development. Scale, density, urban aesthetics, spaces between buildings, massing, layout, landscape, are not taken into consideration in the bylaws. It is also found that when the bylaws and regulations were introduced, it was done haphazardly without consultation with other departments such as department of roads, housing, water supply etc. which are all related with each other.

This has resulted in the present scenario of the urban development of Kathmandu city which seems to be very haphazard and uncontrolled. So there are many issues and questions aroused regarding the current building bylaws and regulations, that they should be revised and re-formulated by introducing urban design guidelines in order to have a better image of the city.

Present assignment should also focus on the core issues urban planning particularly for building bye-laws to regulate haphazard urban growth. Building bye-laws not only shape the urban form of the city but lead to develop sustainable urban development in a planned way. Therefore from the beginning of new towns, IDP is pre-requisite.

### 3.4 Review of Legislation, Policies, Laws and Guidelines

‘Urbanization’ seems a popular development slogan to path of modernization in Nepal in recent years. Due to this urban based development modality, rural-urban migration has been increased. It is found that nearly 38% populations of urban area in Nepal are migrated either from the rural districts or from the outside. Generally, urban centres in Nepal are concentrated either at along the East-West Highway corridor or Kathmandu valley and the surrounding area. Many of them are growing haphazardly or with no proper planning framework. Haphazardly growing such centres creating many social economic and environmental problems and seems unhealthy living environment of the urban areas. Cities are failing to cope with the demand of infrastructures services and job opportunities and increasingly reeling under the externalities of the haphazard urbanization. To address such issues, some efforts have been made through introducing several acts, rules- regulations and guidelines for the urban development and development planning processes in Nepal.

**Table 1: Legislative Frameworks in the Urban Sector**

Year	Acts/Rules/Regulation/Guidelines
1973	Town Plan Implementation Act
1975 (2032)	Town Development Planning Implementation Regulation
1982	Decentralization Act
1988	Town Development Act
1989 (2045)	Kathmandu Valley Development Authority Act
1989 (2045)	Town Development Act
1992	Municipal Act and Rules
1997	Town Development Fund Act and Regulation
1998 (2055)	Building Act
1999	Local Self Governance act
2000	Local Self Governance Regulation

2001	National Transport Policy
2004	National Agriculture Policy
2007	National Urban Policy
2008	Tourism Policy
2011	National Industrial Policy
2011 (2068)	Kathmandu Valley Development Authority Regulation
2012	National Landuse Policy
2013	Planning Norms and Standard
2014 (2071)	National Settlement Policy
2014	Business Plan
2015	National Urban Development Strategy (Final Draft)

Nepal has experienced some settlement planning attempts since 1944; Rajbiraj was planned to resettle people from Human Nagar. Nepal experienced a fifth-year plan (National Periodic Plan) in 1957 (2013BS), but the concept of urban planning begun with **Third National Plan (2067-71)** particularly through introducing targets of Housing and Town Planning: Third National Plan stated that:

In order to develop the city areas in Kathmandu Valley, a master plan of Kathmandu and Patan is under preparation. Master plan for neighbouring cities will also be prepared during the plan period. On the basis of such plans, steps will be undertaken to improve the city area of the Kathmandu Valley.

His Majesty's Government will provide necessary incentives to the private sector in order to construct 400 new houses in Kathmandu, particularly for the use of the middle and low income groups. In addition, 51.28 hectares of new plots of land will be acquired during the plan period. Utilities such as water, electricity, schools, roads etc., will be arranged on this land and plots will be sold to persons interested in constructing houses. It necessary, the land will also be sold on an instalment basis.

**The Fourth Plan (1970-1975):** The fourth plan introduced regional development strategy through developing north south growth axes or development corridors linking the diverse regions. The plan aimed that the wide range of resources (Terai, Hills and Himalayas) within a common development corridor will permit economic viability and will generate greater inter-regional circulation of goods, services and people. The plan had introduced to develop following four north south growth axis:

1. Koshi Growth Axis: Biratnagar to Hedangma
2. Gandaki Growth Axis: Bhairahawa to Josom
3. Karnali Growth Axis: Nepalgunj to Jumla
4. Kathmandu Growth Axis: Birgunj to Dhunche/ Barbise

In order to manage urban growth, the plan had aimed to develop urban areas in Pokhara, Biratnagar, Dharan, Bhadrapur, Inrawa and other towns. This plan had further plan to

develop urban complex within Kathmandu to manage excessive congestion and haphazard urban growth.

**The Eighth Plan (1992-1997):** In this Plan, various activities such as, development of comfortable housing plots, supply of residential buildings, maintenance and improvement of existing buildings, research regarding building construction, increasing investment in development and housing sectors, etc., were carried out. Skill-oriented training was provided for the development of locally available construction materials and local technology. Likewise, steps were taken for development and expansion of construction materials, and a central-level research centre was established. Despite the effort to distribute housing plots to landless farmers nationwide through Squatter's Problem Resolution Commission, the target group was not very much benefited due to the inability to provide other necessary services and housing facilities. No remarkable progress was observed in the development of housing credit, which was very essential for housing development, and other financial management. Although Housing Finance Development Company, established with the objective of providing housing loan to medium and low income groups, had taken policy to channel housing loan through newly opened financial companies, low income families were not benefited from this programme. On the housing development side, revision and updating of physical development planning of almost all municipalities were completed and integrated action plans of 12 municipalities prepared. Construction works of some ministry buildings and Birendra International Convention Centre were completed and a master plan for the construction of residence of parliament members was prepared.

**Tenth Plan (2002-2007)** objectives for the Urban Development were to 'develop the cities and strengthen the rural-urban linkages by providing with the modern physical facilities and by protecting and promoting the cultural, touristic and historical areas in their present form'. Strategies were focused on the preparation of physical development plans, development of satellite towns surrounding Kathmandu valley, private sector and the local bodies' mobilization to construction, operation and management of urban infrastructure, and promote rural-urban partnership.

**Three Year Periodic Plan (2067/68-2069-70)** (Urban Development Sector) aimed to develop safety, clean and economically viable urban centres. Ten new town development programmes was also included one of the main programme of the plan period.

**Thirteen Plan (2070/71-72/73)** (Urban Development sector) has aimed to improve urban quality through providing adequate infrastructure, safety, clean and manageable urban areas. The plan has set up the following vision, objectives and strategies:

**दीर्घकालीन सोच:** शहरीकरणलाई व्यवस्थित गरी ग्रामीण क्षेत्रसंगको अन्तर्सम्बन्ध सुदृढ गर्दै राष्ट्रिय अर्थतन्त्रको विकासमा सघाउने ।

**उद्देश्य:** पर्याप्त पूर्वाधार सहित सुरक्षित, स्वच्छ, व्यवस्थित र आर्थिक रूपमा समृद्ध शहरहरूको विकास गर्ने ।

**रणनीति:** नयाँ नगरपालिका तथा शहरोन्मुख गाउँहरूको व्यवस्थित शहरी विकासको लागि शहरी पूर्वाधारको उपयुक्त कार्यक्रम तर्जुमा गर्ने । शहरी क्षेत्रको व्यवस्थित विकास गर्नका लागि आवश्यक पूर्वाधार तयार गर्दै जाने ।

Similarly, one of the main working policies of the thirteen plans is to develop manageable urban centres and settlement along the main highway including urban centres developed at along the mid-hill highway. Similarly, one of the main programme is to prepare integrated action plan in which urban mapping, periodic plan, physical development plan, detail engineering design of the projects, feasibility and impact study of the projects are included.

**National Transport Policy 2001** aimed to developed sustainable urban transport system to improve social and economic development of the country. The policy emphasized to north-south and east-west linkages including Mid-hill highway.

**National Urban Policy 2007** is a guiding document of the urban development in Nepal aimed is to develop a balanced national urban structure, promote healthy and economically vibrant urban environment and strengthen the effective urban management. The policy has also guided to the current urban environmental and governance projects, for example Secondary Town Urban Environment Improvement Project (STUEIP), Integrated Urban Development Project (IUDP), Urban Governance and Development Projects (UGDP). But National Urban Policy has not been able to link with various sectoral plans and programmes, and also unable to deal the linkages between inter urban and urban-peripheral relationship.

**Town Development Act 1988** provides the legal basis for implementation town development plan. The act deals with the formulation and approval of town and local plans, formulation of Town Development Committee (TDC) and the function, duties and powers of the committee.

**Local Self Governance Act 1999** defined District Development Committee, Municipality and Village Development Committee and their formulation processes, roles and responsibilities of each local body. The act has been given ample authority to municipality to prepare and implementation planning, monitoring development projects through the utilization of local natural resources. The act has also defined metropolitan city, sub metropolitan city and the municipality based on the pre-defined criteria. The most important thing is the act has made local governments autonomous bodies. The act recognized 58 municipalities as urban areas. But there are several small towns and market centres which are designated as a municipality recently; and other settlements along the mid-hill highway need to be recognized. Department of Urban Development and Building Construction (DUBDC) has identified 23 settlements with high potential growth rate along the Mid- Hill Highway and has identified Ten major areas to be developed as New Towns. At present there are 191 municipalities considered as a municipalities. However Basantapur, Khurkot, Chaurjahari and Rukumkot which developed along the Mid-Hill Highway and among the Ten New Town are not getting municipality status.

**National Land Use Policy 2012 (2069)** is a milestone in the context of optimum utilization of land resources through the classification of land into seven broad categories: Agriculture, Residential, Forest, Industrial, Commercial, Public Service Area, and Other lands. It is an

effective document for the enforcement of the land use control accordingly. The policy discouraged land fragmentation and emphasized on the land use according to the suitability and appropriateness. Generally, agriculture land needs to be preserved while settlements are encouraged in safer locations.

**Business Plan 2014** prepared by the DUBDC is a very useful document for guiding the effective implementation of housing, urban development and building construction activities. The plan intended to mobilize possible resources for the implementation of the activities based on the long-term vision, mission, goals and objectives. The potential obstacles and risks are also defined in the document and also try to give alternative solutions.

**National Urban Development Strategy 2015:** The objective of the National Urban Development Strategy (NUDS) is to develop a medium and long-term strategic vision of a desirable national/regional urban system based on existing trends and regional resource potentialities. It assesses existing conditions of infrastructure, environment, economy and governance, establishes benchmarks and desirable standards and identifies prioritized strategic initiatives for investment in infrastructure and environment to realize the comparative advantages of urban areas. It also reviews the institutional framework to facilitate implementation and monitoring of National Urban Policy (2007) and proposed urban development strategies. The implementation of NUDS is also expected to complement Nepal's effort to graduate from Least Developed Country (LDC) to Developing Country (DC).

The strategy report has also indicated the social, economic and cultural vision of urban areas. Each strategy is backed by a number of activities recommended for each lead and supportive agencies within the different levels of the government, NGOs and the private sectors. The main aim of these acts, plans and policies is to make a balanced national urban structure, promote a healthy and economically vibrant urban environment and strengthen the effective urban management. However, urban areas in Nepal are becoming unmanageable.

#### **Tourism Policy 2008**

Tourism Policy 2008 has provided standard guidelines to tourism-based industries, tourism products, entrepreneurs and tourists. It has addressed relevant issues like rural tourism, ecotourism, agro-based tourism, adventure tourism, education tourism and health tourism and has prioritized the insurance of tourism entrepreneurs. The policy aims to diversify tourism products and services and take tourism to new areas.

#### **National Industrial Policy 2001**

The Industrial Policy 2010 was created to bring positive changes in the overall economic and social sectors of Nepal through acceleration of industrial development. The policy aims to boost industrial development activities, create employment, and ensure that the industrial sector contributes to the national economy as a leading sector. The policy has determined the vision to make a remarkable contribution in the national economy through sustainable and broad-based industrial development in an effective, coordinated and collaborated partnership of public, private and cooperative sectors thereby to support poverty alleviation.

The main objectives of this policy are to increase export of industrial products along with growth in national income and employment through enhancement of quality and competitive industrial products and productivity. Other objectives are to increase contribution of industrial sector in the balanced national and regional development by mobilizing local resource, raw materials, skills and means.

To establish industrial entrepreneurship as a sustainable and reliable sector by utilizing latest technology and environment friendly production process are another objective of the policy. To create strong basis of investment having developed productive human resources and managerial capacity required for industrial development thereby establish Nepal as attractive place for investment in the South Asian region and in the world as well and to protect industrial intellectual property rights are other objectives of the policy.

#### **National Agriculture Policy 2004**

National agriculture policy 2004 was created to improve the standard of living of Nepalese through sustainable agriculture development while transforming the current subsistence-oriented farming to a commercial and competitive farming system. The policy places special priority on the development of high value agricultural products in areas adjoining the north-south highways and feeder roads, and production of low-weight and high value agriculture products in remote areas. The policy has three major objectives as follows:

- I. to increase agriculture production and productivity
- II. the bases of a commercial and competitive farming system will be developed and made competitive in the regional land world markets
- III. Natural resources as well as the environmental ad bio-diversity, will be conserved, promoted and properly utilized.

#### **Planning Norms and Standards 2013**

Planning norms and standards provides basic principles for the planning of urban development works in Nepal. Department of urban Development and Building Construction prepared a single Planning Norms and Standards in 2013 to use as a tool for standardizing the planning of urban development projects. It was prepared after completing a comprehensive literature review of national and international planning documents, existing norms and standards and policy of urban development related agencies. Also, discussions and meetings were held with experts from related planning organizations.

The complete Planning Norms and Standards have three broad headings: infrastructure norms and standards, land use norms and standards and urban form norms and standards. However, Planning norms and standards 2013 has only the infrastructure section.

### **3.5 Review of Development Planning Attempts**

**Rajbiraj:** It was the first township in Nepal to have urban planning and had one of the first airfields in the Tarai. However, border cities like Birganj and Biratnagar surged ahead but Rajbiraj is bypassed by the east-west highway and became a stagnant. There are many

reasons for getting behind in development of Rajbiraj; however lack of implementation of development plan is one of them.

The district headquarters of Saptari, Rajbiraj was the earliest planned township in the country. Systematically designed in 1938, it was declared a municipality in 1959. Rajbiraj served as a trade Centre, occupying a prominent place in the economy due to the Hulaki highway. Rajbiraj was also the cradle of the democracy movement, where the anti-Rana agitations began with the jail break by political prisoners of the nearby Hanumannagar Prison.

There seems to be a consensus here that the construction of the east-west highway which bypassed played a major role in the town's decline. Locals from the area believe that Rajbiraj would be a thriving economic Centre if the road had passed the town; instead it went through the Lahan, to its north. Lahan has now sprung up as a major township and highway junction.

Industrialists are reluctant to invest in Rajbiraj because of the lack of infrastructure, and other basic services. With its fertile soil, access to irrigation, and its location on the border Rajbiraj should have been a major hub for trade in cash crops. But harvests are stagnant and there is very little innovation. Dirt-poor peasants are just struggling to survive from season-to-season. Unmanaged parking, road encroachments, operation of the bus park, construction of urinals, and uncontrolled human settlement are the major problems within the city area.

It reveals that bypass of road/highway was the major reason for getting behind of the pre-planned Town. However, political willingness, people's attitude and low level of awareness with the people are the causes behind stagnation of this town. Therefore, implementation of plan with long-term vision is important rather than just formulation of good plan.

**Pokhara:** A master plan that was prepared in 1974 to develop Pokhara as a well-managed city is yet to be executed fully. The master plan had aimed to develop the tourist town as a green and well planned city. The major focus areas of the plan were Green city, Tourism city with healthy living by implementing urban norms such as bye laws, right of way, safety measures and so on.

Another integrated action plan was also prepared focusing on environment conservation and preservation. The action plan resembled in the purpose with the first comprehensive master plan. It had focused on lake conservation, environmental management, risk management to make Pokhara healthy liveable city.

Likewise another Pokhara valley construction standard came into existence in two years ago. Nearly a decade and a half back, geo-utility policy was devised with a loan assistance of the ADB. Although the policy stated that plots of land at ward number 10, 14 and 18 were suitable for agricultural purpose, many houses and buildings have been constructed in those areas.

However, a stretch of New Road is the only activity carried out in Pokhara over the last four decades as a part of the master plan. The city development committee of Pokhara has prepared plans time and again in the past; however the purpose of all the plans to develop Pokhara as a well-managed city has become only a dream.

Failure to execute those plans has been evident for the fact that the plans have just been limited to become nominal at a time when Pokhara ranks in the 10th position out of 14 cities in terms of dense human settlements, as per the Ministry of Urban Development.

Recently, the Ministry of Urban Development prepared a 20-year long-term plan for Pokhara valley. The major issues of this plan was to preserve environment, develop corridor development, prepare tourism friendly infrastructure, implementation of building code and standards, implementation of disaster sensitive plan and develop Pokhara really as regional administrative Centre of western development region.

Reviewing of Pokhara plans suggests that it was not problem for formulating plans for Pokhara but its implementation part is lacking. Even the city has great potentialities of tourism development; concerned stakeholders are falling behind for implementing tourism infrastructure in Pokhara. Besides, lack of implementation of disaster sensitive land use plan of Pokhara has pushing Pokhara more disaster prone city.

**Surkhet (Birendranagar):** The administrative structure of Nepal was reviewed and amendments were made in 2019 B.S as a result of which, Nepal has been divided into 14 Zones and 75 Districts. According to this newly amended administrative structure of Nepal, zonal and district administrative centres were established. For Surkhet district, initially the district administrative Centre was selected as Gothikada but later the administrative centre was relocated to Chauhanchaur of Surkhet valley and renamed as Birendranagar Municipality.

In 2028 B.S, nation took the regional development approach and Nepal was divided into five development regions, among which for the mid-western development region, Birendranagar Municipality was selected as the regional headquarter. The settlements have increased in Birendranagar Municipality only after the malaria eradication programme was launched at 2023 B.S. and prior to that, people used to work in the agricultural fields in the day and before evening return to their homes about four kilometres uphill in the places such as Katkuwa, Gothikada, Jarbuta, Bayalkada or Ramrikada while very few people of the people belonging to Raji community and Tharu community used to live in the valley. In 2022 B.S airport was constructed and operated and in 2038 B.S after Ratna highway was constructed, after which Birendranagar grew as a market centre for Jumla, Humla, Mugu, Dolpa and Kalikot of Karnali zone as well as Dailekh, Jajarkot and Achham districts. Birendranagar was previously known as Chauhan Chaur which was renamed as Birendranagar at 2029 B.S and at the same year master plan was approved and implemented for Birendranagar Municipality. Birendranagar is one of the oldest 36 municipalities and regarded as one of the planned city of Nepal and recently Jarbuta VDC located eastern side of Birendranagar has been annexed.

In 2007, Dept. of Urban Development and Building Construction put forth a notion of periodic plan for the development of Birendranagar Municipality. The periodic plan took the bottom up approach for the need identification procedures rather than top down approach in the master plan. The periodic plan states the comprehensiveness of master plan approach is being an obstacle for implementation of it as Ward level problems are not addressed by master plan as it requires action plan approach for the mitigation of the problems. The periodic plan states rapid urbanization, lack of resources and poor institutional capacity of the local bodies and political upheavals are the reasons which are making master plan approach very difficult to implement and is being limited only in the text and hence the periodic plan is required for the development of Birendranagar Municipality. The periodic plan of Birendranagar Municipality recommended the densification of the existing urban areas and coordinated development of the sparse urban settlements outside the core urban area around Mangalgadhi Chowk at the same time conserving the areas of cultural importance.

In 2008, Dept. of urban development and Building Construction launched another programme stated as of Master Plan of Review of Surkhet valley. The main objectives of the project were to review the appropriateness of the master plan prepared in 2033 B.S in today's context, amend the master plan according to the physical development plan approach and prepare the building byelaws, multi-sectoral investment plan as well as overlay the existing plan into the cadastral map of Surkhet valley. The project come up with the recommendations such as incorporating VDCs and Birendranagar Municipality as a holistic approach for planning approach, developing Latikoili Shiva temple area, Uttarganga area, and old Dhuswara area as urban development centres. Similarly, the project recommended on developing the areas around Mangalgadhi Chowk as main urban canter, developing ring road as a bypass of the Ratna highway and joining the roads extending to the southern part of the valley as arterial road.

The review of Surkhet plan also reveals that plans have been preparing for municipal plan for long time but the situation is that proper implementation of such plans have been a challenge. Being highly urbanized, Surkhet now facing many challenges for urban planning and development and has turned crowded city. Long-term development vision needs to revisit and proper implementation of plans and programmes are necessary for sustainable management of Birendranagar.

Furthermore, DUDBC has been preparing physical development plan of major towns, cities and small towns of Nepal. Most of the physical development plans and master plans of DUDBD have focused on the following issues:

- General profile, problems and potentialities
- Situation analysis
- Infrastructure plans, road, drainage, sewerage, utility infrastructures (existing and future expansion)
- Land use plan (existing and future)
- Environmental situation and plan
- Implementation of urban norms, regulation and standards

### 3.6 Past Planning Efforts

The evolution of planned development in Nepal can be traced back to the 1950s. A planning agency by the name of Planning Commission was constituted for the first time in Nepal in 1956 under the Chairmanship of the Prime Minister. To make it more capable and effective, The Yojana Mandal (a planning body) was set up the same year in accordance with the Yojana Mandal Act, 1957. In addition to the responsibility of plan formulation, the Yojana Mandal was entrusted with various executive powers. Following the overthrow of the multiparty democratic system in 1960 and with the beginning of Panchayat Political system thereafter, Rastriya Yojana Parishad (National Planning Council) under the Chairmanship of His Majesty late King Mahendra was constituted. As the decisions of the Council were treated as equivalent to that of the cabinet, the Council was regarded as the highest authority in the sphere of economic planning and policies. In the beginning, a separate Secretariat was set up to serve the Council. However, with the creation of the Ministry of Economic Affairs in 1962, the Ministry itself carried out the functions of the Secretariat. Various activities pertaining to development budget and foreign aid were directly mandated to the National Planning Council.

With the dissolution of the National Planning Council in 1963, a new central planning body, with an identical name, was constituted under the Chairmanship of the Chairman of the Council of Ministers. All the Ministers were designated as Ex-officio members and the Ministry of Economic Affairs was renamed as the Ministry of Planning.

In 1968, all the works related to development budget and foreign aid hitherto carried out by the Ministry of Economic Planning was assigned to the Ministry of Finance. The National Planning Council under the Chairmanship of the Chairman of Council of Ministers was replaced by the National Planning Commission, under the Chairmanship of the Prime Minister, and a separate Secretariat was set up to serve it.

A comprehensive study on the functions and responsibilities of the central planning agency resulted in the preparation of the report in 1972 and the National Planning Commission was reconstituted accordingly.

Planning activities were carried in accordance with the Report on Central Planning Agency, 1972. In 1987, some minor changes were introduced in the structure of National Planning Commission. With the restoration of democracy, following the people's movement of 1990 and the establishment of constitutional monarchy in the country, some changes were made in the structure and organization of National Planning Commission in 1991. The reconstituted Commission was headed by the Prime Minister and consisted of a Vice-Chairman and five members and a member-secretary. The Chief Secretary and the Finance Secretary were included as the Ex-officio Members.

Besides some other governmental agencies/departments, Local Bodies have been continuously working on urban and rural development planning sectors since last four decades. Among the major planning efforts of Nepal, Integrated Action Plan, Master Plan,

Periodic Plan, Local Area Development Plan, Physical Development Plan, Action Plan are have been implemented by the Government of Nepal. All these above mentioned plans were aimed to reduce poverty, development of physical infrastructure, social and economic sector. Most of the plans implemented by government either failed or could not achieve their objectives as expected due to various reasons such as lack of implementation strategy, political instability, absence of good governance, lack of fund and low level of public participations.

Master Plan is detailed plan with long-term vision and contains a detail list of planning activities. Master plan in fact could not be implemented as it aimed. In this situation several master plans could not achieved their objectives or it had been difficult to implement due to its vague objectives, huge budget and ambitious plans. Therefore several master plans sit on a government shelf and never come to implementation phase. Government also introduced several Local Area Plans. But they were aimed to small geographical boundary and could not be more effective to address real ground problems. Later, after the formation of Local Self Governance Act in 1999, local government bodies like District Development Committee (DDC) and Municipality have started to prepare Periodic Development Plans. Periodic Plans aimed to five years multi-sector development plans (social, economic and physical infrastructure). Some, periodic plans have been just a shopping list of projects with lacking of proper implementation strategy. On the other hand Physical Development Plans basically focused only on development of physical infrastructure rather than other sectoral development plans. Hence, New Town Project Coordination Office (NTPCO) under the Department of Urban Development and Building Construction (DUDBC) has introduced Integrated Development Plan (IDP) for the ten new towns to be developed along the corridor of Mid-Hill Highway. This integrated Development Plan aims to prepare long-term 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-sectoral investment plan for the overall development of new towns. It is therefore, IDP can be regarded as SUPER plan with covering multi-sectors of the new towns.

### **3.7 Review of Municipal Transport Master Plan (Phidim), 2015**

Municipal transport master plan of Phidim Municipality had been prepared in 2015. Major objectives of the plan were to identify all the road section and analyse the accessibility situation, prepare indicative development potential plan, municipality inventory map of road networks, transport linkages from municipalities, prepare the perspective plan of transport facilities and so on. This study has also prepared development potential map, inventory map of road network, Landuse map, MTMP perspective map and other socio-economic maps which would have been the crucial documents for further municipal planning.

This study has analysed that road transportation is most crucial for socio-economic development of the Municipality. Municipality should give more emphasis on resource collection and efficient mobilization. It provides directives on utilization of the local resources by local institutions as well as other development agencies in line with the decentralization and local self-government act. In addition, this study has provided

government and other donor agencies a rational basis on which to decide on future investments efficiently that will improve district transport accessibility situation.

The study was only concerned within the municipality boundary but due consideration is given to the nearest road head and the inter district linkages as well. Road category, hierarchy, strategic road etc were defined in this plan.

### 3.8 Review of Settlement Plan, Urban Plan, Building Construction Guidelines (MoFALD), 2015

The April 2015 devastating earthquake killed Nearly 9,000 people and more than 30,000 were injured and thousands of people were made homeless. Many villages destroyed across many districts of the country. Geophysicists and other experts had warned for decades that Nepal was vulnerable to a deadly earthquake, particularly because of its geology, urbanization, and architecture. The devastating earthquake and subsequent aftershocks have caused damage of billions of national economy, physical infrastructure and assets which demands billions of rupees to be spent in the coming years to regain lost property, restore physical assets and improve livelihoods of the people.

While investing for reconstruction the physical infrastructure, Ministry of Federal Affairs and Local Development (MoFALD), has promulgated/developed settlement plan, urban plan and building construction guidelines, 2015. The guideline is prepared to make the infrastructures including buildings safer. The major features of the guideline are given below:

**Table 2: Major Features of Settlement Plan, Urban Plan and Building Construction Guidelines 2015**

Road Width	<ul style="list-style-type: none"> <li>▪ Minimum width of road 6 meters</li> <li>▪ Minimum setback of road to be left from road side 1.5 meters</li> <li>▪ Minimum rights of way 6 meters</li> <li>▪ Except Kathmandu valley and plain area, in mountain and gentle slope hilly land, minimum setback of road from road side 4 meters</li> <li>▪ Minimum radius of turning or bend of road at least 20% more than road width</li> <li>▪ Building design cannot be approved taking Public land as a road,</li> </ul>
Land to be vacant	<ul style="list-style-type: none"> <li>▪ 30% vacant area for residential building construction of 250 sq m area. 40% vacant area for building construction having 250 sq meter and more area.</li> <li>▪ 50% vacant area for governmental, semi-governmental and public building construction.</li> </ul>
Open space	<ul style="list-style-type: none"> <li>▪ Develop Public, Parti and Ailani land as a greenery park</li> <li>▪ Don't provide any public land to anybody without</li> </ul>

	cabinet permission
Basic information at construction site	<ul style="list-style-type: none"> <li>▪ hoarding board at construction site For A and B class building construction showing building construction permission paper, design map, setback, ground coverage ratio, floor area ratio etc.</li> </ul>
Outside Valley Criteria	<ul style="list-style-type: none"> <li>▪ Municipality outside Kathmandu Valley: Follow building code 2071 prepared by ministry of urban development.</li> </ul>
Land Plotting	<ul style="list-style-type: none"> <li>▪ Take planning permit from respective authority</li> <li>▪ Major road width 8 meter</li> <li>▪ Minimum road width 6 meter and 1.5 meter setback</li> <li>▪ Open space at appropriate location</li> <li>▪ Minimum area required by local authority for plotting</li> <li>▪ Local authority prepare regulations to manage land plotting</li> <li>▪ Installation of drinking water tap, electricity and construction of other infrastructure will be interrupted if accepted criteria is not fulfilled and interruption of land registration</li> </ul>
Compound Wall	<ul style="list-style-type: none"> <li>▪ Leave setback for compound wall</li> <li>▪ Maximum height of compound wall 4 meter and maximum 3 feet net above the wall</li> <li>▪ Compound wall Naksa pass Mandatory</li> <li>▪ Plantation for the security of land and property</li> <li>▪ Dismantle risk wall immediately</li> </ul>
Safety Tank	<ul style="list-style-type: none"> <li>▪ Include safety tank in Naksa Pass</li> </ul>
Banking and Insurance	<ul style="list-style-type: none"> <li>▪ No banking and insurance without construction completion paper</li> </ul>
Restriction of building construction in risk areas	<ul style="list-style-type: none"> <li>▪ Construction of building in more than 300 slope land is prohibited</li> <li>▪ Building construction at prohibited area declared by land and mine department and district natural calamities rescue committee is not allowed</li> </ul>
Changing purpose	<ul style="list-style-type: none"> <li>▪ No provision to change residential building into commercial building</li> <li>▪ If part of the residential building is used for commercial purpose then entire house will be taken as commercial building</li> </ul>
Building construction permission around runway	<ul style="list-style-type: none"> <li>▪ Civil aviation authority regulations will be applied for the construction of building around runway</li> <li>▪ Civil aviation authority regulations will be applied for the building located at 500 meter far from the runway outside boarder and 17 meter tall building</li> </ul>

### **3.9 Building Construction Model Bye-laws, Ministry of Urban Development, 2014**

Nepal has 216 municipalities. Among them only 8 municipalities have implemented the building permit provision where the implementation of building code, bye-laws and act has not been uniform. Therefore, ministry of urban development has prepared building construction model bye-laws for the development of sustainable, clean, healthy, environment friendly and uniform urban infrastructure. The major objectives of these bye-laws are to provide the uniform building code and guidelines to all the municipalities for the healthy, green, clean and sustainable urban environment and to develop planned infrastructure. The ministry has expected to implement this model bye-law in all the urban areas at least in the municipalities.

This bye-law has five chapters. Preparation and implementation of bye-laws as well as importance of building code, act and bye-laws are clearly mentioned in the first chapter. Rights of building code and its utilization are described in the second chapters.

Chapter three deal with the development and construction provisions of both residential and non-residential sectors. Bye-laws of heritage building and national conservation areas are discussed in chapter four. Lastly, provisions related to fire security are discussed in chapter five.

### **3.10 Nepal, Inclusive Cities: Resilient Communities, Ministry of Urban Development, 2015**

According to National Population census of 2011, only 17.1 per cent of Nepal's total population lives in the urban areas or municipalities. At present Nepal ranks top with 38.26% of urbanization level among SAARC countries due to addition of 133 new municipalities in 2014. The country's total population and urban population according to 2011 census was 26,494,504 and 4,523,820 respectively. The urban population of Nepal is estimated to be 10,355,900 at present. Generally, the growth rate of urbanization in Nepal is higher than the country's population growth rate and this is true at present. Therefore, urban planning has been very challenging and complex to provide safe, comfortable and environmental friendly services to increasing population with limited resources. Realizing this fact, ministry of urban development has prepared a study named "inclusive cities: resilient communities" in 2015.

This study has discussed briefly on urban planning with reference to urban demography, available land and environment, housing and basic urban services/facilities. The study has identified several challenges which are mentioned below:

- Increasing trend of informal settlements in urban areas
- Low urban densities, which creating difficulty in providing urban service and increasing investment cost
- Great demand for the rental housing
- Growing housing colony and apartment

- Insufficient water supply and sanitation
- High demand of domestic energy in urban areas
- Low road density and standard or urban transportation

Future challenges and issues identified in these areas are:

- After promulgation of new constitution maintaining cordial relation with the cities and other concerning places of different providence is a bigger challenge ahead
- Demand of huge amount of house due to the increasing urban population and fragmentation of families
- Decreasing source of drinking water
- Increasing demand of clean and renewable energy
- How to provide rapid and mass transport service

Lesson learnt in these areas:

- A suitable repayment modality is made for removing informal settlement and improving housing condition in the city
- Cooperative housing approach of construction and operation of housing for the low income groups
- Operation of rental housing in the major urban areas to meet the demand of housing unit
- Rainwater harvesting and ground water recharge
- Business opportunity for the private sector through urban infrastructure development
- Installation of solar home system and bio gas plant
- Mass electric vehicles and public busses

### **3.11 National Settlement (Awas) Plan, 2014**

In order to manage the settlement to achieve the target aimed by national settlement plan, ministry of urban development, government of Nepal has prepared National Settlement Plan, 2014. This plan has discussed briefly on present status of settlement in the country. The demand and supply of settlement for high, middle and lower class has been clearly examined in this policy. Similarly, appropriate technology and infrastructure, different time's settlement policy and international experiences on settlement plans were clearly examined and discussed in this policy. Other important parts of settlement plan like financial arrangement and role of concerned stakeholders on settlement sectors were also discussed in settlement plan, 2014.

This plan has aimed to provide secure, enough and status based settlement for entire people of the nation. This plan has tried to cover the people living in scattered/informal settlements and people living below poverty level. The three major aims of this plan are as follows:

- Provide appropriate, secure and environment friendly settlement for all level people and enhance the quality of present settlement
- Effective mobilization of economic sources of settlement sector
- Organisational reform and identify the role of governmental, non-governmental, private sector and community working in settlement sector

### **3.12 Urban Development (Sahari Bikash): Special Issue on World Habitat Day, 2063**

Department of Urban Development and Building Construction (DUDBC) has published an special issue named “Sahari Bikas” in 2063 BS on the occasion of world habitat day. The issue is a collection of several articles based on building code, urban planning, role of department, urban morphology and environment, urban infrastructure and settlement, development goals and other several issues related to urban development and planning written in both Nepali and English. This issue has been an important document and future guidelines for planners, researchers, policy makers, governmental and non-governmental and professional organizations. Views regarding implementation of rights of home, urban architecture, land pooling/development projects in planning, building code, role of private organization in housing and development, urban environment, green city, good governance, service to the urban poor, safe city, risk reduction etc are the major theme of discussion.

### **3.13 Concluding Remarks: Lesson Learned**

Nepal has been trying to develop the country on the basis of various development plans. So far, thirteen national periodic such plans have been completed. Based on such plans, a huge infrastructure has been created. Nepal has a wider prospect of fostering development if it can minimize its challenges in the path of development on the one hand and intensify the people’s participation on the other. However, its challenges are not always the same. For example, the major challenges at present are the presence of various types of conflicts, lack of economic confidence among domestic and foreign investors and lack of rule of law that has been causing the vandalism at all parts of the country. The country has opportunities also along with challenges. The opportunities like challenges also change time to time. Because of changing nature of opportunities and challenges, the development plans in Nepal have been found taking new turns in the course of time. So far, there has been found three major turns in the history of planned development of Nepal. First turn is associated with the fifth plan which had been made basically to focus the regional development and strengthen the involvement of government control in economic activities through the policy of party less Panchayat system. The second turn is found with the launch of eighth plan which was the first in itself after the restoration of democracy in Nepal. It had focused the concept of privatization and economic liberalization. The third turn is in the form of three year interim plan that has been started after the downfall of kingship because of the historic people’s movement in 2006.

The planning efforts have been analysed basically on the basis of visions/objectives and strategies of the plan on the one hand and the change in socio political situation in the country on the other. As far as the development plans are concerned, these are good until and unless these produce positive economic results. The effects of plans are positive. Nevertheless, these are not that much effective as expected. Various factors are responsible for this. However, lack of accountability at various levels, absence of good governance and lack of people’s participation to the desired extent are some of the major impediments on to the path of development plans.

To sum up, following points were learned and examined through the review of literature;

1. Most of the plans have focussed to physical infrastructure development planning efforts rather than integrated planning;
2. Most of the local level plans have been some short of project list without proper implementation strategy;
3. Participatory planning is the heart and therefore, plan formulation should be based on local broad range of public participation;
4. Sectoral integration in the development plans are lacking even though periodic plans have some short of provision to integrate sectoral plans;
5. Diverse issues of planning have been considers in the urban planning and development;
6. Intra and inter agency coordination should be strengthen so that plan formulation and implementation could be rightly tapped;
7. Important issues relating to planning have been identified and effort have been giving to integrate in the plans;
8. Some recently prepared urban development related guidelines provided the basis for plan formulation, particularly the urban development and building construction guidelines of MoFALD.
9. Actually problem of most of the plans is lacking of implementation rather than its content

# 4 SITUATION ANALYSIS OF THE NEW TOWN

## 4.1 Urbanization Trend

Urbanization in Phidim is rapidly increasing in these days. Being district headquarter, urbanization trend was found notable in the past. However, after declaration of New Town by the Government of Nepal, rapid increase in urbanization and building construction trend is found. To analyze the urbanization trend, some of the indicators such as built-up area, population, household, absent population, economically active population, major industries, access of road and drinking water facilities, uses of fuel for cooking etc of different years have been presented and analyzed.

**Table 3: Urbanization Trend of Phidim Municipality**

S.No	Indicators	Year		
		2002	2010/11	2015/16
1	Buit-up Area (Sq km)	3.5	5.6	6.04
2	Population (no)	21,775	24768	28000
3	Households (no)	4906	5857	6500
4	Absent Population (no)	1786	1839	1940
5	Population Density	349	374.7	425
6	Economically Active Population (percentage)	51.12	51.43	51.45
7	Major Industries (no)	2	7	10
8	Blacktopped Road (km)	40	48	52
9	Drinking Water Supply (hh coverage percentage)	69	75	95
10	Uses of Feel for Cooking (LP Gas user percentage)	29	33.82	50.00
11	Computer User Househlds (no)	262	423	700

Source: CBS 2002, 2011 and Fieldwork, 2011

Table above reveals the time series data of the different period. Data shows that population, households, population density of the municipality has been increased in the recent years which indicates growing urbanization trend of the municipality (figure 9).



**Figure 9: Trend of Growing Phidim, 2002, 2007 and 2016 respectively**

Satellited images of different period show historical trend of expanding of urban areas which indicates rapid urbanization trend in Phidim Area. As the table above shows, built up area within Phidim Bazar (NT) was found 14 Sq kam in 2002 and increased by 18 Sq km in 2011 and recently it is calculated to be 22 Sq km. It reveals that built-up area in Phidim is rapidly increasing.

## 4.2 Building Construction Trend and Pattern

Trend of building construction in Phidim has been increasing rapidly. Being district headquarter, Phidim is receiving migrants from outer areas and pattern of new building construction is rapidly increasing with respect to nepal government's policy of developing Phidim as new town. Building construction trend of the Municipal area is presented in the following table:

**Table 4: Urbanization Trend of Phidim Municipality**

S.No	Description	Year		
		2002	2011	2016
1	Mud Bonded bricks/stone (percent)	67.3	68.1	67.2
2	Cement bonded bricks/stone(percent)	11.4	16.3	17.5
3	RCC with Pillar (percent)	3.3	4.6	5.6
4	Wooden Pillar (percent)	9.3	9.7	9.3
5	Thatch/straw (percent)	25.3	24.1	24.5
6	Galvanized Iron (percent)	62.0	61.9	61.2
7	Tile/Slate (percent)	0.7	0.6	0.7
8	RCC (percent)	12.9	11.4	12.6
9	Buildings with 4 and mores stories at the main Bazar Area (no)	12	20	60

*Source: CBS, 2002, 2011 and Field observation, 2016*

Table above and field work reveal that building construction trend in Phidim is increasing day by day. Similarly highrise buildings are increasingly constructed in Phidim Bazar area where local people perceive as NT area. In Phidim Bazar area, 4 and more stories buildings are rapidly constructed. It was also found that some hotels, private business complexes, residential houses are observed tall buildings. This data implies the increasing trend of building construction particularly of concrete structures.

### 4.2.1 Building Typology and Uses

It was observed that people are people constructing new building with concrete structure and majority of the new constructions are designed for residential purposes but after completion of the construction, the use of the building has been profoundly changed which make the building vulnerable. The residential buildings are used for various usages such as hospital, bank, hotel etc. Not only this, different floors are used for different uses without considering

the load for various purposes. This can be one of the factors causing disaster and vulnerable to disaster risk.

Similarly, another important factor making the structures vulnerable is incompatible changes. Due to the trend of modernization, frame structures have been constructed in the upper floors while the lower floors are of load bearing walls. Some of them can be seen in this neighborhood. Drastic changes are also seen in some of cases where people replace their standing traditional fabrics with modern condition which in many cases is of poor quality due to the lack of technical knowledge. Not only in private residential buildings, reinforced concrete structures were found above the load bearing old wall in one part of observed school buildings



Figure 10: Increasing trend of high rise building

#### 4.2.2 Building Heights

One of the research about vulnerability assessment of panchthar, Phidim reveals that about 20% of the buildings are more than three storey buildings in Phidim. I could not find any building followed the complete National Building code. However, some of the buildings were found seismic resistant as those buildings were constructed from the masons who have taken the earthquake resistant

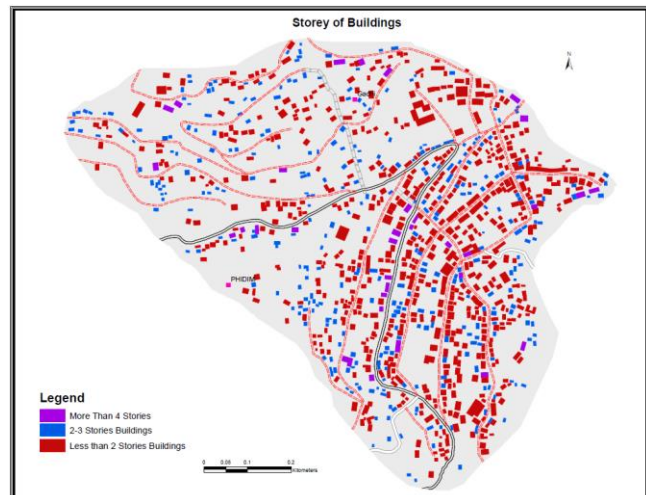


Figure 11: Distribution of Tall building in Bazar area

training. Fieldwork data also reveals that newly constructed building are of more heights as they are supposed to be strong by construction of concrete structure. However, most tall building are found rapidly constructed in the Main Bazar area of Phidim. While looking at the heights of the buildings in the core market area of Phidim, map reveals about 20 percent buildings are of three or more stories in the Bazar area (figure 11).

#### 4.2.3 Violation of Building Bye-laws

Phidim has been declared as a municipality in 2015. Therefore, municipal bylaws has not been implemented yet in Phidim. However, Ministry of Urban Development has already prepared basic bylaws for the urbanizing Village development committees like Phidim which has been initiated for the implementation. It was observed that even newly constructed buildings were seen to violate the building bylaws (right of way) along the highway corridor.

As the national highway standards of ROW is 50 meter, more than 60 building at the bazaar area along the Mechi Highway is found violated the ROW.

### 4.3 Settlement Pattern and Urban Form

Settlement pattern of Phidim area found compact in the Bazar area and scattered in the rural areas. Compact settlement is increasing in ward no 1, 2, 4 and, partially in ward no 5 of the municipality where as other wards are having scattered settlement.

Similarly, at road junctions of various location some cluster settlements have been developing to serve as small market centres. These market centres serve as suppliers of goods and services and collectors of location production. As the municipality is formed merging three VDCs (Phidim, Chokmagu and Siwa) it is common for backward and forward linkages in the settlement system within the municipality area.

While talking about settlement pattern of the core city area, it was observed that some area namely (buddha chowk, hospital chowk, thadoline, tersoline etc) are having some traditional settlement and remaining outer areas are having newly emerged areas with increasing newly constructed buildings. This reveals that outer areas of phidim bazar are adding more new buildings and structures (naya tar, jorsal, gadhi, pallotar, buss park area etc) where as other areas are having more rural settlements. Figure below shos the settlement patterns of Phdim;

**Figure 12: Compact and Scattered settlement in Phidim**



### 4.4 Lead Sectors of NT

Lead sectors are driving sectors for development of a town. In other words it is leading sector by which development will be chanzalized in the due course of time. Each town has its own special potential sectors of development. Based on the existing situation, fieldwork impression, and community level consultation, Phidim New Town has the following lead developemnt setors;

- a) Agriculture

- b) Tourism
- c) Trade and Business

Short description of those lead sectors are given as follows;

#### a) Agriculture

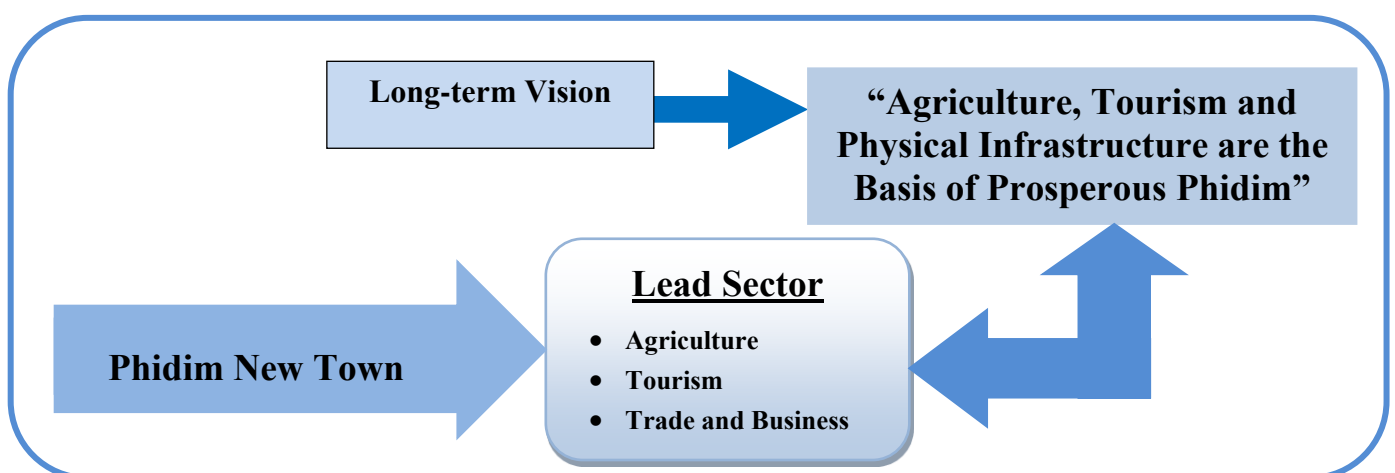
Agriculture is still in first place in its economic activities of Phidim. Since Phidim is recently declared as a municipality, most of the areas are still rural character. People are engaged in agriculture as their first economic source for income. 60 percent people are still dependent in agriculture and 45 percent land is occupied by agriculture. This indicates that agriculture would be the leading economic activities of New Town. Within agriculture, cash crop such as tea, cardamom, zinger, orange and citrus fruits are the major cash crops of Phidim. With all this background, agriculture (including cash crop) can be a leading sector of phidim and thus plans and programmes have been formulated accordingly.

#### b) Tourism

As tourism is emerging sector, it can be taken as leading sector for development of Phidim. Phidim has potentialities to develop cultural and religious tourism, sport tourism in the future. Prominent national figure Falgunananda Lingdel scarnation and his holistic place is located in Phidim, it has great potentiality to develop as tourism centre in the near future. Therefore, this plan has focused tourism as leading sector of development and long-term vision has also tapped tourism as path of development.

#### c) Trade and Business

Phidim is growing rapidly after the government declared it as a new town. It is district headquarter which means most of the government offices as well as NGOs/INGOs are situated that ultimately create environment of trade and business in the town. This town has backward and forward linkages for economic growth and development. It is therefore, trade and business are the leading development sector for Phidim. Long-term vision including with lead sector of development of Phidim New town is graphically shown as follows;



**Figure 13: Lead sector and Connection with Vision**

#### 4.5 Demand Analysis

Plan document should be based on existing baseline information and indicators which helps to project future needs. In this heading, demand analysis based on the projected population of the town has been done. Following table has been created to present future demand based on existing baseline indicators;

**Table 5: Demand Forecast of Phidim**

S. No	Types of Infrastructure	Norms	Standards	Space Requirement	Projected Population in 20 years	Demand forecast based on projected population	Present Status	Gap	
<b>1</b>	<b>Physical Infrastructure</b>								
1.1	Road	Expressway, Arterial, Sub arterial, collector street and local street  All of 90% of households are within 1 km from motorable road		20% of the total built up area	100000	This study has proposed maintenance, upgrading and new construction of arterial, sub-arterial, collector street and local street road in major settlement's and proposed land development areas which cover 90% households of Phidim NT			

1.2	Water Supply System	<p>80% households have metered house connection and distribution</p> <p>Treatment plant (lab, dosing and guardhouse) with storage facility: reservoir (24 hrs requirement)</p> <p>Provision of rain water harvesting in public buildings (catchment area, storage and treatment facility)</p>	<p>Quantity: 80-100 lpcd</p> <p>Minimum diameter of distribution pipe: 80 mm</p> <p><math>10 \times 10^4 = 10\text{MLD}</math> (capacity)</p> <p>Storage capacity: 25% of the total treatment capacity</p>	2 ha per site (treatment plant and storage)	100000			
1.3	Sanitation/Sewerage System Storm Water Drainage System	<p>Public Sewer System (Septic Tanks)</p> <p>Sewage Treatment Plant Pumping Station</p> <p>Provision of public latrines (male, female, disabled)</p>	<p>Minimum diameter of trunk line: 200 mm</p> <p>0.2 ha/MLD – 0.75 ha/MLD</p> <p>1/2000 passerby at a distance of 500 m</p>	<p>0.01 ha – 0.02 ha per site</p> <p>5 ha – 7 ha per site</p>	100000			

1.4	Integrated Solid Waste Management System	<p>Collection points (0.3 kg/person/day)</p> <p>Total Waste = Around 33 tons/day</p> <p>Transfer Station</p> <p>Sanitary Landfill site</p>	<p>Separation of Waste at household level</p> <p>Community collection/door to door collection</p> <p>1 collection point/container/roadside pickup point serves a radius of 200 m</p> <p>1 transfer station for 1 city if the final disposal is at distance of more than 10 km</p> <p>Only 30% of the total waste generated should go to landfill site. 70% = reduce, reuse, recycle</p> <p>Sanitary landfill site: medium (&gt; 25 and &lt; 500 tons per day)</p>	<p>0.15 ha – 0.2 ha per site (waste only gets collected and transferred)</p> <p>1 ha per site (if there are recycling platform, compost plant and window composting etc) 3 ha – 5 ha (without buffer zone)</p>	100000			
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1.5	Electricity Supply System	National grid supply line and Alternative energy (panels, battery 400 AH)	Power access to 100% coverage. Electric sub-station 66/33 KV Transmission Tower Distribution Tower 150-200 watt solar home system	0.55 ha per site 80-100 sq. m 20-25 sq. m	100000				
1.6	Tele communication	Landline/mobile Public telephone booth (TB)	100% coverage Telephone exchange office (1 exchange with a capacity of 6500 line capacity) Telephone transmission tower 1 TB per 5000 population	0.02 ha per site ROW: 5m Standard Booth	100000		Landline phone is limited to major city area. Mobile phone is available through the NT village but network quality varies in different area and village	Expansion of landline phone in NT settlement and village Upgrade mobile network capacity with construction of new tower	
<b>2</b>	<b>Economic Infrastructure</b>								
2.1	Hall	City hall (Multipurpose)	1 per 10,000 population	0.2 ha per site	100000	10 city hall and 2 ha land required	No city hall	10 city hall and 2 ha land required	

2.2	Sports Complex	City level (football ground, volley ball, swimming pool etc)  District Sports Centre	1 for 5,000 population  1 per 1,00,000 population	1-3 ha per site  3 – 19 ha per site	100000	20 city level football/volley ball, swimming pool and 20-60 ha land required  1 districts sports complex and 3-19 ha land required	There are 8 football and 10 volleyball ground in local schools and governmental office but no swimming pool  1 regional level stadium	12 Football and 10 volleyball ground needed  Existing grounds need infrastructural improvement  20 swimming pool is needed
2.3	Movie Hall	City and local level	5 seats per 1000 population		100000	500 seats required	One 500 seats city level movie hall	Needs infrastructural improvement
2.4	Vegetable market	Neighborhood level	1 Wholesale, 1 retail and 1 slaughter house for 2 neighborhood  (1 neighborhood = 3000 population)	0.5 ha per site	100000	16 wholesale, 16 retail and 16 slaughter house and 24 ha land required for all sites	Enough number of whole and retail shops but no well managed slaughter house	Need 16 well managed slaughter house
2.5	Parking space	Parking (Two/three/four wheeler)  Taxi park	1 parking lot each 3000 population  (1 neighborhood = 3000 population)	0.04 ha per site	100000	33 parking lot (two/three/four wheeler) and 1.32 ha land required for parking  33 taxi park and 1.32 ha land required	Parking space is available only in bus park  Taxi are parked along the road	33 parking lot and 1.32 ha land needed for two/three/four wheeler  33 taxi park and 1.32 ha land required

2.6	Transportation system	Intra City Bus Terminal (Linking with other cities)  Inter City Bus Terminal (within the city)	1 parking lot for 100 buses and 100 trucks  1 parking lot for 100 buses	4 ha per site  2 ha per site	100000	One intra city bus terminal and 4 ha land required  One inter-city bus terminal and 2 ha land required	One intra city bus terminal is under construction  No inter-city bus terminal	Insufficient land for one intra city bus terminal  One inter-city bus terminal is needed
2.7	Tourist Information Center	Not mentioned in planning norms and standards but seems relevant for new town			100000	Two tourist information centers are required	No tourist information centers	Two tourist information centers are required
2.8	Helipad	Not mentioned in planning norms and standards but seems required for new town			100000	A helipad is required	One helipad at army barrack near Phidim bazar	Not required
<b>3</b>	<b>Social Infrastructure</b>							
3.1	Primary School	1 per 3000 population at a distance of 0.4 - 0.8 km	0.2 ha per site		100000	33 primary school and 6.6 ha land required	25 primary schools	8 more primary schools are needed
3.2	Higher Secondary School	1 per 7500 population at a distance of 30 min in public transportation	0.65 ha per site		100000	13 higher secondary school	10 secondary and 3 higher secondary schools	10 higher secondary schools are needed
3.3	Graduate/Post Graduate	1 per 25,000 population at a distance of 45 min in public transportation			100000	4 graduate/post graduate college	1 college	3 more graduate/post graduate college are needed

3.4	Technical Institution (Engineering college)	Not mentioned in planning norms and standards but seems required for new town			100000	1 technical institution	No technical institution	1 technical institution is needed
3.5	Agriculture research center	Not mentioned in planning norms and standards but seems required for new town					No agriculture research council	One agriculture research council is needed
3.5	Primary Health Care Centre	1 per 20000 population (5-15 beds)	0.25 ha per site		100000	5 primary health care centers (25-75 beds) 1.25 ha land required	2 sub health post (2 beds)	3 more primary health post with 22-72 beds_
3.6	District Hospital	1 per 50,000 population (25-50 beds)	1.3 ha per site		100000	2 district hospital (50-100 beds) and 2.6 ha land required	1 district hospital (30 beds)	1 more district level hospital is needed  20-70 more beds needed
3.7	Open Space: Parks	5% of total city area			100000	This study has prepared building bylaws of Phidim NT. After the implication of building bylaws and building code by local municipality more than 10% city area will have open space.  Construction of new community parks and local parks further help to increase the proportion of open area in Phidim NT.		

3.8	Open Space: Parade Ground (Tundikhel)	Neighborhoods Park (with play equipment) Local Park Community Park Parade Ground	1 @ 800 population 1 @ 10000 population 1 @ 20000 population 1 @ each city	0.4 ha per site 1 ha per site 2 ha per site	100000	125 neighborhood parks and 50 ha land required 10 local parks and 10 ha land is required 5 community parks and 10 ha land is required 1 parade ground is required	0 Community parks 1 football ground is available	5 community parks needed Football ground need infrastructural improvement
3.9	Library	Community Level Central Level	1 per 10,000 population 1	0.5 ha per site	100000	10 community level libraries and 5 ha land is required 1 central level library is required	One government and 1 private run library No central level library	5 community level libraries are required 1 central level library is required
3.10	Fire Station	City level service	1 fire station for 5 to 7 km radius	1 ha per site	100000	1 fire station and 1 ha land is required	No fire station	1 fire station is required
3.11	Religious Institutions	Incineration/cremation areas Cemetery/Burial ground	1	0.5 ha per site	100000	An incineration/cremation and a cemetery/burial ground is required 1 ha land is required	2 incineration	Requirement fulfilled but needs improvement
3.12	Museum/Art Gallery	City level	1/1	0.5 ha per site	100000	1/1 city level museum and art gallery and 1 ha land required	No city level museum and art gallery	1/1 city level museum and art gallery are required

3.14	Old age home, orphan, center for differently able people, sanatorium	City and community level	1 per 20,000 population	0.3 ha per site	100000	5 old age home, 5 orphan home, 5 center for differently able people and 5 sanatorium required  6 ha land required	No old age and orphan home  No sanatorium	5 old age home,, 5 orphan home, 5 center for differently able people and 5 sanatorium required
3.14	Security	Police Post  Police Station	1 per 10,000 population  1 per 40,000 population	0.1 ha per site  0.5 ha per site	100000	10 police posts and 1 ha land required  2 police station and 1 ha land required	Nepal police, armed police force and Nepal army posts are available	
3.15	Exhibition Centers	City level	1 per 50,000 population	4 ha per site	10000	2 exhibition centers and 8 ha land required	No exhibition center	2 exhibition centers are required
<i>Source: Based on Planning Norms and Standards, DUDBC, Kathmandu, 2013 and projected population</i>								

This table is based on Infrastructure Norms and Standards of “Planning norms and standards, 2013” for the city having 40000 to 100000 population. In Phidim NT, government has planned to developed infrastructure to settle 100000 people. According to the population Census 2011, Phidim NT has only 24768 population. The present population growth rate (1.29) is not enough to meet 100000 population in 20 years. Therefore, New town coordination project will invest large amount of money in Phidim and it will have reasonably good physical, social and economic infrastructure after few years. Similarly, Phidim has enough expandable area for the development of a new town. Besides, the town has better road access and it lies at the nodal point of Mechi Highway and Mid Hill Highway. Hence, it is expected that several people will come to Phidim for better opportunity and life in future. Realizing this fact, here demand forecast is calculated for 100000 population

#### 4.6 Identified Major Planning and Physical Development Issues

Based on the public opinion and views of community people, following major planning and physical development issues were identified;

- Bus Park Construction at Tallotar Area
- Road Improvement (widening and upgrading)
- New Road Construction (new construction in the municipal area)
- Green Park (BP Park and Park in the Core area of Phidim)
- Community Hall
- City Hall
- Slaughter House (Management)
- Drainage and Swage Network Plan (Town Area)
- Landfill site (Patle Area)
- Tourism Information Center (Falgunananda Lindel Conservation Area, and Town Area Phidim)
- View Tower (Silauti, Labrekiti)
- Sport tourism
- Stadium
- Management of Periodic Market
- Cold Store
- Building bye-laws implementation

#### 4.7 Overall Potentials and Problems (SWOT)

Based on the empirical data and literature, Phidim New Town has some potentialities and weakness of developemnt which are presented in the SWOT format below;

**Table 6: SWOT Analysis**

<b>Strength</b>	<b>Weakness</b>
<ul style="list-style-type: none"> <li>➤ Developing and growing as a New Town</li> <li>➤ Main town of Hilly Region of Eastern Development Region</li> <li>➤ Connectivity to famous religious places such as Pathibhara and Phalgunand Birthplace</li> <li>➤ District headquarter</li> <li>➤ Relatively flat land for urban development</li> <li>➤ Access of Mechi Highway with connecting to Terai Region</li> <li>➤ Gradually developing and expanding physical infrastructures</li> <li>➤ Rich with multi-cultural and multi-ethnic communities</li> <li>➤ Potentiality of agriculture and cash crop</li> </ul>	<ul style="list-style-type: none"> <li>➤ Poor road conditions (most of the roads are earthen with narrow width)</li> <li>➤ No proper drainage and sewerage networks system in the town</li> <li>➤ Lack of long-term solid waste management plan</li> <li>➤ Poor implementation of building bye-laws and building code</li> <li>➤ Lack of coordination between and among the line agencies</li> <li>➤ Lack of planned development practice</li> <li>➤ Haphazard settlement growth</li> </ul>

production ➤ Tea Factory	
<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>➤ Possibility to increase national and international investment for the development projects</li> <li>➤ Increase of income and employment through tourism sectors</li> <li>➤ Use of open spaces for urban development</li> <li>➤ Possibility to develop as multi-cultural and multi-ethnic community</li> <li>➤ Potentiality to expand and develop cash crop farming activities</li> <li>➤ Possibility to develop as tourism transit city</li> <li>➤ Tea plantation/Tea Tourism</li> <li>➤ Dairy Farm and dairy products</li> <li>➤ Hydropower Projects nearby areas</li> <li>➤ Education hub for Taplejung and Panchthar areas</li> </ul>	<ul style="list-style-type: none"> <li>➤ Poor public awareness has created poor condition of implementation of building bye-laws and building code</li> <li>➤ Poor/weak coordination between stakeholders</li> <li>➤ Due to the the vacuume of elected local bodies, it has been difficult to implement plans and programmes</li> <li>➤ High demand of budget bult low resource mobilization</li> <li>➤ Effective political commitment and implementation of plans</li> <li>➤ Improving public awareness and participation in development programmes</li> </ul>

#### 4.8 Community Level Problems

Community level problems were identified through community level interaction and discussion. Community level consultation meetings were conducted at ward level in the municipality. Community level problems of the municipal area are presented in the following table:

<b>Table 7: Demand Frequency Table of Phidim New Town</b>										
Thematic Area	Ward Number									Total
	1	2	3	4	5	6	7	8	9, 10 & 11	
<b>Road</b>										
Widening	1	10	2	5	4	3	4	2	2	33
Black top	1	12	3	9	3	3	3	3	7	44
New Construction		10	3	8	5	4	3	5	7	45
Expansion	1	3	2	6	4	2	3	4	3	28
Construction completion									1	1
<b>Electricity</b>										
Transformer upgrading	1	1	1	1	1	1	1	1	1	9
New pole installation		1	1	2	1	1	1	3	1	11
Electrification				1	1	1	1	2		6
Street Light			2	2	2	1	2	2	1	12
<b>Drinking Water</b>										
Tap connection	1	3	1	1	2	1	2	2	1	14

Chapter IV: Situation Analysis of the New Town

Maintenance		1	1	1	1	1	1	2	1	9
Source conservation	1		1	1	1	1	2	1	2	10
Construction of water tank			2	1	1	1	2	1		8
Capacity increase of water tank			2	1	2	2		2	1	10
Feasibility of new water source	1								1	2
<b>Irrigation</b>										
Management		3	1	1	1	1	1	1	2	11
Construction	1	3	2		2	1	2	3	3	17
Maintenance	1	1	1	2	1	1	1	1	2	11
Upgrading				1	1	1	1	2	1	7
<b>Agriculture</b>										
Vegetable farming training		1	1	1	1	1	1	1		7
Agriculture training	1	1	1	1		1				5
Cold store construction	1	1	1	1	1		1	1		7
Seed bank		1								1
Veterinary hospital									1	1
<b>Education</b>										
School building construction		2	1	1	1	1	1	1	3	11
Sports ground construction		2	1	1	1			1	1	7
School upgrading		1	1	2	1		1	1	1	8
School ground upgrading		1								1
Building maintenance			1	1	4	1	2	2	3	14
Compound wall construction		1	1	1	2	1	2	2	2	12
Construction of library block			1	1	3	1	1	1	2	10
Management of books at library			1		2					3
Construction of science labs					1		1	1	2	5
Construction of school hostel					1				1	2
Construction of drinking water tank			1	1	1	1	1	1	4	10
Public library	1									1
<b>Communication</b>										
Distribution of landline phone			1	1	1	1	1	1		6
Upgrading of mobile tower	1	1	1	1	1	1	1	1		8
Now mobile tower construction			1	1	1	1	1	1		6
<b>Economic</b>										
Industry and commerce		1					1			2

## Chapter IV: Situation Analysis of the New Town

Land acquisition for periodic market	1									1
Income oriented training		1			1		1	1	1	5
<b>Sports</b>										
Construction of sports ground	1		1		1	1	1		1	6
Construction of stadium			1	1					1	3
Sports tournaments		1		1		1			2	5
Strengthen of local clubs	1	1	2	1	1		2		3	11
<b>Health</b>										
Upgrading			1	1	1	1	1	1	1	7
Skilled health manpower			1	1	1	1	1	1	1	7
Training			1	1	1	1	1	1	2	8
Health equipment purchase			1	1	1	1	1	1	1	7
Hospital Construction		1	1		1			1	1	5
Health post		1								1
Health camp				1		1			1	3
<b>Drainage and waste management</b>										
Side drain	1	1	1	1	1	1		1	3	10
New construction	3	1	2	2	2	3	2	2	2	19
Vehicle purchase for garbage collection	1	1	1	1	1	1			1	7
Land fill site			1		1				1	3
Separation of waste	1			1					1	3
<b>Environment</b>										
Construction of park	1		1	1	1	1	1	1	1	8
Conservation of local forest			1	2	1		1	1	2	8
Conservation of local flora and fauna			1		1		1	1		4
Management of Ganeshman Peace Park					1					1
Flood prevention					1					1
Landslide prevention	1								2	3
River training							1		1	2
Retaining wall									1	1
Construction of public toilet	1								2	3
Garbage collection							1		1	2
Climate change adaptation training									1	1
<b>Culture and Tourism</b>										
Home stay	1	1		1	1	1		1		6
Picnic spot development		1		1						2
View Tower		1	1	2	1			1	1	7
Tourist information centre				1	1					2

Conservation of spring	1									1
Coordination among the stakeholders	1									1
Tourism development program		1		1						2
Construction of quality hotel	1	1	1							3
<b>Cultural and Religious</b>										0
Construction of temple		1	1	1	2	1	1	2	2	11
Compound wall of religious sites			1	4	1	1		1	2	10
Conservation of local culture			1	1	1	1	1		1	6
Construction of Kirati museum									1	1
<b>Women, children and aged people</b>										
Old aged home	1	1	1		1					4
Construction of crematory			1		1		1	1		4
Skill training for women			1	1						2
<b>Organizational</b>										
Conservation of public land	1	1	1		1	1	1	1		7
Land development	1		1		1	1				4
Fire Engine purchase	1	1	1	1	1					5
Capacity development training	1			1					1	3
<b>Public Infrastructure</b>										
Bus park	1	1	1							3
Multipurpose community hall	1				1				1	3

Source: Community level consultation meetings (fieldwork, 2072).

Table above shows the community level demand frequency based on the community level (ward level) consultation meetings. Local people have focused for road construction and improvement in entire wards of the municipality.

#### 4.8 Regional Importance and Linkage Analysis of NT

Phidim has been established as a market center and district headquarter of Panchthar district and it has been providing its services to surrounding VDCs, settlements and small market centers. In the past, people residing in the surrounding VDC named Chokmagu, Siwa, Bharpa, Nagin, Ranitar etc. used to come to Phidim Bazar to buy daily consumer goods and household's amenities and sell their agriculture/domestic products in Phidim Bazar. After the construction of Mechi Highway, access and service provided by Phidim has been expanded its hinterland. Now, a number of public buses, jeeps, trucks, tractors and private vehicles run every day in Mechi Highway. As a result, Phidim has direct access to large cities of Eastern

Terail naimely; Birtamod, Damak, Itahari, Biratnagar and Dharan. Besides, People have begun to take their agriculture products to Indian market (Siliguri and Kolkota) as well.

Today, entire VDCs of Panchthar district are connected to Phidim Bazar either by graveled or earthen road. As an administrative and business center of the district, Phidim has been providing its services to entire VDCs of the district. Nowadays, people living in the southern part of Taplejung and eastern part of Tehrathum are also coming to Phidim for trade, shopping, health and educational services. This means, the hinterland of Phidim Bazar has extended beyond the surrounding VDCs and settlements. Thus Phidim has been established not only as district headquarters but also as a regional market, business hub and service center of eastern hilly districts.

Recently, with selection of New Town and a newly declared municipality, it has been getting new identification as a new town and given high priority from government has increased the role of Phidim Municipality in the regional context. After the completion of national pride Mid Hill Highway, the access and coverage of Phidim will be extended towards the districts (Tehrathum, Dhankutta, Sankhuwasabha, Bhojpur), VDCs, district headquarters (Myamlung, Dhankutta, Bhojpur) and market centers (Cyangthapu, Tharpu, Sangratibazar, Basantapur, Hile, Leguwaghat, Jarayotar) located along the Mid Hill highways. So, with extending road access and coverage, Phidim will increase its economic, social, administrative linkage broadly.

Construction of Mid Hill Highway will reduce the time and cost for the people living in the eastern hill area to reach Dhankutta, Bhojpur, Sankhuwasabha and Dharan. Now people are compelled to travel via Birtamod of Jhapa district to reach these places and districts. Therefore, Phidim would not be limited only as district headquarters and market center, it would be known as an entry point /transit city to travel eastern hill district in the coming years.

Locating at strategic and a nodal point of Mechi Highway and Mid Hill Highway, Phidim will play a role of regional business hub for the major market centers of eastern hilly districts such as Ilam, Dhankutta, Phungling, Myamlung, Sankrantibazar, Basantapur, Chainpur and so on. With its strategic location, major business activities of the eastern hilly market centers will be centralized in Phidim in coming days.

With increasing road and transportation access, investment from both government and private sector has been increasing rapidly and substantially. Likewise, with increasing social and physical infrastructure facilities, in-migration from surrounding VDCs, settlements and districts has been increasing gradually. People are coming to Phidim for higher education, treatment, business, employment and other urban opportunities. As a result, land and property has been expensive and rapid urbanization is observed in the recent years.

In the context of regional development, cash crops produced in Phidim can play vital role. Panchthar district has suitable climatic condition for tea, cardamom, ginger, potato, chayote (Iskush), tiger grass (amliso), orange, pear, lemon and many more vegetables. These cash

crops can be collected and refined in Phidim Bazar and can be exported to other parts of the country and abroad. If a modern collection center, cold store and refinery are established in Phidim bazar, these cash crops will get appropriate price and local farmers will be benefitted. As a result, Phidim will get economic advantage and more employment opportunities will be generated. Similarly, dairy farming and hydropower are other two sectors having huge potentiality for development.

As a new town, physical and social infrastructure will be developed in the coming years in Phidim. These new and improved physical, social and economic infrastructures will establish Phidim as a major hilly town in eastern hill and therefore definitely establish as regional city.

### **Inter-linkages of Phidim and other Towns/Settlements**

Every place has its own special inter linkages to other places situated in the vicinity. The inter linkage is determined by the size of settlement/town/city, population size and distribution pattern, distance from market centers, transportation/road access and physical infrastructure, available facilities, quality of goods and so on. Major types of inter linkage of Phidim New town to other surrounding settlements, market centers, VDCs, districts and large cities are discussed below:

- Economic Linkage
- Social, religious and cultural linkage
- Tourism Linkage
- Administrative Linkage and
- Community service provided by Phidim New Town

Most of the consumer goods, medicine, petroleum products, construction materials and other several types of merchandises are imported to Phidim from Birtamod Jhapa via North South Mechi Highway. Moreover, fruits, cash crops, timber, dairy products, medicinal herbs and turmeric produced in Phidim are exported to large cities of Tarai, Kathmandu and abroad. People from neighboring settlements and VDCs come to Phidim for buying goods, selling their households products and domestic animals. In this way, Phidim has two types economic linkages extended from surrounding areas to large cities of Terai and Kathmandu. After the completion of Mid-Hill Highway, economic linkage will further extended towards the districts, hilly towns and market centers situated along the Mid Hill Highway.

Eastern hilly districts are well known habitat of Limbu and Kirat community. Samhatlung temple located near Phidim Bazar is a religious center of Kirats. Kirati pilgrims are found throughout the year in this temple. Mostly, pilgrimages are observed during Falgunanda Jayanti, Chashok Tangnam, Makar Sangranti festivals. It is believed that ancient Kirati King had fought several years to enemy in this place. Hence, it is a holy place for Kirant community and still they go to this place before doing any important works. Labrekuti, Silauti, Hilihang Palace are other important tourist destinations popular for both Kirat pilgrims and other tourists. Thus, Phidim has religious and cultural linkage with Kirat People living in other parts/cities of the nation. If tourism infrastructures are developed in Phidim, it could be a good transit city for the tourists visiting Annapurna Conservation Area and

Pathibhara Temple. And tourism linkage of Phidim would be further expanded in the coming years.

As a district headquarters, Phidim has administrative linkage to entire VDCs of the district. People come to Phidim for new passport, citizenship card and other a number of administrative and legal work. People living in the surrounding VDCs and settlement come to Phidim for treatment, education, employment and other life improvement trainings and orientations. Inter linkage of Phidim to neighboring settlements and VDCs are further deepened by the coverage of local newspaper, cable television, radio/fm stations and local film hall. Above table shows the inter linkage and coverage of Phidim New Town. Different color denotes the different level inter linkage as local, regional, national and international linkage. Figure below shows the interlinkages of Phidim NT and other settlements/towns.

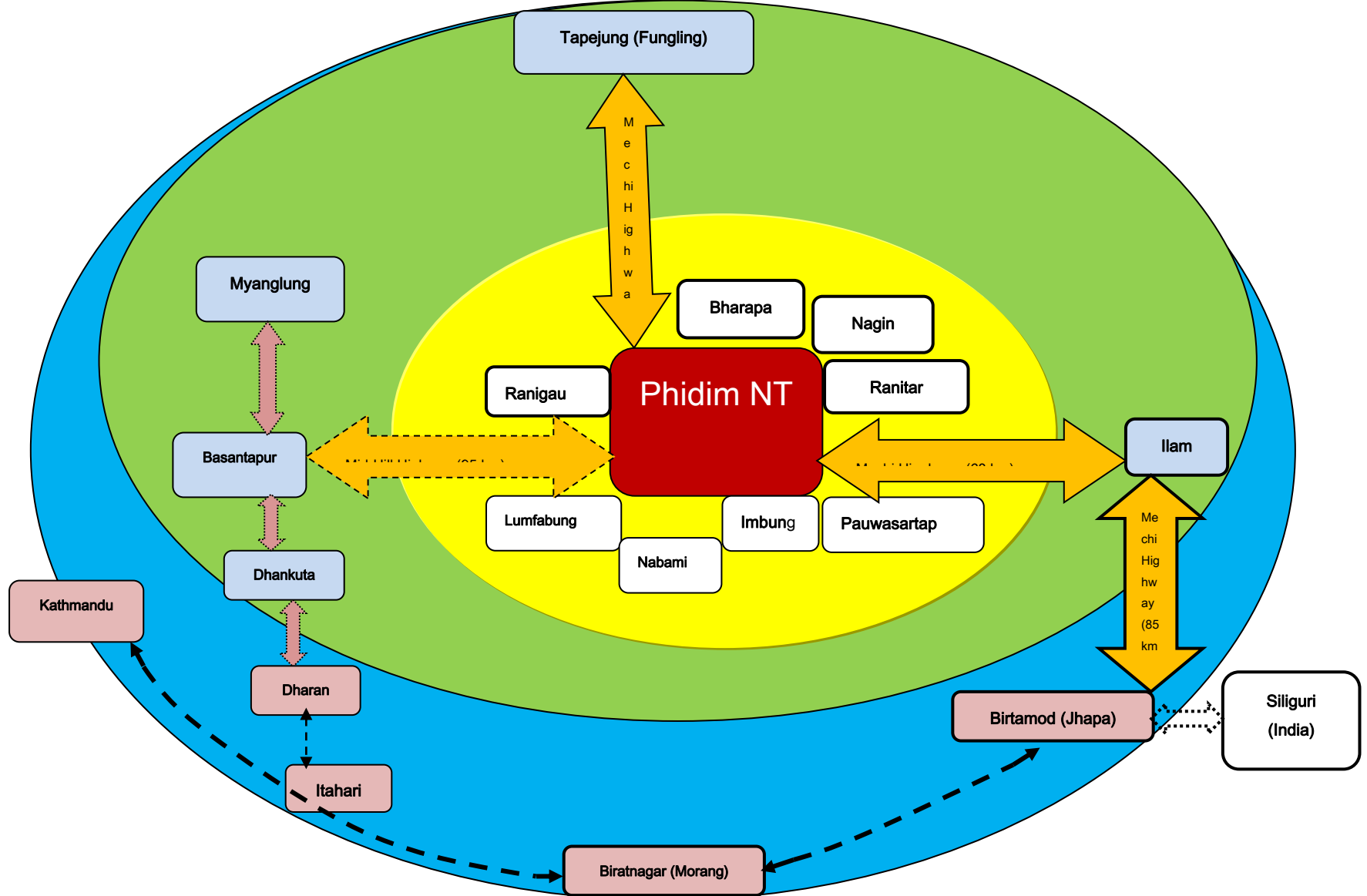


Figure 15: Inter-linkage of Phidim NT

# 5 VISIONING OF NEW TOWN

## 5.1 Vision of the New Town

Vision setting is a difficult task. But, there are some process and methods to make vision functionable. On the basis of standard process and methods, visioning of New Town Phidim had been worked out which has been described as follows;

### 5.1.1 Process of Preparing Vision

Vision is a statement for reaching desire future. It is an inspirational description of what the plan would like to achieve or accomplish in the long-term. It is intended to serve as a clear guide for choosing current and future courses of action and therefore, vision guides city planning to get its direction. So, vision statement can be the basis for sectoral plan formulation and implementation. It directs action plan to accomplish the intended objectives and goals.

While formulating vision of new towns Phidim, participatory meeting was organized. In such participatory meeting existing situation analysis was presented so that existing general scenario could be disseminated among the stakeholders. Stakeholders then grouped into different groups to prepare sectoral/thematic vision statement revealing to city development. All the groups discussed for preparing sectoral vision statement and presented their statement and then final vision statement was prepared based on the vision statement provided by the different groups. Thus, methods of setting vision of the new town was more participatory and scientific.

### 5.1.2 Vision Statement from Individual Group

Four groups were formed for preparing vision statement of the new town. Participatory brainstorming among the groups and creating individual group vision statement were the methods. All the groups provided their own vision statement as follows:

#### Group A

Group A provided vision statement focusing agriculture, tourism and infrastructure as leading sectors to Phidim as saying **“agriculture, tourism and infrastructure as the basis of development of Phidim”** which is read in Nepali as follows:

“कृषि, पर्यटन र पूर्वाधार: फिदिम विकासको आधार”

#### Group B

Group B provided vision statement focusing culture, beauty and tourism for Phidim as saying, **“cultured, beauty and tourism are the objectives and motives of Phidim Town”** which is read in Nepali as follows:

"सभ्य, सुन्दर पर्यटकीय शहर :फिदिम नगरको लक्ष्य र रहर"

### Group C

Group C provided vision statement focusing beauty, self-esteem and tourism as leading sectors to Phidim as saying **"beauty, self-esteem and prosperity of Phidim Town"** which is read in Nepali as follows:

"सुन्दर, समृद्ध, समुन्नत पर्यटकीय फिदिम नगर"

### Group D

Group D provided vision statement focusing agriculture, tourism and infrastructure as leading sectors of Phidim as saying **"agriculture, tourism and sustainable development are the basis of beauty, self-esteem and prosperity of Phidim Town"** which is read in Nepali as follows:

"सुन्दर, समृद्ध, समुन्नत फिदिम नगर: कृषि र पर्यटन दिगो विकासको आधार"

All the groups focused to agriculture, tourism, infrastructure directly and indirectly in their groups' vision statement. It was thus focused to include agriculture and tourism in the long-term vision for new town development of Phidim.

### New town vision

Vision of Phidim new town focuses on agriculture, tourism and infrastructure development which is stated as:

"कृषि, पर्यटन र भौतिक पूर्वाधार: समुन्नत फिदिमको मूल आधार"

The reading to the vision statement in English is **"the main basis of prosperous Phidim are agriculture, tourism and physical infrastructure"**. Vision of the town indicates that agriculture, tourism and infrastructure are the basis of prosperous Phidim, and therefore these sectors should be tied up to all sectoral development plan of Phidim. While preparing sectoral development plan, agriculture, tourism, and infrastructure should be tied up and linked for sustainable development catching up of the lead development sectors.

## 5.2 Mission

The mission is to develop Phidim as a new town as prosperous, sustainable and liveable city.

## 5.3 Goal

Prosperous, sustainable and livable Phidim is the goal through development of agriculture, tourism and physical infrastructure within Phidim Municipality/NT area.

## 5.4 Objective

The objective is to prepare integrated sectoral development plan with focussing strategic projects for new town which include the following objectives;

- a. To develop physical infrastructure in coordination with concerned stakeholders in the New Town;
- b. To promote tourism and cash crop farming, and develop tourism infrastructure in the city for economic development of the local people;
- c. To establish new town as equitable, viable and sustainable city providing basic social services and good governance to its people;
- d. To implement building bye-laws and planning norms within the city for safe and livable city;
- e. To prepare city level strategic plan for overall development of the new town to develop urban infrastructure.

## 5.5 Strategies

Urban development strategies will be based on the vision, mission, goal and specifically the objectives which are through pointed out below;

### Strategies relating to objective ‘a’

- i. Public private partnership will be established to develop physical infrastructure in the new town
- ii. Basic services such as drinking water, telephone, electricity and other social infrastructure will be developed in the new town
- iii. Land use plan and building bye-laws will be implemented mandatorily in the municipal area
- iv. Smooth and public friendly transportation system will be developed in the municipality

### Strategies relating to objective ‘b’

- i. Employment generating activities and business will be promoted in the town
- ii. Effective coordinate between stakeholders in the new town particularly (NT, Municipality and TDC) for budgeting and implementing will be established for the projects implementation
- iii. Tourism entrepreneurship and tourism activities will be promoted in the NT
- iv. Cash crop farming by identifying value added crops/farms will be given priority and subsidies will be provided to the farmers
- v. Safe environment to the private sectors for investing in trade, business and tourism activities will be created

### Strategies relating to objective ‘c’

- i. Service delivery and governance will be improved through effective mobilization of human resources in the new town
- ii. Coordination with the Municipality and TDC will be done for efficient and transparent governance
- iii. Social services for senior citizens, retired army personnel’s,

- iv. Construction of children park and sports infrastructure
- v. Inclusive policy in the development planning will be adopted so that marginal communities could have good access in social services and service delivery mechanism
- vi. Green area and open spaces provisions will be strictly followed in the new urban expansion area in construction and expansion of physical infrastructures

**Strategies relating to objective ‘d’**

- i. Awareness programs for earthquake resistance building construction and use of safe materials
- ii. Provide earthquake resistance building construction trainings to local masons
- iii. Building bye-laws will be adopted mandatorily in the construction of public and private structures
- iv. Provisions of building construction permit will be effectively implemented in the municipal area
- v. Provision of open space, green belt, public services will be effectively implemented particularly in the new urbanization areas
- vi. Provision of basic urban facilities (fire brigades, police stations et) will be established in the municipality level

**Strategies relating to objective ‘e’**

- i. Coordination with the stakeholders will be done to implement city level strategic projects
- ii. IDP will be the basis of implementing tourism master plan, DTMP, Municipal Transport Master Plan, Energy sector plan will be the basis for implementing the plans and programmes
- iii. Basic urban infrastructure will be developed and established in the municipality in the phase-wise basis
- iv. Participation of private sectors for urban infrastructure development

## **5.6 Guiding Principles**

Infrastructure development, and social development and good governance are the three main guiding principles adopted for plan implementation in the New Town. Other sub-principles relating to three main guiding principles are described below:

### **5.6.1 Infrastructure development and upgrading**

Infrastructure will be developed as per the demand and need basis. Road, sewerage, drainage, bus park, periodic market stalls, stadium, community buildings, convention centres, tourism infrastructure, public infrastructures will be constructed. Similarly, existing road network will be upgraded to make connectivity and access within entire municipal area. While investing infrastructure development, strategic projects and actual needs will be the governing for project selection and prioritization.

### **5.6.2 Social development**

Within social development education, health, sports will be the focus and priority will be given accordingly. Especial attention will be given to excluded and marginalized communities to improve their access to social services. Social inclusion, women participation, women empowerment, ageing management, social security, incentives are the basis for social development.

### **5.6.3 Improvement of urban environment and disaster management**

Phidim is newly emerging urban centre. Therefore, environmental management should be given priority from the beginning. Existing emerging environmental management issues such as solid waste management, drainage and sewerage management, waste collection and management will be given priority. Similarly, disaster risk management such as landslide, fire will be given priority. Earthquake risk mitigation will be considered by implementing building code and norms in the building structures.

### **5.6.4 Development through participation and coordination**

Participatory development planning will be adopted in close coordination with the concerned stakeholders. Public private partnership, coordination among the stakeholders, involvement of private sectors will be the basis of plan implementation. Effective coordination among municipality, TDC, NT and other district level line agencies will be the basis for development practice.

### **5.6.5 Good governance and transparency**

Transparent and public friendly policy will be adopted for good governance and transparency. Social auditing, public hearing, consultation meetings, project briefing will be done regularly among the stakeholders in the NT area. Improvement in service delivery mechanism within municipality, NT and TDC will be done to provide public service to its citizens. This will be done within the institutional development plan.

### **5.6.6 Focus to poor and marginal groups and inclusive development**

While formulating plans and implementing programmes, special focus will be given to poor and marginal communities. Similarly, principle of inclusive development will be adopted to bring poor and marginal communities in the main stream of development. Inclusive development will be the basis for bringing marginalized and needy people.

### **5.6.7 Conservation of religious and cultural significant heritages**

Religious and cultural significant heritages such as Falgunananda Conservation area (labrekuti), Silauti, Summhatlung temple, Shiavalaya temple as well as other temples will be given priority. These religious and cultural assets are the wealth of Phidim as tourism as well as cultural religious values.

### **5.6.8 Institutional development for effective coordination and evaluation**

Mechanism for effective coordination between and among the institutions such as municipality, TDC, NT and other line agencies will be established. Special attention will be given particularly for programme duplication, overlapping and institutional strengthening. Inter and intra institutional cooperation will be adopted in plans and programme implementation.

### **5.6.9 Decentralization and capacity development**

Decentralization and capacity development will be adopted to strengthen NT working capacity. NT office should be upgraded with additional human resources and office assets. More technical experts such as urban planner, civil engineer, GIS experts are needed and therefore existing organization capacity should be enhanced. Similarly, municipality and TDC will also be made resourceful and capable.

## **5.7 Integrated LFA Analysis for Long-term Plan**

Logical Framework Analysis is a management tool for effective planning and implementation of developmental projects. It provides clear, concise and systematic information about a project through a framework. Within logical framework analysis, various components of a project such as goal, objectives, activities, results and indicators are clearly explained in a result base framework. The LFA helps in connecting all these components in one framework, presenting the tight relationship between them, leading to the achievement of the expected outcomes. Thus, the Logical Framework Approach (LFA) is an analytical process and set of tools used to support objectives-oriented project planning and management. It provides a set of interlocking concepts which are used as part of an iterative process to aid structured and systematic analysis of a project. LFA helps to;

- Analyze an existing situation, including the identification of stakeholders' needs and the definition of related objectives;
- Establish a causal link between inputs, activities, results, purpose and overall objective;
- Define the assumptions on which the project logic builds;
- Identify the potential risks for achieving objectives and purpose;
- Establish a system for monitoring and evaluating project performance;

To present all indicators and its desired output in an integrated logical framework approach, Integrated LFA has been prepared. Its main objective is to present major indicators, baseline and desired direction of planning for New Town. Integrated long-term LFA is presented as follows;

**Table 8: Integrated Long Term LFA**

Description	Indicators						Means of verification	Assumption
	Unit	Baseline	Target (in 20 years)	Measuring indicator	Location	Target Groups		
<b>Goal:</b> Improve life and livelihood of the people of Phidim NT through development of agriculture, tourism and infrastructure	Percent	24.5	10	Poverty Line	Phidim Municipality	All marginalized, excluded community groups (area)	➤ Municipal profile ➤ NT profile and Report ➤ NTPCO Report ➤ DDC Profile	➤ Sufficient allocation of development budget ➤ Planned development ➤ Coordination of Municipality, TDC and NTPO
	Percent	25.5	15	Human poverty Index	Phidim Municipality	Focused Group	➤ Municipal profile ➤ NT profile and Report ➤ NTPCO Report ➤ DDC Profile	
	Percent	750	1200	Per capita income	Phidim Municipality	All community	➤ Municipal report profile	
	Percent	70	80	Life expectancy	Phidim Municipality	All people	➤ Human Development Report ➤ Municipal Profile	
	hector		50	Green space	Phidim Municipality	All people	➤ Municipal Profile	
	Number		2	Senior citizen home	Phidim Municipality	Senor and old aged people	➤ Municipal Profile	
	RS	75	100	Drinking water	NT Area	All people	➤ Human Development Report ➤ Municipal Profile	
	Year	80	100	Primary school enrollment rate	Phidim Municipality	Children of age 6 and above	➤ Human Development Report ➤ Municipal Profile ➤ NT level survey report	
	Metric Ton per year	222	2222	Fruit production (Citrus fruit)	Phidim Municipality	Farmers	➤ New Town profile ➤ Report of Drinking water supply	
	number	-	20000	Tourism sector employment	Phidim Municipality	All people	➤ Human Development Report ➤ Municipal Profile ➤ Educational Flash Report	
	Status	Not available	Will be functioned	Sewerage treatment plan	Phidim Municipality	All inhabitants of Municipalit	➤ Municipal profile	

	Status	Not in practice	Will be functioned	Solid waste management	Phidim Municipality	All inhabitants of Municipality	➤ Municipal profile	
	Number	-	5	Public toilet	Phidim Municipality	Local inhabitants and visitors	➤ Municipal profile	
<b>Objectives:</b> 1) Agricultural improvement and increase in cash crop farming	Metric Ton per year	-	500	Vegetable Production	Phidim Municipality	Farmers	➤ Municipal profile ➤ NT profile and Report ➤ NTPCO Report ➤ DDC Profile ➤ DDC agricultural statics	➤ Sufficient allocation of budget ➤ Farmers are interested to participate ➤ Favorable Environment to invest private sector ➤ Security and provision of subsidies
	Hectare	2000	4000	Area of Cash Crop Farming	Phidim Municipality	Farmers		
	KG			Cardamom production	Phidim Municipality	All interested farmers		
	Metric Ton			Ginger Production	Phidim Municipality	All interested farmers		
	hectare			Amriso Production	Phidim Municipality	All interested farmers		
	MT	6000	10000	Agriculture Production (Paddy, maize, wheat, millet, buckwheat)	Phidim Municipality	All interested farmers	DADO Profile	
2) improvement of tourism activities and increase in tourist arrival in Phidim	no	2000	100000	Annual Tourist arrival	Phidim Municipality	National and International Tourist	➤ Municipal profile ➤ NT profile and Report ➤ NTPCO Report ➤ DDC Profile ➤ Fieldwork and evaluation	➤ Sufficient allocation of budget ➤ Peace and security ➤ Tourism campaign and promotion
	no	-	3	Tourism information centre	Phidim Municipality	All tourist		
	no	-	200	Trekkers/Guide	Phidim Municipality	Local interested trekkers		
	no	2	10	Standard Hotels	Phidim Municipality			
3) Increase and improve infrastructure development in NT	Percent	60	90	15 minute travelling distance	Phidim Municipality	Municipal Residence	➤ Municipal profile ➤ NT profile and Report ➤ NTPCO Report ➤ DDC Profile	➤ Implementation of PPP model in infrastructure development
	km	58	250	Road Black topped	Phidim Municipality	Municipal Residence		

area	km	-	150	Road widening	Phidim Municipality	Municipal Residence	➤ Fieldwork and evaluation	➤ Sufficient Budget allocation
	percent	75	100	Accessibility of community facilities	Phidim Municipality	Municipal Residence		
	percent	80	100	Safe drinking water facilities	Phidim Municipality	Municipal Residence		
4) Improve education condition of Phidim municipality	percent	97	100	Literacy Rate	Phidim Municipality	Municipal Residence	➤ Municipal Profile ➤ Flash Report ➤ NT Profile	➤ Commitment of District Education Office ➤ Private Involvement
	no	7	15	Higher College (+2)	Phidim Municipality	Municipal Residence		
	no	-	15	Improvement in school infrastructure	Phidim Municipality	Municipal Residence		
5) Improve of health condition of Phidim Municipality	no	-	2	Hospitals	Phidim Municipality	Municipal Residence	➤ Municipal Profile ➤ NT Profile ➤ Field work	➤ Involvement of private sectors ➤ Budget allocation
	no	3	11	Health centre	Phidim Municipality	Municipal Residence		
	No per 1000	25	15	Child mortality rate	Phidim Municipality	Municipal Residence		
6) improve and increase of access and facilities to women, marginal groups and scheduled caste ethnic groups of Phidim	Percent	20	10	Malnutrition below 5 years of age	Phidim Municipality	Municipal Residence	➤ Municipal profile ➤ NT profile ➤ District health report	➤ Gender balance policy ➤ Coordination by the male ember in the society ➤ Public awareness
	Indicators	0.641	0.50	Human development	Phidim Municipality	Municipal Residence		
	percent	15	0	Poor among scheduled caste groups	Phidim Municipality	Municipal Residence		
7) Increase of income level through industrial and commercial activities	Employment	10000	25000	People indirectly benefitted by industrial sectors	Phidim Municipality	Municipal Residence	➤ Municipal profile ➤ NT profile ➤ Report of industrial and commerce	➤ Active Involvement of private sectors ➤ Peace and security for investment
	no	2000(estimated)	10000	People involved in tourism	Phidim Municipality	People interested in tourism		
	no	40	120	Medium and large scale industries	Phidim Municipality	Municipal Residence		
8) Proper management of forest and community forest	hectare	2800	3500	Community forest	Phidim Municipality	Forest users group	➤ Report of DFO ➤ Municipal Profile ➤ Evaluation and study	➤ Coordination between community forest user
	no	500	650	Community forest user groups	Phidim Municipality	Forest users group		

for landslide risk reduction and sustainable development	Families	50	0	Landslide affected	Phidim Municipality	Vulnerable area		groups
	hectare	1200	0	Forest firing	Phidim Municipality	Vulnerable area		
9) decrease the loss of life and property through Disaster risk	Status	no	mandatory	Implementation of building code	Phidim Municipality	Municipal Residence	<ul style="list-style-type: none"> <li>➤ Municipal Profile</li> <li>➤ District disaster report</li> <li>➤ Evaluation and study</li> </ul>	<ul style="list-style-type: none"> <li>➤ Coordination between public and private sector</li> <li>➤ Municipal active role in implementation of building code</li> </ul>
	Status	no	yes	Implementation of risk sensitive land use plan	Phidim Municipality	Vulnerable area		
	percent	10	80	Conscious on building construction for earthquake risk reduction	Phidim Municipality	Municipal Residence		
10) increase the capacity of Municipality, TDC and NT for service delivery	no	-	7	Trained manpower	Phidim Municipality	Municipal Residence	<ul style="list-style-type: none"> <li>➤ Municipal performance</li> <li>➤ Municipal profile</li> <li>➤ MCPM Report</li> <li>➤ Study and evaluation</li> </ul>	<ul style="list-style-type: none"> <li>➤ Training and capacity development</li> <li>➤ Coordination and interaction</li> </ul>
	no	2	5	Deployed high skilled manpower	NTP	Municipal Residence		
	no	-	3	Deployed high skilled manpower	TDC	Municipal Residence		
	Status	-	yes	Coordination between line agencies	Phidim municipality	All stakeholders		

# 6 SECTORAL DEVELOPMENT PLANS

## 6.1 Introduction

This chapter presents sectoral development plan of Phidim New Town. While presenting the sectoral plans, sectoral problems and sectoral key issues are presented first, and based on the existing situation sectoral strategic plans and programmes are presented in LFA framework. The logical framework or a log frame is a tool for planning and managing development projects. By presenting development plans in the logical framework, it helps to know what the project is going to achieve, what activities will be carried out to achieve its outputs and purpose, what resources (inputs) are required, what are the potential problems which could affect the success of the project, and how the progress and ultimate success of the project will be measured and verified. Therefore, LFA will be the basis for plan formulation, implementation, regulating and monitoring for future. At the end of this chapter, strategic projects are also presented to focus in the priority basis while implementing the projects.

### 6.1.1 Planning Process

Planning is a continuous, time-oriented, cyclic process and, therefore, spatial development planning shall be seen and practiced as a process where planning, implementation, monitoring, review and plan updating go on as a dynamic process. In this process, the decision to prepare a plan is outside the cycle of planning process. Following diagram portrays the general process of planning.

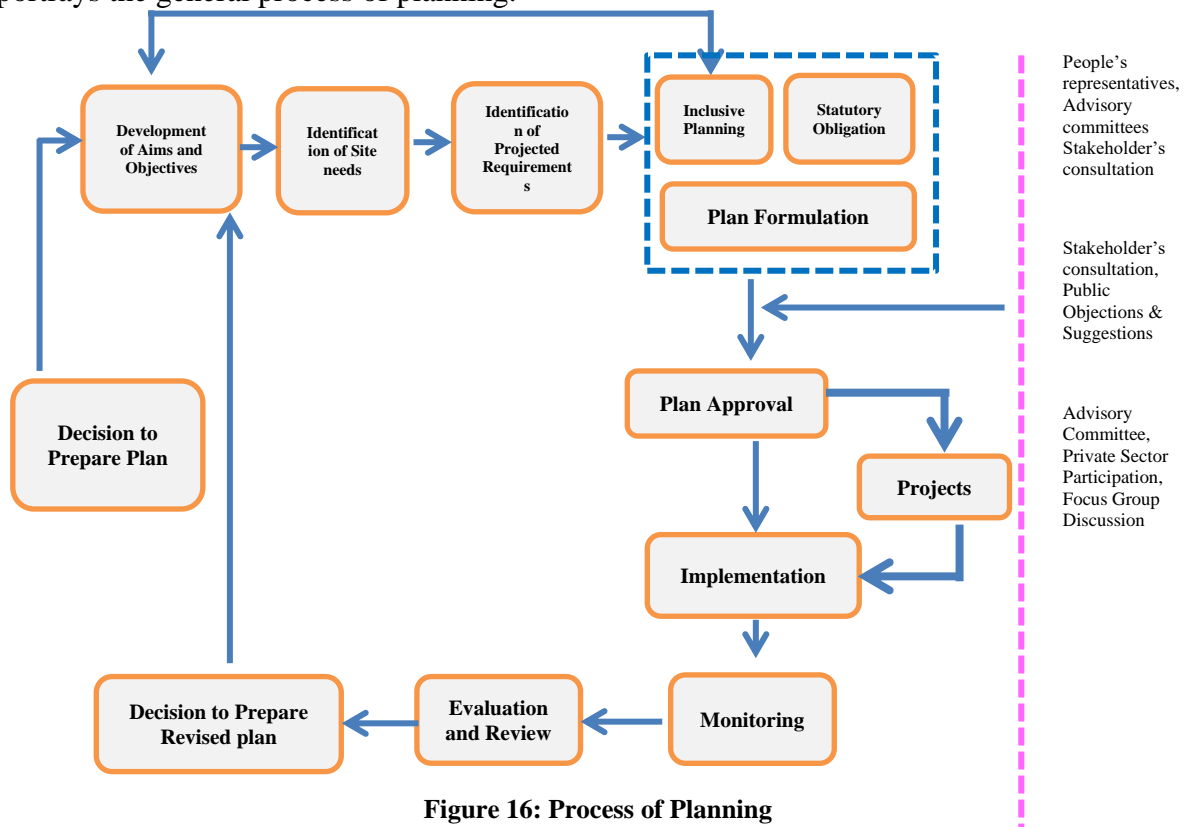


Figure 16: Process of Planning

Source: Adapted from Integrated Development Plan, New Delhi, 2015

Following are the stages of planning process:

- Selection of Aims and Objectives,
- Identification of site needs,
- Identification of projected needs,
- Plan formulation,
- Inclusive planning,
- Statutory obligations,
- Decentralization of plan approval process,
- People's participation,
- Plan modification,
- Review and revision of plans

## 6.2 Physical Development Plan

### 6.2.1 Concept

Physical planning also described as 'Land use planning', 'Town and country planning', 'Urban and Regional planning' or simply 'Town Planning' relates generally to the use of land or the spatial expression of the desired form of social and economic development to be translated on the ground. Physical planning is a comprehensive and system related process through which plans and policies are evolved for enhancing the quality of our environment and the lives of the inhabitants. Furthermore, 'Physical Planning' being focused on the concern with the design, growth and management of the physical environment in accordance with predetermined, and agreed policies, where balanced social and economic objectives may be achieved. Physical development plan thus focus on the following component;

- Physical planning provides a planned spatial framework of development for the physical environment within which a balanced programme of social and economic development can be carried out. It provides a master plan on which other sectoral plan can be postulated.
- It provides the legislation necessary for the planning, controlling and implementation of the physical development process, and
- It is done to ensure the establishment of centralized infrastructure with overall responsibility for planning, evaluation, co-ordination, administration and implementation of a comprehensive development programme.

Physical planning in this context is the planning of buildings, parks and gardens, roads, basic social infrastructures and other physical things which basically guide overall development of a town. It is the art and science of controlling the use of land, the character and arrangement of building so as to achieve economy, convenience and beauty. Physical planning is synonymous with 'Development Planning' which means any development, which when embarked upon or executed by either private or public developer brings about development. While development plan in physical term is the policy document prepared to guide physical development decisions and solve some planning problems in the built environment.

### 6.2.2 Delineation of NT Area

Phidim is declared as a municipality merging with three VDCs namely Phidim, Chokmagu and Siwa. The municipality possesses very rural characteristics with more concentration of urban area in ward no 2, 3 and 4 of the existing Phidim VDC. It means very limited area possesses urban character having dense settlement with urban function.

It is also noted that the feasibility study of Phidim NT (feasibility study report, 2068) reveals Phidim VDC as new town (NT) area (boundary). Therefore, detail planning area for this IDP is considered existing Phidim VDC (ward no 1, 2, 3, 4 and 5 of present municipality) areas as new town.

But, being municipal as an administrative area, strategic plans and programmes have been prepared considering the entire municipal area of Phidim. The main purpose for this is to cover entire municipal area for planning and development.

### 6.2.3 Present Status

At present, Phidim new town possesses some basic level of physical infrastructures but it demands more improvement and upgrading in it. It is progressing in road connectivity, expansion and upgrading, drinking water supply but poor condition of drainage, sewerage, dumping sites, public and community infrastructures within the municipal area. Summary of the present physical infrastructures are shown in the following table;

**Table 9: Present Physical Condition of Phidim**

Physical Infrastructures	Status	Remarks
<b>Road</b>		
a) Black Topped (km)	55	
b) Gravel (km)	4	
c) Earthen (km)	120	
<b>Drinking water supply (piped water)</b>		
a) Households (no)	4477	
b) Coverage (%)	76	
<b>Drainage and Sewerage</b>		
a) Drain Coverage(km)	2	Drain along the highway
b) Types of drain (open or closed)	mixed	
c) Sewerage coverage	no	
<b>Electricity</b>		
a) Coverage (%)	72.45	
b) Households (no)	4254	
c) Road light (coverage )	no	
<b>Public/Community Infrastructures</b>		
a) Community hall (no)	no	

b) buss park	1 (under construction)	
c) parks (no)	no	
d) Hospitals (no)	2	
e) Colleges- Multiple College (no)	1	
f) Public toilets (no)	no	
g) Library (no)	4	
h) Stadium/playground (no)	1	
i) temples/monastery/church (no)	10	
j) petrol pump (no)	1	
<b>Open Spaces and Greenery</b>		
a) Open Space(Sq km)		
b) Green Area -including forest (Sq km)		
c) Parks (No)	2 (proposed)	
<b>Housing Condition (construction types)</b>		
a) Mud Bonded bricks/stone HH (%)	68.1	
b) Cement bonded bricks/stone HH (%)	16.3	
c) RCC with Pillar HH (%)	4.6	
d) Wooden Pillar HH (%)	9.7	
<b>Housing Condition (Roofing types)</b>		
a) Thatch/straw HH (%)	24.1	
b) Galvanized Iron HH (%)	61.9	
c) Tile/Slate HH (%)	0.6	
d) RCC HH (%)	11.4	
e) Wood/planks HH (%)	0.3	
Irrigation (Irrigation facilities among the cultivable land) %	29.3	
Area suitable for urban development (ha)	145	

Source: Fieldwork, 2016

#### 6.2.4 Problems

Problems related to physical development plan are categorically listed below so that sector plans could be identified and presented in the LFA format. Problems relating to physical development plan are as follows;

1. Most of the road networks are poor condition (earthen, narrow, seasonal)
2. Lack of sewerage and drainage networks (except side drain of Highway)
3. Lack of solid waste management (no sanitary landfill site, waste management mechanism)
4. Lack of plan documents for guiding physical planning
5. No proper land use plan in practice
6. No implementation of building code
7. Poor coordination between major stakeholders (Municipality, TDC and NT)

8. Encroachment of Right of Way
9. Lack of community infrastructures
10. Limited coverage of drinking water supply (main Bazar Area)

### 6.2.5 Proposed Land Use Plan

Proposed Land Use plan of Phidim NT which is also known as a general future guiding land use plan designed to guide the future actions of a community to direct development plan. It presents a spatial vision for the future, with long-range goals and objectives for all activities that affect the local government. This includes guidance on how to make decisions on public and private land development proposal. It is fundamental basis of development direction of future with planned city development.

While proposing land use plan of Phidim, entire municipal areas land use plan is proposed according to which agricultural land occupies 13 %, forest occupies 50%, built-up area occupies 10%, bush land occupies 13.%, sandy areas 0.45%, others including road, river, water body cliffs etc occupy 5.% of the total land. Broadly, proposed land use classification of the town is presented in the table 10 and details of land use classification in presented in Base map report (vol. iii).

**Table 10: Proposed Land Use of Phidim**

Landuse Category	Area (Sq. Km)	Percentage
Agricultural Land	13.2	19.97
Barren Land	0.25	0.38
Built-up Area	6.65	10.06
Bush Land	8.5	12.86
Forest Cover	33.65	50.91
Sandy Area	0.3	0.45
Others (Road, rivers, pond etc)	3.55	5.37
<b>Total</b>	<b>66.10</b>	<b>100</b>

*Source: Calculated and Proposed Based on Base Map*

The proposed land use map of entire Phidim Municipality is shown in the annex 5.

### 6.2.6 Land Suitability Analysis for Land Use Zoning

National Land Use Policy 2069 has categorized the land use/zone in its policy paper broadly as six major types of land use. They are i) agriculture, b) residential, c) industrial, d) forest, e) public, f) others. However, there are many other sub-classes within a broad class of land use zoning practice in the urban planning context. To make scientific land use zoning of various towns and market centre study, land suitability analysis is essential.

Land suitability refers to the ability of a particular type of land to support a specific use. The process of land suitability classification involves; evaluation and grouping of particular land areas based on their suitability for a defined use. Land use suitability analysis aims at

identifying the most appropriate spatial pattern for future land uses according to specific requirements, preferences, or predictors of some activity.

Applications of suitability analysis can be found in many fields, such as site selection for cropland, agriculture suitability, graze suitability, forestry suitability (natural resource management field), flooding control, sustainable development (environment field), suitability for urban expansion, site selection for specific land use etcetera. Land suitability can be used in planning process to finalize most appropriate land for particular land use or activity. Land suitability analysis for land using zoning as shown in the following table;

**Table 11: Land Suitability analysis for Land use zoning**

Factors	Indicators
Future urban development	<ul style="list-style-type: none"> <li>➤ Existing land use/cover</li> <li>➤ Economic activities</li> <li>➤ Accessibility</li> <li>➤ Proximity of major road</li> <li>➤ Historical and cultural value</li> <li>➤ Settlement pattern</li> </ul>
Physical Features	<ul style="list-style-type: none"> <li>➤ Topography</li> <li>➤ Slope</li> <li>➤ Watershed and system</li> <li>➤ Elevation</li> <li>➤ Agro-climatic zone</li> <li>➤ Landscape heterogeneity</li> </ul>
Sustainability	<ul style="list-style-type: none"> <li>➤ Hazard prone area</li> <li>➤ Eco-sensitive zone</li> <li>➤ Ecological relation</li> <li>➤ Coastal/River bank regulation area</li> </ul>
Environment	<ul style="list-style-type: none"> <li>➤ Barren land</li> <li>➤ Forest cover</li> <li>➤ Pollution</li> <li>➤ Landscape quality</li> </ul>
Compatibility	<ul style="list-style-type: none"> <li>➤ Compatibility with existing land use</li> <li>➤ Distance from residence</li> <li>➤ Distance from industry</li> <li>➤ Distance from forest</li> <li>➤ Distance from environmental friendly industry</li> <li>➤ Distance from environmental sensitive area</li> <li>➤ Distance from nearest major roads</li> <li>➤ Distance from infrastructure facilities</li> </ul>

### 6.2.7 Land Use Zoning

**Developable Zone:** The areas under existing development and those earmarked for future development is termed as ‘U Zone’. This zone is envisaged at three levels U-1, U-2 and U-3.

- ‘U-1’ Existing Urban/built-up Zone.
- ‘U-2’ Potential for Urban expansion Zone
- ‘U-3’ New Area Zone

**Industrial Zone:** The areas earmarked for industrial use – service and light industry, extensive and heavy industry, special industrial zone or development of SIR, IT zones etc. is termed as ‘I Zone’.

**Transport and Communication Zone:** The areas earmarked for the transport and communication use shall be termed as ‘T Zone’.

**Primary Activity Zone:** The areas earmarked for primary activity use shall be termed as ‘PA Zone’. This zone can be sub divided into Agriculture, Forest, Poultry and dairy farming, Brick kiln and extractive areas etc.

**Open Area Zone:** The areas earmarked for leaving open shall be termed as ‘O Zone’. This zone can be subdivided into Recreation Area, Peri Urban Area.

**Special Area Zone:** In addition to the above listed zones, zones can also be specified keeping in view the special characteristic of such areas/pockets. Such areas shall be termed as ‘S Zone’. This zone may comprise of old built-up areas with architectural or historical importance : S-1, areas of scenic value: S-2 which need to be preserved without spoiling the character by putting up various kinds of structures, the area restricted for development by Government: S-3, or it may be area under other uses/ spot zones: S-4.

Land use zoning is the legal basis for all land use regulation is the police power of the city to protect the public health, safety, and welfare of its residents. The principle of land use zoning lies that the values it represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well balanced as well as carefully patrolled. Justice Douglas, *Berman v. Parker* (1954)

Phidim Municipality reveals very hilly characteristics of their landscape. It extends 500-2700 m (elevation map of is annex 5).

Land use zoning has been prepared based on existing land use and trend of existing development activities seen and observed in the satellite image and further verified by the fieldwork. Then formal/informal discussion at the town level stakeholders was done to prepare land use zoning for different land use pattern. To prepare land use zoning map, core urban and rural area first identified and classified.

While classifying the land use zone, broad categories such as cultivation, forest, grassland, shrub land barren land, built-up, institutional, water body, sand and gravel etc have been done. Land use further sub-classified forest dense forest, grass, shrubs, scattered tree; water body as river, lakes, ponds, barren land, rock, sand, cliff etc. Similarly, while sub-classifying to the built-up area it is further classified as residential, commercial, industrial etc. Existing land use zoning map of entire municipal is prepared in the ArcGIS 10.1 environment which is submitted in GIS based base map (vol. ii) and the proposed land use zoning map of delineated NT area is presented in the annex 5.

While proposing land use zone, following specific land use zone has been proposed;

- Residential zone
- Residential cum commercial Zone
- Developing zone (expanding zone)
- Institutional zone
- Industrial zone
- Green zone
- Conservation zone
- Risk Sensitive Zone

### 6.2.8 Road Hierarchy and Classification

A road hierarchy is a means of defining each roadway in terms of its function such that appropriate objectives for that roadway can be set and appropriate design criteria can be implemented. These objectives and design criteria are aimed at achieving an efficient road system whereby conflicts between the roadway and the adjacent land use are minimized and the appropriate level of interaction between the roadway and land use is permitted. The road hierarchy can then form the basis of ongoing planning and system management aimed at reducing the mixing of incompatible functions.

Within the two broad groups of roads and streets, the functions of roadways vary in how land use is served. This has necessitated the identification of four functional categories as level 2 of the hierarchy framework. This level of the hierarchy framework corresponds most closely to the traditional, widely used single level road hierarchy frameworks. The four functional categories in level 2 of the hierarchy are defined as:-

- Arterial roads – to carry long distance through traffic external to specific areas;
- Sub-arterial roads – to carry through traffic between specific areas and arterial roads on a supporting role to the latter;
- Collector streets – to provide connectivity between the environmental cells and the traffic carrying road and serve property access; and
- Local streets – to provide direct property access.

Road hierarchy of Phidim can be classified into highway, arterial road, connect road, feeder road, access road and other roads. Proposed right of way of different municipal roads are briefly mentioned in Building Byelaws Volume of this Study (Vol III). Following table shows the present road condition of Phidim Municipality:

**Table 12: Road Condition and Width of Phidim**

S. No	Existing Road Width (m)	Total Length (km)	Proposed Road Width (m)
1	3.80	12.43	6
2	4.00	31.35	6
3	4.50	35.10	8
4	5.00	5.24	8
5	5.50	1.19	8

6	6.00	6.45	8
7	11.00	2.23	15
8	30.00	45.74	30
	<b>Total</b>	<b>139.75</b>	

Source: GIS Based Base Map, MTMP, Phidim Municipality, 2072

The existing road condition of Phidim Municipality seems narrower than that of conceptualize by urban planning norms and building bye-laws of MoFALD and DUDBC. It is therefore, road width of the municipality is proposed based on the present government norms, bye-laws prepared by MoFALD and local needs. The proposed road hierarchy map of the municipality is presented in annex 5.

### 6.2.9 Building Bye-laws

The government has introduced new urban planning and building construction bylaws, outlawing among other things, row housing (houses attached side-by-side) taller than three storeys and making it mandatory for houses to be at least one and a half metres apart. The standards prepared by the Ministry of Urban Development comes six months after the country was hit by a devastating earthquake causing huge damage of lives and properties, including the damage of buildings built without following basic building safety code. The new bylaws state that buildings up to 10 m high have to leave a minimum of 1.5 m setback from the border of the land plot. Only houses up to three storeys and having a common height can be joined together.

Public buildings up to 17 m high have to leave a minimum setback of 3 m while non-public buildings have to allocate for 2 m setback. The minimum setback for even taller buildings is 5 m.

As per the bylaws, roads in new settlements have to be at least 8 m wide for being eligible to construct buildings while the bylaws envisions house pooling for existing dense settlements. Regarding right of way, homeowners have to leave a minimum of 3 m from the centre of the road connecting the house to account for possible expansion. Residential buildings cannot cover more than 70 percent of land for plots up to 250 square metres and the ceiling is fixed at 60 percent for larger plots.

Another major change is that outer pillars of a building or isolated column footing should be built at least 1 m within the boundary of the plot. The guideline also states that fences around a house should not be taller than 1.2 m but installing safety nets up to 0.6 m high on top is allowed. The guideline also makes soil testing and seismic analysis mandatory for constructing all public buildings and private houses taller than three storeys.

The Fundamental Construction Bylaws on Settlement Development, Urban Planning and Building Construction 2015 has also provisioned for the formation of a Central Urban Planning and Building Construction Bylaws Improvement and Supervision Committee for facilitating the implementation of the new building code. Secretary of MoUD will coordinate

the committee and it will have joint-secretaries of other ministries and director generals of survey, archaeology and geology departments as members.’

Meanwhile, the government has made it mandatory for local authorities to prepare and implement risk sensitive land use map to strengthen the disaster mitigation measures in future. Under the land use planning implementation system mentioned under the newly formulated fundamental construction by-laws, the central government has asked the local bodies to identify risk sensitive areas within their premises and prevent unauthorized building construction or infrastructure development activities in risk-prone areas.

To prepare building bye-laws of the NTs, following determinants have been identified;

- **Land use zoning (classification)**
  - Residential zone
  - Residential cum commercial Zone
  - Developing zone
  - Institutional zone
  - Industrial zone
  - Green zone
  - Conservation zone
  - Risk Sensitive Zone
- **Right of way**
- **Open Space**
- **FAR**
- **Building Line**
- **Building Setback**
- **Frontage**
- **Height of Building**
- **High Rise Building or Multi-storey Buildings**
- **Petrol Pump**
- **Cinema Hall/Theater/community Hall**
- **Apartment and Group Housing**
- **River**

While looking through the eye of building bye-laws of Phidim municipality, it was observed that highway passing through the Phidim bazaar area has no clear RoW. 30 percent of the houses build along the highway at Phidim bazaar area are within the ROW of Highway. Similarly, some other houses within the municipal area have also found within ROW and many more houses within the municipality are not compliance of bye-laws.

While conducting meetings with the stakeholders and town (municipal) political representatives, they are positive regarding implementation of ROW and building bye-laws in the municipal area. To make building bye-laws, implementable and taking ownership by the local people, coordinator of each sub-committees were given task for locating the infrastructures and determining fundamentals of building bye-laws.

Within this background, the building bye-laws of Phidim has been prepared in Nepali language and presented in separate volume iv. It is expected that building bye-laws of the new town is strictly implemented for safer city. Building bye-laws not only regulate city but it provides basis for sustainable and livable city.

#### **6.2.10 Logical Framework Analysis**

Logical Framework Analysis is a management tool for effective planning and implementation of developmental projects. It provides clear, concise and systematic information about a project through a framework. Within logical framework analysis, various components of a project such as goal, objectives, activities, results and indicators are clearly explained in a result base framework. The LFA helps in connecting all these components in one framework, presenting the tight relationship between them, leading to the achievement of the expected outcomes.

Thus, the Logical Framework Approach (LFA) is an analytical process and set of tools used to support objectives-oriented project planning and management. It provides a set of interlocking concepts which are used as part of an iterative process to aid structured and systematic analysis of a project. LFA helps to;

- Analyse an existing situation, including the identification of stakeholders' needs and the definition of related objectives;
- Establish a causal link between inputs, activities, results, purpose and overall objective;
- Define the assumptions on which the project logic builds;
- Identify the potential risks for achieving objectives and purpose;
- Establish a system for monitoring and evaluating project performance;

Table 13: LFA of Road and Transport

Road and Transport	Indicators						Means of Verification	Major Assumptions
	Unit	Present Condition	Five Years Target (2077/78)	Measuring Indicators	Location	Target Groups		
<p><b>Goal:</b></p> <p><b>1.1:</b> Construction and development of basic physical infrastructure for comfortable and easy life</p> <p><b>Objectives</b></p> <p><b>1.1.1:</b> Construction of motorable road to each settlements of New Town</p> <p><b>1.1.2:</b> Application of Landuse plan for infrastructure development</p> <p><b>1.1.3:</b> Disable and child friend infrastructure</p> <p><b>1.1.4:</b> Environment friendly infrastructure</p>	Km	51.5	100	Black topped Road	Phidim NT	Inhabitants of Phidim NT	<ul style="list-style-type: none"> <li>▪ Municipal profile</li> <li>▪ NTPO reports</li> <li>▪ District profile</li> <li>▪ Economic survey</li> <li>▪ Evaluation report of infrastructure sector</li> <li>▪ Monitoring and supervision report of urban infrastructure</li> <li>▪ Traffic survey</li> </ul>	<ul style="list-style-type: none"> <li>▪ Allocation of budget</li> <li>▪ Public private partnership in infrastructure development</li> <li>▪ Good coordination among the stakeholders</li> <li>▪ Continue support from government of Nepal and donor agencies</li> </ul>
	Km	4	50	Graveled Road	Phidim NT	Inhabitants of Phidim NT		
	Km	85	100	Earthen Road	Phidim NT	Inhabitants of Phidim NT		
	Km	-	25	Road Upgrading	Phidim NT	Inhabitants of Phidim NT		
	Km	-	25	Construction of new road	Phidim NT	Inhabitants of Phidim NT		
	Km	-	4	Construction of footpath	Core city area	Local inhabitants and visitors		
	Percentage		80%	Implementation of municipal road master plan	Phidim NT	Inhabitants of Phidim NT		
	Status		Implemented	Landuse plan	Phidim NT	Inhabitants of Phidim NT		
	Percentage		Improved	Target group road access	Phidim NT	Inhabitants of Phidim NT		
	Number		Will be applied to all new public construction	Disable friendly infrastructure development	Phidim NT	Inhabitants of Phidim NT		

	Implementat ion		Building code will be implemented in Phidim area	Building bylaws	Phidim NT	Inhabitants of Phidim NT		
<b>Outcomes:</b>								
<ul style="list-style-type: none"> <li>▪ All settlement of New town will be connected by graveled road</li> <li>▪ Progressive implementation of municipal road master plan</li> <li>▪ Easy accessibility around the NT through improved road network</li> <li>▪ Upgrading of blacktopped, graveled and existing earthen road</li> <li>▪ Blacktopped road will be 100 Km</li> <li>▪ Additional 50 .km road will be upgraded</li> <li>▪ 25 new road will be constructed</li> <li>▪ Land use plan will be implemented in major market centers and town areas</li> <li>▪ Building code will be implemented in major settlements and town areas</li> <li>▪ Bio-engineering technology will be applied in road construction</li> <li>▪ Mandatory afforestation policy along the road side will be implemented</li> <li>▪ Public transportation will be available in the town</li> <li>▪ Public friendly local transportation will be available in the town</li> </ul>								
<b>Activities/Programs:</b>								
Upgrading of Ring road (75 km) Construction of new road (25 km) Additional blacktopped road (50 km) Upgrading of other roads (25 km) Preparation and implementation of land use plan Implementation of building code in the municipal area Implementation of Mandatory bio-engineering system in road construction Management of public transportation service Traffic lights management in the town area								

**Table 14: LFA of Drinking Water and Sanitation**

Drinking water and	Indicators	Means of	Major
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sanitation	Unit	Present Condition	Five Years Target (2077/78)	Measuring Indicators	Location	Target Groups	Verification	Assumptions
<p><b>Goal:</b></p> <p>1.2: To provide safe drinking water to all NT inhabitants and make it sanitary</p> <p><b>Objectives:</b></p> <p>1.2.1: to provide safe drinking water to all NT inhabitants</p> <p>1.2.2: Construct public toilets at Phidim bazaar, major market centers and settlements</p> <p>1.2.3: Complete implementation of ODP free district declaration</p> <p>1.2.4: Construct girls friendly toilet in local schools</p> <p>1.2.5: Regular collection of garbage from households</p> <p>1.2.6: Construction of public taps</p>	Percentage	71	100	Tap water drinking water accessed	Entire NT	Entire NT inhabitants	<ul style="list-style-type: none"> <li>▪ Municipal profile</li> <li>▪ District Profile</li> <li>▪ IDP mid-term evaluation report</li> <li>▪ District drinking water and sanitation division report</li> <li>▪ NGO/INGOs report</li> </ul>	<ul style="list-style-type: none"> <li>▪ Allocation of budget</li> <li>▪ Public private partnership in infrastructure development</li> <li>▪ Good coordination among the stakeholders</li> <li>▪ Continue support from government of Nepal and donor agencies</li> </ul>
	Status	-	5	Public toilet	Phidim and major market centers	Entire NT inhabitants		
	Number	-	1	Sanitary landfill site	Phidim	Phidim inhabitants		
	Status	-	7	Construction of drainage network	Phidim bazar area	Phidim inhabitant		
	Km	-	50	Drinking water pipeline	Phidim and major market centers	Entire NT inhabitants		
	Condition	-	Complete sanitation	Sanitation	Market centers	Phidim inhabitants		
	Condition	-	Mandatory in each school	School toilet	Entire NT	Local students		
	Condition	-	All school	Girls friendly school	Entire NT	Local students		
	Frequency	Twice a week in Phidim area	Everyday	Garbage collection	Phidim Bazar area	Phidim inhabitants		
Number	10	50	Public taps	Entire NT	Entire NT inhabitants			

<p><b>Outcomes:</b></p> <ul style="list-style-type: none"> <li>▪ Entire people of NT/Municipality will have pure drinking water access</li> <li>▪ Public awareness on health, drinking water and sanitation will be increased</li> <li>▪ Drinking water consumer group will be strengthened and will be able to manage the project</li> <li>▪ Every school will have girls friendly toilet</li> <li>▪ All the market centers will have public toilet</li> <li>▪ Availability of public toilet facilities in the town area</li> <li>▪ Effective management of public taps</li> </ul>
<p><b>Activities/Programs:</b></p> <ul style="list-style-type: none"> <li>▪ Complete multi-year drinking water supply project</li> <li>▪ Conservation and promotion of traditional ponds and drinking water source</li> <li>▪ Construct and expansion of water supply schemes in the emerging areas</li> <li>▪ Extension of drinking water pipeline in Phidim and major market centers</li> <li>▪ Construction of public toilets (5 no)</li> <li>▪ Construction of sanitary landfill site (thakle)</li> <li>▪ Establishment of solid waste collection mechanism in the municipality</li> <li>▪ Solid waste separate system in practice</li> </ul>

Table 15: LFA of Drainage and Sewerage Network

Drainage and Sewerage Network	Indicators						Means of Verification	Major Assumptions
	Unit	Present Condition	Five Years Target (2077/78)	Measuring Indicators	Location	Target Groups		
<b>Goal:</b> 1.3: Phidim NT will have municipal level drainage development and management	Km	4	10	Surface drain	Phidim and major market centers	Local inhabitants	<ul style="list-style-type: none"> <li>▪ Municipal profile</li> <li>▪ District Profile</li> <li>▪ IDPmid-term evaluation report</li> <li>▪ District drinking</li> </ul>	<ul style="list-style-type: none"> <li>▪ Allocation of budget</li> <li>▪ Public private partnership in infrastructure development</li> </ul>
	Km	-	20	Sewerage	Phidim and major market centers	Local inhabitants		

<b>Objectives:</b>  <b>1.3.1:</b> Construct drainage network in Phidim and major market centers <b>1.3.2:</b> expansion of drainage network in newly emerged urban areas	Condition	-	Effective management	Drainage management	Phidim and major market centers	Local inhabitants	water and sanitation division report ■ NGO/INGOs report	■ Good coordination among the stakeholders ■ Continue support from government of Nepal and donor agencies
	km	-	10	Expansion of drain	Newly developable areas	Local inhabitants		
	km	-	20	Expansion of surface drain	Mid-Hill Highway section	Local inhabitants		
<b>Outcomes:</b> <ul style="list-style-type: none"> <li>■ Phidim and major market centers areas' households will be connected to drainage/sewerage network</li> <li>■ Drainage plan will be prepared according to drainage master plan</li> <li>■ Existing drainage condition will improved</li> <li>■ New urban extended area will have drainage facilities</li> <li>■ Regular outflow of drainage</li> </ul>								
<b>Activities/Programs:</b> <ul style="list-style-type: none"> <li>Preparation of drainage network master plan</li> <li>Construct drainage network along the Mechi Highway corridor of Phidim NT portion</li> <li>Construction of drainage along the Mid-hill highway section</li> <li>Construct drainage network in major market centers and settlement of Phidim NT</li> <li>Management of surface drainage</li> <li>Construct ruiction of sewerage treatment plant in the long-term</li> </ul>								

Table 16: LFA of Irrigation

Irrigation	Indicators						Means of Verification	Major Assumptions
	Unit	Present Condition	Five Years Target (2077/78)	Measuring Indicators	Location	Target Groups		
<p><b>Goal:</b> 1.4: Increment of agriculture production through irrigation facilities</p> <p><b>Objectives</b></p> <p>1.4.1: Increase agriculture productivity and production through providing irrigation facilities to arable land.</p> <p>1.4.2: Construct small and medium irrigation project</p> <p>1.4.3: Upgrading and maintenance of present irrigation canal</p>	Number	7	15	Irrigation project	Different areas of NT	Local farmers	<ul style="list-style-type: none"> <li>▪ Municipal profile</li> <li>▪ District Profile</li> <li>▪ IDP mid-term evaluation report</li> <li>▪ Yearly report and profile of district irrigation office</li> <li>▪ NGO/INGOs report</li> </ul>	<ul style="list-style-type: none"> <li>▪ Allocation of budget</li> <li>▪ Public private partnership in infrastructure development</li> <li>▪ Good coordination among the stakeholders</li> <li>▪ Continue support from government of Nepal and donor agencies</li> </ul>
	Percent age	60 (DADO Panchthar)	85%	Irrigated area of the total arable land	Different areas of NT	Local farmers		
	Number	-	15	Irrigation pond	Different areas of NT	Local farmers		
	Number	2	5	Irrigation project under construction	Different areas of NT	Local farmers		
	Number	-	1	Multi-year irrigation project	Different areas of NT	Local farmers		
	Number	-	20	Irrigation consumer group/committee	Different areas of NT	Local farmers		
	Percent	-	75%	Households having irrigation facility	Different areas of NT	Local farmers		
	Number	-	2	Drop Irrigation Project	Different areas of NT	Local farmers		
	Number	-	10	Rain water harvesting irrigation project	Different areas of NT	Local farmers		

**Outcomes:**

- There will be irrigation facility in the arable land and agriculture pocket area
- Irrigated land will be extended
- Vegetable farming will be commercialized
- Agriculture production will be increased because of extended irrigation areas
- Living standard of local farmers will be improved
- Awareness among the local farmers to construct small irrigation project will be increased

**Activities/Programs:**

- Irrigation through rain water harvesting
- Construct irrigation ponds with concept of one village one pond
- Operate drop irrigation project for commercial vegetable farming
- Develop multi-year irrigation project
- Rain water harvesting campaign

**Table 17: LFA of Electricity and Communication**

Electricity and Communication	Indicators						Means of Verification	Major Assumptions
	Unit	Present Condition	Five Years Target (2077/78)	Measuring Indicators	Location	Target Groups		
<b>Goal:</b> 1.5: To provide electricity and communication facilities to all NT inhabitants  <b>Objectives:</b>	Percentage	90	100	Electricity accessed households	Phidim NT	NT inhabitants	<ul style="list-style-type: none"> <li>▪ Municipal profile</li> <li>▪ District Profile</li> <li>▪ IDP mid-term evaluation report</li> <li>▪ NGO/INGOs report</li> <li>▪ Nepal telecom and Ncell Report</li> </ul>	<ul style="list-style-type: none"> <li>▪ Allocation of budget</li> <li>▪ Public private partnership in infrastructure development</li> <li>▪ Good coordination among the stakeholders</li> </ul>
	Percentage	10	50	Television owned HH	Phidim NT	NT inhabitants		
	Percentage	6	50	Cable Television accessed HH	Phidim NT	NT inhabitants		

<b>1.5.1:</b> Provide electricity facilities to entire households <b>1.5.2:</b> Provide communication facilities to entire wards of Phidim Municipality	Percentage	2	25	Computer owned HH	Phidim NT	NT inhabitants	<ul style="list-style-type: none"> <li>▪ Yearly report of Nepal electricity authority</li> <li>▪ Continue support from government of Nepal and donor agencies</li> <li>▪ Investment from private sectors</li> </ul>
	Percentage	1	20	Internet accessed HH	Phidim NT	NT inhabitants	
	Percentage	1	1	Cinema Hall/theatre	Phidim NT	NT inhabitants	
	Percentage	3	5	Radio/FM stations	Phidim NT	NT inhabitants	
	Percentage	7	10	Local Newspapers	Phidim NT	NT inhabitants	
	Number	-	300	Street lights	Phidim NT	NT inhabitants	
	Number	-	2	Micro hydro	Phidim NT	NT inhabitants	
	Number	-	1500	Alternative energy	Phidim NT	NT inhabitants	
<b>Outcomes:</b> <ul style="list-style-type: none"> <li>▪ Electricity access to entire households of Phidim NT</li> <li>▪ Upgrading of present electricity system</li> <li>▪ Increased number of alternative energy used households</li> <li>▪ Communication facilities to entire households of Phidim NT</li> <li>▪ Quality and reliable communication</li> </ul>							

**Activities/Programs:**

- Electrification work in entire NT/municipality
- Completion of under construction hydropower projects
- Promotion and extension of alternative energy
- Feasibility study of small and micro hydropower in NT
- Attract private sector investment to development new hydropower/micro hydro
- Install street light in NT
- Transfer rural area electricity management to local people/community by forming management committee standards
- Organize press freedom and promotion program
- Capacity development of Nepal telecom and Ncell network
- Provide internet facilities in major market centers and tourist spots

### **6.2.11 Strategic Physical Development Planning Projects**

Physical development projects were identified at two level. At the first level at least ward level community meetings/consultation were carried out to collect local level problems and issues. Similarly, municipal/NT level interaction/consultation were also carried out for strategic projects and plans. Then, information/issues collected from both level were scrutinized and formulated the strategic projects which is shown in annex 1.

## 6.3 Social Development Plan

### 6.3.1 Concept

Social development plan focuses on the issues relating to social development in Phidim. Inclusive development, participatory approach, focused group target will be the process of social development plan. While developing social development plan, socially excluded groups, marginalized communities, children, aged people, women, scheduled caste groups will be main focus.

This plan will focus on harnessing to focus on pro-community, pro-individual responsibility, pro-positive self-regard, pro-empowerment solutions to achieving what we want in the future. This document is proof of individual commitment to the value of community. It is through individual impetus and collective collaborative action that this plan exists and will continue to be relevant and realized.

Women participation and main streaming, mainstreaming of scheduled caste ethnic groups and marginal communities will be the method of social development and planning.

### 6.3.2 Principles of Social Development

According to the 1995 United Nations' World Summit for Social Development, "the ultimate goal of social development is to improve and enhance the quality of life of all people." The World Summit adopted the Copenhagen Declaration and Program of Action, which was signed by various countries. The declaration lays out a set of goals, two of which are central of Social Development Strategy:

- Promote democracy, human dignity, social justice, and solidarity.
- Promote the equitable distribution of income and greater access to resources through equity and equality of opportunity for all.

The social development "encompasses principles of social equity, social well-being and citizen engagement, and is an important determinant of healthy communities and quality of life."

Social Development Strategy (SDS) recognizes that well-being is a social achievement, and not exclusively an individual one. The aim of the SDS is to democratize prosperity and opportunity, so that all those who live in the town can lead healthy lives in a safe, socially cohesive urban environment. It values diversity and reaffirms the goals of achieving access and equality of outcome for all residents as expressed in the city's access and equity action plan. Movement towards these goals must be guided by five principles:

**Equity** - the fair distribution of resources, free from discrimination on the basis of age, disability, gender, socioeconomic background, race, ethnicity, religion or sexual orientation

**Equality** - equal, effective and comprehensive rights for all

**Access** - fair and equitable access to all services, so that no one falls below minimum standards that include adequate income, sufficient nutritious food, adequate and affordable housing, and sufficient clothing

**Participation** - the opportunity to participate fully in the life of the city and the decision making that will determine our collective future

**Cohesion** - the fostering of social trust, mutual care, and respect for diversity as the foundation for supportive communities.

### 6.3.3 Present Status

At present, reflects some level of social development initiatives but it demands more improvement in it. It is still found some sort of social hindrances for social development due to lack of social awareness as well as social infrastructures. Summary of the present physical infrastructures is shown in the following table;

**Table 18: Present Status of Physical Infrastructure**

Social indicators	Status	Remarks
Population Density (Per Sk Km)	374.7	
Aged Population 60 and above (%)	6.8	
Economically Active Population (%)	59.0	
Disable Population (%)	1.6	
Absent Population (%)	7.4	
Population Cluster (ward 1,2,3,4) %	66.4	
Dalit Population (%)	6.42	
Below Poverty line	3.5	
Literacy Rate (%)	77.16	
Firewood users (%)	61.99	
Bio-gas users HH (%)	1.76	
Television HH (%)	20.15	
Cable Television HH (%)	25.27	
Computer HH (%)	7.22	
Internet HH (%)	3.52	
Irrigated Land (% among cultivable land)	29.3	
Women Participation	Low	
Inclusive Development Practice	Fair	

Source: Fieldwork, 2016

### 6.3.4 Problems

Problems related to social development plan is categorically listed below so that sector plans could be identified and presented in the LFA format. Problems relating to social development plan are as follows;

- Poverty cluster still exist in the municipal area

- Lack of participation of children, women and excluded groups in the main stream of development
- Low level of women participation
- Poor condition of sanitation and increasing its social consequences
- Lack of disable friendly infrastructure in the municipality
- Lack of public infrastructures (community hall, convention centres, community library, public toilets etc)
- Lack of proper management plan of public property (temple, statue, monastery, religious and cultural places etc)
- Lack of public awareness programmes
- Poor condition of health facilities
- Decreasing social harmony

### **6.3.5 Social Development Concern**

To build a healthy, inclusive and sustainable community in which residents have access to good jobs and to the services they need, we must strike a balance between social development and economic growth. While markets may promote efficiency, it is up to people-their communities and governments-to promote equity. This quality of life significantly contributes to economic position by helping the city attract investment and retain a skilled workforce.

Phidim new town has the opportunity to articulate a shared vision of a livable, prosperous, attractive and creative city in which public effort combines with individual initiative to enhance the quality of life of all residents. This vision should guide the city in leading an effective and constantly evolving human services system-a system that must be based on cooperative partnerships and sustained by the commitment and financial support of all levels of government.

- Social development sectors in Phidim such as education, public health, security, inclusive development, cultural and sports, parks and open spaces, public infrastructures etc are covered which are presented in the logical framework analysis below

## 6.3.6 Logical Framework Analysis

Table 19: LFA of Education

Education	Indicators						Means of Verification	Major Assumptions
	Unit	Present Condition	Five Years Target (2077/78)	Measuring Indicators	Location	Target Groups		
<p><b>Goal:</b></p> <p>1.6: To obtain cent percent literary and provide easy access of basic and secondary education in New town</p> <p><b>Objectives</b></p> <p>1.6.1: To improve the education condition of all class and community</p> <p>1.6.2: To provide minimum physical infrastructure (class room, library, science lab and school environment) to confirm the quality education for all the children</p> <p>1.6.3: To provide child friend school education and environment</p> <p>1.6.4: To provide the education opportunity up to secondary level to</p>	Percentage	78	98	Literacy rate	Respective Community and schools of the NT	Different age group students and community of NT	<ul style="list-style-type: none"> <li>▪ Municipal profile</li> <li>▪ NTPO reports</li> <li>▪ District profile</li> <li>▪ District Drinking Water Office</li> <li>▪ District health office report</li> <li>▪ FLASH Report (DEO)</li> <li>▪ Reports of local sports clubs</li> <li>▪ Report of District women and children development office</li> <li>▪ Report of district child welfare board</li> <li>▪ N/INGOs report</li> </ul>	<ul style="list-style-type: none"> <li>▪ Allocation of budget</li> <li>▪ Continue support from donor agencies, government and local people</li> <li>▪ Public private partnership in infrastructure development</li> <li>▪ Good Coordination among the stakeholders</li> <li>▪ Active and effective school management committee</li> </ul>
	Percentage	99	100	Primary level net enrollment rate	Respective Community and schools of the NT	Different age group students and community of NT		
	Percentage	90	100	Trained teacher with required qualification	Respective Community and schools of the NT	Basic level students community of NT		
	Percentage	-	1	Technical institutions	Phidim New Town	Different age group students and community of NT		
	number	7	10	Higher secondary school	Phidim New Town	Different age group students and community of NT		
	number	1	2	Campus	Phidim New Town	Different age group students and community of NT		
	Number of Schools		All schools	Child friendly infrastructure	All the schools	All the students		
	Status		At least two times in an academic year	Cultural programs	All the schools	All the inhabitants and students		

all the children	Status		At least two times in an academic year	Sports activities	All the schools	All the inhabitants and students		
	Status		Implemented in all schools	Open space development	All the schools	All the inhabitants and students		

**Outcomes:**

- Child, gender and disabled friendly school and physical infrastructure
- Well trained teachers
- Well-functioning ECD
- Availability of necessary teaching material at schools
- Each subjects average achievement score of basic level will be 90%
- Promotion, repetition and dropout rate will be 95%, 3% and 2% respectively
- Grade-1 experienced rate increased by 82%

**Activities/Programs:**

- Fulfillment of minimum infrastructure condition (class room, library, science lab and school environment)
- Arrangement and distribution of teacher post according to teacher student ratio
- Merge and remove unnecessary school on the basis of school mapping
- Provide necessary trainings to teachers
- Good coordination between school and local people through school management committee
- Continuation and extension of scholarships and day meal program
- Establish library in all schools
- Extension of day meal program
- Capacity development programs for stakeholders (DDC, VDC, Municipality, Teacher guardian association, teachers, head teachers, RPs, SS, parents)
- Effective operation of saving, credit and income generation program through capacity development of community learning centre
- Establishment of technical institution

Table 20: LFA of Health

Health	Indicators						Means of Verification	Major Assumptions
	Unit	Present Condition	Five Years Target (2077/78)	Measuring Indicators	Location	Target Groups		
<p><b>Goal:</b></p> <p>2.1: Improvement in health condition providing easy and quality health services to all the NT dwellers</p> <p><b>Objectives</b></p> <p>2.1.1: Easy access of quality health service to all new town people</p> <p>2.1.2: Infrastructure development for quality health service</p> <p>2.1.3: Development and extension of aayurved services in new town</p>	number	1	2	hospital	Phidim New Town	Whole Municipal inhabitant	<ul style="list-style-type: none"> <li>▪ IDP evaluation report</li> <li>▪ Human Development report index</li> <li>▪ Yearly report of District Health Office</li> <li>▪ NGO/INGOs report</li> <li>▪ Municipal profile</li> <li>▪ DDC yearly report</li> </ul>	<ul style="list-style-type: none"> <li>▪ Allocation of budget</li> <li>▪ Continue support from donor agencies, government and local people</li> <li>▪ Public private partnership in infrastructure development</li> <li>▪ Good Coordination among the stakeholders</li> </ul>
	Bed number	30	100	Hospital bed	Phidim New Town	Whole NT inhabitant		
	Percentage	90	100	Immunization coverage	Phidim New Town	Whole NT inhabitant		
	Percentage	-	100	Family planning Coverage	Phidim New Town	Whole NT inhabitant		
	Years	68 (NPC, 2011)	75	Life expectancy	Phidim New Town	Whole NT inhabitant		
	Per thousand	525	300	Incident of diarrhea	Phidim New Town	Whole NT inhabitant		
	Per thousand	296		Incident of pneumonia	Phidim New Town	Whole NT inhabitant		
	Percentage	97	100	Cure rate of TB	Phidim New Town	Whole NT inhabitant		
	Percentage	55	85	Total new OPD visit of total population	Phidim New Town	Whole NT inhabitant		
number	-	2	Ayurvedic hospital	Phidim New Town	Whole NT inhabitant			

**Outcomes:**

- Trained health workers and doctors
- Improved physical infrastructure and modern health equipment
- Patient friendly hospitals and health centers
- Availability of medicine and health equipment at hospitals and health centers
- Improved health condition of local people
- Controlled of transmitted disease and flu
- Increased number of community health centers
- Easy and accessible treatment facilities of different diseases through periodic health camps
- Increased number and services of institutional and community health service centers
- Establishment of ayurvedic hospital in Phidim
- Establishment of medicinal herbs collection and processing center in Phidim

**Activities/Programs:**

- Upgrading of local health centers
- Upgrading of Phidim District Hospital from 30 beds to 100 beds
- Training to health workers (SBA, ASBA, NSV, FP) and doctors
- Fulfillment of vacant posts in local hospital and health centers
- Supply and installation of modern health equipment
- Organization of health awareness program and health camp
- Establishment of Ayurveda hospital in Phidim
- Organize periodic health camp to identify HIV AIDs and TB infected patient
- Organize awareness program and health camp to increase the number of delivery at health centers
- Organize awareness programs to increase the coverage of family planning service
- Organize senior citizen health promotion program
- Organize women health promotion program
- Free distribution of medicine for target groups

**Table 21: LFA of Women, Children and Target Groups**

<b>Women, Children and Target Groups</b>	<b>Indicators</b>						<b>Means of Verification</b>	<b>Major Assumptions</b>
	<b>Unit</b>	<b>Present Condition</b>	<b>Five Years Target (2077/78)</b>	<b>Measuring Indicators</b>	<b>Location</b>	<b>Target Groups</b>		

<p><b>Goal:</b></p> <p><b>3.1:</b> Social, economic, political, educational and human development situation of women, children and target groups will be improved through increased and inclusive access to resource, services and facilities</p> <p><b>Objectives</b></p> <p><b>3.1.1:</b> Inclusive development of women, children, disabled and indigenous people, senior citizen, single women, excluded groups, backward societies through abolition of social and ethnic discrimination</p> <p><b>3.1.2:</b> Ensure the participation of target groups in social activities and preparation of local plans</p> <p><b>3.1.3:</b> Conservation and</p>	Indicator	0.498		Human Development Index	Phidim New Town	All the inhabitants of Phidim NT	<ul style="list-style-type: none"> <li>▪ Allocation of budget</li> <li>▪ Continue support from donor agencies, government and local people</li> <li>▪ Public private partnership in infrastructure development</li> <li>▪ Good Coordination among the stakeholders</li> </ul>
	Percentage	28.35		People deprived from safe water	Phidim New Town	All the inhabitants of Phidim NT	
	Percentage	9.16		People not expected to survive to age 40	Phidim New Town	All the inhabitants of Phidim NT	
	Year	68.12		Life expectancy	Phidim New Town	Women and children	
	Years	4.21 (NPC, 2014)	12	Mean years of schooling	Phidim New Town	Children	
	Percentage	42.63 (NPC, 2014)	15	Deprived from economic opportunities	Phidim New Town	All the inhabitants of Phidim NT	
	Percentage	33	50	Women participation in social, political and economic activities	Phidim New Town	Women	
	Number	34	50	Early childhood development centre	Phidim New Town	Women and children	
	Percentage	-	3	Religious centre	Phidim New Town	All the inhabitants of Phidim NT	
	Number	-	3	Art and cultural centers	Phidim New Town	All the inhabitants of Phidim NT	

promotion of endangered language, arts, culture, religion, and customs <b>3.1.4:</b> End of domestic violence, gender violence, sexual misconduct and abuse	Number	-	1	Children park				
	Number	-	3	Old aged home	Phidim New Town	All the inhabitants of Phidim NT		
	Number	-	3	Disabled people home	Phidim New Town	Disabled People		
	Number							

**Outcomes:**

- Abolition of social and ethnic discrimination to ensure the welfare and rights of single woman, disabled people, target groups and social excluded community
- Participation of focused group in main stream development
- Conservation and promotion of endangered culture, language, religion, costumes of endogenous and ethnic groups
- New town development will be Inclusive
- Strengthening of target groups
- Substantial increased access to education for oppressed and marginalized children
- Illiteracy rate of women will be decreased through informal education
- Decreased domestic and sexual violence
- Increased women participation in preparation of development plan and program
- Conservation of local religion, language, culture and arts

**Activities/Programs:**

- Organized literacy development program for target groups
- Provide scholarship for women, disadvantaged and targeted groups in school education
- Construction of disable, aged and child friendly infrastructure
- Organize capacity development program for backward people to involve in main stream development
- Inclusive participation in policy making and monitoring
- Organize awareness program (road drama, hoarding board, pamphlet, interaction, workshop, audio visual programs etc)
- Provide skill oriented and income generating training
- Promotion of cooperative concept and institutional capacity development
- Formation of gender violence fund
- Provide free legal services to foreign employment fraud victims and lost people
- Provide information and consultancy service to passport making youths
- Formation of foreign employment returnees mechanism
- Construction of children parks at Phidim
- Construction of orphan children home and old aged home at Phidim
- Construction of shelter home for domestic violence victim women
- Inclusive participation in monitoring, evaluation, planning and development of new town
- Organize poverty reduction, capacity development and awareness program for target groups
- Prioritized employment opportunity for marginalized, endogenous and women
- Social security schemes for disabled, old aged and single women.

**Table 22: LFA of Sports**

Sports	Indicators						Means of Verification	Major Assumptions
	Unit	Present Condition	Five Years Target (2077/78)	Measuring Indicators	Location	Target Groups		
<b>Goal:</b>  4.1: Prepare national and international sports talents through the development of sports	Number	1	1 national level stadium	Stadium	Phidim	NT inhabitants and sports lovers	<ul style="list-style-type: none"> <li>▪ IDP evaluation report</li> <li>▪ Yearly report of District Health Office</li> <li>▪ Municipal</li> </ul>	<ul style="list-style-type: none"> <li>▪ Allocation of budget</li> <li>▪ Continue support from government, sponsor</li> </ul>
	Percentage	-	50	Increase participation in sports	Whole NT	NT inhabitants and sports lovers		

infrastructure  <b>Objectives</b>  <b>4.1.1:</b> Development of sports infrastructure  <b>4.1.2:</b> Continuation of sports tournament and activities  <b>4.1.3:</b> Prepare national and international level sports talent  <b>4.1.3:</b> Commercialization of local sports	Number	-	2	District level sports activities (yearly)	Phidim NT	NT inhabitants and sports lovers	profile <ul style="list-style-type: none"> <li>▪ DDC yearly report</li> <li>▪ Yearly report of national sports council</li> <li>▪ Yearly report of sports ministry</li> <li>▪ Yearly reports of local sports and youth clubs</li> </ul>	agency and local people <ul style="list-style-type: none"> <li>▪ Public private partnership in infrastructure development</li> <li>▪ Good Coordination among the stakeholders</li> <li>▪ Continuation of sports tournaments</li> </ul>
	Number	1	2	National Level sports activities (yearly)	Phidim NT	NT inhabitants and sports lovers		
	Number	1	1	International level sports activities (yearly)	Phidim NT	NT inhabitants and sports lovers		
	Number	-	1	Covered hall	Phidim NT	NT inhabitants and sports lovers		
<b>Outcomes:</b> <ul style="list-style-type: none"> <li>▪ Strong social cohesion among the local community and people through sports</li> <li>▪ Emergence of new sports talent in Phidim NT</li> <li>▪ Increased participation of local players in district and national level tournaments</li> <li>▪ Increased number of local sport clubs</li> <li>▪ Development of new sport infrastructure in Phidim NT</li> <li>▪ Positive impacts on local inhabitant's health through sports activities</li> <li>▪ Minimum sports ground will be developed in local higher secondary schools</li> </ul>								

**Activities/Programs:**

- Construction of multipurpose sports hall in Phidim
- Construction of Stadium in Phidim
- Construction of sport ground in local higher secondary schools
- Organize sports activities and training programs in local high schools
- Donation to local sports clubs by DDC and Municipality
- Provide sports goods to local sports and youth clubs
- Organize player coaching program
- Organize district and national level sports tournaments

**6.3.7. Strategic social development plan**

Strategic social development projects were identified at two level. At the first level at least ward level community meetings/consultation were carried out to collect local level problems and issues. Similarly, municipal/NT level interaction/consultation were also carried out for strategic projects and plans. Then, information/issues collected from both level were scrutinized and formulated the strategic projects which is shown in annex 1.

## 6.4 Economic Development Plan

### 6.4.1 Concept

Planning for economic development is to create and maintain a strong, vibrant to local economy. Local government economic development planning is part of a region's overall economic development strategy. The economic development plan provides a comprehensive overview of the economy, sets policy direction for economic growth, and identifies strategies, programs, and projects to improve the economy. This sub-chapter includes the economic development plan of Phidim New Town to create economic opportunities to local as well as economically sustainable city development.

Economic development refers to the policies and actions that promote economic goals within a specific geographic area. The economic goals that transportation policies and projects can support are generally determined by local priorities. They are often very specific to needs identified by local decision makers, such as to increase overall employment in a local area, increase employment in a specific industry or economic sector, or increase employment within a specific area.

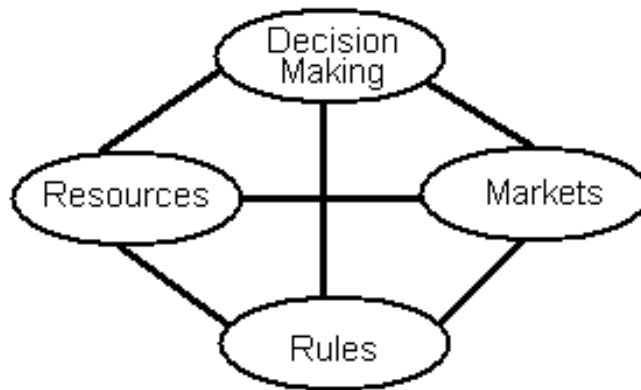
Some measures of economic growth and quality of life include things such as:

- Number of jobs created;
- Number of business establishments created;
- Overall increases in gross domestic product or gross regional product;
- Increases in property values or tax bases.

While these are useful indicators of the direction of the economy or as information for decision makers, they can be misunderstood or misused. For instance, construction jobs appear as a cost in some economic analyses, but as a benefit in others. And economic growth can be distinct from economic development. Relocated jobs are economic development for the area that receives them, but only considered growth nationally if they represent new activity that did not previously exist.

### 6.4.2 Framework for Economic Development Planning

Community economic development is about changing perceptions and choices regarding community resources, markets, rules, and decision making capacity. The essence of how community economic development occurs is outlined in figure below. Community economic development is best achieved when the community uses accumulated knowledge (both academic and experiential), to re-frame questions that change the set of perceived options available. Within the larger planning process, perceived conflicts (for example, between development and environmental protection) can be simultaneously pursued. Given appropriately framed questions, conflicts can be ameliorated. The choices a community makes regarding the four nodes of figure below and their definition go a long way in making community economic development planning attainable.



**Figure 17: Concept of Economic Development**

The model implied in figure above requires some specific definitions of the four nodes. *Rules of the economic development* include such realities as tax laws, eligibility rules for programs, environmental regulations, zoning, union contracts, and cultural norms. Policy suggestions appear straightforward--recognizing the effect of rules and, via the political process, changing those rules that have been found to confuse, hinder, or conflict with societal desires.

*Decision making* is the ability to distinguish among problems, symptoms, and inventiveness of the response. Planning questions include framing issues in a fashion that enables possible solutions to appear. It definitely includes getting to the problem rather than dealing with symptoms and history.

*Markets* generally refer to the two unique parts of the community's economy: external (export) and internal (non export). This node essentially contends that the community can produce competitively. It just needs to determine what to produce, how markets are changing, and where these markets are located. The planning questions include knowing what markets exist for community output (industrial, retail, service); location of markets; who is the competition; and how the market changes.

*Resources* generally refer to concerns with amount of, access to, protection of, and mobility of community assets. This perspective essentially contends that we know what markets are and how to satisfy them. The planning questions are concerned with identifying local resources that include land, labor, capital, and technology and whether they are available for alternative uses (mobility) or in sufficient amounts to increase community economic wealth.

### 6.4.3 Present Status

Present status of economic development is defined as an activity that seeks to improve the economic well-being and quality of life for a community by creating and/or retaining jobs or employment opportunities. There are some key economic indicators, which determine the present economic status of any areas that are mentioned below:

To assess the present economic condition of Phidim NT, here summary of the present economic condition is shown in the following table:

**Table 23: Economic indicators and Status of Phidim**

<b>Economic Indicators</b>	<b>Status</b>	<b>Remarks</b>
GDP per capita income	1084	
Human development index	0.498	
Below poverty line	3.5	
Human poverty index	11.4	
Deprived from economic opportunities	42.63	
Economically active population	59.0	
Life expectancy	68	
Malnourished children under age 5	28.35	
Large and small scale industries	384	
Hotels	5	
Hydropower (MW) in district	100	
Financial institutions	10	
Retail business	1028	
Wholesale business	60	
Service oriented business	196	
Tea industry	1	
Major export items/cash crops	Cardamom, Tea, Fruits, Vegetables, Amriso, Zinger	

*Source: Fieldwork, 2016*

#### **6.4.4 Problems**

Various factors are responsible for the rapid growth of an economy. Both economic and non-economic factors directly and indirectly affect/challenge development process of a country. If we optimally utilize our natural, human, financial and physical resources, double digit growth rate is also plausible. For this, political commitment is equally important. Policy makers must be confronted with management challenges. There should be well-established democratic institutions and promotion of transparent, responsive, participatory, inclusive and accountable governance system and systematic plan. A mechanism should be in place to operationalize political consensus, policy consistency and continuity in major national strategic issues among political parties. Furthermore, investment friendly environment should be fostered in the priority sectors. The high inflation should be controlled to stop the further deterioration of welfare. The unemployment problem should be solved by increasing employment opportunities. There should provide sufficient and reliable energy supply to tackle electricity crisis. Furthermore, the development process must have a domestic base. People should be conscious and committed for development. Foreign aid should not be accepted as a major source of finance and should only be used as a supportive source. Both internal motivation and resource utilization pattern should be made as the basic source for sustainable economic development. Similarly, strong and competent administration and committed government are

considered as the basic requirements or challenges of rapid economic development in Phidim NT. Problems related to economic development plans are as follows:

- Lack of processing industries (tea, cardamom, forest products)
- Lack of entrepreneurship
- Political instability
- Lack of technology
- Lack of capital investment
- Lack of monetary and fiscal policy
- Lack of skilled manpower
- Immigration of local youngsters
- Small size of market
- Limited foreign trade
- Lack of sufficient physical infrastructure
- Lack of industrial development

#### **6.4.5 Economic Development Strategy**

The base of all economic development is investment. When private investment fails to meet a community's particular needs, public investment or public/private partnerships may be necessary. Current realities and future challenges of economic development give rise to three foundational principles on which economic development investments should be based on exports, productivity and sustainability. Exports have motivated much of economic development activity in the past, but the shift from a manufacturing service based economy and increasing global competition has emphasized the importance of productivity. A growing awareness of the need for human development and the scarcity of natural resources also highlight the need for a sustainable approach.

Exports, productivity, and sustainability are the three principles of economic development - the pillars that form the core support of the economic development structure. With too much or too little investment in any one of the three, the structure becomes unstable.

Phidim has huge potentiality of agriculture, tourism and business. Export of local production is possible through capital formation from private and public sector as well as development of skilled work force in agriculture and energy sector. Realizing this fact some strategies of local economic development are mentioned in the following paragraph:

- Promote processing industries (tea, cardamom and forest products)
- Facilitate local/regional authorities to identify local and regional comparative advantages through supportive policies
- Prioritize infrastructure development for possible industrial development
- Promote investment to trigger realization of comparative advantages
- Identify socio-economic, special characteristics of poor clusters
- Development programs focused to poor and marginalized community
- Initiatives for small scale entrepreneurships
  
- Facilitate to cash crop farming to the local farmers

## 6.4.6 Logical Framework Analysis

Table 24: LFA of Agriculture Development

Agriculture Development	Indicators						Means of Verification	Major Assumptions
	Unit	Present Condition	Five Years Target (2077/78)	Measuring Indicators	Location	Target Groups		
<p><b>Goal:</b></p> <p><b>3.1</b> Improved livelihood and income through cash crops and commercial vegetable farming</p> <p><b>Objectives</b></p> <p><b>3.2.1:</b> To attract farmers towards commercial agriculture, cash crops and vegetable farming</p> <p><b>3.2.2:</b> Increase income through identification and commercialization of new cash crops</p> <p><b>3.2.3:</b> Identification of new pocket area for modern agriculture development</p>	Percentage	3.9	4.5	Annual increase rate of agriculture area	Phidim NT	Farmers group	<ul style="list-style-type: none"> <li>▪ Municipal profile</li> <li>▪ NTPO reports</li> <li>▪ District profile</li> <li>▪ Economic survey</li> <li>▪ Human Development Report</li> <li>▪ Evaluation report of infrastructure sector</li> <li>▪ Annual report of District Agriculture Development Office</li> <li>▪ Living Standard Survey Report</li> </ul>	<ul style="list-style-type: none"> <li>▪ Allocation of budget</li> <li>▪ Good coordination among the stakeholders</li> <li>▪ Continue support from government of Nepal and donor agencies</li> <li>▪ Farmers will be attracted to cash crops</li> <li>▪ District agriculture development office will conduct pocket area specific programs</li> </ul>
	MT per year		10	Vegetable production	Feasible areas	Vegetable farmers of NT		
	MT per year		5	Fruit production	Feasible areas	Respective farmers		
	MT per year		5	Spice crop (Cardamom, ginger, turmeric, garlic) production	Feasible area	Respective farmers		
	MT per year			Tea production	Feasible area	Respective farmers		
	Number		7	Agriculture pocket area	Feasible area	Respective farmers		
	Number	1		Number of periodic markets (hat bazaar)	Feasible area	All NT inhabitants		

<p><b>Outcomes:</b></p> <ul style="list-style-type: none"> <li>▪ Local farmers will be involved in commercial vegetable farming and cash crop production</li> <li>▪ Local youths will be attracted to agriculture after the commercialization and marketing of agriculture</li> <li>▪ Agriculture production and income will be increased substantially from commercial farming</li> <li>▪ Farmers will be benefitted after the identification, development and expansion of new agricultural area</li> <li>▪ Agricultural market will be available for farmers</li> <li>▪ All weather roads will be constructed to reach local agriculture production to the market easily</li> <li>▪ Agriculture production will be increased by mechanization, expansion and diversification of local agriculture</li> <li>▪ Phidim will be self-reliance in food</li> <li>▪ Agricultural inputs (machine, materials, fertilizer, pesticide/insecticides, technicians) will easily available</li> <li>▪ Local farmers will be trained</li> <li>▪ Cold storage and processing facility will be available in Phidim</li> <li>▪ Agriculture production collection centers will be available in Phidim and major market centers</li> <li>▪ Commercial agriculture and cash crops will be supportive to reduce local poverty.</li> </ul>								

**Activities/Programs:**

- Operate agriculture subsidy/grant program effectively
- Identification and conservation of local crops and fruits
- Operate crops extension program through scientific demarcation of agriculture pocket area
- Construction of agriculture production collection center, fruits and vegetable collection center, chilling center and processing center
- Manage additional agro technicians with the initiation of DDC and district agriculture development office
- Organize agriculture training, seminar and workshops
- Provide agriculture loan to local farmers without difficulty
- Operate agricultural value chain program with the support of NGOs/INGOs
- Organize best farmers honor program
- Organize seeds and plants distribution program
- Organize special agricultural production program
- Organize potato, vegetables and spice crop development program
- Implement integrated business strategy
- Organize crop development program
- Organize community managed irrigated agricultural area program

#### **6.4.7 Strategic Plans and Programmes**

Strategic economic development plans and projects were identified at two level. At the first level at least ward level community meetings/consultation were carried out to collect local level problems and issues. Similarly, municipal/NT level interaction/consultation were also carried out for strategic projects and plans. Then, information/issues collected from both level were scrutinized and formulated the strategic projects which is shown in annex 1.

## 6.5 Tourism and Cultural Development Plan

### 6.5.1 Concept

Formulate a long-term development framework for tourism (10-20 years) with emphasis on policy and strategy, planning, institutional strengthening, legislation and regulation, product development and diversification, marketing and promotion, tourism infrastructure and superstructure, economic impact of tourism and tourism investment, human resource development, and socio-cultural and environmental impacts of tourism. It includes a short term (three-year) action plan for priority actions to be undertaken to kick-start sustainable tourism development, and preparation of several demonstration projects for pilot areas.

Phase I: Project formulation mission which analyses the current tourism scenario and prepares a project document (detailed terms of reference) for the formulation of a Tourism Development Master Plan.

Phase II: Formulation of a Tourism Development Master Plan which focuses on the following sectors:

- Transport
- Accommodation
- Tourist activities
- Product development
- Tourism zoning
- Marketing and promotion
- Institutional framework
- Statistics and research
- Legislation and regulation and
- Quality standards of tourism services

The Plan prioritizes actions for each sector and includes an Action Plan defining roles and responsibilities of various stakeholders, timelines, indicative budgets, monitoring guidelines, and, success criteria.

Phase III: Implementation of the Master Plan by providing technical assistance to the government in implementing the priority recommendations of the Master Plan.

Note: Tourism Development Master Plans can be formulated at a national or local level. Furthermore, they can also be thematic in nature:

- Rural tourism
- Agro tourism (tea and cash crops)
- Community-based tourism(home stay)
- Cultural and religious tourism;
- Trekking
- Adventurous tourism

- Ecotourism
- Research tourism

### 6.5.2 Present Status

Phidim municipality has huge potentiality for tourism development. It has some historical and religious tourist destinations. Among them Sumhatlung, Thakle Mandir, Silauti and Labrekuti are well known among the pilgrims. Besides, Phidim has some suitable places for home stay and agro-tourism. Silauti, Labrekuti, Sumatlung and Thakle Mandir are located near from Mechi and Mid Hill Highway. These places have cultural and religious importance and are popular among the Kirati's community. Fare and festivals organize in these religious centre are the major attraction and several hundred people visit during that time. Geographical and cultural diversity, agro tourism, natural tourism, adventurous tourism are the potentiality of local tourism. Medium class hotels are available in Phidim Bazar. Among them, some of the hotels rooms have attached toilet and bathroom with cold and hot water facilities. Internet and wifi facilities are available in most of the hotels located at Phidim Bazar. Major activities, available infrastructure and short overview of tourist destinations are shown in following table:

**Table 25: Present Status Tourism in Phidim**

<b>Tourism Indicators</b>	<b>Status</b>	<b>Remarks</b>
International tourist arrival	1000 yearly	
Hotels (medium standards)	5	
Religious and cultural sites (touristic point of view)	4	Silauti, Labrekuti, Sumhatlung temple, Shivalaya temple
Historical sites	3	Silauti and Labrekuti
Home stay	1	Mathillo gaun
Sports tournaments (international)	1	1 international tournament yearly
Tea research	1	Kanchanjanga tea state

### 6.5.3 Tourism Development Potentialities

Commercial agriculture, cash crops, business and tourism are the major sectors of economic development of Phidim. Among them tourism is one of the most potential sectors to be explored. After the construction of Mechi Highway and Mid hill highway, Phidim has been connected to other parts of nation and local tourist destinations have been more accessible for national as well as international tourists. `

Some people living around the tourist destinations are involved in tourism and tourism related business activities. Hotel, lodge and restaurant are major tourism related business where local businessman are involved. Tavern, selling flowers and pooja stuffs are some other sources of income for the people who involved in tourism related small business.

Besides tourist destinations sited along and near Mechi and Mid Hill Highway, most of the other tourist destinations do not have motorable road and reliable transportation facilities. Most of the road to tourist destination situated in remote areas have gravelled, non-engineered and in many areas even earthen. Hence, during rainy seasons it is difficult for tourist to reach in such destinations although some of them have tourism potentiality throughout the year.

Accommodation facilities are the foundation of tourism industry and it determines the number tourist flow. Except Phidim Bazar area, standard accommodation facilities (Hotel, lodge and restaurant) are still not available. Pathibhara Devi Temple is very popular not only among the Nepalese pilgrims but also for Indian and Bhutanese pilgrims. Likewise, Kanchenjunga Conservation Area is popular among international researcher, nature conservation activists, mountaineers, adventurers and nature lover tourists. If quality hotels and accommodation facilities are provided in Phidim Bazar then Phidim could be a good transit place for the tourist visiting Pathibhara and Kanchanjunga Conservation Area. As result, new employment opportunities can be generated for local youths from hotel industries and it will help to increase the number of tourist arrivals in new town area.

Phidim is well known for tea, cardamom farming and cash crops. Thus Phidim has huge potentiality in agro-tourism and home stay can be developed in some suitable location. Recently, local people have begun home stay concept. If, basic facilities are arranged in home stay, then tourist stay duration could be increased. It's beautiful tea landscape, geographical and natural diversity further attract nature lover tourist in Phidim.

#### **6.5.4 Problems**

Though Nepal is culturally, naturally and geographically rich, here are some problems and challenges to promote the tourism industries. Some of the problems and challenges to promote and develop the tourism are as follows:

- Lack of Infrastructure Development
- Lack of Transportation facilities
- Lack of accommodation facilities
- Lack of communication facilities
- Low publicity
- Lack of tourist health service
- Lack of electricity
- Lack of skilled human resources
- Lack of marketing and promotion
- Lack of proper co-ordination
- Lack of trained guides
- Lack of recreational facilities
- Limited number of information centre
- Lack of banking facilities at tourist sites
- Lack of airports
- Political instability

- Inadequate inter sectoral linkages
- Inadequate means of entertainment
- Lack of awareness
- Lack of facilities and tourist safety

## 6.5.5 Logical Framework Analysis

Table 26: LFA of Tourism Development

Tourism Development	Indicators						Means of Verification	Major Assumptions
	Unit	Present Condition	Five Years Target (2077/78)	Measuring Indicators	Location	Target Groups		
<p><b>Goal:</b> 3.3: Economic development through promotion and conservation of religious, cultural and natural heritage</p> <p><b>Objectives</b></p> <p>3.3.1: Organize tourist arrival program to increase tourism activities</p> <p>3.3.2: Development of tourism infrastructure (view tower, hotel, lodge, information center, trekking route etc) in major tourist destinations</p> <p>3.3.3: Keep tourism</p>	Number		5000	Employment in tourism sector	New Town area	NT inhabitants	<ul style="list-style-type: none"> <li>▪ Tourism Statistics</li> <li>▪ Tourism reports of DDC and municipality</li> <li>▪ Tourism Board Reports</li> <li>▪ District Based Tourism Development Committee Reports</li> <li>▪ Archeological report</li> <li>▪ FNCCI Report</li> <li>▪ Hotel Association Report</li> <li>▪ Tourism ministry report</li> <li>▪ TAAN yearly report</li> <li>▪ Tourism Statistics</li> </ul>	<ul style="list-style-type: none"> <li>▪ Allocation of budget</li> <li>▪ Continue support from donor agencies, government and local people</li> <li>▪ Public private partnership in infrastructure development</li> <li>▪ Good Coordination among the stakeholders</li> <li>▪ Investment from private sectors</li> </ul>
	Number		3	Tourist information center	Tourism potential area	NT inhabitants and tourists		
	Number		10	Hoarding board	Along the Mechi Highway and other necessary places	NT inhabitants and tourists		
	Number		4 in a year	Tourism promotion campaign	Phidim, Birtamod and other necessary places	NT inhabitants and tourists		
	Plan implementation		Effective Implementation	Implementation of tourism master plan	Phidim NT	NT inhabitants and tourists		
	Village	1	5	Home Stay	Potential villages	NT inhabitants and tourists		
	Number		3	Agro tourism	Potential villages	NT inhabitants and tourists		
	Number		3	View Tower	Potential villages	NT inhabitants and tourists		
	Number			Hotel	Phidim and other potential areas	NT inhabitants and tourists		

sector in priority to create new employment opportunities  <b>3.3.4:</b> Organize tourist guide, trekkers, porter, hotel management,	Number			Restaurant	Phidim and other potential areas	NT inhabitants and tourists		
	Number			Cyber cafe	Phidim and other potential areas	NT inhabitants and tourists		
	Number			Tourist arrival	Phidim NT	NT inhabitants and tourists		
	Number			HH involved in tourism sector	Phidim NT	NT inhabitants and tourists		
<b><u>Outcomes:</u></b>								
<ul style="list-style-type: none"> <li>▪ Annual tourist arrival will increased in Phidim NT</li> <li>▪ Major tourist destinations will be conserved, promoted and developed</li> <li>▪ Plans and programs recommended by district tourism master plan will be implemented gradually</li> <li>▪ Substantial increment in tourist arrival in Phidim New Town</li> <li>▪ Local people will be involved in tourism activities</li> <li>▪ Large sum of revenue will be collected from tourism sector by government</li> <li>▪ New employment opportunities will be created in tourism sectors</li> <li>▪ Number of households involved in tourism sectors will be increased</li> <li>▪ Positive impacts and contribution on Phidim overall economy</li> <li>▪ Tourism will be one of the major income source of local inhabitants through increased tourism activities</li> </ul>								

**Activities/Programs:**

- Gradual implementation of tourism master plan
- Construction and development of view tower, tourism service center, picnic spot, trekking route, hoarding board, home stay
- Conservation and renovation of local religious and cultural heritage
- Organize and provide professional training for tourism entrepreneur, porter, tourist guide, cook, etc
- Promotion of local tourist destination
- Establish tourist service center
- Organize home stay training
- Development of home stay
- Develop agro-tourism
- Install hoarding board along the Mechi Highway and other necessary places to attract tourist
- Development and extension of quality hotels and lodges

### **6.5.6 Strategic Tourism and Cultural development Projects**

Strategic projects were identified at two level. At the first level at least ward level community meetings/consultation were carried out to collect local level problems and issues. Similarly, municipal/NT level interaction/consultation were also carried out for strategic projects and plans. Then, information/issues collected from both level were scrutinized and formulated the strategic projects which is shown in annex 1.

## 6.6 Institutional and Financial Development Plan

### 6.6.1 Concept

The concept of Institutional Development and Organizational Strengthening (ID/OS) has become increasingly important in relation to development projects and planning. More and more development organizations talk about and address issues like institutional development, institutional strengthening, institutional capacity building, and organizational development. Though using different words, it all boils down to an increased attention to the organizational set-up of projects and development activities. There are various reasons for this increased attention.

### 6.6.2 Present Status

In order to implement a plan, an institution needs some elements such as physical infrastructures, work force, guidelines, byelaws and standards, planning, mission, vision and goal and support from stakeholders. Political and administrative situation, local working environment are some other key elements for the successful execution of a plan. List of some key elements for institutional development are mention below:

**Table 27: Present Institutional Development Status**

Institutional Indicators	Status	Remarks
Governmental office	26	
Non-governmental office	12	notable
Community based organizations	18	
Forest user group	13	
Civil society	5	
Number of cooperatives	60	
Financial institutions	10	
Coordination among the governmental, non-governmental and local stakeholders	fair	

### 6.6.3 Resource Mobilization Plan

#### a) Land as a Resource

Land is the medium on which the entire superstructure of human settlement is created and under which a lot of infrastructure find their place. Planning of the use of land leads to socio-economic and physical development of urban and rural areas. However it is a scarce commodity as its supply is limited and it cannot be mass created. The Nepal Urban Development Strategy mentions that land is required for development of essential infrastructure and for urbanization,

while at the same time there is also a need to protect land under environmental sensitive zones and land which provides ecosystem services. Farmers and food security makes it imperative to protect land for agriculture. Further, the need to preserve natural, cultural and historical areas requires land protection.

It is, therefore, most essential to ensure that utilization of the available land is judicious and in the best interest of the community through the instrument of development plans. Thus, there is requirement for cohesive land use planning for development and well-judged allocation of land.

### **b) Land Economics**

Land value depends on demand and supply of land. The value increases as the demand exceeds the supply. Due to these characteristics, planners and urban economists have often been urging that urban land should be treated as an asset and be planned accordingly.

It has been observed that the average of the sale price for similar type of land located in the immediate areas adjoining the land being acquired. It is ascertained from fifty per cent of the sale deeds registered during the preceding three years, where higher price has been paid. This approach is suggested for determining the market value of land for acquisition purpose mainly.

### **c) Land planning techniques and Land development mechanism**

Land development mechanisms are undertaken for achieving optimum social use of urban land and to ensure adequate availability of land to public authority and individuals. Public private participation is achieved in land development through various techniques. Land planning techniques prevent concentration of land in few hands and promote its efficient social and economic allocation. Some of the land planning techniques also promote flexibility in land utilization in response to changes resulting from growing city. The various mechanisms to assemble and/or develop land are enlisted below:

- **Land Acquisition:** bulk land acquisition by State and by private initiatives
- **Land Pooling:** land pooling approach and redistribution scheme, popularly known as Town Planning Schemes
- **Land Reservations:** the concept of Accommodation Reservation which allows the land owner to develop the sites reserved for an amenity
- **Transferable Development Rights:** a technique of land development which separates the development potential of a land parcel for use elsewhere

### **Fiscal Resource Mobilization**

Local bodies play an important role in providing social, civic, physical and economic infrastructure services to the public. Municipal finances are critical in initiating many urban and local governance projects, as financial resources' strategic management plays a vital role in ensuring long-term sustainability of local services and infrastructure. To realize these

responsibilities local governments require steady flow and efficient management of financial resources.

Financial sector reforms and emphasis on transforming the role of government from provider to enabler, has made the mobilization of financial resources a complex task. As the traditional system of funding on basis of plan and budgetary allocations will be reduced, the local authorities will have to devise innovative methods of resource mobilization through fiscal instruments and accessing the market. The subsidies will need to be rationalized and urban development plans and projects need to be designed as commercially viable.

Local bodies would need to strive to move towards financial sustainability of the plans. Implementation of development plan and augmentation of urban services require massive financial investments for which the urban areas have to be physically and economically rejuvenated to attract new investments primarily in infrastructure and industrial front. The macro-economic policy for its success itself will require giving strong urban infrastructure support to it. Various innovative and traditional approaches for financing/resource mobilization for developmental activities which are shown below;

**Table 28: Funding and Revenue Mobilization Strategy**

<b>Funding Sources</b>	<ul style="list-style-type: none"> <li>➤ Betterment levy</li> <li>➤ Betterment charges</li> </ul>
<b>Traditional Sources</b>	
<ul style="list-style-type: none"> <li>➤ Grant and Subsidies</li> <li>➤ Municipal Bond and Debenture</li> <li>➤ Funding by by-lateral and multilateral agencies</li> </ul>	
<b>Innovative Sources</b>	
<ul style="list-style-type: none"> <li>➤ Foreign Direct investment</li> <li>➤ Public private partnership</li> <li>➤ Pooled Finance Public Fund</li> <li>➤ Loans from Financial Institutions</li> </ul>	
<b>Revenue Sources</b>	
<b>Traditional Sources</b>	
<ul style="list-style-type: none"> <li>➤ Tax, Fees and Charges</li> <li>➤ Surcharges</li> <li>➤ Income from Interests</li> <li>➤ Other income sources</li> </ul>	
<b>Innovative Sources</b>	
<ul style="list-style-type: none"> <li>➤ Land auction</li> </ul>	

**a) Innovative approaches for Fiscal Resource Mobilization**

Diverse options of the source finance are available for developmental projects. These traditional and innovative sources of financing for projects at State and local body level through funding and revenue sources are detailed below:

**Taxes:** State government authorizes local governments by law, to collect taxes. Taxes are major source of revenue of urban local bodies. Property tax, profession tax and advertisement tax are major sources of revenue in local governments.

**Charges and fees:** Local bodies levy charges and fees for the services provided to citizens. These charges, for water supply, solid waste management, parking and other such services to cover the cost of undertaking the provision of services.

**Grants and Subsidies:** Grants and subsidies are generally given by central government to state/local government or State to local government for development and provision of services to citizens.

**Public Private Partnership:** PPP is an agreement between public and private entity for providing services or infrastructure to citizens. It helps municipal authorities to shed some of its functions and evolve alternative institutional arrangement for the performance of such functions.

**Loans from financial institutions:** Public and private organizations come together to pool funds from public and investing it in financial assets. Such loans are for long term.

**Funding by Bilateral and Multilateral Agencies:** These are developmental agencies which provide soft loans for infrastructural projects. Almost all such loans are backed by sovereign guarantee and take long process to access.

**Foreign Direct Investment:** FDI is direct investment from company or entity into a foreign country.

**Pooled Finance Development Fund (PFDF):** PFDF is meant to provide credit enhancement grants to enable Urban Local Bodies (ULBs) to access market borrowings to facilitate development of municipal infrastructure.

**Municipal Bonds and Debentures:** Municipal bonds and debentures are issued by ULBs and Infrastructure Funds, to general or specific institutional investors to raise finance for developing physical infrastructure.

**Table 29: List of various Taxes, Surcharges, Charges, Fees and Tolls**

Main Theme	Sources of Revenue				
Taxes	Property tax on Lands and buildings	Vehicles and other	Special education	Conservancy	

		conveyance	tax		
	Property: (Lighting, water, drainage, general purpose, sanitary)	Garbage Treatment	Motor vehicles	Special and general sanitation	Trade
	Profession	Latrine	Local body tax on entry of goods	Electricity Cess Artisans	Artisans
	Stamp duty on transfer of properties	Market	Sale of cattle in the market	Scavenging	
	Stamp duty on transfer of immovable properties	Electricity	Boats	Land according to circumstances & property	Dogs Latrine
	Deficit parking space in any nonresidential building	Sanitary	Advertisement	Persons occupying houses	Menial domestic servants s
	Water	Congregation	Threat	Terminal	Carriage and Animal
	Fire	Pilgrims and Tourist	Vacant land development tax	Education cess	Animals
	Drainage	Non-Motorized vehicles	Building application	Timber	Dogs
Surcharges	Entertainment	Tax/charge/fee on Premises used for nonresidential purpose	Electricity consumption	Petroleum products	Transfer of lands and buildings
Charges	Water-supply	Drainage	Solid Waste Management	Stacking of material or rubbish	Sewerage
	Betterment Levy	Development charges	Other specific Services rendered		
Fees	Sanction of building Plans	Carts	Water Connection	Hotel / Restaurant	Betterment / Development Fee
	Issue of completion certificates	Carriages	Cattle	Birth and Death Registration	Cattle Pounds
	Licensing: Professionals, activities	Animals	Pound	Food and Adulteration	Swimming pool

	Issue of Birth and Death certificates	Registration of Dogs and Cattles	Street	Compounding	Stock Registration
	Advertisement Fee	Boats (rental)	Pilgrim	Dangerous and Offensive trade license	prevent of Food Adulteration
	Mutation	Fire Brigade	Drainage	Market	Slaughter Houses
	Registration	Public Health	Lighting	Composting	Building Betterment
	Trade license	Building Construction	Scavenging	Fees for sale of goods	
	Compounding	Nature and cost of internet service	Warrant Fee		
Tools	Roads	Bridge		Heavy Truck	Navigable Channel

### b) Alternative Financial Revenues by Private Sector Participation

Public-Private Partnership (PPP) is a long term contractual agreement between a public agency (central, state or local) and a private sector entity for providing a public asset or service in which the private party bears significant risk and management responsibility.

The private sector includes consultancy firms, developers, builders and promoters, cooperative societies, non-governmental organizations (NGOs) and community based organizations (CBOs), cooperative bodies, industrialists and businessmen. ‘PPP means an arrangement between a government or statutory entity or government owned entity on one side and a private sector entity on the other, for the provision of public assets and/ or related services for public benefit, through investments being made by and/or management undertaken by the private sector entity for a specified time period, where there is a substantial risk sharing with the private sector and the private sector receives performance linked payments that conform (or are benchmarked) to specified, predetermined and measurable performance standards 28.

A project may be considered to be implemented as a PPP project when there are efficiency gains from improved project delivery, operation and management, and access to advanced technology can offset the incidental costs, improvement in human resource etc. In fact, many countries have established value for money as the main criterion in judging the merits of a PPP option for a project. Decision for PPP to be an alternative development mechanism can be selected for a project, if it satisfies the following conditions or is set in the given situations:

- Enhance the supply of much-needed services
- Does not require any immediate cash spending
- Provide relief from the burden of the costs of design and construction
- Transfer of many project risks to the private sector
- Promise better project design, choice of technology, construction, operation and service delivery

- A PPP project is viable essentially when a robust business model can be developed

PPP models vary from short-term simple management contracts to long-term and very complex BOT form. Depending upon type of project and requirements of public entity any single or combinations could be selected. In such models amount of investment, risks, obligations and durations vary. These models vary mainly by:

- Ownership of capital assets
- Responsibility for investment
- Assumption of risks
- Duration of contract

The PPP models can be classified into following broad categories in order of generally (but not always) increased involvement and assumption of risks by the private sector.

- Management Contracts
- Turnkey Projects
- Lease
- Concession
- Private Ownership

### c) Expenditure pattern

Before an attempt is made to evaluate expenditure pattern, it's imperative to understand expenditure heads. The details of expenditure categories are given below;

**Table 30: Expenditures Categories**

Establishment expenditure	Staff salaries, Allowances, wages, Pensions & Retirement benefits etc
Administrative expenditure	Rents, rates & Taxes, Office maintenance, Communications, Books & periodicals, Printing & stationary, Travel expenditure, Law charges etc.
Operations & Maintenance	Power & fuel, Bulk purchases, Stores, Hire charges, Repairs & expenditure Maintenance and Interest payments made on loans
Capital expenditure	Buildings, Water supply & Sewerage, Energy/lighting, Solid waste management , Roads, Bridges, Culverts, Causeways, Health & sanitation, Parks and recreation spaces, etc., Principal repayments of loans, Furniture & fittings, Tools & plant, Equipment
Other expenditure	Miscellaneous expenses not accounted for in the above

### d) Effective finance management

#### Uniformity of accounting system

Uniformity accounting system is necessary particularly to;

- Budgeting, accounting, internal controls and auditing.
- Re-engineering business processes to align with accrual-based accounting system,
- Integrate financial management systems with financial accounting system,
- Staff and building financial management capacity.

### **Efficient tax/charges administration and recovery management**

Tax administration and recovery mechanisms need to be revised in LUBs to improve tax collection and increase the revenue resources available with them to meet its requirements. Enforcement of tax collection needs to be strengthened. For collection of fees for provision of services, proper techniques should be enforced. Periodic assessment and valuation of properties for tax revision should take place and for expanding the tax base, property tax rolls should be updated via identification of new properties, computerizing billing & collection.

### **Fiscal transfer management for ULBs**

Lack of structured fiscal transfer mechanisms from central to ULBs is one of the major reasons of availability of lesser fiscal resources with local authorities. Governments and ULBs need to explore the performance-based grants.

### **e) City Infrastructure Fund**

The infrastructure plays a vital role in the growth and development of cities in the current context. Keeping in mind the demands and requirements of urban development, Government has also been emphasizing and providing finance for development of infrastructure. Following the same line thought, a City Infrastructure Fund can be established at urban centres by the Executive order. It should be other than the Budget fund and dedicated only for the Urban and Regional Infrastructure development. Sources of possible funding for such fund could be:

- Whole or part of the Stamp Duty on transaction of real-estate property,
- Capital gain tax on real-estate property,
- Land use conversion fee,
- Entry tax on vehicles in special areas (inner city, CBD etc.) of cities,
- Part of the TDS on real-estate transactions valued over 50 Lakhs,
- Vacant tax on Municipal FAR rather than vacant land,
- Toll tax,
- Part of funds raised through auction of strategic plots,
- Betterment levy on special zones (transport corridors etc.).
- Urban Infrastructure Bonds,
- Use idle funds (Provident Fund, various Trusts etcetera) to subscribe to the Bonds.
- Leverage Urban Infrastructure Bonds with long term loans from multilateral development banks

Land-based financing sources along Transport Corridors can be tapped through the following:

- Conversion charges,
- Betterment charges,
- Periodic revision of property guidance value, especially along Transit corridors,
- Impact fees,
- Development charges.
- Higher FSI & Mixed Land Use in influence zone of Transit corridors within overall planning guidelines,

- Pricing of Floor Space Index (FSI) above a certain limit,
- Prepare city-wide inventory of land assets,
- Transparent and accountable mechanism for monetization of public land with attention to the poor,
- Dedicated Urban Infrastructure Fund at city & state levels: For regular inflows of funds from various beneficiaries of improved urban transport facilities.

#### 6.6.4 Institutional Development Plan

The institutional development plan will ensure that institutions/stakeholders of NT will be empowered for planning as well as implementing the projects. It provides the basis for jointly integration of scheduling, implementation and control (measurements of the results performance, diagnosis of the results, corrective measures) of the designed implementable/implementing projects. It enables the efficient allocation of the resources and the decision assuming for strategic investments in the projects. Problems of institutional coordination is major factor for effective implementation of any plan. It is not different in the case of Phidim New Town. Major problems related to institutional Development at Phidim are listed below;

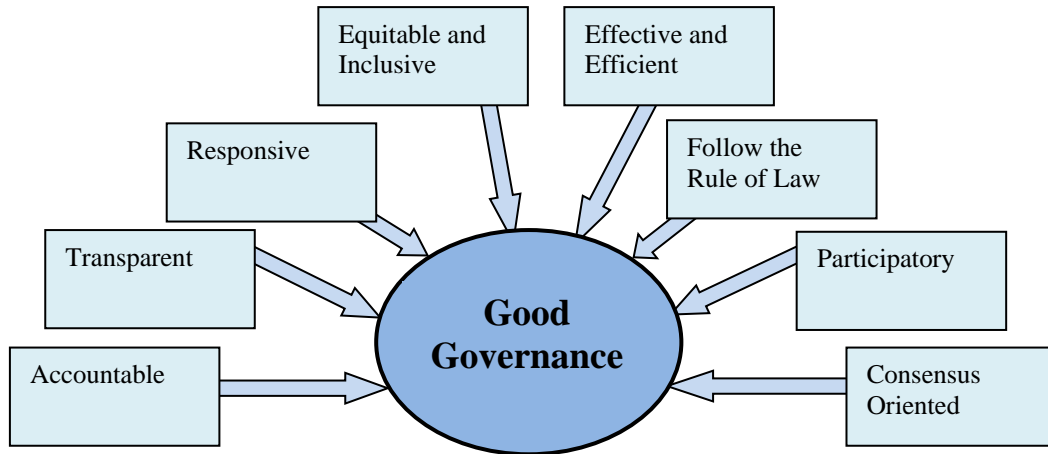
##### Major Problems

- Lack of human resources for effective mobilization for plan implementation
- Lack of sufficient physical infrastructure/assets within NTPO, TDC and Municipality
- Lack of convention/meetings/conference hall
- No sufficient coordination among the implementing stakeholders
- Challenges of completion of on-going projects timely
- No effective mechanism for working with public

The institutional development plan has been proposed based on the analysis of existing the possible need of the institutional strength;

##### a) Good Governance

The new economic policy of Government has changed the role of government from provider to facilitator. With entry of private sector in service provision and improving economic profile of the country's economy, urban public (basically but not only) has started demanding better service provision standards and accountability in the process of governance. Herein comes the role and concept of 'Good governance'. It is an evolving concept, concerning best practices of decision making for conducting public affairs and management of public resources. Good governance is responsive and responsible governance. It is described as accountable, transparent, responsive, equitable & inclusive, effective & efficient, follows rule of law, participatory and consensus oriented. Following are the characteristics of good governance:

**Figure 18: Characteristics of Good Governance**

Source: UN ESCAP, *Good Governance guide: Municipal Association of Victoria*

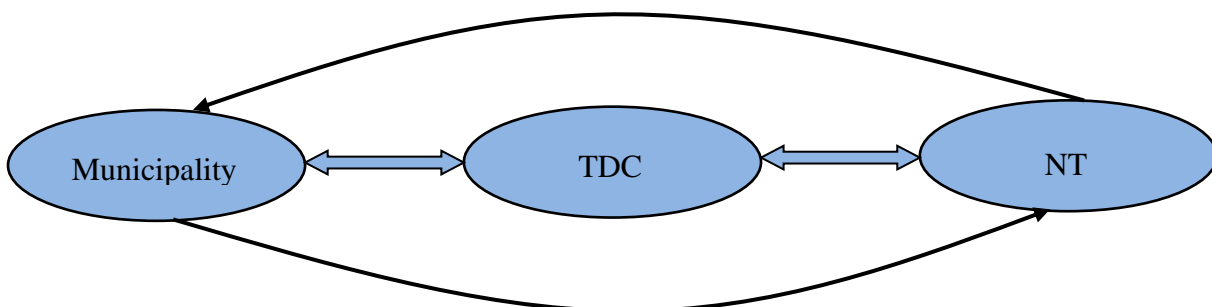
Stakeholders/line agencies of NT should be aware about good governance aspects for institutional strengthening. Organizational strengthening can be achieved through coordination between line agencies, information sharing/knowledge transformation, capacity building, empowering local stakeholders.

#### b) Institutional Set-Up and Relation

Effective coordination between Municipality, TDC and NT in the new towns context is most important since these three LUBs are functioning for implementation of IDP. Similarly, there should be a good relationship between NTPCO and NTPO regarding project planning, implementation in the NT. Decentralization policy needs to be adopted for strengthening the NTPO at the town.

#### c) Institutional Coordination

Major three institutions namely Municipality, TDC and New Town Project Coordination Office are the implementing agencies. It is therefore very important to have strong coordination between these three as shown in the figure below;

**Figure 19: Coordination between LUBs**

#### d) Human Resources/skills

Human resources planning is a process that identifies current and future human resources needs for an organization to achieve its goals. Human resources planning should serve as a link

between human resources management and the overall strategic plan. Planning function is a continuous process and the planning work continues from plan preparation to plan processing, plan enforcement, plan implementation, plan detailing, plan review and then plan formulation and so on. The plan formulation, implementation, monitoring and review exercises must be statutorily prescribed in the Acts and completed within the specified time frame and schedule. In the context of these requirements, institutional set-up has a vital role. Table below reveals the existing human resources available in NT.

**Table 31: Existing Key Human Resources**

Municipality		Town Development Committee		New Town Project Office	
Designation	Number	Designation	Number	Designation	number
Executive Officer	1	Chairperson	1	Planner	-
City Town Planner	-	Members	-	Senior Engineer	1
Governance Facilitator	1	Planners	-	Sub-engineer	-
Engineer	1	Engineers	-	Office Manager	1
Sub-engineer	2	Sub-engineers	-		
<b>Total</b>	<b>6</b>		<b>1</b>		<b>2</b>

Table reveals that there is no strong institutional set-up as looking through eye of human resources. Skilled/technical human resources are weak in all three major stakeholders in the NT. It is therefore very important set up additional human resources in NT. While proposing the institutional set up for town planning and implementation of projects in the NTs, the following body of unit is expected to form and mobilized in the new town;

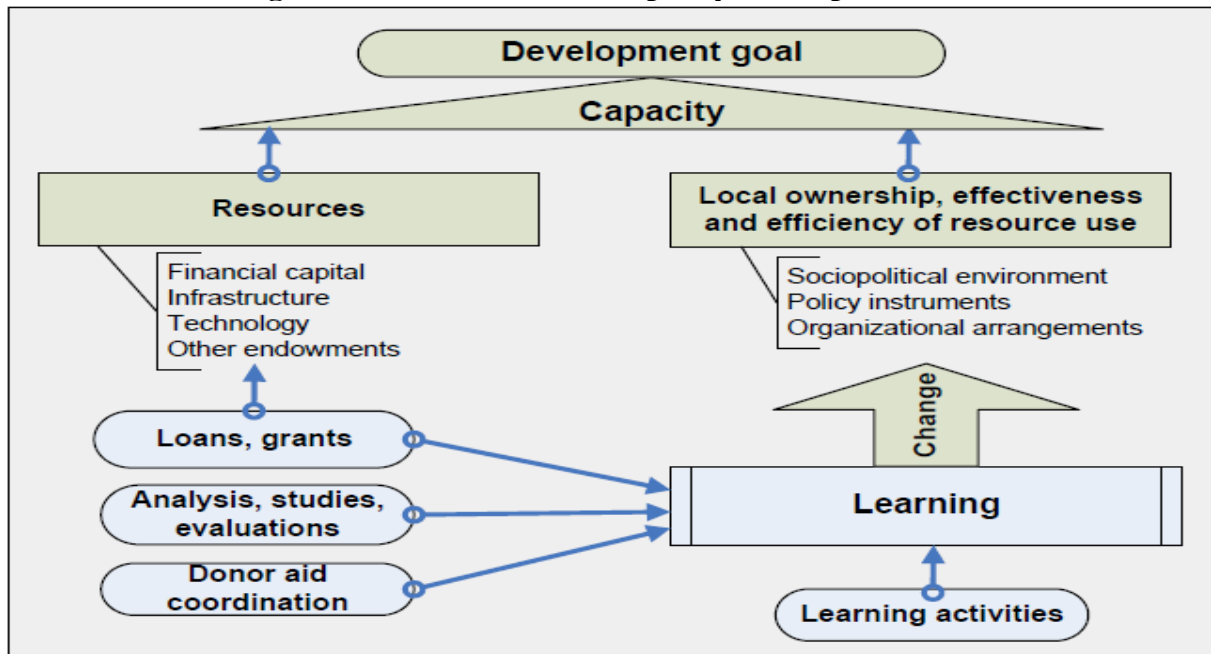
**Table 32: Proposed Key Human Resources**

Municipality		Town Development Committee		New Town Project Office	
Designation	Number	Designation	Number	Designation	Number
Executive Officer	1	Chairperson	1	Planner	1
City Planner	1	Members	-	Senior Engineer	1
Urban Planner	1	Planners	1	Engineer	2
Engineer	2	Engineers	1	Sub-engineer	3
Sub-engineer	3	Sub-engineers	2		
<b>Total</b>	<b>8</b>		<b>5</b>		<b>7</b>

Table above proposes some of the key experts that new town demands for project implementation.

#### e) Capacity Development

Human resources in NT including Municipality and TDC need capacity development program for effective implementation of plans and programmes. Present capacity of all the stakeholders is lesser than that demand in NT development and project monitoring. Effective capacity development programmes are expected at the NT.

**Figure 20: Framework for Capacity Development Plan**

Source: Adapted from the World Bank, 2009

#### f) Resource Mobilization

Resource is an important component to uplift the socio economic condition of people. Availability of resources may differ in different part of the world, however, in any forms or types it is available everywhere at local level. Particular types of resources may available in particular place, such particular resource needs to utilize by combining with other resources in appropriate proportion to produce something otherwise it may be idle.

Local revenue sources of a municipality are; a) taxes: house and land tax, land revenue and tax, targeted property tax, entertainment tax, advertisement tax, rent tax, professional tax, vehicle tax (registration, renewal and lump sum), commercial video tax b) service charges: parking fee, electricity, water, public telephone fee, solid waste, sanitation, public park, swimming pool, tourist sites, hat Bazar, sewerage fee, slaughter house, real estate valuation, street light, etc, c) fees: approval and recommendation fee, approval of building design fee, attestation of maps fee, d) commercial activities: Bahal (rent), e) grant: unconditional, administrative, development, matching, resource mobilization, social mobilization, landfill site and f) Loan: construction of urban infrastructures.

#### d) Decentralization

Decentralization is the process of redistributing or dispersing functions, powers, people or things away from a central location or authority. It implies devolution of power, resources and authority at the local level of the government for strengthening and making responsible to Local Bodies. Following things are important for decentralization;

- Improve individual, institutional and societal **capacities** of, and **partnerships** among, government, civil society and the private sector at local levels to enable them to participate more productively in, and ultimately benefit from, the development process;

- Enhance **national ownership** to improve prospects for sustainability of initiatives, thus, build and/or accelerate momentum towards decentralizing and related national development targets;
- Create an **enabling environment** through legal and institutional processes both at the central and local levels to effect a holistic approach within the context of human development;
- Enhance the voice and **participation** of women, the poor and vulnerable groups for greater equity in decisions affecting them and ultimately **empower** them as members of society; and
- Increase **access to services**, especially for the poor, women and vulnerable.

#### e) Participatory Planning and Implementation Strategy

The approach of planning has shifted from top-down to bottom-up approach to make planning process more broad; partnership based and negotiated principles and practices. Greater public support is obligatory, to ensure that plans are relevant, before implementation. People can participate in the development process in the following realms:

- Participation in decision making in plan formulation, identification of development priorities,
- Participation before finalization and implementation of development programmes and priorities,
- Participation during implementation and evaluation of development programmes and project,
- Participation and sharing the benefits of development, managing the assets etc.

Taking into account the interest, attitude and behavior of the people, role of urban development professionals and obligations of local authority, a system of participatory plan approach has been suggested as shown in the following table:

**Table 33: Plan Formulation Strategy**

Planning Process Steps	Citizen	Urban Development Professionals	Officials
Determining goal and objectives	+	o	+
Data Collection		+	
Design of criteria and standards		+	
Developing alternative plans	o	+	
Choosing an alternative	+		+
Detailed design of operational plan		+	
Modification/approval of plan	+	o	+
Plan Approval	+		+
Implementation	o	+	+
Monitoring	+/o		+
Maintenance	+/o		+

Feedback	+	+	+
+ = Major role, O = Facilitating or supportive role			

Source: Community Planning Assistance Program, Arizona Department of Commerce and UDPMI Guidelines

### Proposed Institutional Development Strategy

Based on the analysis of some of the above elements of institutional development process, following institutional development strategy is proposed for NT development;

**Table 34: Proposed Institutional Development Plan**

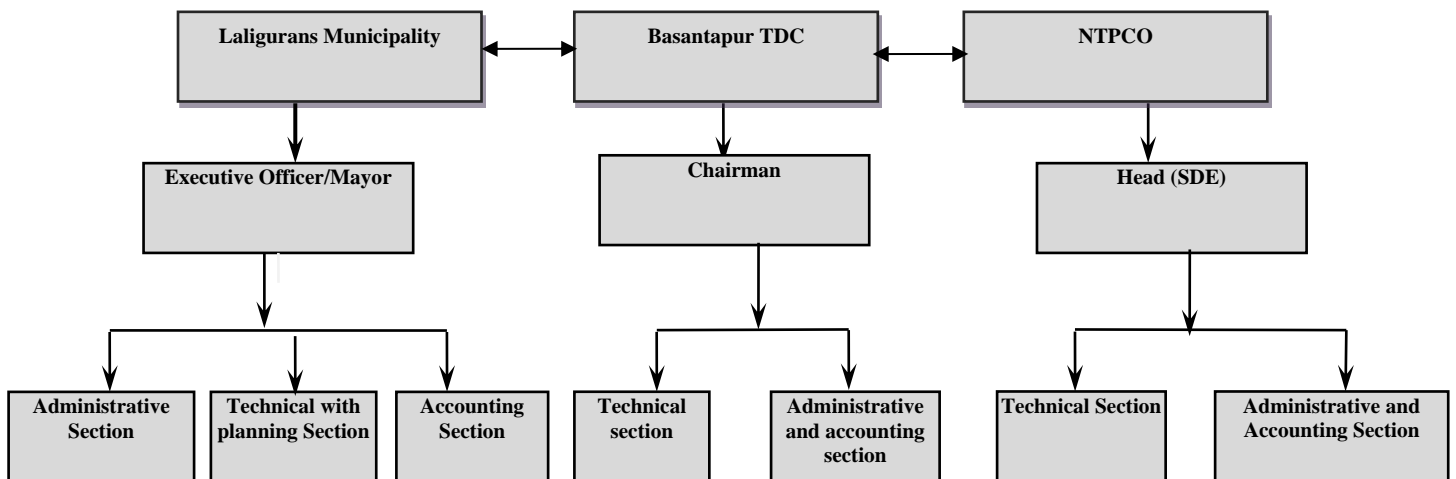
Strategy	Proposed Activities
Good governance to the NT residents	<ul style="list-style-type: none"> <li>➤ Easy access of information to the public</li> <li>➤ Transparency in the activities</li> <li>➤ One time service guarantee to the public</li> <li>➤ Regular monitoring and supervision in the project sites</li> <li>➤ Participatory development process</li> <li>➤ Awareness programmes to the local</li> <li>➤ Social auditing</li> <li>➤ Public hearing</li> </ul>
Establishment of good institutional coordination and faith	<ul style="list-style-type: none"> <li>➤ Regular inter-office consultation meetings</li> <li>➤ Information sharing (project, data base, ideas etc)</li> <li>➤ Skills/knowledge transfer through inter-office training</li> </ul>
Improvement of Organizational strength and human resources	<ul style="list-style-type: none"> <li>➤ Requirement/fulfilment of necessary human resources</li> <li>➤ Improvement in equipment and facilities in the office</li> <li>➤ Reward and punishment as per performance</li> <li>➤ Motivational packages to the office staffs</li> <li>➤ Refreshment training</li> <li>➤ Inter office technology/knowledge transfer</li> </ul>
Effective and proper mobilization of local resources	<ul style="list-style-type: none"> <li>➤ Implementation of tax , fees, services charges according to the rules</li> <li>➤ Awareness programmes for public responsibility for paying tax</li> <li>➤ Monitoring and supervision</li> <li>➤ Control on exploitation of natural resources</li> <li>➤ Scientific/standard (legal provision) process for bidding local resources use (forest and river)</li> </ul>
Providing the power and authority for empowering local bodies	<ul style="list-style-type: none"> <li>➤ Coordination between NTPCO and NTPO regarding project implementation</li> </ul>

	<ul style="list-style-type: none"> <li>➤ Devolution of power and responsibility according to the rules (project bidding, hiring, planning, monitoring etc)</li> <li>➤ Fulfilment of required position</li> </ul>
Improving planning process for effective implementation at local level in a participatory way	<ul style="list-style-type: none"> <li>➤ Participatory method for project selection</li> <li>➤ Mobilization of ward Nagarik Manch and local level community groups</li> <li>➤ Need based planning rather than voice base</li> </ul>

### 6.4.5 Proposed Institutional Development Framework

Based on the above analysis and existing institutional practice in Phidim, following framework could be appropriate. The concept in the framework is that New Town Project Coordination Office (NTPCO) will work in close coordination with the municipality and Town Development Committee (TDC) and implement urban development projects in the town. During the process of project execution, major actors (Municipality and TDC) will be empowered for project implementation in the new town. After completion of the project objectives, NTPCO will hand over to other body particularly to the municipality for further planning and implementing the project. Proposed framework is shown in the chart below;

**Figure 21: Proposed Institutional Development Framework**



## 6.3.6 Logical Framework Analysis

Table 35: LFA of Institutional Development

Institutional Development	Indicators						Means of Verification	Major Assumptions
	Unit	Present Condition	Five Years Target (2077/78)	Measuring Indicators	Location	Target Groups		
<b>Goal:</b>								
<b>6.1:</b> Good governance through efficient and effective service delivery from local offices	Status	Only citizen charter is implemented	Mandatory	Citizen charter having compensation provision	All offices of NT	Local costumers	<ul style="list-style-type: none"> <li>▪ Evaluation Report</li> <li>▪ Social audit report</li> <li>▪ Public hearing report</li> <li>▪ Office website</li> <li>▪ Study report</li> <li>▪ Social audit report</li> <li>▪ Audit report</li> <li>▪ Public hearing report</li> <li>▪ Annual report</li> </ul>	<ul style="list-style-type: none"> <li>▪ Efficient and effective public participation</li> <li>▪ Regular public hearing</li> <li>▪ Regular social audit</li> <li>▪ Regular audit</li> <li>▪ Regular evaluation and monitoring</li> <li>▪ Technology friendly staff</li> <li>▪ Capacity building and enhancement training in regular interval</li> </ul>
<b>Objectives</b>	Status	Selected service	All offices	Computerized system	All offices of NT	Local costumers		
	Status	Not yet	All offices	Online service/e-governance	All offices of NT	Local costumers		
<b>6.1.1:</b> To improve existing local governance situation	Status	Selected office	All offices and update regularly	Website and Update	All offices of NT	Local costumers		
	Status	Is being practice	Every four months	Monitoring and evaluation	All offices of NT	Local costumers		
<b>6.1.2:</b> To manage and implement citizen charter having compensation provision in NT office	Times	-	Every three months	Performance evaluation	All offices of NT	Local costumers		
	Times		Every months	Progress meeting	All offices of NT	Local costumers		
<b>6.1.3:</b> Online and computerized Service delivery	Status	Is begin practice	Year fiscal year	Audit	All offices of NT	Local costumers		
	Number	Occasionally	Once a year	Capacity building and enhancement	All offices of NT	Local staff		
<b>6.1.4:</b> Effective coordination among the local governmental and non-governmental office	Number	Occasionally	Once a year	Educational tour for staffs	All offices of NT	Local staffs		
	Status	Weak coordination	Good coordination	Coordination among Governmental and Non-	All offices of NT	Local costumer		

<b>6.1.5:</b> Fulfill the vacant posts in NT office				governmental agencies				
	Status	Occasionally	Twice a year	Demonstration and campaign	All offices of NT	Local costumer		
	Status	Is being practice	Inclusive	Promotion and encouragement to staffs	All offices of NT	Local staffs		
	Status	As per government rule	As per government rule plus other benefit as where applicable/possible	Beneficial package for staffs	All offices of NT	Local staffs		

**Outcomes:**

- All plans and programs will be implemented successfully
- Plan preparation and capacity development training (technical and skill development training, women, disable, senior citizen, backward societies and areas) will be conducted regularly
- Encouraging participation of private sectors, local communities and non-governmental organizations
- Necessary training for capable, qualified and strong human resources
- Good coordination among the governmental and non-governmental organization will be made
- All office will have suggestion box and address the suggestions regularly
- citizen charter having compensation provision will be implement effectively
- Qualified manpower will be posted in vacant post
- Institutional strengthen through citizen satisfaction survey result
- Resource mobilization and service delivery, technology, evaluation and monitoring system will be improved
- Profession form, established industries and economic transition bodies of NT will be identified and bring into tax system
- Service delivery system will be efficient and effective through online and computerized service

**Activities/Programs:**

- Basic procedure and system will be improved and reformed in major service delivery offices
- Coordination among the governmental and non-governmental organizations
- Updating of office notice and progress in website regularly
- Implementation of e-governance/online service delivery system in all offices
- Educational excursion and staff exchange program will be done regularly or capacity development of local manpower
- Organize training, capacity development program, seminar, workshops for the capacity development
- Management of necessary infrastructure for office development
- Effective monitoring of local non-governmental organizations

**6.3.7 Strategic Plans and Programmes**

Strategic institutional development plans and projects were identified at two levels. At the first level at least ward level community meetings/consultation were carried out to collect local level problems and issues. Similarly, municipal/NT level interaction/consultation were also carried out for strategic projects and plans. Then, information/issues collected from both level were scrutinized and formulated the strategic projects which is shown in annex 1.

## **6.7 Environmental Management and Disaster Mitigation Plan**

### **6.7.1 Concept**

There is a strong link between natural hazards and environment as the former, especially those leading to disasters, are normally caused by sudden or systematic changes in the state of environment. These changes are mostly introduced through natural phenomena, where through a gradual course, nature responds to multiple climatic and geological processes acting upon the environment. Apart from the natural phenomenon, environmental changes are also induced through human activities, which are of sudden nature.

This kind of sudden change in environment is normally irreversible and puts more risks on human settlements, by causing more damage to lives, property and infrastructure, which in many cases can be avoided by giving adequate attention to environmental priorities during development planning. Environment protection provides safety to the lives and livelihood as well as sustainability to infrastructure. At times natural processes of change overlap with human induced changes causing devastating hazard events more often both at local as well as regional and national levels.

The impacts of human induced changes are global in nature, adding more risks to the areas having fragile geological set up, unplanned urban settlements, overexploited natural resources and un-stabilized slopes used for farming. Economic growth along with the increasing consumption of fossil fuels, deforestation, irrigated agriculture, animal husbandry and cement manufacture are constantly releasing greenhouse gases to the atmosphere causing global warming and climate change. Damage to earth's capacity to act as a sink for GHGs and other pollutants, result in increased climatic variations leading towards frequent floods and droughts, giving room for disease and insect breakouts, causing severe threats for safety and health of the people, animals and plants as well as sustainability of the natural resources and ecological processes.

Usually events of natural hazards of large magnitude cause profound damage to the environment, which further amplify the impact on the communities and their livelihoods. This kind of impact is not always immediately evident, but can appear later, sometimes even years after the calamity. These impacts may appear in the form of pollutants accumulated in the air emitted from settlements, agricultural lands, factories and mines as well as forest fires. Similarly, degradation of fertile land leads to further expansion of agriculture in forested areas causing loss of habitat connectivity and direct threats to the biodiversity, thereby creating both short term and long-term implications for environment and ecological functions.

Environment is equally exposed to damage in post disaster situations, when people are relocated from the affected area or forced to move from their place of origin to the vicinity of protected areas, natural forests, riverbanks or hill slopes vulnerable to landslides. Severe damage is caused to environment from this kind of temporary settlements where the migrant community mostly depends on environmental resources for their livelihood. Normally in lack

of law enforcement capacity of the government and alternatives provided to these people, the temporary relocation sites gradually become sites of permanent settlements, and loss of environment is forgone forever.

Environmental degradation makes especially poor communities more vulnerable to hazards because their livelihoods are more often fully dependent on natural resources. Moreover, they have little resources to deal with the issues and they are commonly living in the areas, more prone to natural hazards.

### 6.7.2 Present condition

In Panchthar district, various developmental activities have created a number of environmental problems such as loss of forest, forest degradation, soil erosion, air pollution, water pollution and unmanaged solid waste at district level. It is imperative that environmental consideration and its management in development planning play a crucial role in enabling and sustaining poverty reduction. There are a number of environmental issues of the district. Such as; climate change (increasing temperature and decreasing precipitation trend); natural and human induced disaster; solid waste management; urbanization and consequent environmental degradation; and water resource are the major. These are the problems associated with forest fire, landslide and epidemic and floods in the district.

The main effects of environmental degradation will lead to decrease economic base for people's livelihoods; loss of economic investments on infrastructure due to erosion and other natural hazards; increased occurrence and increased intensity of droughts and floods; and thus lead to increase poverty.

In Panchthar district, District Disaster Relief Committees (DDRC) is a permanent outfit at the district level to coordinate relief and preparedness. DDRC is chaired by the Chief District Officer (CDO) who is the main administrative functionary to maintain law and order at the district level. Other members to DDRC are the representatives of the district level offices of the various public sector agencies such as district water supply office, district education office and district health office. The Local development Officer (LDO) coordinates development works with the elected bodies at the district level, is the member-secretary of DDRC.

While talking about the environmental management and disaster mitigation Phidim NT, major environmental issues can be assessed as environmental pollution/degradation, solid waste management, land slide and other. Major environmental and disaster related problems and preparedness situation of Phidim municipality are mentioned below:

**Table 36: Present Status of Environment Management and Disaster Mitigation**

Indicators	Status	Remarks
Concerned agencies	Red Cross, DAO, DDC, DSCO, Security forces	
District Disaster Relief Committees	Formed	
Fire engine	Under procurement	

Backhoe loader	Under procurement	
Dozer	Available at DDC	
Ambulance	Available	
Emergency Ward	Available at district hospital	
Disaster relief fund	Lack	
Disaster rescue technical team	Not formed	
Early warning system	Lack	
Open space	Available	
Emergency shelter	No available	
Stock of relief materials	Limited	
Stock of medicine	Yes	
Public awareness	Moderate	
Public participation	Good	
Mitigation initiation	Poor	
EIA and IEE provision	Yes	
Use of local technology to reduce landslide	Moderate	
Implementation of landuse plan	Not yet	
Implementation of building code	No	
Building bylaws	Under construction	
Coordination among the local stakeholders	Poor	

### 6.7.3 Problems

Disaster management is a difficult task. Disaster happens all of a sudden. Thus, the suddenness of a disaster and its destruction, especially during a very serious natural disaster, it becomes very difficult to cope with a normal administrative set up and limited funds and resources. In view of the above situation, Phidim is facing a number of severe problems which are mentioned below:

- Poor public awareness
- Poverty
- Poor access of physical infrastructure
- Unplanned settlement
- Lack of political commitment
- Lack of preparedness of District Disaster Relief Committees (DDRC)
- Slow decision-making process
- Lack of cooperation and coordination among various disaster management related agencies
- Inadequate funds and resources
- Lack of relief equipment and machine such as fire engine
- Lack of modern technology especially early warning system

## 6.7.4 Logical Framework Analysis

Table 37: LFA of Environmental Management and Disaster Mitigation

Environmental management and disaster mitigation	Indicators						Means of Verification	Major Assumptions
	Unit	Present Condition	Five Years Target (2077/78)	Measuring Indicators	Location	Target Groups		
<p><b>6.1: Goal</b></p> <p>Safe and comfortable life through sustainable management of forest, environment and soil conservation</p> <p><b>Objectives</b></p> <p><b>6.1.1:</b> Effective conservation and management of forests</p> <p><b>6.1.2:</b> Income generation through the development of forest products and medicinal herbs</p> <p><b>6.3.4:</b> Soil conservation and river embankment for sustainable development</p>	Hectare	813	1000	Community forest	Phidim NT	All inhabitants of NT	<ul style="list-style-type: none"> <li>▪ Annual report of district forest office</li> <li>▪ Annual report of federation of community forest</li> <li>▪ Annual report of federation of district forest consumer group</li> <li>▪ Annual report of district soil conservation office</li> <li>▪ Mid-term evaluation of IDP</li> <li>▪ Annual progress report of DDC Panchthar</li> <li>▪ Annual progress report of Phidim Municipality</li> <li>▪ Annual report of</li> </ul>	<ul style="list-style-type: none"> <li>▪ Allocation of budget</li> <li>▪ Continue support from donor agencies, government and local people</li> <li>▪ Public private partnership in infrastructure development</li> <li>▪ Good and regular coordination among the local stakeholders</li> </ul>
	Hectare	2624	2624	Government Forest	Phidim NT	All inhabitants of NT		
	Hectare	56	75	Lease hold forest	Phidim NT	All inhabitants of NT		
	number	11149	20000	Benefited population from community forest	Phidim NT	Forest consumer groups and area		
	Hectare			Greenery area and parks	Phidim NT	Local inhabitants		
	Number	Yes	Mandatory	Provision of EIA and IEE	Phidim NT	All inhabitants of NT		
	Number		Mandatory	Building code application	Phidim NT	All inhabitants of NT		
	Hectare		mandatory	Environmental friendly infrastructure development System	Phidim NT	All inhabitants of NT		
	Hectare		mandatory	Bio-engineering	NT roads	All inhabitants of NT		

<b>6.3.5:</b> Afforestation program in barren land for greenery <b>6.3.6:</b> Greenery management at urban areas for the improvement of urban environment <b>6.3.7:</b> Adopt bio-engineering method for the construction of environment friendly road <b>6.3.8:</b> Promote and support climate change adaptation work	Hectare		Nil	Forest and bush fire case	Local forests	All inhabitants of NT	Nepal Red Cross Society, Panchthar District
	Number			Public barren land	Barren land of NT	All inhabitants of NT	
	Status		Will be prepared and implemented	Risk sensitive land use plan	Risk sensitive area	All inhabitants of NT	
	Number		Two times in a year	Awareness programs	Risk sensitive area	All inhabitants of NT	
	Status		Will be installed in sensitive area	Alert system	Risk sensitive area	All inhabitants of NT	
<b>Outcomes:</b> <ul style="list-style-type: none"> <li>▪ Management of illegal mine extraction and environmental exploitation</li> <li>▪ Environment friendly provision will be applied in infrastructure development</li> <li>▪ Management of sanitary landfill site for solid waste management</li> <li>▪ Improvement in watershed and river ecosystem</li> <li>▪ Forest fire and poach will be controlled</li> <li>▪ Maximum utilization and long term management of medicinal herbs</li> <li>▪ Management of public parks, lands, and ponds</li> <li>▪ Land use zone demarcation will be done for the implementation of local plans</li> <li>▪ Earthquake resistance building will be constructed in Phidim and major settlement areas</li> <li>▪ Greenery zone will be developed in major market areas</li> </ul>							

**Activities/Programs:**

- Illegal mining, extraction of sand and stones from local rivers will be controlled
- Improved alternative measures will be applied for management and use of natural resources
- Effective implementation of IEE and EIA
- Effective monitoring of mine management and agreement
- Organize environmental awareness programs at local schools
- Road construction on the basis municipal transport master plan
- Apply bio-engineering method for local development
- Apply slope stabilization strategy for road construction
- Apply code of conduct for the use of heavy equipments like dozer and excavators for road construction
- Organize awareness program for the minimization of garbage in source area
- Application of environmental service charge for the management of special environmental conservation fund
- Conduct sanitary landfill site feasibility study
- Construction of sanitary landfill site on the basis of feasibility study
- Management of garbage through separating degradable and non-degradable garbage
- Construct public toilet at Phidim and major market centers
- Final outflow of sewerage after processing biological and bio-engineering method
- Construct pond in each village for rain water controlling
- Control land slide and soil erosion around the source of water for the conservation water spout
- Apply integrated community watershed development program
- Give emphasis for good governance and handover of community and leasehold forest
- Local organizations working for forest conservation will be awarded and honored

## 6.8 Climate Change Adaptation Plan

### 6.8.1 Concept

Globally climate change resulting from growing greenhouse gas emissions is expected to lead to rising temperatures and changing rainfall patterns. The effects may vary by sub-regions and localities, but in general the following may be expected to take place:

- Increase in temperature and decrease in mean precipitation leads to an increase in the frequency and severity of drought and heat waves.
- Increasingly warm ocean surface temperature generates more and stronger hurricanes, as well as commensurate flooding in the aftermath.
- Severe drought leads to an increase in forest fires.
- Greater intensity of wind and rain causes severe floods and landslides.

Climate change will have a disproportionate effect on particular geographic locations, communities, and demographic groups. The impacts of climate change raise environmental justice issues. Environmental justice focuses on the health of and environmental conditions affecting minority, low-income, and indigenous populations. Thus, plan should place emphasis on these populations because they have historically been exposed to a combination of physical, chemical, biological, social, and cultural factors that have imposed greater environmental burdens on them than those imposed on the general population. Climate change is likely to exacerbate existing and introduce new environmental burdens and associated health impacts in communities dealing with environmental justice challenges across the nation. Therefore, climate change adaptation plan should focus on the following;

**Adopt integrated approaches:** Adaptation should be incorporated into core policies, planning, practices and programs whenever possible.

**Prioritize the most vulnerable:** Adaptation plans should prioritize helping people, places and infrastructure that are most vulnerable to climate impacts and be designed and implemented with meaningful involvement from all parts of society.

**Use best-available science:** Adaptation should be grounded in the best-available scientific understanding of climate change risks, impacts and vulnerabilities.

**Build strong partnerships:** Adaptation requires coordination across multiple sectors and scales and should build on the existing efforts and knowledge of a wide range of public and private stakeholders

**Apply risk-management methods and tools:** Adaptation planning should incorporate risk - management methods and tools to help identify, assess and prioritize options to reduce vulnerability to potential environmental, social and economic implications of climate change.

**Apply ecosystem-based approaches:** Adaptation should, where relevant, take into account strategies to increase ecosystem resilience and protect critical ecosystem services on which humans depend to reduce vulnerability of human and natural systems to climate change.

**Maximize mutual benefits:** Adaptation should, where possible, use strategies that complement or directly support other related climate or environmental initiatives, such as efforts to improve disaster preparedness, promote sustainable resource management, and reduce greenhouse gas emissions including the development of cost effective technologies.

**Continuously evaluate performance:** Adaptation plans should include measureable goals and performance metrics to continuously assess whether adaptive actions are achieving desired outcomes

### 6.8.2 Present Status

Nepal's climate is influenced by the Himalayan mountain range and the South Asian monsoon. The monsoon rain is more in east and declines as it moves to west. Several studies have shown that the temperature is increasing in faster rate than the previous decades. These studies show higher temperature increment for winter compared to the summer and monsoon seasons. Some study shows a higher increment in temperature over western and central region as compared to eastern Nepal. The modest projection in winter precipitation is almost no change in western Nepal and up to 5-10% increase in eastern Nepal.

Nepal Meteorological data projects both increase and decrease in mean annual precipitation with no clear trends. In terms of spatial distribution, the study findings project an increase in monsoon rainfall in eastern and central Nepal as compared to western Nepal. Moreover, the projections indicate an increase in monsoon and post monsoon rainfall as well as an increase in the intensity of rainfall and a decrease in winter precipitation.

Phidim is vulnerable to climate change given the complex topography and low level of development of protection mechanism. The ongoing climate change and changes projected to occur are likely to have impacts on different sectors of the district. Impacts on some sectors are likely to be more severe than others. The sensitive sectors are agriculture, forestry, water and energy, health, infrastructure, tourism, industry and overall livelihoods and economy of the local people. Small peasants have largely identified the climate variation as responsible for declining crop and livestock production in Phidim. The subsistence farming economy is affected due to changes in the reliability of stream flow, a more intense and potentially erratic monsoon rainfall, and the impacts of flooding and landslides. Decline in rainfall from November to April adversely affect the winter and spring crops. Decline in food production has threatened to the food security of people.

Increases in temperature have impacted on the changes in the timing, intensity and volume of rainfall and rising carbon dioxide levels. Floods and landslides have increased phenomenon every year and have taken lives, destroyed physical assets, displaced people and inundated and deposited sediments on agricultural land. Climate variability (changes in temperature and rainfall) has resulted into shifts in agro-ecological zones, prolonged dry spells, and higher

incidence of pests and diseases. Extreme climatic condition has led to increased incidence of forest fire in recent years affecting several people and loss of large areas of productive forestland.

**Table 38: Present Status of Environmental Indicators**

Indicators	Status	Remarks
Forest fire case	Increasing	
Landslide frequency	Increasing	
Landslide displaced people		
Drought frequency	Increasing	
Average annual rainfall	Decreasing	
Mean monthly temperature	Increasing	
Agriculture calendar	Shifting gradually	
Crop pattern	Changing gradually	
Integration of climate change adaptation plan in local planning	Not yet	
Agriculture pocket area	Shifting gradually	

### 6.8.3 Problems

Climate change is advancing more rapidly in the high Himalayas than in many other parts of the world, affecting both people and natural systems. Climate-induced hazards that are expected to increase in the future include more erratic rainfall, flash flooding, drought, forest fire, and landslides. Nepal is more vulnerable than many countries to climate change because of factors such as high poverty and low adaptive capacity. If action is not taken now to build resilience and adaptive capacity, climate impacts are likely to be greatly exacerbated in the future.

Limited capacity and weak economy create great challenges to adapt to climate change. Human vulnerability to climate change is linked with poverty, exclusion, reliance on rain-fed agriculture, lack of basic services and limited alternative livelihoods. It is also linked with social inequalities, limited access to information, and exclusion from key decision-making process. Major climatic problems of Phidim are listed below;

- Erratic rainfall
- Landslide
- Rising temperature
- Lack of public awareness
- Low adaptive capacity
- Poverty
- Rain-fed agriculture
- Lack of basic service
- Weak infrastructure
- Limited alternative for livelihood
- Social inequalities
- Lack of fund

### 6.8.4 Adaptation Strategy

Adaptation means anticipating the adverse effects of climate change and taking appropriate action to prevent or minimize the damage they can cause, or taking advantage of opportunities that may arise. It has been shown that well planned, early adaptation action saves money and lives later.

Development actors are increasingly promoting a community-based approach that recognizes the unique risks faced by poor and marginalized people, and an ecosystem based approach that has evolved to use biodiversity and ecosystem services as a part of an overall adaptation strategy to help vulnerable people to adapt. There are several adaptation measures which include: using scarce water resources more efficiently; adapting building codes to future climate conditions and extreme weather events; building flood defenses; developing drought-tolerant crops; choosing tree species and forestry practices less vulnerable to storms and fires; and setting aside land corridors to help species migrate.

Some key adaptation strategies are discussed below:

#### Adaptation through local planning

Local land use and municipal planning represent important avenues for adaptation to global warming. These forms of planning are recognized as central to avoiding the impacts of climate related hazards such as floods, landslides, forest fire, drought and heat stress, planning for demographic and consumption transition, and plans for ecosystem conservation.

Adaptation through local planning occurs in two distinct modes. The first is strategic planning, which is important but not unique to local governments. At the local scale it fosters community vision, inspirational goals and place-making, along with defining pathways to achieve these goals. The second form is land-use planning, and is focused on the allocation of space to balance economic prosperity with acceptable living standards and the conservation of natural resources.

#### Enhancing adaptive capacity

- Improving access to resources
- Reducing poverty
- Lowering inequities of resources and wealth among groups
- Improving education and information
- Improving infrastructure
- Improving institutional capacity and efficiency
- Promoting local indigenous practices, knowledge, and experiences

#### Agricultural production

- Develop/use of drought tolerant crop varieties
- More spending on irrigation
  - Modernizing existing irrigation schemes to suit modern methods of farming

- Supporting farmers' efforts to find their own water supplies, by tapping into groundwater in a sustainable way
- Looking beyond conventional 'Participatory Irrigation Management' schemes, by engaging the private sector
- Expanding capacity and knowledge
- Investing outside the irrigation sector

### **Forest resources**

The forestry resources are most crucial means of adaptation to forest dependent people whose lives have been depending on it. If long duration of drought persist, definitely affect to rain-fed agricultural system. In this situation, people can collect the edible fruits, roots and leaves for their life survival. Similarly, forest resources provides not only goods but also services such as regulation of ecosystem, maintain linkage of upstream-downstream through watershed conservation, carbon sequestration and aesthetic value. These services become crucial part of life sustained through increased adaptive capacity of poor, vulnerable, women and socially excluded communities.

### **Rainwater storage**

Providing farmers with access to a range of water stores could help them overcome dry spells that would otherwise cause their crops to fail. Small-scale water storage tanks and ponds in local villages can be effective for rainwater storage.

### **Geo-engineering/bio-engineering**

- Use of local technology
- Less use of heavy equipment during infrastructure development
- Afforestation

### **Migration**

Recent literature has also put forward the concept of migration as a climate change coping mechanism. Climate change push factors are weighted against economic or social pull factors: the role of climate change in migration is thus not a linear one of cause and effect. Migration frequently requires would-be migrants to have access to social and financial capital, such as support networks in the chosen destination, and the funds to be able to move. It is frequently the last adaptive response households will take when confronted with environmental factors that threaten their livelihoods, and mostly resorted to when other mechanisms to cope have proven unsuccessful.

### **Insurance**

One method of climate adaptation is the encouragement of individual actions to mitigate, spread, or transfer the risk of damages. Specifically, one existing tool is insurance, for either general catastrophe or actual flooding. The idea is to allow for reactive options to rebuild communities after adverse impacts from extreme weather events. Although it can be preferable to take a proactive approach to eliminate the cause of the risk, reactive post-harm compensation

can be used as a last resort. Access to reinsurance may be a form of increasing the resiliency of cities.

### **Adaptation finance**

There are several programs to finance adaptation to climate change in developing countries. The United Nations Framework Convention on Climate Change runs a program called the Global Environmental Facility, which provides some funding for adaptation to least developed countries and small Islands states. Local authority and organizations can take an initiation to have access such fund to cope with climate change effects for local people.

Climate change adaptation strategies can be summarized in the following way:

- Prioritize adaptation efforts in communities where vulnerabilities are highest and where the need for safety and resilience is greatest.
- Build projected climate change related trends in today's risk and vulnerability assessment based on current climate variability.
- Fully integrate adaptation into longer-term national and local sustainable development and poverty reduction strategies.
- Prioritize the strengthening of existing capacities – among local authorities, civil society organizations, and the private sector – to lay the foundations for the robust management of climate risk and the rapid scaling up of adaptation through community-based risk reduction and effective local governance.
- Develop robust resource mobilization mechanisms for adaptation that ensure the flow of both financial and technical support to local actors.
- Enhance the opportunities in disaster prevention and response, through improved early warning systems, contingency planning and integrated response, to promote effective community-based adaptation and risk reduction.

There are some key factors enabling adaptations which are mentioned below:

**Table 39: Key Factors Enabling Adaptation**

<b>System</b>	<b>Details</b>
Communications	The presence of diversified media and accessibility of information about weather and in general and hazards in particular
Transportation	A system which function even during extreme events
Finance	Access to banking, credit and insurance products which spread risk before, during and after extreme events
Economic diversification	Access to a range of economic and livelihood products
Education	Basic language and other skills necessary to understand risk and shift livelihood strategies as necessary
Organization and presentation	Right to organize and to have access to and voice concerns through diverse public, private and civil society organizations
Knowledge generation, planning and learning	The social and scientific basis required to learn from experience, proactively identify hazards, analyse risk and develop response strategies that are adapted to local conditions

## 6.8.5 Logical Framework Analysis

Table 40: LFA of Climate Change Adaptation Plan

Climate Change Adaptation Plan	Indicators						Means of Verification	Major Assumptions
	Unit	Present Condition	Five Years Target (2077/78)	Measuring Indicators	Location	Target Groups		
<b>Goal:</b>								
<b>8.1:</b> Minimization of damage from drought, forest fire, land slide, soil erosion and other natural calamities	hectare			Bio-engineering technology applied to mitigate land slide affected	NT area	All NT inhabitants	<ul style="list-style-type: none"> <li>▪ Annual report of district forest office</li> <li>▪ Annual report of district soil conservation office</li> <li>▪ Mid-term evaluation of IDP</li> <li>▪ Annual progress report of DDC Panchthar</li> <li>▪ Annual progress report of Phidim Municipality</li> <li>▪ Annual report of Nepal Red Cross Society, Panchthar District</li> <li>▪ Report of district soil conservation office</li> </ul>	<ul style="list-style-type: none"> <li>▪ Allocation of budget</li> <li>▪ Continue support from donor agencies, government and local people</li> <li>▪ Public private partnership in infrastructure development</li> <li>▪ Good and regular coordination among the local stakeholders</li> <li>▪ Implementation of climate change adaptation and management program in</li> </ul>
	Status			Preparedness for disaster risk reduction	NT area	Local inhabitants		
<b>Objectives:</b>	Number			Flood risk area	Affected area	Local inhabitants		
<b>8.1.1:</b> Identification of landslide areas and effective implementation of action plan	Number			Flood prevention	Affected area	Local inhabitants		
	Number			Landslide risk area	Affected area	Local inhabitants		
<b>8.1.2:</b> Minimization of risk from natural calamities	Number			Land slide prevention	Affected area	Local inhabitant		
	Number			Fire risk areas	NT area	Local inhabitants		
<b>8.1.3:</b> Dry area management master plan	Number			Forest fire prevention	NT area	Local inhabitant		
<b>8.1.4:</b> Implementation of area specific land	Number			Dry/drought area development program	Affected area	Local inhabitants		

use plan  <b>8.1.5:</b> Regular implementation of climate change adaptation plan	Provision		Implemente d	Environment friendly local development plan	NT area	Local inhabitants	▪ District Environmental	private partnership and fund
	Provision		Implemente d	Climate change adaptation program for development	NT area	All NT inhabitants		
	Percentage		10%	Climate change effects in agriculture production	Affected areas	Local farmers	▪	▪
<p><b><u>Outcomes:</u></b></p> <ul style="list-style-type: none"> <li>▪ Land slide risk will be managed and minimized</li> <li>▪ Major Dry and drought affected areas will be well managed</li> <li>▪ Climate change adaptation plan will be operated</li> <li>▪ Climate change effects will be minimized</li> <li>▪ Earthquake risk will be reduced by application of building code</li> <li>▪ Landuse plan will be implemented</li> <li>▪ Climate change effects on agriculture production will be decreased</li> </ul>								

**Activities/Programs:**

- Organize awareness program for climate change minimization and adaptation
- Formation of firefighting mechanism
- Construction of fire line
- Organize shepherd awareness program and provide alternative pastureland to them
- Organize climate adaptation program
- Operate carbon emission industries according to the standards
- Formation of junior red cross unit in entire schools for disaster risk reduction and management
- Provide fire brigade service in Phidim and major market centers
- Implementation of earthquake resistance building code
- Organize bio-diversity awareness and richness management program
- Identify climatic behavior and its consequences upon local agriculture

**6.8.6 Strategic Plans and Programmes**

Strategic development plans and projects were identified at two level. At the first level at least ward level community meetings/consultation were carried out to collect local level problems and issues. Similarly, municipal/NT level interaction/consultation were also carried out for strategic projects and plans. Then, information/issues collected from both level were scrutinized and formulated the strategic projects which is shown in annex 1.

# **7 PLAN IMPLEMENTATION STRATEGY AND RESPONSIBLE LINE AGENCIES**

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## **7.1 Introduction**

This section presents plan implementation strategy to focus how to enable local stakeholders and define their rights and responsibility in implementing the projects. Implementation strategy is a process of defining strategy for development, or direction, and making decisions on allocating resources in priority basis. It may also extend to control mechanisms for guiding the implementation the plan. While preparing the implementation plan, possible stakeholders/line agencies, their roles and responsibilities have been identified and proposed for development project implementation.

## **7.2 New Town Development Strategy**

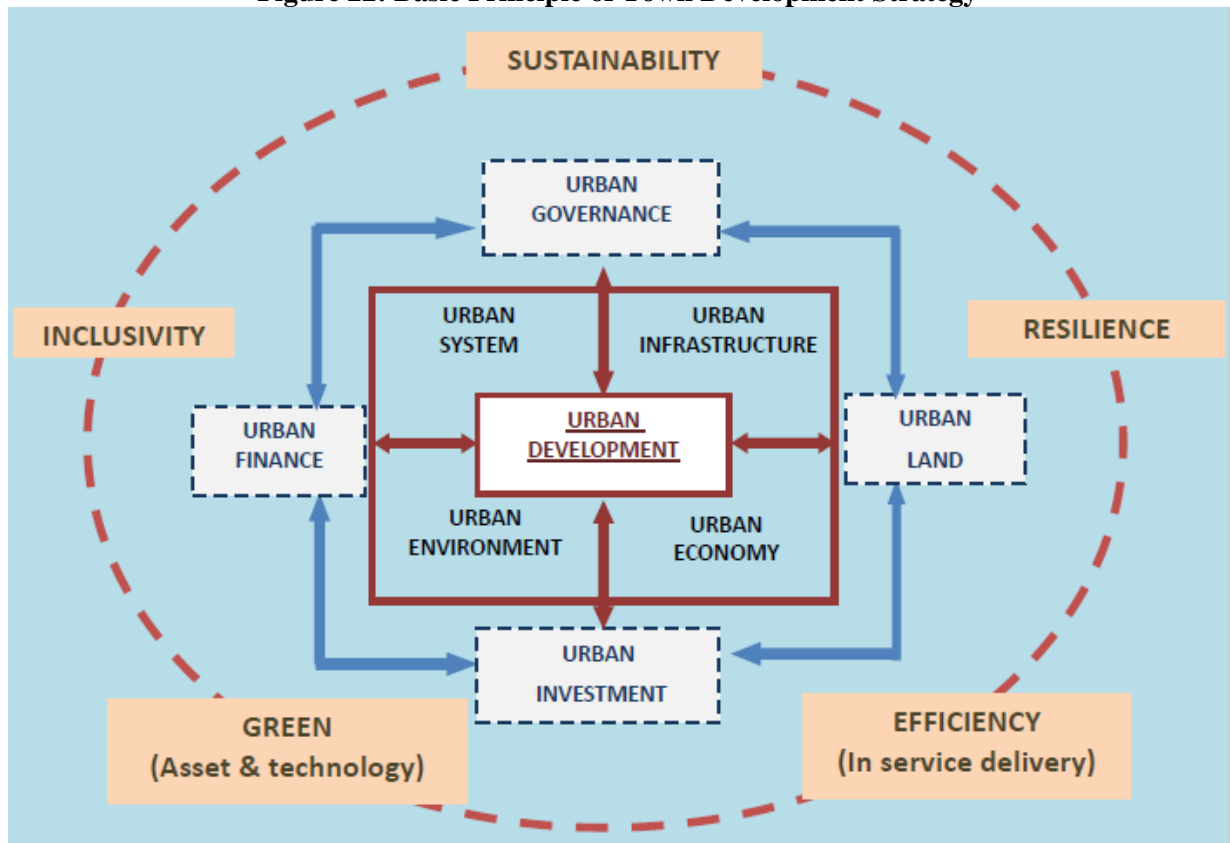
Urban development is the spatial indicator of the process of national and regional economic development. The strategies pursued in the new town area influence urban development to the extent that they make an impact on the spatial patterns of production, distribution and consumption. It is in this context that the critical themes considered in the development of the new town development strategy are urban infrastructure, environment, economy, investment, finance and governance. The purpose of the strategy is to indicate the desirable conditions within each theme, and the coordinated policy directions that need to be pursued to address major issues and achieve the desirable conditions. While this approach places emphasis on the physical planning aspects, there is also an appreciation of the fact that an urban area is not merely a physical construct, it is as much a political, social and cultural construct. The physical space by itself has no meaning unless it is comprehended in terms of the political, social and cultural space it provides for the dynamic expression of the heritage, ideas and values of society. Some comprehensive new town development strategies for summarized in the following paragraphs:

- This new town development strategy is formulated with a time horizon of 20 years
- To improve the new town urban system, strategies include strengthening urban-urban linkages, upgrading inter and intra town road connectivity standards, facilitating small towns in realizing their comparative advantages, and creating infrastructure for “smart” new town.
- To upgrade urban infrastructure, the strategies seek to increase local resource allocation on urban infrastructure development, promote private sector investment, orient strategic investment for shared infrastructure, and build local institutional capacities for infrastructure development and service delivery.
- Major strategies for improving urban environment include promotion of multi-hazard approach to deal with disasters and climate change, promotion of urban agriculture, promotion of innovative art, architecture and culture in new town areas, facilitation of community and civil society organizations.

- Strategies related to urban economy are geared towards enhancing the contribution of urban areas to the GDP and strengthening the economic base of urban areas so as to cover aspects of economic development, investment and finance.

Based on the review of NUDS, new town development strategies guided by five basic principles – sustainability, inclusivity, resilience, green and efficiency. The following diagram clearly shows the guiding principles of urban development strategies:

**Figure 22: Basic Principle of Town Development Strategy**



(Adopted from NUDS, 2015)

### 7.2.1 Urban System

#### Major Issues

- Unbalanced (new town is not centrally located and do not serve to its hinterland)
- Weak linkages among the settlements/market centers
- Mobilizing resource potential for urban growth (location specific niche agriculture potential, bio-diversity)

#### Strategies

- Strengthen urban-rural linkage through identification and mobilization of local and regional resource potential
- Promote and facilitate rural-urban value chain
- Facilitates Phidim new town to realize its comparative advantages and potentials
- Promote environment, heritage and tourism friendly economic functions in Phitim New

- Plan and prioritize infrastructure development for future eastern hilly market center with focus on strengthening intra-town linkages

### **7.2.2 Urban Infrastructure**

#### **Major Issues**

- Inadequate government investment on urban infrastructure
- Limited private sectors investment on urban infrastructure
- System based periodic maintenance of infrastructure
- Lagging institutional coordination in infrastructure planning and implementation
- Weak institutional capacity to deliver infrastructure services
- Infrastructure coverage and accessibility

#### **Strategies**

- Increase local resource allocation on urban infrastructure development, maintenance and service delivery
- Promote private sector investment on both basic services and higher order infrastructure
- Monitoring, updating and reporting the state of basic infrastructure
- Basic infrastructure services entire municipal areas
- Strategic investment on higher order/shared infrastructure
- Facilitate integrated and inclusive urban infrastructure planning and development
- Build local institutional capacities for infrastructure development and service delivery

### **7.2.3 Water Supply and Sanitation**

#### **Major Issues**

- Poor coverage of piped water with sub-standard water quality
- Lack of wastewater treatment plant
- Lack of landfill site
- Households without sanitation facilities

#### **Strategies**

- Protection and management of fresh water sources
- In-built rain water harvesting in the building permit system
- Institutionalize water recharge provision in public spaces
- Strengthen system to produce and deliver safe water
- Internalize regular monitor system to assure Nepal Water Standard in place
- Community water storage facilities in place for emergency purpose
- Augment investment in increasing coverage and quantity for water supply
- Facilitative and encourage private sector involvement in water supply
- Enhance awareness and incentives for building toilets

### **7.2.4 Solid Waste Management**

#### **Major Issues**

- Poor collection of solid waste and open dumping practice
- Sustainable long-term approach to solid waste management

### **Major Strategies**

- Encourage community led waste segregation and collection (entity/HH)
- Promote public-private partnership in waste collection and management
- Adopt sanitary landfill site as transitional strategy to reach condition of 3R
- Promote/mandate 3R at household and community level
- Incentivize private sector to reuse and recycle waste through appropriate technology
- Establish dedicated and capacitated SWM unit in municipality
- Delineate institutional responsibility and accountability at municipal level with respect to SWM

### **7.2.5 Transportation**

#### **Major Issues**

- Internalization of road density and standards in urban land use planning
- Sustainable urban public transport system not in place
- Standards and quality of inter and intra urban connectivity not yet established

#### **Major Strategies**

- Integration of land use and transportation in town and municipal planning
- Develop institutional mechanism and capacity to address issues related to urban transport and land use
- Provision of hierarchically balanced urban road infrastructure
- Promotion of sustainable urban public transport
- Prepare transportation management plan
- Provision of inter urban all weather roads

### **7.2.6 Housing**

#### **Major Issues**

- Lack of affordable, adequate and safe in urban areas
- Pro-poor management
- Challenge to implement building code

#### **Major Strategies**

- Encourage private sector to provide housing to the pro-poor cluster
- Promote innovative, earthquake resistance, economic and environmental friendly buildings
- Discourage squatter settlements and encroachment on public land
- Encourage and facilitate production of serviced land through public-private/community partnership

### **7.2.7 Energy**

#### **Major Issues**

- Inadequate and unreliable energy supply
- Increasing energy efficiency, demand and green energy

### **Major Strategies**

- Promote optimal use of solar energy for all purpose
- Develop pricing mechanism for large institutions
- Promote passive design and use of energy efficient building materials
- Promote micro-hydro development that is oriented towards new town

### **7.2.8 Urban Environment**

Urban environment encompasses not only the built-up environment of urban areas but also the natural and socio-cultural environment. The extent to which the socio-cultural and natural environment is enhanced by the built-up environment determines the livability of an urban area.

#### **7.2.8.1 Urban Safety and Resilience**

##### **Major Issues**

- Internalization of safety and resilience issues in urban development and management
- Building codes not in place or not enforced in new town
- Low level of resilience to different types of hazards
- Lack of information on climate change in new town area

##### **Major Strategies**

- Promote multi-hazard approach in dealing with disasters including climate change
- Prepare land use regulations, review building code and prepare by-laws from resilience perspective
- Enhance preparedness and adaptive capacity of the municipality/new town and local bodies
- Build awareness and capability of the community and civic bodies based on volunteerism and reduce vulnerability

#### **7.2.8.2 Urban Land, Air, Visual and Water Pollution**

##### **Major Issues**

- Increased level of pollution
- Decreasing water resources
- Urban land pressure
- Lack of control mechanisms

##### **Major Strategy**

- Compliance with set standards of pollution in new town

#### **7.2.8.3 Urban Agriculture**

##### **Major Issue**

- Lack of integration of urban agriculture in local land use planning and management concept

**Major Strategy**

- Promotion of urban agriculture for food, vegetable, horticulture and cash crops

**7.2.8.4 Urban Forest**

**Major Issues**

- Lack of integrated approach to promote and support urban forest promotion and conservation program

**Major Strategy**

- Promote/maintain minimum forest cover in urban areas

**7.2.8.5 Urban Facilities and Amenities: Open Spaces**

**Major Issues**

- Identification and conservation of open spaces
- Lack of municipal level information

**Major Strategy**

- Promote/maintain minimum stipulated open in urban areas

**7.2.8.6 Urban Art, Architecture and Culture**

**Major Issue:**

- Nature, foster and/or induce art, architecture and culture as an important aspect of urban development

**Major Strategies**

- Renovation of historical building, preserving its traditional facade but with modern amenities and function (with adaptive re-use)
- Documentation and development of historical and religious sites, routes, museum tied with local economy of historical areas, in visitor friendly way
- Innovation of art, architecture and cultural in new urban area

**7.2.8.7 Community Organization and Youth**

**Major Issues:**

- Community participation in urban development
- Urban development that addresses needs of special groups (focused and marginalized groups)
- Local youth participation in urban planning and development

**Major Strategies**

- Formation and active engagement of TLO (Tole lane organization), CBO (community based organization), WCF (ward citizen forum) in all urban wards
- Support youth focused activities in urban development

- Address issues related to focused, targeted and marginalized groups in urban development

#### **7.2.8.8 Urban Security**

- Integration of urban security in urban planning and management

#### **Major Strategies**

- Develop community security mechanism
- Practice appropriate spatial design elements in public space and neighborhood
- Increase the number of security personals in isolated and outskirts settlement and areas

#### **7.2.9 Urban Economy**

- Inability of local body in generating wealth and employment
- Urban poverty
- Sluggish rate of GDP growth

#### **Major Strategies**

- Facilitate formulation and implementation of local development plan
- Build competitiveness based on local and regional comparative advantages
- Urban regeneration program in core areas
- Mainstreaming informal urban economy
- Alleviation of urban poverty

#### **7.2.10 Urban Investment**

#### **Major Issues**

- Investment deficit for urban infrastructure (public and private)
- Lack of coordination and dispersed investment
- Lagging investment

#### **Major Strategies**

- Coordinate investment in urban areas involving all sectoral agencies including the private sector
- Guiding investment for strategic urban infrastructure projects
- Increased investment in urban area
- Prioritize investment for promoting urban growth and provision of services

#### **7.2.11 Urban Finance**

#### **Major Issues**

- Increasing number of unfunded responsibility
- Inadequate private sector participation in basic infrastructure provision
- Access to loan and other form of debt financing not readily available
- Revenue potential of municipality from taxes and fees not realized and mobilized fully
- Weak borrowing capacity of municipality

### **Major Strategies**

- Enhanced mobilization of own source revenues
- Improved access to debt financing through strong financial intermediary institution
- Mobile investment through alternative financing instruments including private sector involvement

### **7.2.12 Urban Governance**

#### **Major Issues**

- Coordination between Ministry of urban development (MoUD) and ministry of federal affairs and local development (MoFALD)
- Inadequate technical expertise and capacity at municipal level
- Inadequacy of Town Development Act 1998 to deal with new town
- Effective implementation of citizen charter
- Effective and efficient implementation E-governance

#### **Major Strategies**

- Improve institutional coordination between MoUD and MoFALD
- Make new town plans as basis for long term development
- Improve the current legal basis for urban development
- Facilitate research based policies and programs
- Devise social accountability mechanism
- Full Implementation of citizen charter and e-governance for fast and efficient service delivery
- Strengthen of new town and municipality

### **7.2.13 Urban Land Management**

#### **Major Issues**

- Inadequate land acquisition and compensation mechanism
- Dominance of informality in urban land market
- Land fragmentation and public land encroachment
- Inadequate land use controls (bulk, density and usage and implementation)
- Inequitable benefit sharing from urban development
- Absence of urban land use policy

#### **Major Strategies**

- Judicious valuation for compensation of acquired land
- Land price freezing mechanism for specified period once to government shows intent to acquire land and implement project
- Establishment and internalization of land information system
- Land use control with infrastructure and environmental thresholds and standards
- Build incentives/disincentives for preserving critical agricultural land
- Classify land as urban and rural subjected to periodic revision with prioritization on land readjustment and improve in circulation and its standards

## **7.2 Plan Implementing Agencies**

Major plan implementing agencies/stakeholders in the context of Phidim new town are municipality, TDC, NTPO, DUDBC, Ministry of federal affairs and local development, other government agencies, donor agencies as well as public participation. Brief summary and their major role in implementing the project are described as follows:

### **7.2.1 Phidim Municipality**

Phidim municipality is the major governmental agency to execute and implement the local plans and programs. As a newly declared municipality, Phidim has to coordinate other stakeholders New town coordination office, non-governmental organizations, donor agencies, FNCCI, local entrepreneurs, local political parties, development committees and civil society for the successful execution and implementation of proposed plans.

The main functions of the municipality will be planning, execution of plans, preservation of heritage, monitoring, resource generation, encouraging local participation, addressing the issues of benefit sharing and so on. The roles of municipality are listed below:

- Formulation of plans
- Preparation of resource map
- Feasibility study of the projects to carried out
- Generation of resource
- Coordination among governmental and non-governmental agencies
- Operation of municipal level project
- Implementation and management of projects
- Appraisal and evaluation of projects
- Formation of consumer groups
- Operation of project by consumer's groups and non-governmental organizations
- Encourage private sectors and non-governmental organization
- Repair, maintenance and management of the project

### **7.2.2 Phidim Town Development Committee**

- Coordination with Municipality, TDC and other government and non-governmental organizations
- Execution of projects
- To specify necessary conditions or standard in land case area for physical development
- To classify the land on the basis of land use zoning area.
- To set guideline for institutions or local body upon prescribing condition or standard for the physical development of land
- To prepare necessary project and to implement it in town planning area for proper development and conservation of religious, cultural and historical heritage subject to prevailing law of Nepal on ancient monument.
- To prohibit the use of natural resources that causes adverse effect on nature.
- To carry out other acts as directed by the Government of Nepal from time to time as per town planning

- To prescribe condition on construction and other activities to be done in forest, stream, riverside and water area for the protection of nature and environment of town planning region, and to perform and cause to perform the act as per the said conditions.
- To prepare the project related to land development and building construction in the land use area as per town planning and to implement it
- To keep co-ordination with concerned body of the Government of Nepal in the course of performing or causing to perform an act and activity pursuant to this Act.

### **7.2.3 Town Development Fund (TDF)**

Town Development Fund is a major organization, which can support Phidim Municipality and New Town coordination Office to implement local plans and programs. It can help to alleviate economic and social poverty in Phidim through long term financing in social infrastructure and revenue generating projects. TDF can play a major role to implement the local projects through following works:

- Loan triggered urban infrastructure growth - supplemented by grants in appropriate situation
- Focus on need-specific capital projects to be undertaken by municipalities compatible with their technical and commercial capabilities.
- Linkage with matched contributions by municipalities based on the current revenue generating capability and capacity
- Upgrading of organizational capability of the municipality through
  - i. Development of long-range perspective and strategy for urban infrastructure development;
  - ii. Prioritization and sequencing of their competing community need;
  - iii. Enhancement of their capability to identify capital projects, work out the technical and economic details and plan and execute such projects within budgetary constraints, and
  - iv. Optimization of the use of scarce resources through innovation and improvisation appropriate to local circumstances

### **7.2.4 Department of Urban Development and Building Construction (DUDBC)**

DUDBC is the pioneer institutions in the field of urban planning and building construction with the vision of Sustainable urban development. It promotes sustainable urban development and rural urban linkages through development of modern physical facilities and conservation of cultural, religious and historical heritage sites. DUDBC works on formulation, planning and implementation of urban policies/housing plans and policies, design construction, repair and maintenance of the government buildings. The major roles and responsibilities of DUDBC are as follows:

- **Preparation and Implementation of Development Plans**
  - Physical Development Plan
  - Periodic Plan

- Integrated Development Plan
- Long Term Development Plan
- Urban environmental related program
  
- **Mapping and Data Base Preparation**
  - Municipal Base Map
  - Land Use Map
  
- **Management of Urban Development Project**
  - Urban and environmental improvement project
  - Urban governance development project
  - Integrated urban development project
  - New town development project
  - Secondary town integrated urban environment improvement project
  
- **Planning and implementation**
- **Urban infrastructure planning and construction**
- **Land development**
- **Land Pooling**
- **Guided Land Development (GLD)**
- **Human Resource Support and capacity building (man power supply)**
  - Training
  - Technical personnel deputation to Municipality and TDCs,
- **Advocate in ministry for contemporary policy, acts and strategies**

Within those major working areas of DUDBC, this IDP is the product and DUDBC thus should focus for implementing its priority projects through the NTPO.

#### **7.2.5 New Town Project Coordination Office (NTPCO) and NTPO Phidim**

New town project coordination office (NTPCO) is the major governmental project under DUDBC (Department of Urban Development Building Construction) that aims to develop 10 modern and well-facilitated cities along the east-west Mid-hill Highway. Phidim is one of the potential cities selected for the development in eastern hilly region. NTPCO Phidim has been established in Phidim new town for the development of necessary urban infrastructure. Basically, NTPO Phidim has been working for construction of multipurpose community hall, bus parks, drinking water projects, sewerage development, land pooling, land development etc. Further, NTPCO and NTPO can contribute in the local development in the following ways:

- Development of all necessary infrastructures
- Planned urbanization in order to develop as a service centre of the eastern hilly region
- Preparation of strategic plans and programs
- Preparation of land use plan and development strategy
- Support rural development through development and promotion of agriculture, educational, tourism, services and industrial area in Phidim new town
- Project implementation and monitoring

### **7.2.6 Other Governmental Agencies**

Other government offices such as Division Office (DoR), DTO, District Irrigation Office, District Public Health Office, District Forest Office, Security units and others will have role of planning, implementing and monitoring their sectoral works in the municipality/NT. Role of concerned government offices in implementing the projects has been identified and indicated in the strategic projects and LFA.

### **7.2.7 INGOs and Donor Agencies**

INGOs have been recognized as an important avenue for development promotion in urban management, project execution, development and institutional strengthening. A large number of INGOs operate in Nepal. United Nations, GIZ, SDC, DFID, Plan Nepal, Save the Children, USAID, Danida, UMN, Helvetas, Care Nepal, JAICA, KOICA, The World Bank, Lutheran World Federation, Red Cross, Asian Development Bank (ADB) are the major INGOs and Donor agencies working for the poverty alleviation, infrastructure development and livelihood in Nepal. Priority of funding and input components depend upon the objectives of each INGO and its leadership's vision, group awareness raising, group formation and credit are to all programs.

- Financial and technical support
- Needs and gap analysis
- Monitoring and evaluation
- Capacity development/building
- Infrastructure development
- Public/community participation
- Coordination between government and NGOs
- Humanitarian support
- Develop global partnership for development

### **7.2.8 Civil Society and Political Party**

Civil society has been widely recognized as an essential 'third' sector. Its strength can have a positive influence on the development work. Civil society is therefore seen as an increasingly important agent for promoting good governance like transparency, effectiveness, openness, responsiveness and accountability.

Major roles and responsibility of civil society are as follows:

- Policy analysis and advocacy
- Social auditing and monitoring of the projects
- Regulation and monitoring of project work and the action and behavior of public officials
- Build social capital and enabling citizens to identify and articulate their values, beliefs, civic norms, and democratic practices

- Mobilization of vulnerable and marginalized groups to participate fully in public affairs and development works
- Development work to improve the wellbeing of their own and other communities

#### **7.2.10 Community Based Organizations (CBO)**

Community based organizations are the local actors and local development partners particularly for plan implementation. Community level organizations will have the following major roles;

- Active participation development projects
- Community mobilization
- Understanding, support, and participation development projects and plans
- Co-operation
- Social Welfare Programs;
- Adequacy, distribution, and organization of social welfare services; and
- Food security and advocacy
- Environmental management, protection/conservation
- Youth mobilization

#### **7.2.11 Public Private Partnership (PPP)**

Public private partnership (PPP) is a government service or private business venture that is funded and operated through a partnership of government and one or more private sector companies. PPP involves a contract between a public sector authority and a private party, in which the private party provides a public service or project and assumes substantial financial, technical and operational risk in the project.

- PPP is a way of introducing private sector technology and innovation in providing better public services through improved operational efficiency
- Incentivizing the private sector to deliver projects on time and within budget
- Increased efficiency, expertise, and innovation from the private sector contribute to better infrastructure and greater cost and time savings across the construction and operation phases, increasing the value for money equation of a project
- Projects risks (e.g. finance, timeframe, planning permits, community consultations) are distributed between the public and private sectors according to the party best equipped to deal with it, both in terms of expertise and costs
- Access to private sector financing allows increased investment in public infrastructure, as governments are able to implement projects without the need to raise or budget additional funds, as is the case in standard procurement.
- PPPs provide the private sector with access to reduced risk, secure, long-term investment opportunities that are underwritten by government contracts. Such agreements ensure private capital flows, provide investment opportunities, and stimulate local industry and job markets.
- Project implementation should be given priority in PPP model so that strategic project could be implemented sustainably.

## 8 CONCLUSION AND RECOMMENDATION

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### 8.1 Conclusion

Preparation of integrated development plan of Phidim New Town is one of the important planning attempts till the date for this NT. This document will be the guiding document to develop sustainable and liveable city in the future. Integrating physical, social, economic, environmental, institutional, tourism and cultural development plan, this plan documents will be the basis for investing sectoral development in the New Town. The sectoral plans have been formulated through the scientific and valid participatory planning methods which means political actors should take ownership to it. This IDP focuses primarily Phidim New town but also covers entire municipality area through its strategic projects.

Municipal profile, base map (reports and maps), building bye-laws, physical block model are major component including main sectoral planning report within this integrated development plan. Municipal profile is the basis for formulating sectoral plan realizing its existing situation where as base maps was the basis for examining/assessing the existing physical condition and proposing future demand according to demand forecast. Bye-laws is a product prepared to guide/regulate city development for the future based on the spatial advantages of an area. Profile, base map and building bye-laws are prepared in separate volumes within this assignment. Similarly, physical block model is prepared to install in the city so that the form of future city will be reflected and visualized in the model.

Sectoral development plans were prepared based on the existing baseline information, future demand and potentialities and spatial advantages observed in the field. Baseline information were acquired through the secondary data as well as primary data but demand and potentialities were analyzed through the planning norms and standards as well and public consultation and discussion. Sectoral development plans such as physical development plan has focussed to develop city as physically healthy infrastructure (e.g. ROW, standards, road hierarchy, settlement linkages) where as social development plan has focused to develop education, health, social inclusion, participation, gender inclusion, development of needy people and so on. Similarly, economic development plan has focused agriculture, employment, trade and business in the NT area. Environmental management, disaster mitigation plan has mainly focused to identify the major environmental problems, sanitation, solid waste management, disaster prone area delineation, risk sensitive area restriction etc. for safer and sustainable city development. Tourism and cultural development plan has mainly highlighted to develop NT's tourism potentiality and investment in tourism focus development. Institutional development plan advocates to institutional aspects required for new town development in the future particularly for institutional capacity, cooperation, management etc.

As being district head quarter and potential market centre of Panchthar district, Phidim can be a major service and commerce centre of the district. It has been serving its vicinity area including

Taplejung, most of the VDCs of Panchthar district and other settlements. It has direct connection to north and south through the Mechi Highway. Import and export goods flows via the Mechi highway.

With the long-term vision "**Agriculture, tourism and physical infrastructure are the main basis of prosperous Phidim**". While interpreting the vision of the town, agriculture, tourism development is important through the infrastructure development in Phidim. It means vision indicates that development space should go through linking to agriculture, tourism through the enhancement of infrastructure in Phidim. If investment goes in direction of the long-term vision, the city will be a prosperous through agriculture (cash crop farming), tourism including with trade and business.

## 8.2 Recommendation

Based on the analysis, presentation, discussion and observation of the planning team, following recommendations are made:

- Phidim new town is primarily the planning area but entire Phidim Municipality is considered in this IDP while proposing strategic projects. So implementation of the strategic project should be done accordingly;
- Tourism can be a leading development sector for Phidim, however concerned line agencies should link tourism friendly infrastructure development in the municipality;
- More advertisement and advocacy are necessary for cashing the tourism potentialities of Phidim. Promotion of Silauti and Labrekuti area particularly should be done among the internal and international tourists;
- Implementation of building byelaws and norms is major needy challenges, so public awareness should be done for successful implementation of the bye-laws
- This IDP should be upgraded in each five years so that assessment and correction in planning could be done
- Large scale project implementation should be done in coordination with public and private as well as donor agency support.

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