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Urban Environment Improvement Project

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Poverty Mapping, Gender Assessment & Need Identification in Bharatpur Municipality

Mapping Deprivations, Poverty and Inequality for Pro-Poor Urban Governance

Final Report Volume I

June 2009

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Urban Environment Improvement Project

Bharatpur Municipality
Bharatpur, Chitwan

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This document is the outcome of the study "Poverty Mapping, Gender Assessment and Need Identification in Bharatpur Municipality" undertaken by DUDBC/UEIP with the assistance of UN-HABITAT, Water for Asian Cities (WAC) Program. This document presents the context of urban poverty, its assessment and analysis processes along with the results of identification and mapping of the impoverished households in the municipality. This document also presents an assessment of gender inequalities in the municipality and outlines the recommendations for poverty reduction strategy in the municipality.

This document has been prepared by GENESIS Consultancy (P) Ltd. for DUDBC/UEIP and Bharatpur Municipality. The opinions, findings and conclusions expressed herein are those of the authors/Consultant and do not necessarily reflect those of DUDBC/UEIP or UN-HABITAT.

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Cover Illustration

Photos: Impoverish area in Ram Nagar, Ward 1

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Acronyms and Abbreviations

CBN	Cost-of-Basic-Needs
CBS	Central Bureau of Statistics
CPI	Consumer Price Index
DUDBC	Department of Urban Development and Building Construction
F/Y	Fiscal Year
FGD	Focus Group Discussion
GIS	Geographic Information System
HDI	Human Development Index
Kcal	Kilo Calorie
MCA	Multiple Correspondence Analysis
MDG	Millennium Development Goal
MPPW	Ministry of Physical Planning and Works
NLSS	National Living Standards Survey
NRs.	Nepalese Rupees (1 US$ = NRs. 75.65 on Oct. 1, 2008)
PCA	Principal Component Analysis
PPA	Participatory Poverty Assessment
PRA	Participatory Rural Appraisal
PVI	Poverty Vulnerability Index
UDP	Urban Development Project
UEIP	Urban Environment Improvement Project
UN	United Nations
WAC	Water for Asian-Cities
IPL	Income Povertyline

Executive Summary

DUDBC/UEIP has undertaken *"Poverty Mapping and Gender Assessment and Need Identification"* study with the financial support from UN-HABITAT, Water for Asian-Cities (WAC) Program in Bharatpur Municipality. This study aims to identify and spatially locate poor households and poverty pockets in the municipality and assess the levels and causes of poverty among these impoverished households. This will enable formulation of pro-poor poverty policies and target intervention programmes in these impoverished pockets and households. The study also aims to assess the status of gender in the municipality and the situation of gender amidst the poverty.

The study uses two-pronged approach: quantitative approach for preliminary identification and mapping of impoverished households and poverty pockets using census survey data and Municipal GIS datasets of the year 2007-2008; and qualitative research approach for Participatory Poverty Assessment (PPA) of the identified poor households and poverty pockets to perceive poor people's perception of the poverty, assess the root causes of poverty, identify poor people's priorities and needs.

The study adopts method applied in the multidimensional poverty paradigm in which poverty is characterized by cumulative deprivations and each deprivation is the contributor of the other. A combined model of representing multiple dimensions of poverty and their cumulative impact through a dynamic framework of asset and vulnerability is developed. This model is termed as *'Assets Vulnerability based Multi-dimensional Poverty Analysis'* and has a core concept that the dimensions of poverty are mitigated or reduced by the assets/capital owned or possessed by households and its members, thus minimizing the vulnerability to poverty. Five dimensions of poverty are characterized: income poverty, human poverty, physical/access poverty, tenure insecurity and social poverty. The income poverty is mitigated by productive capital, financial capital and social capital. The human poverty is mitigated by human capital and by physical capital. The physical poverty is mitigated by the possession of physical capital. Tenure insecurity is mitigated by productive capital. The social poverty is mitigated by the possession of social and physical capitals. Among these five dimensions of poverty, the social capital is not considered for quantitative assessment due to lack of sufficient and reliable data; however it is qualitatively assessed using the PPA data.

The indicators are further ranked and weighted to assess the influence factor of each of the indicator on the cumulative deprivations. A generic method of ranking based on the *'people's perception of poor'* is developed in which, the poverty indicators are ranked based on the people's priority to compute the influence of each indicator on the overall cumulative index of poverty. The ranking of indicators has been done based on expert group discussion to represent the general perception of poverty in the urban context of Nepal. This ranking of indicators has been found to correlate with the general publics' perception assessed independently during the PPA. A mathematical function is derived to compute the weightage coefficient of each indictor. A cumulative deprivation index *'Poverty Vulnerability Index (PVI)'* is derived for each household. The PVI is the arithmetic sum of indicators' scores multiplied by the respective weighted coefficients and ranges from [0, 1]; 0 being 'non-poor' and 1 being 'extremely poor' households. The PVI represents the multi-dimensional poverty of households and the households are categorized into three poverty classes and the *'non-poor'* class. The PVI classification is done based on standard deviation of the PVI from the mean in the municipality. A PVI pov-

ertyline is derived as the sum of mean PVI's (including PVIs of the municipalities in the region viz. Hetauda, Ratnanagar and Panauti) and the population standard deviation of the PVI. This poverty line threshold value is obtained as 0.5 and defines the poor and non-poor households. The households are further sub-classified into 'vulnerable' and the 'extremely poor' groups. The PVI analysis and classification data are then integrated into GIS building/household datasets to map the households/buildings and their poverty status. Each households/buildings are categorized and mapped for three poverty classes viz. vulnerable group, poor and extremely poor; and 'non-poor class.'

The poverty analysis and mapping exercise showed a heterogeneous pattern of spatial distribution of poverty. Distinct poverty pockets or hotspots are observed in several areas of the municipality such as in Bhojad, Gaikharka and Ganeshsthan in ward 11, Ramnagar and Aptari Chowk in ward 1, Baruwa in ward 8, Narayanpur in ward 14 and Kailash Nagar in ward 13, where impoverished communities clustered and slum areas are located. Other distinct aspect of spatial pattern of poverty in the municipality is the distribution of impoverished households along the edge of the Tikauli forest in wards 11, 12, 9 and 8. However, poverty is also prevalent throughout the municipal region and is distributed heterogeneously.

The cumulative poverty incidence of households in the municipality is 0.141 and that of population is 0.123 i.e. 14.1 percent households and 12.3 percent population are below the povertyline. The poverty gap amongst the households is 0.007 and the squared poverty gap is 0.01026. Ward wise distribution of poor households indicates highest prevalence of poverty incidence in ward 1 with 0.356 followed by ward 14 with 0.278, ward 13 with 0.241 and ward 11 with 0.228 poverty incidence. Among the wards, ward 10 with 0.046 has the lowest poverty incidence. Among the total households in the municipality, 13.68 percent is poor and 0.46 percent is extremely poor, with 25.9 percent households falling in the vulnerable group. Similarly, among the population, 0.37 percent is extremely poor, 11.97 percent is poor and 25.28 percent is vulnerable populations. Poverty has higher prevalence in wards 11, 1, 14, 2, 6, 13, 4, 8 and 5 among the 14 wards in the municipality. Ward 11 has the highest proportion of poor (28.33 percent) and ward 14 has the highest proportion of extremely poor households (25.9 percent). The distribution of poor and extremely poor households show Ward 1 has the highest proportion of poor households (13.5 percent) followed by ward 2 (6.85 percent), ward 6 (6.35 percent), ward 14 (6.31 percent) and others. Ward 11 has the highest prevalence of poor with 27.89 percent below the poverty line.

An inclusive Participatory Poverty Assessment (PPA) has been undertaken to assess the poor's perception of poverty, its causes as well as for the appraisal of their priorities and needs. The PPA is also envisioned to validate the preliminary analytical assessment and mapping of poverty. The PPA has been done through Focus Group Discussions (FGDs) conducted at FGD clusters comprising of households below povertyline identified through the poverty mapping exercise. FGD clusters were delineated on map and are arbitrary areas within the municipal wards comprising of one or more settlements/clusters. The rationale of forming such FGD clusters was to make the FGDs inclusive of heterogeneously scattered poor households, which would otherwise have been excluded if the FGDs were to focus only in the poverty pockets. The participants of these FCD clusters were identified by the key informants, community leaders and municipal authority and comprised of poor household heads/representatives, local leaders, community intellectuals and represent the social spectrum of ethnic/caste groups, woman, minorities and other groups in each of the FGD. The FCDs also included rapid gender appraisals for identification of gender related issues, problems and issues specifically faced by woman and the identification of programs that address the women's needs.

The poverty mapping at neighbourhood levels showed Tole Lane Organizations (TLOs) in city centre (core city area of wards 2, 3 and 10) have lower poverty incidence than the TLOs in the outskirt wards. However, evidently there is mixture of TLOs with higher and lower prevalence of poverty incidence within the wards themselves. Of the total 293 TLOs in the municipalities, 8 TLOs have 50 percent and above households below poverty line among which, Kebi Line in Ward 1 has the highest proportion (80 percent) households below poverty line followed by Jaldevi Mai in Ward 11, Devghat in Ward 1, Indreni in Ward 2, Jaldevi in Ward 11, Thimura in Ward 1 and Nava Jeevan in Ward 11. Similarly, 39 TLOs (13 percent) have 25 to 50 percent households below poverty line.

The PPA identified lack of stable employment as the main cause of poverty in the municipality. Other factors, such as lack of education, lack of income and productive capital amongst the households, lack of awareness have also been identified as the root causes of poverty in the municipality. The PPA also identified lack of regular employment, poor financial conditions, illiteracy and insecurity of tenure as major social issues in the municipality. Besides these social issues, access to infrastructure such as lack of safe drinking water, lack of toilet and proper sanitation, risk of flood hazard and poor road conditions have also been identified as the main issues in the municipality. The PPA has also identified community projects to mitigate these issues. Among the projects for mitigating the social issues, vocational and skill development trainings have been emphasized by the majority of FCD clusters. Among other projects, provision of micro-credit, establishment of cooperatives for different programs, income generation through agro-based productions such as livestock and poultry have been identified. Infrastructural development projects such as construction of community toilets, community drinking water, road maintenance and upgrade and river control have been identified as the most important projects.

This combination of analytical approach and the participatory research is envisioned to give a comprehensive and inclusive outlook on urban poverty, consequently enabling policy makers at the central and local levels to formulate pro-poor policies based on poor people's requirements; enabling donor organizations to make priorities in their commitments; enabling development organizations to formulate and implement effective intervention programmes; and enabling community organizations to effectively mobilize the pro-poor funds and efficiently manage the programmes.

The asset/vulnerability approach is also envisioned to assist policy and programmes formulations to quantify the abstract poverty in terms of assets and capitals. Policy can be formulated and implemented to specifically target in increasing the assets and capital of population, which will in turn mitigate the poverty thus uplifting the quality of lives of citizens of the municipality. The targeting is further enhanced by mapping the spatial aspects of poverty.

Keywords

Urban poverty, multidimensional poverty and deprivation, assets/vulnerability, poverty mapping, participatory poverty assessment, gender assessment, pro-poor urban policies

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Part One

Context of Poverty Mapping and Gender Assessment

Chapter 1

Introduction

1.1. Background

Nepal today is in critical juncture to attain political stability followed by economic stability. After a decade long conflict resulting in instability and insecurity, the country is now striding towards the formulation of new Constitution, which is widely anticipated to create an environment for major economic reform targeted at poverty alleviation. Over the last decade, the country has experience significant progress in reducing poverty and has also made aspiring headway towards improving human development outcomes. The incident of poverty declined dramatically by 26 percent, falling from 41.8 percent in 1995-96 to 30.9 percent in 2003-04. Poverty declined both in rural and urban areas, although it was much greater in urban areas. This decline in poverty is largely attributed to the growth in per capita consumption and income, which in turn, was driven by increase in remittances, higher agricultural wages, increased connectivity, urbanization and decline in dependency ratio (The World Bank 2006).

Table 1 Changes in poverty in Nepal between 1995-96 and 2003-04 (percent)

Region	Poverty Headcount Rate			Poverty Gap[1] (x100)			Squared Poverty Gap[2] (x100)		
	1996-96	2003-04	Change	1996-96	2003-04	Change	1996-96	2003-04	Change
Nepal	41.8	30.9	-26	11.8	7.5	-36	4.7	2.7	-42
Urban	21.6	9.6	-56	6.6	2.2	-67	2.7	0.7	-73
Rural	43.3	34.6	-20	12.1	8.5	-30	4.8	3.1	-37

Source: (Central Bureau of Statistics 2005; The World Bank 2006)

Among other factors, urbanization was a significant driver in the reduction of poverty. Changes in the population shares across urban and rural areas and across the region accounted for about one-fifth of the overall reduction in the poverty headcount rate (The World Bank 2006). During the period of 1995-96 to 2003-04, urban population increased from 2.6 percent to 5.4 percent in the Kathmandu Valley alone, where as it increased from 4.4 percent to 9.7 percent in other urban areas. During this period, the urban poverty incidence decreased from 21.6 percent to 9.6 percent; with decrease from 4.3 percent to 3.3 percent in Kathmandu Valley and more significant decrease from 31.6 percent to 13 percent in other urban areas (Central Bureau of Statistics 2005). The depth and severity of the poverty also decreased significantly in the urban areas during this period.

In one hand, urbanization significantly contributed in the reduction of overall poverty rate, while on the other hand the urbanization induced by influx of population has accelerated growth of urban poor. Decline in rural agriculture investment, lack of favourable environment

[1] Poverty gap is the measure of the depth of poverty
[2] Squared poverty gap is the measure of the severity of poverty

to sustain rural industry, lack of accessibility to service centres, poor education and health services, food insecurity, unemployment, lack of collateral and financial assets and insecurity due to decade long conflict has forced rural population to migrate to towns in search of better opportunity and relative security. The sharp increase in population has put severe strain in the capacity of urban infrastructures and essential services including safe water supply, sanitation, solid waste management, housing, electricity, employment and health services. Growth in in-migrant population has contributed to the increasing land and housing prices, which has made poor migrant population difficult to afford a decent and secured housing. Consequently, they opt to reside in temporary, overcrowded areas with unsanitary conditions and often illegally. They are deprived of basic services and are usually vulnerable to natural and man-made disasters (Karmacharya 2008).

Table 2 Headcount poverty rate in urban regions between 1995-96 and 2003-04 (percent)

Region	Poverty Headcount Rate			Distribution of the Poor			Distribution of Population		
	1996-96	2003-04	Change	1996-96	2003-04	Change	1996-96	2003-04	Change
Urban	21.6	9.6	-56	3.6	4.7	30	6.9	15.0	117
Kathmandu	4.3	3.3	-23	0.3	0.66	118	2.6	5.4	110
Other urban	31.6	13.0	-59	3.3	4.1	23	4.4	9.7	121

Source: (Central Bureau of Statistics 2005; The World Bank 2006)

The developments in urbanization trend have created a new category of poor – the 'urban poor'. During the period of 1995-96 to 2003-04, proportion of poor in urban areas increased by 30 percent, with drastic 118 percent in Kathmandu Valley alone and 23 percent in other urban areas of the country. With the current trend of increase in urban population, it is estimated that half of the population of Nepal will be living in urban areas by the year 2035 and that half of the urban population will be living in poverty with total number of urban poor reaching 15 million within this period (Bryld 2001).

Urban poor faces several difficulties which limits their well being even more than that of the rural poor. Urbanization brings with it not only growth but also severe socio-economic problems for the poor, which needs to be dealt with locally and at national levels. Policies need to be formulated to limit the negative impacts of the rapid population growth in the urban areas and to target intervention programs to address the issues of the urban poor.

1.2. Poverty Mapping and Gender Assessment in Bharatpur Municipality

Poverty Mapping and Gender Assessment initiative undertaken by the Department of Urban Development and Building Construction (DUDBC), Urban Environmental Improvement Project (UEIP) under the financial support of UN-HABITAT, Water for Asian-Cities (WAC) Program envisages identifying and geographically targeting the poor for pro-poor policies and programs interventions. This initiative provides a tool in a form of poverty maps to local municipal authority, central level government authorities, concerned stakeholders and donor organizations to get insight on the situation, distribution and severity of urban poverty in the

municipality. This study also provides an in-depth view of the situation of gender amidst the poverty in the municipality.

This study identifies poor households and poverty pockets in the municipality and the level of poverty among these impoverished households. This has enabled targeting these impoverished pockets and households for policy formulation, planning and implementing development programmes and pro-poor service delivery at local levels. The study uses census survey[1] data covering the entire households of the municipality collected during 2007 and GIS datasets containing individual building footprints, street networks, infrastructure networks, topography and other features. Poverty situation is analyzed based on this household census data and mapped using the GIS datasets to identify the poor households and poverty pockets. Upon the identification of impoverished pockets, focus group discussions were held at each municipal wards targeting the impoverished households to understand the ground situation of the poverty, its root causes, situation of woman in the impoverished communities and identify the needs of the these communities. Based on the participatory appraisals of their needs, intervention programs and development projects are formulated.

1.3. The Study Area

Bharatpur municipality is located in between the longitude 84° 22' 31" East to 84° 29' 05" East and latitude 27° 37 ' 33" North to 27° 45' 35" North The total area of the municipality is 77.72 sq. km (7,772 hectares), whereas the total urban area (existing and planned) is about 52.70 sq. km (5,270 hectares). Bharatpur lies 146 Km west of Kathmandu, 130 Km east of Bhairahawa, 83 kilometres west of Hetauda and 132 Km west of Birjung along the East-West Highway on the bank of Narayani River. Bharatpur is surrounded by the Narayani River in the north, the Chitawan National Park in the south, Mangalpur VDC, Phubari VDC, Gitanagar VDC and Patihani VDC in the west, Kabilash VDC, Jutpani VDC and Ratnanagar Municipality and Bachhyauli VDC in the east. To the east of Bharatpur municipality exists a narrow strip of the forest of the Chitawan National Park extending from south to the north. The municipality is divided into fourteen administrative wards.

Bharatpur is situated on the banks of the Narayani River and the topography is composed of alluvial soils deposited by the Narayani River. The altitude of Bharatpur municipality ranges from 181 metres above sea level near Shivaghat in the south west to 271 metres above sea level near Ramnagar in the north. As the land of Bharatpur has been formed by fluvial deposits, the land is flat near the river banks and gradually elevated towards the east and north.

Due to its location in the lower flat region, the climatic condition of the municipality is humid sub-tropical monsoon type. Temperature is quite hot in summer and warm in winter. According to nearest meteorological station of Rampur, the seasonal average range of monthly temperature is nearly 10°C with the fluctuation of 14.4°C in December to 24.3°C in May. April to June months is the hottest with the maximum of nearly 40°C in May. December to February is colder months with the minimum temperature of 6.2°C in December.

[1] Household census data was collected during April-August 2007 under the project "Preparation of Urban Base Maps and Supply of Computer Hardware for Hetauda Municipality" undertaken by DUDBC/UEIP.

As in other parts of Chitwan district, the rainfall condition of the municipality depends upon monsoonal wind. The average annual precipitation is little more than 1,500mm as recorded in the nearest meteorological station at Jhuwani, located more or less at the same elevation zone. Nearly 78 percent of the rainfall occurs during the monsoon period from June to August months. Normally, winter season from November to February is relatively dry.

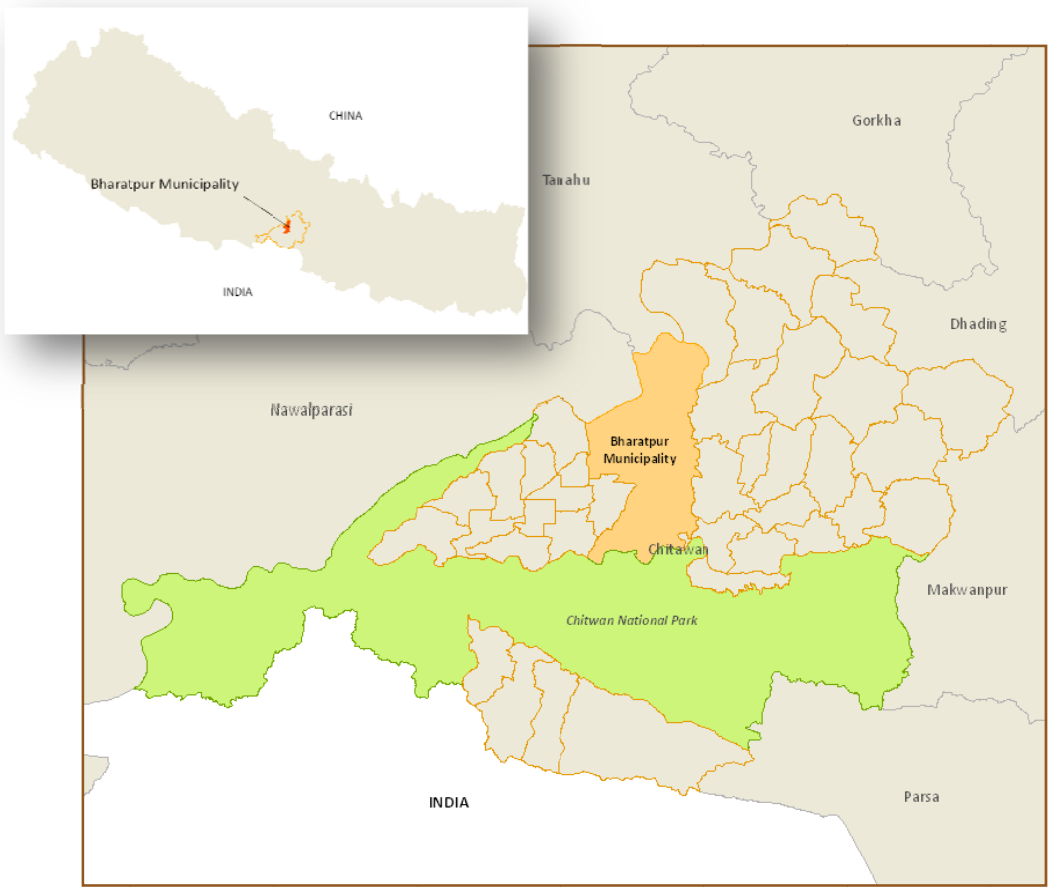


Figure 1 Location map of BharatpurMunicipality

1.4. Population Trend[1]

The total households in the municipality are 17,496 with total population of 86,208. The population comprises 44,123 males and 42,085 females (i.e. 51.2 percent male and 48.8 percent female) with sex ratio of 1.04. The population density in the municipality is 1,107 people per sq. km and the average household size is 4.93. Ward wise composition of population indicates highest population in ward 11 with total of 13,810 population (16 percent) and ward 3 is the least populated ward with only 2,185 (2.5 percent) of the total. The distribution of popu-

[1] Based on Census Survey 2007, under the project "Preparation of Urban Base Maps and Supply of Computer Hardware for Bharatpur Municipality" undertaken by DUDBC/UEIP

lation by broad age group viz. 0-14 years, 15-59 years and above 60 years old reveal about 26 percent of the total population falls under 0-14 years group, 66.7 percent are under 15-59 years group and 7.8 percent are of 60 years and above age group. These shows about 67 percent of the total population are economically active population in the municipality. The average dependency ratio is 50 percent. The ethnicity and caste pattern of the municipality shows diversity with major ethnic groups as Brahamin, Chhetri, Newar, Gurung, Magar, Tamang, Kami and Damai. Of the total population, Brahmin comprises of 48.08 percent, Chhetri with 11.85 percent, Newars with 10.16 percent, Gurung with 6.74 percent, Magar with 4.32 percent Tamang with 4.10 percent, Kami with 2.93 percent and Damai with 1.85 percent. The remaining proportion consists of various ethnic and caste groups including very small proportions of Thakuri, Tharu, Darai, Muslim and Rai.

The literacy rate of the population 5 years and above is 84.93 percent with literacy rate of females 79.24 percent, while that of males is 90.42 percent amongst their respective population proportions. The literacy rates among the children (5-15 years) are quite high in the municipality with about 98.8 percent literate. Among the adults about 81 percent are literate with considerably lower proportion of adult literate females to males (73.52 percent females and 88.08 percent males among their groups).

Among the adult population of 61,626 (15 years and above), 52.98 percent are economically active and remaining are economically inactive. Among the inactive population66.84 percent are females and 27.92 percent are males. In this proportion majority are unemployed (26.81 percent) and students (19.74 percent).

1.5. Organization of the Report

This report is the final report of the study and presents the situation of poverty in the municipality, its geographical distribution, its root causes and situation of gender amidst the poverty. On the basis situation analysis of the poverty in the municipality, the report presents holistic policy recommendations and intervention programs in order to address the needs of the poor for pro-poor urban governance in the municipality.

The report is presented in two volumes: the first volume presents the situation analysis of poverty in the municipality and the second volume presents pro-poor policy recommendations and interventions program identified for the municipality. This report, the first volume is presented in four parts. The first part contains two chapters presenting the background of the study and concept of urban poverty. The second part presents the chapters for accessing, analyzing and mapping urban poverty; analyzing gender and participatory assessment of the situation of urban poor. The third part contains four chapters presenting the situation of poverty and gender, the cause of poverty and the need of the poor in the municipality.

Chapter 2

Assessing Urban Poverty

2.1. Understanding Urban Poverty

Urban poverty is a multidimensional phenomenon and urban poor live with many deprivations. Urban poverty is often characterized by cumulative deprivations, that is, one dimension of poverty is often the cause of or contributor to another dimension (Baharoglu and Kessides 2004). Urban poverty is also a dynamic condition of vulnerability or susceptibility to risk (World Bank). In urban context, poverty and vulnerability (a dynamic concept whereby the 'vulnerable' face the risk of falling into poverty) can be related to three distinctive characteristics of urban life: commoditization, environmental hazard and social fragmentation. Vulnerability is closely related to the asset ownership. The more asset people have, the less vulnerable they are; the fewer the assets held by household, the greater is their insecurity(Baharoglu and Kessides 2004). Vulnerability can also be considered as a more subjective definition of poverty such that urban poverty is a dynamic condition of vulnerability or susceptibility to risk of falling into poverty. However, vulnerability is not synonymous with poverty, but refers to defencelessness, insecurity, and exposure to risk, shocks and stress (Masika, de Haan, and Baden 1997). In this context vulnerability can be defined as insecurity and sensitivity in the well-being of individuals, households and communities in the face of changing environment, and implicit in this, their responsiveness and resilience to risks that they face during such negative changes (Moser 1998). Changing environment that threatens well-being can be ecological, economical, social, political as well as due to marginalization and exclusions on the basis of these factors.

World Bank in its PRSP (Baharoglu and Kessides 2004) has identified five dimensions of poverty: income/consumption, health, education, security and empowerment in the urban context. These dimensions of poverty are the consequences of different factors induced due to the urban environment and health risks; vulnerability arising from commercial exchange (commoditization), social diversity, fragmentation and crime; vulnerability arising from poor governance and policies.

The dimensions of urban poverty and their cause and impact are shown in the following matrix Table 3.

Table 3 Urban poverty matrix

Dimensions of poverty	Contributing factors	Policy related causes	Impacts on other dimensions of poverty
Income	▪ Dependency on cash for purchase of goods and services ▪ Employment insecurity and casual work ▪ Unskilled wage labour/lack of qualifications and skills for well-paid jobs ▪ Inability to hold job due to bad health ▪ Lack of access to job opportunities	▪ Macroeconomic crisis reduce real incomes ▪ Failure of public services (education, health, infrastructure, transport to serve urban poor) ▪ Regulatory constraints on small enterprises perpetuate "informality" of work available to poor, discourage asset accumulation and access to credits thus increases vulnerability of workers	▪ Inability to afford land and housing resulting in underdevelopment of physical capital assets ▪ Inability to afford essential public services of adequate quality and quantity (e.g. inadequate water supply can cause unhygienic living conditions and ill health) ▪ Poor human health and education due to stress, food insecurity, and inability to afford education and health services ▪ Depreciated social capital resulting in domestic violence and crime
Health	▪ Overcrowded and unhygienic living conditions ▪ Industrial and traffic pollution due to juxtaposing of industrial and housing land uses ▪ Settlements on marginal lands prone to environmental and natural hazards such as landslides, floods and earthquake ▪ Exposure to diseases due to poor quality air , water and lack of sanitation ▪ Injury and deaths arising from traffic ▪ Occupational risk in industries due to unsafe working conditions (especially in informal sector)	▪ Land and housing regulations can make proper housing unaffordable, pushing residents into disaster and polluted areas ▪ Bad policy framework and failure of public services such as environmental and health related services (water and sewerage, solid waste disposal, drainage, sanitation, vector control) ▪ Lack of labour protection (worker safety) ▪ Poor traffic management and pedestrian facilities ▪ Lack of safety nets and social support systems for families and youth	▪ Inability to hold job due to poor health ▪ Inability to earn sufficient income ▪ Reduces inability of children to learn due to illness ▪ Poor educational outcomes
Education	▪ Constrained access to education due to insufficient school capacity ▪ Limited access to school for girls due to cultural issues and biasness towards girl child ▪ Limited access to school due to distance (lack of road access)	▪ Inability of public authorities to provide adequate schools, classrooms of adequate size, adequate teachers ▪ Lack of safety nets to ensure children stay in school during family hardship ▪ Insecure and unaffordable public transport	▪ Inability to get better job resulting in low income ▪ Lack of constructive activity for school age youth contributing to delinquency ▪ Poor health due to lack of awareness of sanitation and hygiene, transmissible diseases ▪ Gender inequalities

	▪ Inability to afford school expenses ▪ Personal safety/security risks deterring school attendance	▪ Lack/insufficient policy for promoting literacy programs (child literacy and adult literacy)	▪ Lack of security and empowerment
Security of Tenure	▪ Land and housing in authorized are unaffordable, so poor typically build or rent on public or private property resulting in squatter settlement and unauthorized settlements with risks of evictions, legal actions ▪ Houses lack proper construction and are vulnerable to collapse due to different natural hazards ▪ Houses are built in unsafe areas prone to natural hazards, environmental pollution	▪ Land policies do not make sufficient developed land available to poor ▪ Urban development policies are not conductive to regularization of tenure of providing other forms of tenure security in authorized settlements ▪ Lack of standards, codes and building regulations make buildings vulnerable to hazards ▪ Lack of land planning result in haphazard development and building constructions on hazardous land	▪ Evictions cause loss of physical capital, damage social and informal networks for jobs and safety nets ▪ Loss of potential source of income due to inability to use one's house as a source of income (for example through renting, or creating extra space for income-generating activities)
Personal insecurity	▪ Drug/alcohol abuse and family violence ▪ Family breakdown and reduce support for children ▪ Social diversity and visible income inequality in cities increase temptation to commit crime	▪ Lack of employment opportunities, services results youths to incline in committing crime ▪ Lack of safety nets policies in programs	▪ Diminished physical and mental health and low earnings ▪ Damage/loss to property and increased costs for protection and health care ▪ Deprecated social capital such as loss of family cohesion and social isolation
Empowerment	▪ Illegitimate/illegal residence and work ▪ Isolation of communities that are disconnected from jobs and services ▪ Insufficient channels of information for obtaining jobs, services, legal rights etc. ▪ Limited/restricted civil rights	▪ Oppressive bureaucracy and corruption ▪ Official or unofficial discrimination ▪ Gender, racial and ethnic discrimination ▪ Regulatory and policy framework for services provision, housing and land, and income generating activities make settlements and/or occupations of poor informal or illegal, thereby denying the poor the rights of other urban citizens	▪ Lack of access to urban services ▪ Social isolation and sense of powerlessness ▪ Violence and crime

Source: (Baharoglu and Kessides 2004)

2.2. Dimensions of Poverty and Assets

Understanding urban poverty requires understanding of its multidimensionality and vulnerability of urban population to these dimensions of poverty. The vulnerability to the multiple dimensions of urban poverty is mitigated by the assets owned by the people, thus keeping them falling into poverty traps. These dimensions of poverty can be related to five different types of assets: income/financial capital, human capital, productive capital, physical/access capital and social capital. Similar to the dimensions of poverty, these assets also impact each other as well as cumulatively impact the well being of a poor. For instance, education and health, which falls under human capital influences income generating capability of an individual thus, influencing the income capital. Likewise, physical capital in the form of access to safe drinking water impacts human capital viz. health. Therefore, there exists an influencing cycle between various forms of assets and their cumulative impact on reducing the cumulative impact of multidimensional urban poverty. A generalized relationship of assets and the dimensions of poverty is shown in Table 4.

Table 4 Dimensions of poverty and assets

Dimensions	Assets
Income/Financial Poverty	Productive Capital, Financial Capital, Social Capital e.g. land, building; labour/employment, savings, credits, social networks, access to financial services, community networks
Human Poverty (Health and Education Poverty)	Human Capital, Physical Capital e.g. education, health condition, nutrition intake, access to safe drinking water, access to improved sanitation, cooking fuel
Personal Insecurity	Social Capital e.g. social networks, safety nets, community organizations
Tenure Insecurity	Productive capital e.g. housing, land and access financial services and markets
Physical Poverty	Physical Capital, Productive Capital e.g. access to transport, shelter, drinking water, energy, communication
Social Poverty (Disempowerment/Social & Political Exclusion)	Social Capital, Physical Capital e.g. social networks, community networks, access to services, access to communication, access to judiciary

Quantifying poverty and deprivations in terms assets enables urban policy makers and planners to judge the level of assets the households possess such that pro-poor policies and intervention programme can focus on overall increase of level of the most deprived assets. For instance, if the majority of households/populations are deprived of human capital in terms of low education levels, the pro-poor policy needs to address on programmes to increase access to education, awareness to the importance of formal education, develop educational infrastructures, promote adult literacy and other intervening programmes such that the education levels of population, households and communities increase.

2.3. Accessing Urban Poverty

There are primarily two approaches which have been widely used for poverty assessment. The first approach uses income/expenditure-based econometric approach using small-area estimation and the later uses value focussed approach based on composite Human Development Index (Henninger and Snel 2002). However, in the past decade development economists have increasingly advocated the use of assets to complement income and consumption-based measures of welfare and wealth in developing countries (Carter and May 2001). Income has been the most widely used unit of poverty analysis because it is a cardinal variable that is directly comparable among the observations making it straightforward to interpret and use in quantitative analysis (Moser and Felton 2006). The analysis of assets and their accumulation is intended to compliment such monetary measures by extending the understanding of the multi-dimensional characteristics of poverty and complexity of the process underlying poverty reduction.

2.3.1. Income or Consumption Based Assessment of Urban Poverty

Conventional economic definition of poverty has solely focussed on income (or consumption) as the most frequently used proxy of welfare. The justification is that (in market based economies) lack of income is highly correlated with other causes of poverty and is a predictor of future problems of deprivations (Wratten 1995). In this sense, income is defined as command over resources over time or as the level of consumption that can be afforded while retaining capital intact. This definition measures poverty in absolute terms using poverty line as a basis for classifying poor and non-poor. A 'dollar a day' measure introduce by the World Bank is the best known example of this approach. There are, however variety of methods to assess poverty based on this approach-a biological minimum of consumption necessary to survive or socially accepted minimum standard of living (Saith 2005). In Nepal, this approach have been adopted, in which poverty lines are based on consumption model derived by *'Cost-of-Basic-Needs (CBN)'* method by the National Living Standard Surveys NLSS-I (in 1995-96) and NLSS-II (in 2003-04).

Income defined poverty lines are problematic for number of reasons: income is useful indicator if we want to identify who are likely to lack the resources to achieve a socially acceptable standard of living. However, it does not measure accurately their capacity to achieve access which, may be influenced by other factors such as education, health, information, legal rights, threatened domestic violence and social insecurity (Wratten 1995). Many criticize this approach arguing that it does not adequately capture what poverty actually means in the lives of actual households (Baud, Sridharan, and Pfeffer 2008). More importantly, this approach fails to represent multifaceted aspect of poverty, more specifically the urban poverty often characterized by multiple deprivations. Further, monetary based income or consumption approaches do not properly address number of issues that influences poverty (besides income) in essential ways as such expenditure lines do not capture the assets which households or individuals may have which reduce their vulnerability in the longer term. The other aspect this approach fails to address is the manifestation of poverty that transcends along the lines of social exclusion and segregation, despite the fact that they reduce household access to state or community provided resources(Baud, Sridharan, and Pfeffer 2008).

Multiple dimensions of urban poverty characterized by deprivations in multiple aspects and the vulnerability due to the deprivations hence cannot be portrayed adequately through income based assessment alone.

2.3.2. Human Development Index and Urban Poverty

The Human Development Index (HDI), developed by the UNDP is a composite index of human well being based on non-expenditure related data reflecting the range of 'unsatisfied needs' and can reflect full range of deprivations faced by households(Noble et al. 2006). The HDI combines normalized measure of life expectancy, literacy, educational attainment and Gross Domestic Product (GDP) per capita and produce an aggregate index to represent human welfare and the country's development status.

The HDI is based on three variables: life expectancy, education (literacy), and income. All components are weighted equally with arbitrary weighted index. Due to this arbitrary and equal weightage, many criticize that it is unable to reflect the totality of issues that affect the human well being(Sanusi 2008). Also it has been criticized as a redundant measure that adds little value of the individual measures composing it.

Applying HDI for urban poverty at household level has operational as well as structural constraints. HDI is often applied at country level and application to lower level of governance is limited. However, the truth remains that the issues addressed by the index affect people at lower levels and at lower levels they manifest where the people reside and the urban centres convey these issues quite visibly (Sanusi 2008). Similarly, if HDI is to have any significant meaning, its application must be seen beyond the three variables. The recent variations of UNDP's HDI have addressed human poverty in form of Human Poverty Index (HPI) which addresses variables like access to water and sanitation. The HPI is a reverse image of HDI that focuses on human deprivations instead of human achievement and addresses deprivations in for basic dimension of life – a long and healthy life, knowledge, economic provisioning and social inclusion. While this variation captures critical dimensions of urban poverty, it does not capture fair number of issues that affect human development particularly related to human living environment (Sanusi 2008). This variation also fails to address critical urban poverty characteristics of vulnerability and capability of people to manage their assets portfolio to mitigate poverty.

At the structure level, HDI is criticized for using the GDP adjusted for purchasing power parity to convert into the US dollars as such the GDP of different nations may not be comparable and the conversion itself is flawed. Also other components such as life expectancy (under five death) data, literacy data are mathematical estimation and do not portray the actual situation (Bagolin) especially in the developing countries. Other critical issue of the HDI is its aggregation problem in giving equal weight to all the variable of welfare. As such, the dimensions of urban poverty have different influencing factor and affects the urban poor in different levels of severity.

2.4. Assets Vulnerability Framework

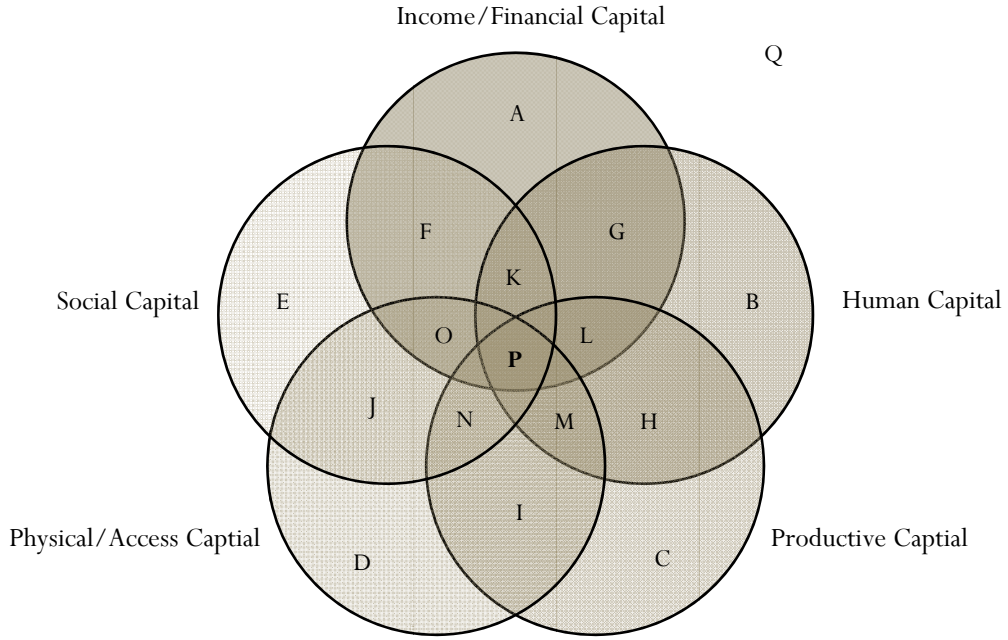
Capturing the multidimensional aspects of changing socioeconomic well-being in poor communities requires identification of both levels of poverty and types of vulnerability (Moser 1998). Assets and capital possessed by the communities, households and individuals are the means of resistance to poverty. As it is evident that income based economic well-being approach fails to capture multidimensionality of urban poverty and the human well-being approach (by the UNDP) fails to represent the vulnerability and the issues pertinent to urban poverty, a more robust and dynamic framework that captures cumulative impact of multiple deprivations and vulnerability of urban poor towards such deprivations needs to be developed.

With the basic principle of assessing the poverty through the assets possessed, combined model of representing multiple dimensions of poverty and their cumulative impact through a dynamic framework of vulnerability and assets is developed. This model is termed as "Assets Vulnerability[1] based Multidimensional Poverty Analysis." The core concept of the model is that the dimensions of poverty are mitigated or reduced by the assets/capital owned/possessed thus minimizing the vulnerability to poverty.

Assets can be physical or productive assets such as building ownership, land holding, domestic amenities (vehicle, precious metal, household goods/equipments, savings); human capital such as education, labour/employment, health; social capital such as family network, social and community networks. Besides these physical and tangible assets, access to infrastructures and services, judiciary system, social systems (healthcare, security, education, market etc) also indicate the status of poverty and vulnerability in an urban environment. Security of tenure and access to financial services are other key contributors that define the vulnerability to poor.

Rather than viewing urban poverty as a result of lack or lowness of single asset/capital variable or trait, the multidimensional asset vulnerability approach weights in a more comprehensive set of information by incorporating income/financial capital (economic well-being), human capital (human well-being), productive capital, physical/access capital and social capital (social well-being). The measurement outcomes from this approach would be more comprehensive and accurate than those from any unidimensional approach. Although the necessity of collecting comprehensive data as well as the complexity of aggregating them causes potential loss of information, rendering the multidimensional approach less practical for immediate application (Wagle 2008). Nevertheless, the multidimensional approach meaningfully portrays the complexity of urban poverty in today's context and hence advocated here for the study.

[1] The asset vulnerability framework is based on (Moser 1998) and has been used in several urban poverty studies including by Baud et al. in Delhi (see Baud, Sridharan, and Pfeffer 2008).



Poverty Status

Vulnerable = [A+B+C+D+E]
Poor = [F+G+H+I+J]
Non poor = [Q]
Very poor = [K+L+M+N+O]
Extremely poor = [P]

Note: Circles in Venn diagram represents deprivations in different capitals.

Figure 2 Asset vulnerability based multidimensional poverty space [Adapted from (Wagle 2008)]

Operationally, poverty status is represented by five dimensional space, with those falling on different elements of the space experiencing different degrees of poverty. As shown in Figure 2, households/people are 'vulnerable' when they fall in any of five circular spaces [A+B+C+D+E]. As such they may be vulnerable to poverty due to deprivation in income, human capital, productive capital, physical capital or social capital depending on the element in which they fall. They would be considered as 'poor' if fallen in a combination of any two elements [F+G+H+I+J]. As they experience poverty in two dimensions, the likelihood of escaping it would be high due to possession of other three dimensions of capital. If they fall in a combination of three elements [K+L+M+N+O], they would be considered as 'very poor' with very slim likelihood of escaping the poverty. The story of those falling in the core [P] would be even more serious with virtually no prospect for escaping it, hence their status identified as the 'extreme poor.'

Part Two

Analyzing and Mapping Urban Poverty and Gender Inequalities

Chapter 3

Analyzing Urban Poverty

3.1. Developing Assets/Capital Indicators

Poverty indicators representing the different dimensions of poverty and correspond to income/financial, productive, human, physical and social capitals are derived under assets vulnerability framework. These indicators are quantifiable and are assessed based on the deprivations in each form of assets/capital. A set of indicators are defined to represent multiple deprivations at households. The subsets of this set of indicators collectively define deprivation of a specific asset/capital. For instance, education, a form of human capital is defined by a subset of quantifiable education indicators e.g. education of household head, education levels of other adult family members, access to school for children, education of female members and female children etc. As such, an asset/capital (or the lack of it) is also represented in a multiple aspects, thus portraying a multiple sources of poverty/deprivations. Each indicator within a type of asset/capital is considered to have equal weight.

Among five types asset/capital generally used in urban livelihood approaches; only four types have been used in this study viz. the income/financial, financial, productive and physical assets/capital. The social assets/capital has been excluded for cumulative decomposition at this stage due to insufficiency of the data. The social assets/capital aspect has been addressed and analyzed separately from the qualitative perspective through the participatory poverty assessment (PPA).

The poverty/vulnerability indicators are defined to represent the common perception of urban poverty in the Nepalese context. Nineteen *'basic'* or *'core'* indictors are defined to represent poverty/deprivations in income, human and physical dimensions of poverty. Some of these core indicators are further classified into sub-indictors resulting in the definition of twenty three poverty/deprivation indicators. The deprivations in each of the indicators represent the level of poverty in a household. If a household is not deprived in an indicator, the indicator is an asset/capital possessed by the household consequently mitigating the effects of the dimensions of poverty.

Table 5 Poverty/Vulnerability indicators

Dimensions of poverty/deprivation	Indicators
Income poverty	▪ Per capita household income (based on CBN method) ▪ Land ownership ▪ Building ownership
Human Poverty	▪ Education level of household head ▪ Access to school for children (5-15 years if age) ▪ Employment of household head ▪ Percentage of adult (above 15 years of age) family members employed in formal sector
Personal Insecurity	▪ Social network ▪ Gender discrimination ▪ Empowerment
Tenure Insecurity	▪ Overcrowding

	▪ Shelter (housing)
Physical Poverty	▪ Access to safe drinking water ▪ Access to improved sanitation ▪ Cooking fuel use ▪ Kitchen type ▪ Sewerage ▪ Solid waste ▪ Access to communication ▪ Access to electricity ▪ Possessions of amenities (vehicular, household equipments) ▪ Access to motorable road
Social Poverty	▪ Social networks (community participation) ▪ Empowerment ▪ Access to public services

The selection of the core indicators and their sub-indictors depends on the availability and the level of aggregation of relevant data. However, it should be noted that the indicators are not limited to aforementioned list and can be replaced and/or supplemented by additional indicators that best portray the dimension of poverty/deprivation in question.

3.1.1. Income Capital Indicator

Income (or consumption) is the most frequently used proxy for poverty. Monetary indicators aim to assess whether households can afford to buy a very *'basic basket'* of goods at a given point in time. The common definition of this *'basic basket'* is that the basket contains a minimum of goods essential for the household viz. food (often distinguished by their nutritional content), housing, water, clothing, transport etc. (Hentschel and Seshagir 2000). The value of this basic basket of goods is called the *'poverty line'*.

Poverty line based on consumption model *'Cost-of-Basic-Needs (CBN)'* method is used in Nepal, which calculates the regional average expenditures required for food basket for minimum caloric requirements of 2,124 Kcal plus the expenditure required for non-food consumptions of the households[1]. The NLSS-II in 2003/04 has defined poverty line of NRs. 7,901.1 (food items as NRs. 4,919.2 and non-food items as NRs. 2,981.9) for other urban areas outside Kathmandu (Central Bureau of Statistics 2005). Considering F/Y 2003/04 as the base year, the poverty line for F/Y 2006/07 is computed based on the annual urban *Consumer Price Index (CPI)* over the period of four years (2003/04 -2006/07) published by the Nepal Rastra Bank in its Quarterly Economic Bulletins[2]. Based on this, the *'income poverty line (IPL)'* for the F/Y 2006/07 in urban areas is calculated as NRs. 9,537.27 per capita per person (≈NRs. 9,537; average of Hill and Terai urban). The income poverty line of household (per capita per household) is calculated as NRs. 51,500 for an average household size of 5.4 in the municipality. The detail of the poverty line analysis is presented in *Appendix 1*.

[1] See Poverty Trends in Nepal (1995-96 and 2003-04) (Central Bureau of Statistics 2005) for details
[2] See Quarterly Economic Bulletin, Mid-October 2007, Vol. 42 (Nepal Rastra Bank 2007)

3.1.2. Human Capital Indicators

Human capital includes well known tangible assets such as labour[1], health, education and skills. Labour is defined as the most important assets of the poor generating income either directly in terms of its monetary exchange value through wage employment or indirectly through the production of goods and services which are sold through informal sector self-employment activities (World Bank 1991). Moser defines human capital as 'health situation which determines people's capacity to work, and skills and education determining the returns to their work' in (Moser 1998). Health determines whether people can work in their full physical and mental capacity; education and skills enable them to get better jobs thus adding value to their labour.

Labour

Labour force participation is high in the country with 78.8 percent men and 52.5 percent women in the urban regions alone (World Bank 2006). The labour force is predominantly employed in the *informal sector*. Informal sector is considered as a hidden segment of economic activity with a vast number of labour force (Rimal 1997). Wage employment in unskilled non-agriculture occupations is the largest sector of labour employment in the urban regions of the country (with 32.3 percent men and 12.8 percent women involved in 2003-04). This is followed by self-employment in agriculture, trade, manufacture and services sectors. Wage employment in skilled non-agriculture sector is also relatively high among both the men and women in urban regions (12.6 percent men and 6.5 percent women) (World Bank 2006). The unskilled non-agriculture employments comprises of the occupations in the informal sector i.e. in occupations not protected by labour legislation, firm legislation or trade union. The urban informal sectors include works such as hawkers, employees in small enterprises/businesses, self employment in trade, manufacturing and services. The informal workers work usually through the sale of their labour on a daily or piece rate basis or through self-employment as small producers, vendors or service providers.

There is overwhelming evidences to suggest that urban poverty and informal employment are closely related (Sethuraman 1997). Workers engaged in the urban informal sector form the bulk of the urban poor as they get lower wages or if they are self-employed, their income is meagre. Another aspect of informal economy is its uncertainty and lack of social security. This makes households dependent in informal economy more vulnerable to poverty. Lack of education and skills, the other forms of human capital are also the cause of increase in informal sector employment amongst the urban populations.

The economic dependency of a household is associated to employment of the *main worker,* which is often the household head[2]. The households dependent in the informal sector employment of the main worker are apparently more vulnerable to poverty. In addition to this, the employment status of the economically active members in the household and the number of dependents also influences the economic status of a household. For these reasons, this study has considered the employment of household head in formal or informal sector and the proportions of economically active members in formal sector as the measures of labour capital.

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[1] Rakodi and Lloyd-Jones in (Rakodi and Lloyd-Jones 2002) have defined human capital as 'labour resources available to households'

[2] Contrary is some cases as old aged parent(s) are considered as household head in compound families in the Nepalese society.

In this study, employment sectors in services, own economic enterprises and extended economic enterprises are taken under the formal sector. Formal services pertain to the skilled (or non-skilled) jobs in government, private or public sectors and are regulated and protected by labour laws. The latter two are also considered under the formal sector on the grounds that such enterprises are required to be legally registered under trade and commerce or the small scale industry laws and are liable to the taxation by the authorities. Informal sector includes agriculture/livestock, wage employment in skilled/non-skilled non-agricultural sectors and other non-skilled services. The third category comprises of economically inactive group referred as unemployed and consists of students, housewives and unemployed. The assigned score for the employment of household head and the proportion of adult in formal sector is presented in *Appendix 2 Table 19 and Table 20*.

Education

Inadequate education is one of the most powerful determinants of poverty, and unequal access to education opportunity is a strong correlate of income inequality (Aoki et al. 2004). Education is one of the most powerful instruments societies have for reducing deprivation and vulnerability: it helps lift earnings potential, expands labour mobility, promotes the health of parents and children, reduces fertility and child mortality and affords the disadvantages a voice in society and the political system (Aoki et al. 2004). There is a strong and empirically verifiable positive relation across all societies between the earnings people receive from work and the level of education which they have received (Oxaal 1997). The assumptions of competitive labour and good markets follows that those with higher levels of education seem to have, on average, higher levels of productivity. However, this assumption is set against the backdrop of formal economy and may not imply in the scenario of inform economy much of which is characterised by self employment and daily wage earners. It has been shown that the earnings of the self-employed, including those in urban informal sector activities are higher for the educated than for the uneducated. Furthermore, it has been proved that the schooling of women brings beneficial effects for their own control of fertility, for their own health and that of their families (Oxaal 1997).

Human capital theory draws links between education and poverty in terms of education as a means of poverty reduction. However, another significant linkage runs the other way i.e. the effect of macro and micro level poverty on levels of education and school enrolment (Oxaal 1997). At household level (micro level) evidences suggest that children of poorer households are generally likely to receive less education or do not attend the primary schoolings. Further, such evidences also suggest predominantly lower levels of education and primary school enrolment amongst the girls of poor households. Access to primary education for children is another proxy measure of social progress and economic achievement (UN-HABITAT 2004).

Household head's education level is linked to household income level and those households with less-educated households heads, are more likely to be below poverty line (Moser 1998). Literacy and the level of education of a household head (in many cases the main worker in household) is directly associated with the nature of labour/employment he/she is involved. Illiterate or lower educated work force are predominantly employed in wage labour in informal sectors with lower levels of income earnings and with no job security. This makes households with illiterate (or less educated) main workers highly vulnerable to the poverty.

This study has attempted to quantify education capital in terms of education levels of household head and proportion of children enrolled in school in a household. The education level of

household head is categorized into five categories: illiterate, primary or informal, secondary, intermediate and above and masters and above. These education levels are respectively scored from most deprived 1, 0.75, 0.5, 0.25 and 0. The proportion of children (below 15 years of age) in a household enrolled in school is categorized into three groups viz. none, 50 percent of children in household enrolled and more than 50 percent children enrolled in school and are scored as 1, 0.5 and 0. The assigned score for education levels of household heads and school enrolment of children is presented in *Appendix 2 Table 21* and *Table 22* respectively.

Health

Inadequate cash incomes and thus food insecurity and malnutrition; overcrowded and unhygienic living conditions; lack of sanitation and water; and the juxtaposition of residential and industrial functions are among the major causes of health poverty in cities (Baharoglu and Kessides 2004). There is a two-way association between health and income poverty: inadequate cash incomes leads to food insecurity and malnutrition causing illness; consequently illness and bad health limits people's capacity to work, thus affecting the income generation. Health poverty is more profound in urban environment as urban poor are more exposed to environmental hazards than other groups, as they occupy the most polluted environments such as those near factories, risk-prone sites such as waste sites, river beds and hillsides.

Health poverty in urban regions is also attributed to the factors related to deprivations in physical or access capital and tenure insecurity. Lack of safe drinking water, unhygienic living conditions due to lack in basic sanitation, overcrowding living conditions due to the proliferation of slums as well as indoor pollution due to household level energy sources are the major causes of health poverty in cities. These factors of urban poverty related to the physical capital are addressed in *Section 3.1.4* under physical/access capital.

Access to health facilities, child mortality, immunization of children, maternal health and other are used as indicators for assessing the health capital. However, the census does not provide comprehensive and verifiable data on these health situations within households, which has limited our possibility to include health data in the study.

3.1.3. Productive Capital Indicators

Productive capital has been defined as '*financial capital*' by Moser and she indicates that housing is the most productive asset of the poor (Moser 1998). Rakodi and Lloyd-Jones define it as 'financial resources (savings, credit, remittances and pensions)', which reflect a wider range of ways in which households build up financial reserves (Baud, Sridharan, and Pfeffer 2008) to mitigate vulnerability to poverty. Productive capital, in general is associated with the financial capital i.e. monetary resources (besides the income earned) available with the households. In developed countries, this usually translates into financial assets such as bank holdings, stock and bond investments, house equity etc. that can be drawn on in case of need. However, many in developing countries may not have any of these; in which case labour security[1], transfer/rental income which are non-earned monetary resources and productive durables goods

[1] Discussed in Section 3.1.2 and categorized under human capital.

with an income generating capabilities (Moser and Felton 2006) can serve as quantifiable indexes of assets.

In Nepalese context, land and house ownership can be considered under productive durable assets. Land and/or building owned can be used for generating rental income, gain access to financial credits as well as can be financially transacted at the time of needs. Housing/tenure security and legal title give households the incentive to invest in upgrading their homes and the security to use their assets productively, particularly when other sources of income are reduced (Moser 1998). Moreover, the ownership of land and building gives households the security of tenure, though may not address the issues of overcrowding and personal security in case of hazardous environment[1] (environmental, man-made and natural). Hence, in this study, land and building ownerships (separately) have been considered as the two important indicators after the income.

Productive durable goods are considered productive capital because they can be used for current or potential income stream (Moser and Felton 2006). For instance, sewing machines can enable poor households to earn an extra income as men can use it to work as tailors (usually as self-employed) and women can use it both within the family as well as dressmakers in the community. Other goods such as cars, pick-up trucks and other forms of vehicles have been considered as productive durable goods in other countries (in Africa and Latin America) (for example see Moser and Felton 2006; Moser 1998) as these vehicles can be used as taxis and carriers. However, in Nepalese context vehicular transport (motorized) may not be considered as productive durable goods (due to high capital investment, which is beyond the financial means of many). Instead rickshaws, hand cart, horse cart[2], bicycles (in some cases motorcycle) can be considered as the suitable vehicular productive durable goods. These are in general, used as taxis, carriers and for delivery of goods/services. In this study, productive durable goods have not been used in the context of the *'medium'* of (extra) income generation; rather this has been used as the *'amenities'* possessed by the household indicating the 'non-poor' status. In the context of *amenities*, motorized vehicles: motorcycle, car and bus/truck/tractor have been considered in the study. Due to the lack of verifiable data, household durable goods such as sewing machine, refrigerator and others have not been included in the study.

Financial resources representing financial capital have also been not included in the study due to insufficient data from the census survey.

3.1.4. Physical/Access Capital Indicators

Physical capital has been defined as "the basic infrastructure (transport, shelter, water, energy, communication) and production equipment which people need to pursue their livelihoods" by Rakodi and Lloyd-Jones (cited by Baud, Sridharan, and Pfeffer 2008). Moser (in Moser 1998) has defined this as 'productive assets' and has included as a form of productive assets. In this study, physical capital pertains to the access to a set of basic infrastructures. Such access indica-

[1] Land and building owned in hazardous environments such as natural hazard prone areas, environmentally sensitive areas and socially insecure areas (e.g. crime prone areas, conflict areas, social unrest areas) may not necessarily guarantee the security of tenure

[2] Especially in the Terai region

tors are very important since they determine the degree to which city programs are available to different population groups; maybe not a sufficient, but often a necessary condition for improving the lives of the poor (Hentschel and Seshagiri 2000). The physical or access capital indicators are also comparable to the *'Unsatisfied Basic Needs Indicators'* defined in (Baker and Schuler 2004; Hentschel and Seshagir 2000), which also takes into account nutritional or caloric intake requirements, access to social services and programs and others.

In this study, access to basic infrastructures such as safe drinking water, basic sanitation, access to road, access to communication, access to electricity have been considered as physical/access capital. These indicators, directly or indirectly influences other dimensions of poverty. For instance, lack of safe drinking water and hygienic sanitation condition directly impacts the health of people; access to road influences the access to market, employment opportunities, access to school; access to communication gives access to information thus giving empowerment. Other physical factors such as use of energy source for cooking (cooking fuel), hygienic kitchen, solid waste disposal practice directly affects the health of the household members as well as impact the environment. Traditional cooking fuel sources such as fuel wood, straw, dried cow-dung produce smoke risking in smoke inhalation, respiratory and other health problems more commonly in women involved in cooking. Traditional kitchen without running water tap connection and separate space for washing is quite common and in general have poor hygienic conditions thus affecting the health of household members. Indiscriminate disposal of household solid waste and sewer pollutes the surrounding environment consequently affecting the health of households. Disease carrying vectors breed and proliferate in such environment causing various water borne diseases and other epidemics.

Access to basic infrastructures and services largely depends on the service delivery capacity of the municipal authority or the service providers. In Nepalese urban context, basic services such as piped water and sewerage connection do not have full coverage in most of the urban regions. This also indicates poorer quality of life or lower human development in the city due to lack of institutional capability in service delivery (Healy, Jitsuchon, and Vajaragupta 2003).

3.1.5. Social Capital Indicator

Social capital is reciprocity within communities and between households based on trust related to social ties (Moser 1998). Rakodi and Lloyd-Jones define it as "social resources (networks, membership of groups, relations of trust and reciprocity, access to wider institutions of society)" (cited by Baud, Sridharan, and Pfeffer 2008). Social capital can be *'bonding social capital'* reflected within homogeneous communities, bridging social capital between different communities and linking social capital between heterogeneous communities of different social status (Harriss 2001). Social capital is generated through rules, norms, obligations, reciprocity and trust embedded in social relations, social structures and societies' institutional arrangements that enables its members to achieve their individual and community objectives (Moser and Felton 2006). Different authors have differentiated social capital into community level social capital and household level social capital. Households act as important social nets protecting members during the times of vulnerability and can also create opportunities for income generation through effective balancing of daily reproductive and productive tasks (Moser 1993). On the other hand community social capital is formed in '*groups and networks*' comprising individuals that promote and protect personal relationship which improve welfare on the basis of *'trust and*

solidarity' amongst the members to fosters greater cohesion and more robust *'collective action and cooperation'* to resolve communal issues; *'social cohesion and inclusion'* mitigates the risks of conflict and promotes equitable access to benefits of development by enhancing participation of the marginalized; and *'information communication'* maintains and enhance social capital by enabling the members and communities to communicate with each other (World Bank 2007).

Measurement of social capital is considered extremely difficult because the assets are non-physical and are difficult to translate into monetary terms. However, they can be measured in terms of binary variables such as household participation in various different activities and groups (Moser and Felton 2006). With this consideration, the current study has adopted *'participation in community organizations'* as an indicator for social capital (community level). However, the readers as advised that the social capital has been assessed based on qualitative analysis through participatory poverty assessment (PPA) and available secondary information due to lack sufficient data on social capital.

3.2. Normalizing and Scaling Indicators

The indicators are hierarchically structured and assigned a score between range [0, 1] based on the severity of deprivation of the household such that $0 \leq score_i \leq 1$; score 0 if there is 'no deprivation' and 1 if there is 100 percent deprivation indicating 'extremely deprived' in that particular indictor. The hierarchical categories in each indicator are assigned by simply proportioning the range with an expert judgement for the weightage of the category[1]. For instance, an indicator containing four categorical values can get score as 0, 0.25, 0.5 and 1 depending on the significance of the category on the scale of 0 to 1(despite non-proportionate range between 0.5 and 1). Indicators with categorical values of 'yes/no' are simply scored as 0 or 1, representing non-deprived and deprived respectively. These indicators and their hierarchical categories and designated scores are presented in *Appendix 3.*

3.3. Ranking and Weighing Indicators

Defining poverty as a multidimensional concept subsequently raises the question of how to measure overall poverty and how to weigh the different dimensions (de Kruijk and Rutten 2007). Different dimensions of poverty have different individual significances and contribution to the composite measurement of multidimensional poverty. Composite indices such as UNDP's Human Development Index (HDI) assign arbitrary equal weights to each dimension (Puri et al. 2007). The weightage assigned to each component dimension of these indices do not however, bear any correspondence with the regional or the national influence factors nor the preferences of the population of the region under study. Alternative statistical approaches such as Principal Component Analysis (PCA), Multiple Correspondence Analysis (MCA), more generally factor analysis computes the synthetic indices in the form of factors represent-

[1] Alternatively, mathematical function $1/(c_i-1)$, *where* c_i *is the number of categories in an indicator,* can be used as interval factor. For instance, an indicator with five categorical classes will have scores of 0, 0.25, 0.5, 0.75 and 1 with an interval of 0.25.

ing the original variables obtained as a linear combination of these original variables (Bibi 2005). Rather than making a priori assumptions of influence of the weights based on people's perceptions of priorities, these PCA/MCA weights are data dependent and hence are considered as rigid and lacking of transparency. Secondly, they cannot be compared with other regions as the data dependent weights vary across the regions.

Poverty status studies aimed at informing government, local authorities, donors and international organizations about the situation of the poverty in an urban area should be simple, transparent, comprehensible and comparable across the region. With this conception, a generic method of ranking based on the *'people's perception of poor'* is developed. The poverty/vulnerability indicators are ranked based on this model of people's priority to compute the influence of each indicator on the overall cumulative index of poverty. The ranking of indicators was done based on expert group discussion to represent the general perception of poverty in the urban context of Nepal[1]. The influence factor of each indicator is the weightage coefficient computed using the following function:

$$w_i = \frac{1+n_i-r_i}{\sum_{i=1}^{n}(1+n_i-r_i)}, \quad \forall\ 0 \le w_i \le\ 1\ and\ \sum_{i=1}^{n} w_i = 1 \qquad (1)$$

where, w_i is weighted coefficient of indicator *i, n* is the number of indicators, *r* is the designated rank of the indicator

This equation normalizes the weightage factor w_i of indicators in the range [0, 1]. The highest ranked indicator receives the relative maximum value and the lowest ranked indicator receives the lowest value. In this method the computed weightage of indicator is the relative weightage among the set of indicators. The cumulative weightage of all the indicators is always 1. The ranking of the indicators and computation of the weighted coefficients is shown in *Appendix 3*.

3.4. Deriving Multiple Deprivation Index of Households

Multiple Deprivation Index (MDI) is the composite measure of the multidimensional poverty and is the accumulation of discrete dimensions of poverty/deprivation. The composite index is an empirical aggregation of a number of economic, social and political variables synthesized into one given factor representing the cumulative influence of these variables(Booysen 2002).

Household level MDI is derived by multiplying each indicator score with the associated weighted coefficient and aggregated to obtain the MDI of poverty of each individual household. This composite index of deprivation is termed as *'Poverty Vulnerability Index (PVI)'* after the household level poverty assessment done based on the asset/vulnerability framework. The PVI is computed using the following function:

[1] The expert group discussion was held in the DUDBC/UEIP and included the consulting experts from UEIP poverty mapping project, UDP poverty mapping projects and the representatives from both the UEIP and UDP projects of DUDBC.

$$PVI_h = \sum_{i=1}^{n} (score_i \times w_i), \qquad \forall\, 0 \leq PVI_h \leq 1 \tag{2}$$

where, PVI_h is the Poverty Vulnerability Index of household h, $score_i$ is the scaled score of indicator i, w_i is the ranked weightage, n is the number of indicators

Poverty Vulnerability Index (PVI) gives the cumulative score of multiple deprivation of each household. This indicates the level of poverty/vulnerability of household in the range [0, 1]; 0 being 'non-poor' and 1 being 'extremely poor' households.

3.5. Classifying Poverty at Household Level

A threshold value is defined for PVI, beyond which the households are considered as the *'poor households.'* This threshold of multidimensional poverty is defined as the PVI_{mean} + *standard deviation*[1] of the PVI for the entire municipality. For comparability, the computed PVI poverty line is averaged with the respective PVI poverty lines of other urban areas[2]. The averaged PVI poverty lines is computed as *0.51(≈ 0.5)* for Hetauda Municipality.

Considering this as the threshold poverty line, the averaged PVI is further classified into four groups based on its deviation from the respective mean using the standard deviation as the additive/subtractive factor. This classification is done in order to categorize the households based on the four different levels of poverty/deprivations viz. non-poor, vulnerable group, poor and extremely poor (ultra poor). The details of calculating the PVI poverty line and poverty classes are shown in *Appendix 4*. The PVI groups are classified as:

Table 6 PVI value range and poverty/vulnerability groups

PVI Range	Poverty/Vulnerability Groups
$0 \leq PVI_h \leq 0.35$	Non-poor
$0.35 < PVI_h \leq 0.50$	Vulnerable group
$0.50 < PVI_h \leq 0.75$	Poor
$PVI_h > 0.75$	Extremely poor (Ultra poor)[3]

Each household in the municipality is classified based on these criteria and assessed for the poverty status. In multidimensional poverty context based on asset/vulnerability model, the non-poor households are those which do not have deprivations or which might have deprivations in one or more dimensions but is mitigated by the asset/capital possessed, which is portrayed by the non-deprivations in other dimensions. The vulnerable households are those, which are at risk of falling into poverty due to various economical, social, political, environmental and

[1] Alternatively, various studies have computed poverty threshold as *median + 50 percent of median* value, for example see (Bibi 2005).

[2] Other urban areas are Bharatpur, Ratnanagar and Hetauda Municipalities. Similar, poverty mapping studies are being undertaken in these municipalities under DUDCB/UEIP's initiative.

[3] Terms '*extremely poor*' and '*ultra-poor*' are used interchangeably throughout this report

other consequences. Nonetheless, these households are able to avoid falling into the poverty trap due to the possession of asset/capital in one or more dimensions, which can mitigate the level of deprivations in other dimensions of poverty. Poor households are those below the poverty line in terms of PVI as well as in terms of income poverty and have very limited asset/capital to mitigate the dimensions of poverty. These households are at risk high because they possess only a minimal set of asset/capital, which may not prove to be sufficient to get out of the poverty traps in the face of adversity. Extremely poor or ultra poor households are those well below the PVI poverty line and are deprived in all the basic indicators of poverty.

3.6. Measuring Poverty at Neighbourhood/Administrative Levels

Measuring poverty/deprivation at neighbourhood or administrative unit level requires aggregation of household poverty at these levels. The aggregate poverty measure is a statistical function that translates the comparison of the indictor of household well-being and the chosen poverty line into one aggregate number for the population as a whole (Coudouel, Hentschel, and Wodon 2004). The poverty headcount, poverty gap, and severity of poverty are the most common indices used in the literature, all belonging to the family of FGT poverty measures (Foster, Greer, and Thorbecke 1984). These literatures have, in general referred and computed these indices in terms of 'income or consumption.' However, these indices are refereed in terms of composite measure of poverty viz. the PVI in this study. The household PVIs are aggregated with the PVI poverty line as the reference to compute these three internationally accepted measures of poverty on a household basis i.e. assessing the share of households below poverty, aggregated at neighbourhood/administrative levels.

3.6.1. Poverty Incidence

Poverty incidence or poverty headcount is the share of population that are below the defined poverty threshold (multidimensional poverty in our case). Suppose if the population is of size n, in which q is the number of poor, the poverty incidence is defined as

$$H = \frac{q_n}{n} \tag{3}$$

where H is the index of poverty incidence, q_n is the number of poor and n is the population size

3.6.2. Poverty Gap

Poverty gap represents the depth of poverty and is the mean distance separating the population from the poverty line. The poverty gap is a measure of the poverty deficit of the entire population in which the notation of *'poverty deficit'* captures the resources that would be needed to lift the poor out of poverty (Coudouel, Hentschel, and Wodon 2004). The poverty gap is defined by the relation

$$PGR = \frac{1}{n}\left(\sum_{i=1}^{q}\frac{z - y_i}{z}\right) \quad (4)$$

where *PGR* is the poverty gap ratio, z is the poverty line of PVI, y_i is the PVI of individual poor population, q is the number of poor and n is the population size

3.6.3. Square Poverty Gap

Square poverty gap measures the severity of poverty and takes into account not only the distance separating the poor from the poverty line, but also the inequality among the poor (Coudouel, Hentschel, and Wodon 2004), thus highlighting the poor by giving more weight to the very poor. The squared poverty gap of poverty severity is defined by the relation

$$SPGR = \frac{1}{n}\left(\sum_{i=1}^{q}\left[\frac{z - y_i}{z}\right]^2\right) \quad (5)$$

where S*PGR* is the squared poverty gap ratio, z is the poverty line of PVI, y_i is the PVI of individual poor population, q is the number of poor and n is the population size

3.7. Applying Poverty Measurements to Poverty Vulnerability Index

The poverty incidence can be used individually for the both monetary and nonmonetary indicators of the multiple deprivations as well as for the composite indicator to measure the share of population/household that are below the defined threshold (for instance, the percentage of population below income poverty line of *NRs. 9537 per capita per year,* the percentage of population with education below secondary level, the percentage of population below the PVI threshold etc.).

The poverty gap and the squared poverty gap can be used for some of the nonmonetary indicators individually, provided that the measure of the distance is meaningful (Coudouel, Hentschel, and Wodon 2004), however, for multiple deprivations, they are limited to portray the distance separating the population/households from the basic urban living standard threshold (given by the PVI poverty line) and the severity of this separating distance. They, however, may not be applicable meaningfully to the estimate the total resources needed to bring all the poor to the level of multiple deprivations poverty line as the multiple deprivation index is the composite of several poverty dimensions indicators and each dimension may have disparate thresholds or poverty line under which it can be said that individuals/households are not able to meet their basic needs.

Chapter 4

Gender Assessment

4.1. Gender and Poverty

Men and women experience poverty differently as result of their different constraints, options, incentives and needs. Women and men frequently have different priorities and are affected differently by many kinds of development interventions (Bamberger et al. 2004). Although women and men share many of the burdens of poverty, in most societies women are also subject to socially imposed constraints that further limit their opportunities to improve their economic conditions or to enjoy equal access to public services and consumption goods (World Bank 2001). Urbanisation tends to affect gender roles, relations and inequalities although with greater variety in the form and intensity from place to place and from culture to culture(Masika, de Haan, and Baden 1997). This is evident in the transformation of household structure as formation of female headed household have rise through urbanization. This is also becoming increasingly evident in Nepalese societies as increase in male migration is changing the roles of woman in Nepalese society (World Bank 2006). This has, in some way empower the woman as these female headed households receive remittances thus financially empowering them as well as empowering them in household decision making in the absence of men/husband. While some consider female-headed households are better off in some ways, they may still face discrimination, may face greater difficulties than men in gaining access to labour markets, credit, housing and basic services as well as may face additional layer of discrimination (Masika, de Haan, and Baden 1997). The implications of these patterns on gender equality are ambiguous (World Bank 2006). Nonetheless, woman are considered more vulnerable to urban poverty and deprivations on the grounds of insecurity of social capital due to gender biases, disempowerment and exclusion; as well as due to insecurity in human capital due to the disregard in women's priorities in health, education, security, housing, access to infrastructures and services.

4.2. Assessing Gender

Gender and gender relations are socially constructed and, therefore, embedded in the socio-culture context not only in each country but also in each region and area. Gender is not only the concern about women and their roles but also about gender relations and, therefore, the policies must address the problems and concerns of both men and women but specially so of women because of the persisting inequalities, inequities and unequal access of women to resources. It is also important to understand that women are not a homogeneous group and gender is intersected with caste, ethnicity and class and this diversity is an important factor in any assessment of gender and gender concern opportunities (UN-HABITAT 2007).

There is limited consideration of gender issues with respect to measuring poverty and identifying the urban poor. Gender is relatively invisible in poverty analysis and poverty reduction strategies which, in general take the household as the basic unit of analysis assuming the household to be gender neutral in intra-household allocation of resources (UN-HABITAT 2007).

Gender mainstreaming in all programmes and projects is facilitated by the acceptance of a conceptual framework in which women's rights are recognized for the formulation of policies and intervention programmes. This is also quite relevant in poverty assessments in which gender biased aspects of household impoverishment and coping strategies needs to be assessed.

4.3. Framework for Gender Assessment

Gender assessment aims to achieve equity and positive changes for women and therefore must address women's rights to assets such as land and property, resources such as education, skills and employment, food and nutrition, services such as access to water and sanitation, healthcare such as maternal health and reproductive health, protection against gender based violence and discrimination and oppressive social practices in both public and private sector.

Framing gender into the asset/vulnerability model, it is relevant that the gender be assessed in the lines of asset/capital in order to examine gender issues and specifically women's vulnerability to poverty due to the deprivations of such assets/capital. This study has taken this approach to assess gender issues and the status of women in terms of asset/vulnerability[1]. The gender assessment is done analyzing the situations of male and female in the perspective of five basic assets/capital viz. productive capital, human capital, physical capital, financial capital and social capital. The evidence of vulnerability to poverty, specifically that of woman due to the deprivation in one or more of these capitals which may be due to gender biasness can be studied by this assessment model. The assessment framework is shown in following table:

Table 7 Framework for assessing gender

Asset/Capital	Indicators	Gender Issue
Productive capital	▪ Income ▪ Land ownership ▪ Building ownership	▪ Per capita male/female income ▪ Female headed household below poverty line ▪ Land/building ownership by female
Human capital	▪ Health ▪ Education ▪ Employment	▪ Access to health services ▪ Maternal health ▪ Child mortality ▪ Immunization ▪ Awareness to HIV/AIDS ▪ Access to education ▪ Adult female literacy ▪ Economically active female population ▪ Employment in formal/informal sector ▪ Share of women in wage employment
Physical capital	▪ Access to safe drinking water ▪ Access to improved sanitation ▪ Access to municipal/public services	▪ Time spent in fetching water ▪ Reliability and adequacy of water ▪ Households with sanitation facility

[1] See Section 3.1

		▪ Provision of separate sanitation facility for woman in school/public ▪ Hygienic conditions of public latrines ▪ Access of woman to public services
Financial capital	▪ Access to financial services ▪ Savings ▪ Credits ▪ Possession of precious metals	▪ Access of woman to financial services ▪ Savings by woman ▪ Possession of precious metal by woman
Social capital	▪ Division of labour ▪ Empowerment ▪ Social network ▪ Security ▪ Gender discrimination	▪ Household work and time spent ▪ Women's role in household decision making ▪ Women's role in community decision making ▪ Women's participation in social/community networks ▪ Domestic violence against women ▪ Crime against women ▪ Discrimination against women in private/public sectors

4.4. Method for Gender Assessment

Gender Assessment refers to the socio-economic methodologies that identify and interpret the consequences of gender differences and relations for achieving development objectives. An examination of gender differences and relations cannot be isolated from broader social context. For this study, the four domains of activity used to analyze gender relations and to identify gender based constraints in the study area they are as follows:

a. Access to Resources, Income, Services, Employment and Information: It refers to access to the economic resources necessary to be a fully active and productive participant (economic, social and political) in the municipality, as well as to the benefits generated from participants.

b. Participation: It refers to the act of being present in activities, meeting, training courses and other development activities.

c. Legal Right and Status: It refers to access to legal documentation such as identification card (citizenship) voter registration, and properties as well as to the way people are regarded and treated by the legal code and judicial system.

d. Decision Making and Exercise of Power: It refers to the capacity to freely make decisions and exercise power within an individual's households, community, and the municipality. this include the capacity of adults to decide about the use of household and individual economic resources and income choice of employment, use of municipal resources, and capacity to exercise owns vote, run for office, be an active legislator, and enter into legal contracts.

Status of gender is assessed using a two-pronged approach viz. secondary household level socio-economic census data and a participatory appraisal using focussed group discussion (FGD). The secondary household level census survey data was collected in the earlier phase of the UEIP project during 2007[1]. Based on this census survey data, preliminary assessment of the status of gender was done to develop a gender profile of the municipality.

Impoverished communities and poverty pockets were identified from the poverty assessment and mapping exercise. Participatory poverty assessment (PPA) and detailed gender assessment is targeted at these identified poverty pockets. Key informant interviews and focussed group discussion have been conducted in these pockets. The key informant included consultation with the local social and community workers/organizations, representatives from political parties, representatives from wards and the municipality. Along with these key informants, women representatives from the impoverished community have also been included in the FGD for the appraisal of gender related issues. The contents of FGD are presented in *Appendix 5*.

4.5. Gender Inequality Measurement

Several methods have been used by various development and research agency to measure the gender inequality. Gender Development Index (GDI), Gender Empowerment Index (GEM), Gender Gap Index (GGI), Global Gender Gap Index (GGI) etc. are mostly used by the development organizations. Among these, the most common methods for gender and inequality measurement used by UNDP, NHDR 2004[2] are GDI and GEM. GDI and GEM are also useful to measure gender and inequality for this study. But, lack of appropriate data this study only used GDI method to analyze the gender and inequality in Hetauda municipality.

The method of GDI calculation is derived from NHDR 2004 (UNDP, NHDR, 2004). The Data required for educational index and income index is taken from detailed households' census survey conducted by UEIP; and the life expectancy at birth is taken from CBS 2001 census report.

[1] Socio-economic census survey was conducted as a part of mapping and GIS project during April-October, 2007 by UEIP.
[2] Nepal Human Development Report 2004, Empowerment and Poverty Reduction.

Chapter 5

Mapping Poverty

5.1. Poverty Maps

Poverty mapping is the spatial representation of the distribution of poverty and inequality. Poverty maps help visualize the incidence and magnitude of poverty across space and time enabling decision makers to geographically target the poor for poverty alleviation programmes, emergency response and assistance. Poverty maps can be used for highlighting the geographic variations of poverty; simultaneously displaying different dimensions of poverty and/or its determinants; understanding poverty determinants; targeting, selecting and designing interventions (World Bank 2004).

Poverty maps are developed to represent the spatial distribution of poverty patterns in the municipality. The poverty maps show the poverty pockets and poverty clusters of households. Poverty pockets are the poverty hotspots where prevalence of multiple deprivations is high among the households. Poverty cluster is a neighbourhood or a group of neighbourhoods, where the prevalence of multiple deprivations is high. Poverty pockets show the individual distribution of impoverished households and poverty clusters represent the status of neighbourhoods or administrative regions with respect to each other. As such, the poverty pockets enable to target impoverished household or a group of households, where as the poverty clusters enable to target a neighbourhood or administrative ward for intervention programmes.

5.2. Data Requirements

Local governments and urban planners often lack sufficient disaggregated data of their urban jurisdiction areas to formulate and implement anti-poverty policies effectively. The level of disaggregation required depends in the depth of poverty analysis to be done and consequently on the level at which anti-poverty policies are to formulated and targeted at. In general, the level of disaggregation available is at lowest administrative/electoral unit level. However, this level of aggregation fails to portray poverty that exists within it concentrated in poverty pockets, slums or randomly distributed in individual households. Poverty can manifest in different ways: across neighbourhoods, across groups in different types of neighbourhoods and among households in a neighbourhood and are prevalent along the lines of social exclusions.

To represent poverty and its manifestation across different levels of spatial disaggregation, census data at household level covering the entire urban area is necessary. Representation of household dwellings in a form of building footprints available in large scale urban base maps is ideal to represent the disaggregation of poverty at the lowest level i.e. at household/building levels. The poverty analysis data is associated with the respective building to portray the poverty status of the household. Representations at household level help to discern the poverty patterns to identify the poverty hotspots or a case of isolated poor household. For aggregating poverty at higher level, neighbourhood or administrative ward boundaries provide the spatial context and coverage for poverty analysis and representations. Poverty in individual households is aggregated within the neighbourhood/ward and its status represented on maps. GIS

datasets of building footprints and neighbourhood/administrative ward boundary are the typical spatial data required for mapping poverty at household and neighbourhood levels of disaggregation.

Poverty data can be integrated with other GIS data related to physical infrastructure (road network, water supply and sewerage network etc.), service infrastructure (hospitals, schools, colleges, police stations), hazardous area, agro-climate, environment The infrastructure data integrated with the building data can be used to analyze the access of individual households to the infrastructure. For instance, information on road network and its status can be used to estimate the distance or travel time that communities need to reach essential services such as hospital. Integration of service infrastructures will enable to estimate the service coverage, travel time and access. Integration of hazardous area (seismic hazard area, landslide prone area, flood plain, unstable area etc) will enable to identify the households with potential risk of damage or collapse of building, which is associated with tenure insecurity.

5.3. Mapping Poverty at Household Level

Multiple deprivations represented by the PVI is shown on the map to portray the distribution of household level poverty. Buildings representing the households are classified into the four categories of PVI and depicted on the map. The poverty analysis data is converted as the attribute data of the buildings in GIS to make thematic map of PVI. This PVI map shows each individual household/building revealing the pattern and distribution of poverty amongst the households. Buildings with high values of PVI (PVI>0.5) clustered together show the poverty hotspots or the poverty pockets. Individual isolated poor buildings are also observed, which are not uncommon in urban areas.

Mapping poverty at individual household/building is the lowest level of poverty decomposition and helps identify individual impoverished households and household clusters for micro level targeting of the poverty. This level of poverty decomposition is very useful for formulating city wide poverty policies and programs where distinct spatial pattern of poverty is often not visible due to the heterogeneity of the dimensions of poverty amongst the urban population.

The major drawback of this level of poverty decomposition is that the methodology itself is data intensive and complex in nature due to requirement of household levels of data (both the socio-economic and spatial data). A comprehensive census survey data linked to GIS based building footprints is the pre-requisite for this level of poverty disaggregation and mapping. But its usefulness and application far outweighs its drawbacks as proved by this study where comprehensive census and spatial data was available to implement household level poverty disaggregation. This level of poverty disaggregation and mapping is necessary for identifying poverty clusters or hotspots for conducting participatory poverty appraisals and need identifications for formulating pro-poor policies and programs.

5.4. Mapping Poverty at Neighbourhood Level

Neighbourhood level poverty maps show the poverty status of Tole Lane Organizations (TLOs). A TLO, in general are closely associated with a cluster of community or settlement

and is an informal community organization that works for a common benefit of the community with the active participation of its members representing the households in the community. Showing poverty at TLO levels have twofold benefits; firstly, the status of each community is revealed and secondly, the targeted intervention programs can be decentralized to be managed and run more effectively by the associated TLO at the community level.

At the TLO level, poverty maps are developed for the *Poverty Incidence (both household and population)* and *PVI classes*. These poverty measures show the status of each TLO with respect to other, hence enabling comparisons between them and prioritizing the poverty alleviation programmes. Additionally, status maps can be developed for each indicator showing the percentage of household/population in TLOs deprived. For instance, TLO level map showing the percentage of households deprived of safe drinking water might prove more effective for the targeted *safe drinking water* programmes.

5.5. Mapping Poverty at Administrative Ward Level

At administrative ward levels, similar approach as in the TLO levels can be adopted to map the poverty measures as well as the indicator status. Ward level maps are more effective to develop political consensus for formulating poverty alleviation policies and plans at the municipal level.

5.6. Mapping Poverty at Municipal Level

At the municipal level, mapping the poverty measures and the indictor status will show the overall status of the municipality. This will enable to make comparison between municipalities in the region and across the country. For instance, *poverty incidence* of one municipality can be compared with others to see the poverty status of each for prioritization and formulation of policies at the central level. Comparing the status of each indicator, sectoral policies for intervention programmes can be formulated. For instance, if a municipality has only 40 percent households with access to improved sanitation in compare with other municipality with 80 percent coverage, the former needs to be prioritized for the intervention programmes. The other foreseeable advantage of municipal level map is for monitoring and tracking the progress made in poverty alleviation as well as the improvements made in the status of each indictor. For instance, status map showing the coverage of safe drinking water in the year 2008 can be compared with the similar map for the year 2012 to track the progress being made and evaluate if the progress can meet the 2015 Millennium Development Goal (MDG) and its targets.

5.7. Method for Mapping Poverty

Data from household PVI analysis is converted into GIS attribute data and joined with each individual household building. The buildings are then classified based on the PVI poverty classes and represented on the map as thematic map. The PVI poverty map show the poverty hotspots where the *poor* and *extremely poor* households (households with $0.5<PVI \leq 0.75$ and $PVI > 0.75$ respectively) are clustered. In addition to the PVI map, status of each indicator can also be mapped for each household. However, this may be more appropriate in GIS environment to explore and visualize each indicator household wise.

The poverty incidence (household/population headcount) is mapped at TLO and ward levels. The poverty incidence analysis at these levels are linked with the associated TLO/ward and represented on the map as choropleth maps. The methodology of the mapping is shown in the following flow diagram.

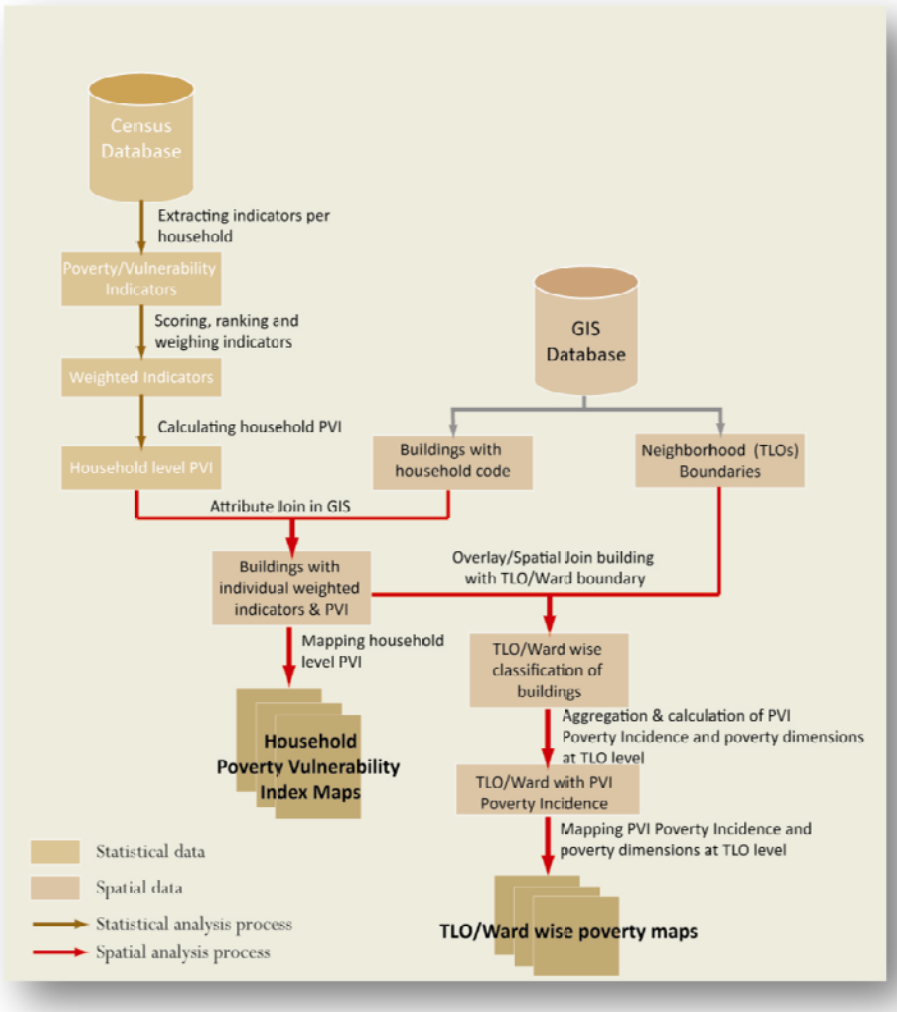

Figure 3 Poverty mapping methodology workflow

Chapter 6

Participatory Poverty Assessment

6.1. Poor's Perception of Poverty

Poor's perception on poverty is often different than that is perceived in policies and by researchers. Often the poor's perception have been neglected or considered as secondary in formulation of pro-poor policies, intervention programmes and their implementations. Consequently poverty analysis and appraisals have also neglected to incorporate/represent the poor's insights. Poor people have a long-overlooked capacity to contribute to the analysis of poverty and without their insights we know only part of the reality of poverty, its causes, and the survival strategies of the poor (Robb 1998). Participatory poverty assessment (PPA) addresses the issues of poor through the poor people's own voice. As such PPA is an instrument for including poor people's views in the analysis of poverty and the formulation of strategies to reduce it through public policy (Norton et al. 2001).

Participatory approach is useful in identifying what increases the risk of poverty and the underlying reasons why people remain in poverty. It also allows to distinguish different types of poverty by drawing on the life experience of poor people (Wratten 1995).

World Bank has defined PPA as an iterative, participatory research process that seeks to understand poverty in its local, social, institutional, and political contexts, incorporating the perspectives of a range of stakeholders and involving them directly in planning follow-up action (World Bank 2007). While the primary stakeholder involved in the process are poor people, PPAs can also include decision makers from all levels of government, civil society and local elite in order to take into account different interests and perspectives and increase local capacity and commitment to follow-up action. PPAs also incorporate social and communal groups representing different caste/ethnicity, gender, minorities and other groups.

PPAs can deepen the understanding of poverty, explain processes of impoverishment, convey the priorities of the poor, and assist in analyzing poverty beyond the household unit. PPAs can capture the dimensions of poverty that are not always addressed by the household surveys. PPAs can convey different characteristics of poverty as vulnerability, physical and social isolation, lack of security and self-respect, powerlessness, lack of dignity (Coudouel, Hentschel, and Wodon 2004). PPA is a prerequisite to devising anti-poverty programmes which address root causes of poverty and meet people's perceived needs (Wratten 1995).

The types of qualitative data that are important for poverty reduction strategy, interventions and monitoring obtained from PPAs include (adapted from Coudouel, Hentschel, and Wodon 2004):

- causality – people's perception of causes and consequences of poverty;
- poor people's priorities for improving their situation (disaggregated by sex and other important characteristics of community);
- opportunities poor people see for improving their situation;
- constraints and barriers to improve their situation;
- perceptions on quality of service delivery, infrastructure, and governance at the local level

- identification of the marginalized amongst the poor

6.2. Development of Qualitative Survey Method

The result of quantitative survey is used to identify the poorest geographic areas and the poor households on which participatory research is focussed to identify the specific set of issues that requires further understandings and addressing. This participatory research is done adopting a qualitative research viz. the Participatory Poverty Assessment (PPA). PPA falls under the rubric of *'Participatory Rapid Appraisal (PRA)'* technique and use variety of methods that combine visual techniques such as mapping, matrices and diagram with verbal techniques such as open-ended interviews and discussion groups.

Discussion with key informants, which might include local elite, representative of civil society, local community head, social/community activist or workers, representative of NGOs/CBOs and other key personnel gives the overall scenario of poverty its causality and poor people's priorities. On the other hand, group discussions with disaggregated participants by gender, age, caste/ethnicity, poverty status and other groupings (influenced by socio-cultural segregation) gives the context of poverty issues faced specifically by each group. Hence, identification of such disaggregated participants groups and their representative through the key informants would enable the participatory research process to be more inclusive, accountable and transparent.

The result of quantitative household survey data analysis and poverty mapping exercise has identified the geographic areas where poverty is prevalent. The mapping exercise showed heterogeneous distributed poor households throughout the city as well as existence of small poverty pockets (5-10 households). As such, geographically targeting the PPA only for poverty pockets will certainly exclude such scattered poor households thus misrepresenting the poor people's opinion. A synergetic and inclusive approach has been adopted in which the spatial distributions of households are incorporated into several focus group geographic areas called the *'Focus Group Discussion (FGD) clusters'*. The poor households in each of these FGD clusters are listed and grouped under different disaggregated groupings (by gender, caste/ethnicity and others). The representatives of each of the groups have been identified by the key informant for the FGD.

A semi-structured PPA checklist has been developed incorporating the aspects of poverty, its causality, poor people's perception on the dimensions of poverty; their requirements and priorities for livelihood improvements, income generation, increase in access to infrastructure and services, access to financial services, strengthening of social nets, representation and empowerment. Questions specifically targeted for the appraisals of gender issues and inclusion is also addressed in the checklist. This checklist is used as the guiding document by the social researchers and PPA enumerators.

Large posters were used for explaining the purposes of the PPA and its expected result in the form of poor people's perspectives. FGD is used as the participatory tool to discuss these perceptions and requirements.

6.3. Focus Group Discussion

FGD has been conducted in all of the pre-planned FGD clusters. The FGDs were organized at convenient locations (local schools, ward office premises, open spaces and others). The FGD included the local representatives, members from the identified poor households representing different disaggregated groups, and other relevant personnel identified by the key informant as the representatives for the FGD.

The issues were set out for open forum discussions and the discussed points were noted on the board. The issues which were then agreed upon by the collaborative consensus were considered as the FGD response and recorded/noted.

The results of PPA conducted through PPA are presented in *Chapter 10* of this report.

6.4. Project Identification and Appraisals

Pro-poor intervention programmes and projects have been identified based on poor people's needs and priorities. The identified projects were then discussed with the municipal authority for the formulation of the design and development plan. The projects which were prioritized and approved by the municipality are designed for future implementations.

The detailed project design and implementation is presented in the second volume of the report.

Part Three

Urban Poverty and Gender Inequalities in Bharatpur

Chapter 7

Status of Poverty in Bharatpur

7.1. Poverty Incidence and Gap[1] in Bharatpur Municipality

The PVI poverty incidence of households in the municipality is 0.141 and that of population is 0.123, indicating 14.1 percent households and 12.3 percent population are below the poverty-line. The poverty gap amongst the households is 0.007 and the squared poverty gap is 0.01026. Ward wise distribution of poor households indicates highest prevalence of poverty incidence in ward 1 with 0.356 followed by ward 14 with 0.278, ward 13 with 0.241 and ward 11 with 0.228. Among the wards, ward 10 with 0.046 has the lowest poverty incidence.

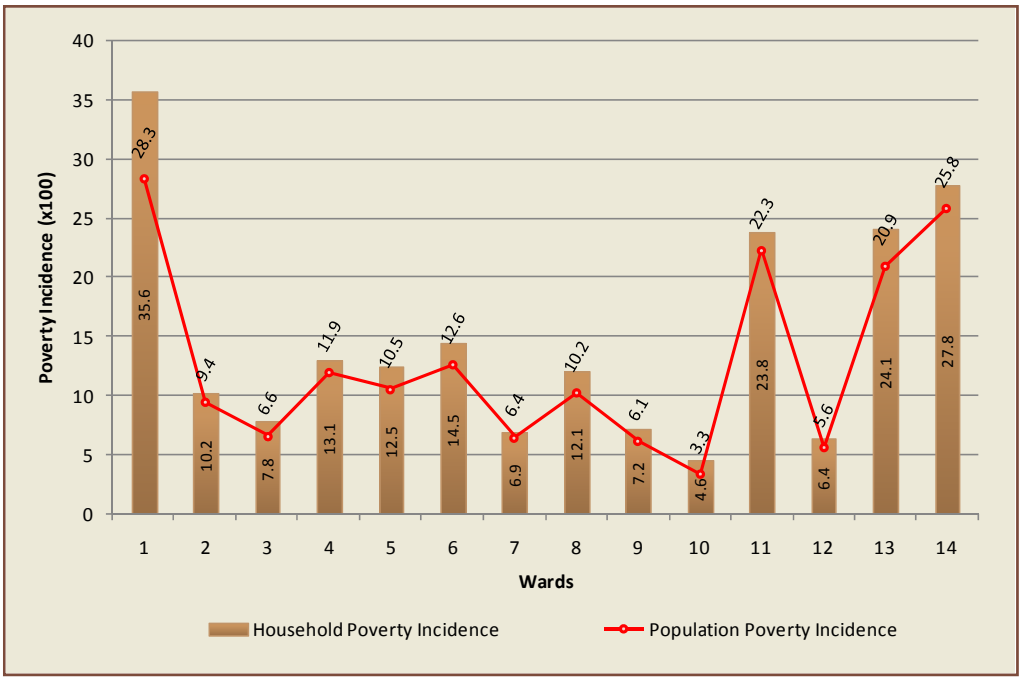

Figure 4 Ward wise household and population poverty incidences

Poverty headcounts in population also indicates similar pattern with highest population below the PVI poverty line in ward 1 followed by wards 14, 11, 13, 6, 4 and others.

[1] Composite poverty incidence and gap

7.2. Vulnerable, Poor and Extremely Poor Households/Population

Among the total households in the municipality, 13.68 percent is poor and 0.46 percent is extremely poor, with 25.9 percent households falling in the vulnerable group. Similarly, among the population, 0.37 percent is extremely poor, 11.97 percent is poor and 25.28 percent is vulnerable populations.

Table 8 Poor households and population

PVI Classes	Households	Population
Non-poor	10,482	53,778
Vulnerable Group	4,540	21,793
Poor	2,393	10,316
Extremely Poor	81	321
Total	**17,496**	**86,208**

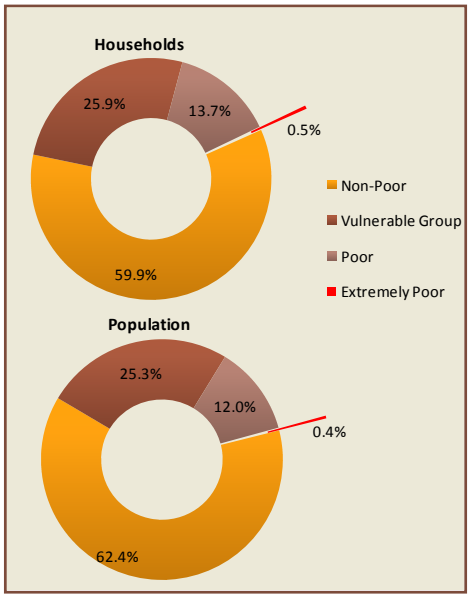

Figure 6 Distribution of households and population based on poverty categories

Poverty has higher prevalence in wards 11, 1, 14, 2, 6, 13, 4, 8 and 5 among the 14 wards in the municipality. Among these wards, Ward 11 has the highest proportion of poor (28.33 percent) and ward 14 has the highest proportion of extremely poor households (25.9 percent). The distribution of poor and extremely poor households show Ward 1 has the highest proportion of poor households (13.5 percent) followed by ward 2 (6.85 percent), ward 6 (6.35 percent), ward 14 (6.31 percent) and others. Ward 11 has the highest prevalence of poor with 27.89 percent below the poverty line. The distribution of poor and extremely poor population in the wards also exhibit the similar pattern as that of the households. Ward wise distribution of households and population according to the poverty categories is shown in *Figure 4,* and the details are presented in *Appendix 5*.

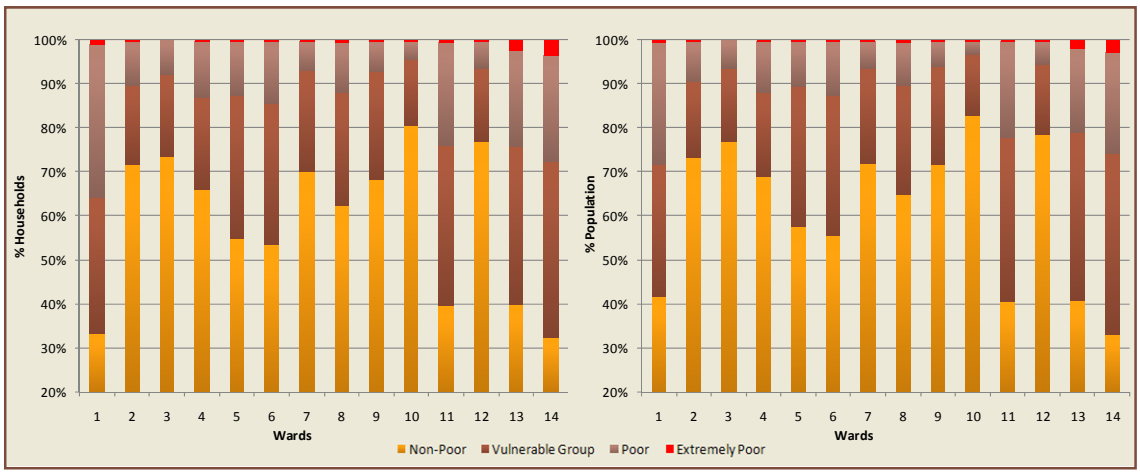

Figure 5 Ward wise distribution of households and population based on poverty categories

7.3. Poverty Trends in Bharatpur Municipality

Poverty in Bharatpur Municipality shows prevalence along the lines of social exclusion viz. the caste/ethnicity and the gender, a common poverty phenomenon where the occurrences is more predominant among the lower castes, minority ethnic group and women.

7.3.1. Poverty Among Gender

There altogether, 2,474 households blow poverty line and among these 84.4 percent are male headed households and 15.6 percent female headed households. There are higher proportions of male headed households that fall under poor and extremely poor categories; however there is also prevalence of female headed households under poor and extremely poor poverty groups (15.63 percent poor and 14.81 percent extremely poor female headed households). Ward wise distribution of poverty shows higher proportions of female headed households which, are below the poverty line in wards 10, 5, 1, 12, 6 and 13 with presence of such households in remaining of the wards as well. Consequently, there are occurrences of female headed extremely poor households in wards 11, 1, 5, 7, 13 and 14.

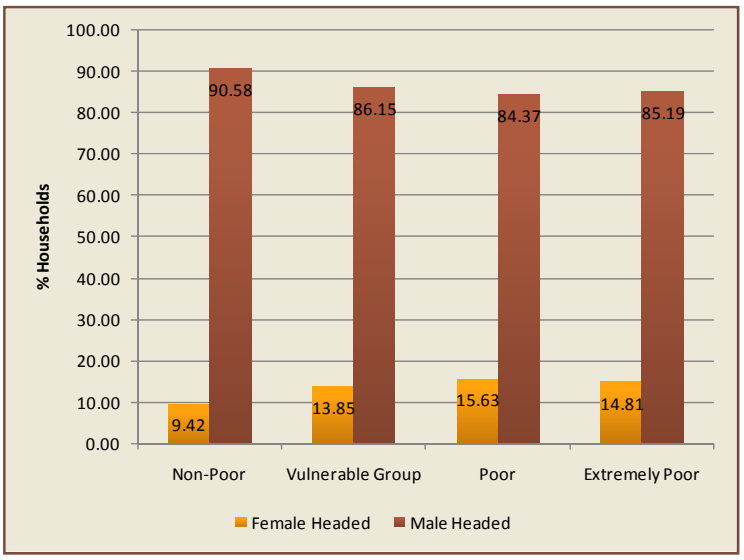

Figure 7 Proportion of male and female headed households in different poverty categories

Among the households which are considered *vulnerable to poverty* (i.e. the vulnerable group), the proportion of female headed households reflect the similar pattern as that of poor and extremely poor, suggesting female headed households are more vulnerable and are likely fall into the poverty traps.

7.3.2. Caste/Ethnicity and Poverty

Prevalence of poverty along the lines of caste and ethnic divide is very prominent in Bharatpur Municipality, which is a common poverty phenomenon in the country. Poverty is prevalent among the indigenous minorities (*Janjatis*) and the lower castes (*Dalits*). Among the caste/ethnic groups, Hill Janjati has higher prevalence of poor and extremely poor households (28 percent poor and 32 percent extremely poor households), making them the most marginalized community. Amongst the poor and extremely poor, Hill Dalit has proportionally higher number of households with 13.7 percent poor and 28.2 percent extremely poor. Terai Janjati also has a significance proportion of poor and extremely poor households (8.9 percent poor

and 10.7 percent extremely poor households). Newar (categorized under Janjati) also has higher proportion of poor households but relatively higher extremely poor households (5.7 percent poor and 9.1 percent extremely poor households). Poverty is also prevalent amongst the Brahmin and Chettri ethnic groups. Among the poor households, 28.2 percent proportion are Brahmin and 10.3 percent Chettri; whereas amongst the extremely poor 9.9 percent are Brahmin and 6.1 percent are Chettri. There are small proportions of poor and extremely poor households among other castes as well. There is however, very low proportion of poor Terai Dalit households.

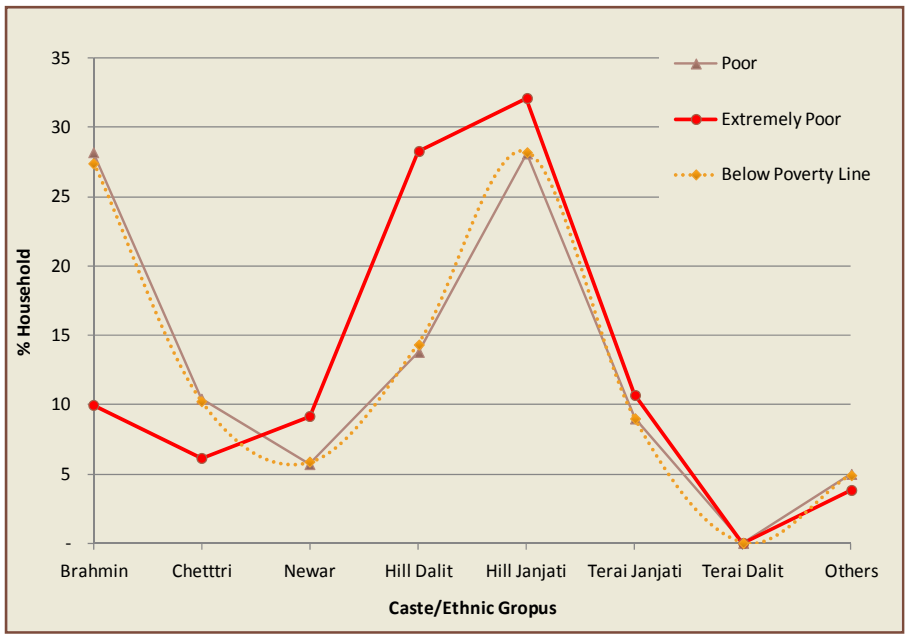

Figure 8 Proportion of poor and extremely poor households by caste/ethnic groups

This poverty distribution shows that poverty in the municipality has prevalence amongst all the caste/ethnicity, though higher amongst the Hill Janjatis and Hill Dalits.

Within the caste/ethnic groups, Hill Dalit has the highest proportions of poor and extremely poor households (i.e. households below poverty line), followed by the Terai Janjati and Hill Janjati.

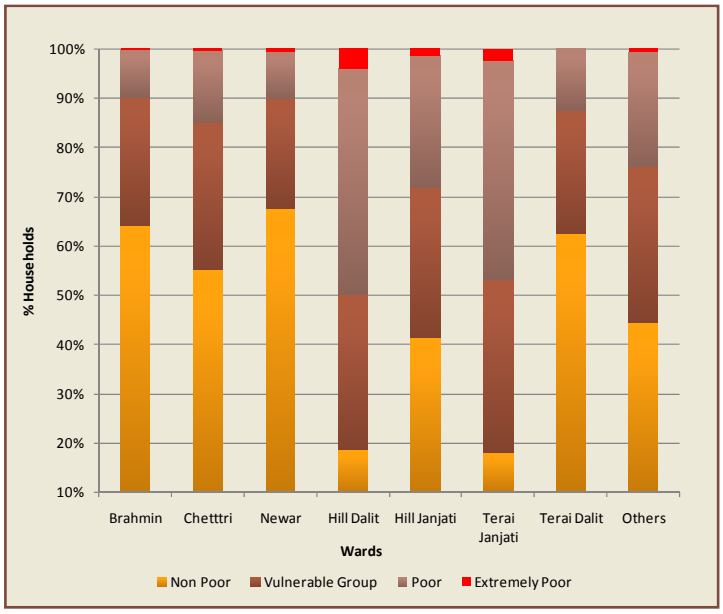

Figure 9 Poverty and vulnerability caste/ethnic groups

7.4. Assets/Capital and Composite Poverty

Assets/capital are factors independent of each other and are significant in their own rights in contributing to the overall level of deprivation (Baud, Sridharan, and Pfeffer 2008). Correlation of different assets/capital with the composite poverty index shows all the individual types of capital are significantly correlated (with strong positive tendency) with the overall PVI. The strongest correlation[1] ($\rho = 0.676$) of the PVI is found in 'overcrowding' (indicator of security of tenure) in contrary to general perception of poverty: income or forms of human capital deprivations. Deprivations in physical capital such as access to improved cooking fuel ($\rho = 0.674$) and deprivation in access to telecommunication ($\rho = 0.656$) showed higher correlations with the PVI. The income poverty follows these indicators with correlation of $\rho = 0.558$, and is followed by education levels of household head with $\rho = 0.517$ and land ownership with $\rho = 0.470$. Security of tenure indicated by the types of dwellings also showed strong positive correlations ($\rho = 0.419$) with the composite PVI. Other form of productive assets such as building ownership and other major forms of human capital such as employment of household head, proportions of adult employment in formal sector and access to school for children are found to have lower but significant positive correlations of $\rho = 0.377$, $\rho = 0.313$, $\rho = 0.238$ and $\rho = 0.186$ respectively with the composite poverty indicator PVI. This evidently suggests that in the municipality, households are more deprived in physical assets/capital rather than income or human capital. Similar poverty pattern have been found in other municipalities of the region (namely Ratnanagar and Hetauda municipalities)[2].

Indicators of access to improved sanitation also showed significant positive correlations (toilet type with $\rho = 0.424$, access to sewer with $\rho = 0.342$ and kitchen type with $\rho = 0.328$) with the composite PVI. Physical capital such as access to electricity showed positive correlations with $\rho = 0.363$. Access to safe drinking water, however showed lower correlations with $\rho = 0.274$. Similarly, access to road also showed weak correlations with the PVI ($\rho = 0.240$). On the contrary, access to solid waste disposal showed negative correlation with $\rho = -0.170$.

The above correlations suggests that the possession of physical capital is important for the urban dwellers as it directly influences the human capital, which in turn influences other forms of capital, more specifically the income capital. This also suggests that households are relatively deprived of the state provided physical assets such as communication and electricity in comparison to the physical assets provided by the local government such as sewerage, safe drinking water, road and solid waste disposal.

Conclusion can also be drawn that the income capital is the most important factor that influences the poverty of household. Education of the household head also influences the poverty status as it attributes to better job opportunities, access to financial services, empowerment and other capitals, thus mitigating the effects of poverty in a household. Possession of productive capitals such as land and buildings are also seen as important factors, which help to serve in the times of needs. Employment/labour is the source of income and hence influences the poverty of a household.

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[1] Pearson's rho (ρ), significant at the 0.01 level (two-tailed)

[2] Similar, poverty mapping exercises have been done in Ratnanagar and Hetauda municipalities in 2008/9.

The correlation of each of the indicators of poverty dimensions and the composite poverty index is presented in *Appendix 6*.

7.4.1. Income and Poverty

Comparing income capital with the composite indicator PVI, majority (62 percent) of extremely poor households have income levels of NRs. 25,749.90 to 51,500. Whereas 25.6 percent of extremely poor have income levels below NRs. 25,749.90. There are also extremely poor households with income levels above the IPL of NRs. 51,500 as well as above NRs. 77,249.70 (1.5 times the IPL_h), though in very small proportion in the later. This suggests that even if the income levels are above its poverty line, households face risks falling into poverty traps due to the deprivations in other capitals required for sustainably mitigating the poverty.

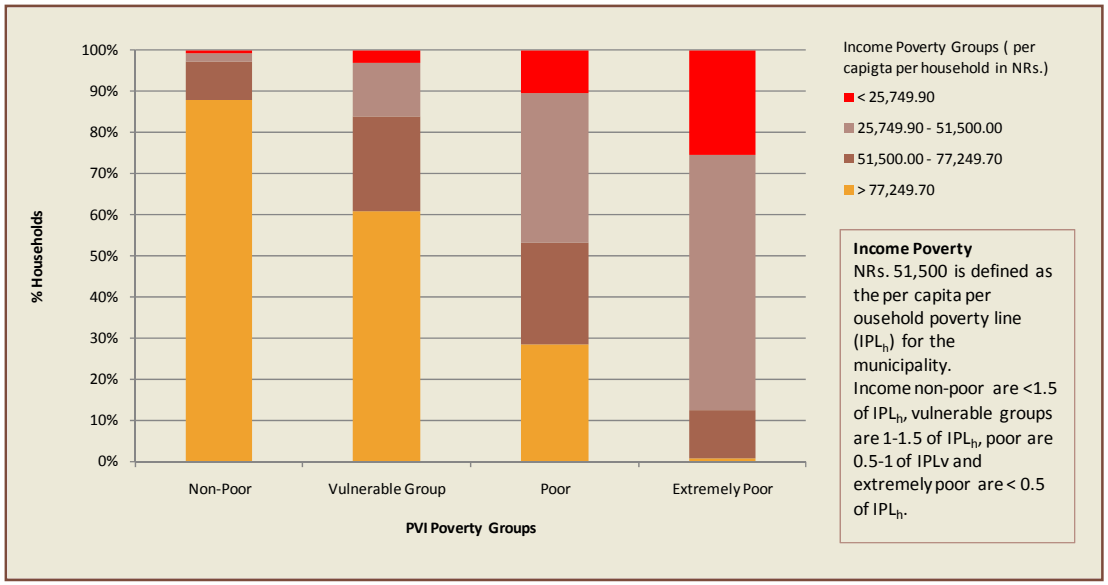


Figure 10 Income levels and PVI poverty groups

In contrary, households which are considered as 'non-poor', may also have lower incomes but have higher levels of other capitals, which might have prevented them from falling into the poverty trap.

7.4.2. Human Capital and Poverty

Among the human capitals used for in the study, education level of the household head has a significant correlation with the composite poverty index suggesting education is the foundation for mitigating the vulnerability to poverty. The analysis showed household heads of 84 percent of extremely poor households are illiterate; 10.7 percent have attended primary school or have informal education and 5.3 percent have secondary level education. Similarly, household heads of 50.1 percent of poor households are illiterate, 21.7 percent up to primary or informal education, 20 percent up to secondary education, 8 percent with intermediate or above educa-

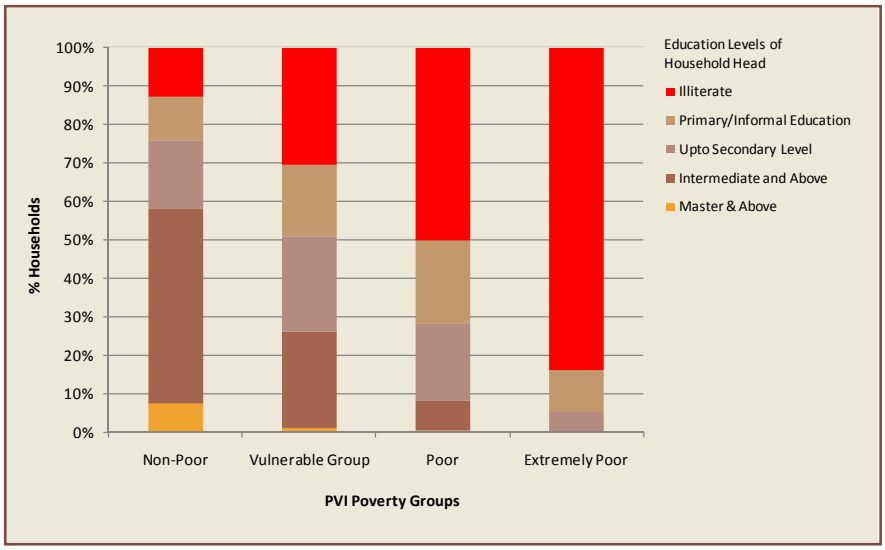


Figure 11 Education levels of household head and PVI poverty groups

tion. Among the vulnerable group, 30.3 percent of households have illiterate household head, 19 percent primary or informally educated, 24.6 percent educated up to secondary level and 25 percent intermediate and above.

It is also evident that there is certain proportion of non poor households with illiterate household heads. This is quite common amongst in the Nepalese society as old aged parents are regarded as the household heads and they are not often literate or are formally educated.

The relation of household's employment and composite poverty shows that the majority of extremely poor and poor households' heads are employed in informal sector (62.3 percent poor and 81.7 percent extremely poor households). In comparison to this, relatively lower proportions of poor and extremely poor households have unemployed households heads. Vulnerable group also has relatively higher proportion (37.9 percent) of household heads employed in informal sector. There are unemployed households also in non-poor group. This is also due to economically inactive household heads, usually the old aged parents.

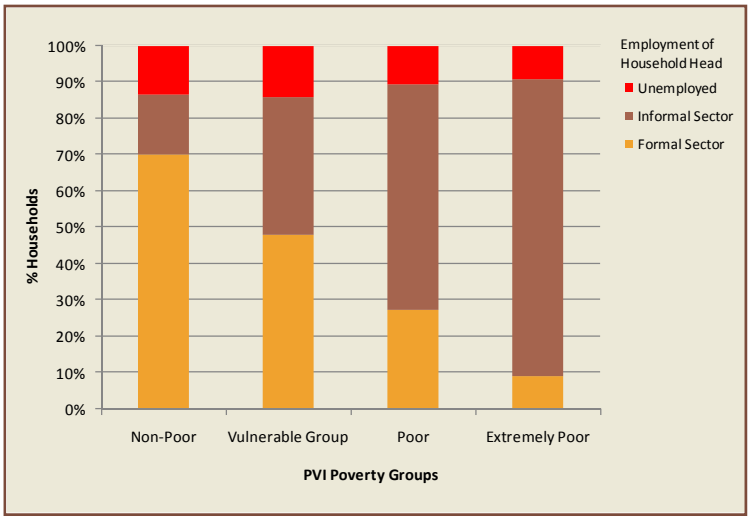


Figure 12 Employment status of household head and PVI poverty groups

Evidently, there is also a large proportion (16.43 percent) of non-poor household heads employed in informal sector as well as. This trend, perhaps indicate there is job demand or job

market in informal sector in the municipality. The other distinct pattern of employment is the significant proportion (70.3 percent) of non-poor households with household heads in formal occupations. This is justifiable as Bharatpur Municipality is a commercial centre and the headquarters of Chitawan district with formal employment opportunities in government district level and local level administration, commercial businesses and economic enterprises.

Household size and dependency ratio also influences the overall poverty of the household. Households with members earning individual income are less vulnerable to poverty as income generated by the members collectively increases the income capital of the household. In this sense, employment of the members in formal sector will guarantee continuous income further strengthening the household's position to mitigate the effects of poverty.

The adult family members in extremely poor households are found either unemployed or employed in informal sector. Similarly, majority of poor (83 percent) and vulnerable (66.67 percent) households do not have adult family members employed in formal sector. However, there are also significant proportions of non-poor households (54.7 percent) with none of the adult family members in formal sector. This might be due to the case that these households depend in informal sector income, primarily agriculture. There is also a significant proportion (23.23 percent and 13.71 percent of non-poor households with 20-50 and 50-80 percent respectively) of adult family members engaged in formal sector. This can imply that households with family members engaged in formal sector employment have lower risks of falling into the poverty traps.

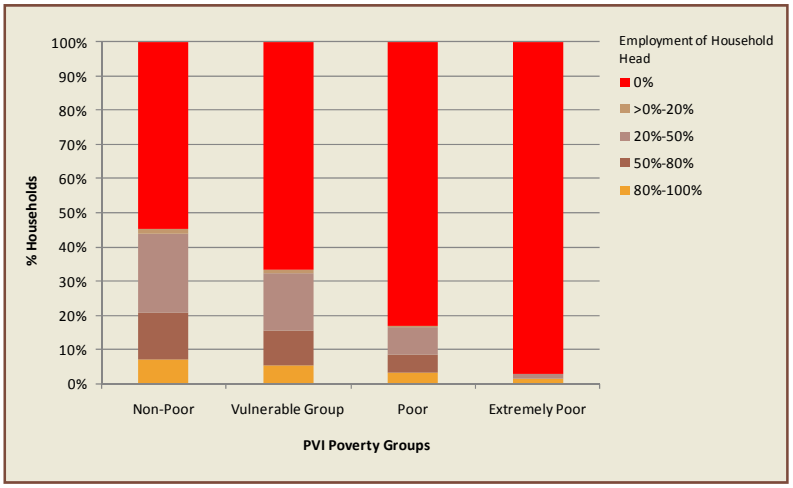


Figure 13 Proportion of adult members employed in formal sector and PVI poverty groups

7.4.3. Productive Capital and Poverty

The relationship of land ownership and composite poverty indicates that the majority of extremely poor households are landless (94.6 percent) as well as significant proportions (35.8 percent) of poor also do not own land. Likewise, 74 percent of extremely poor households also do not have building ownership. Among the poor households 32 percent do not own building. The figures are relatively lower among the vulnerable group households, with 11.76 percent households without land and 16 percent without building ownerships. Among the non-poor, the land and building ownerships both are very high amongst the households (99 percent and 97 percent respectively).

This also suggests, land and building are important assets/capital that serves the households during the times of needs and prevent them from falling into the poverty traps.

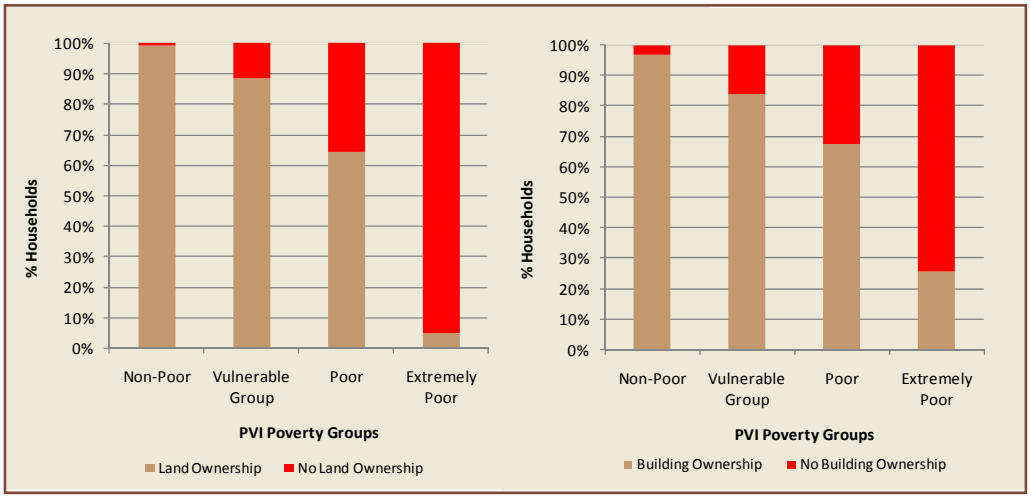
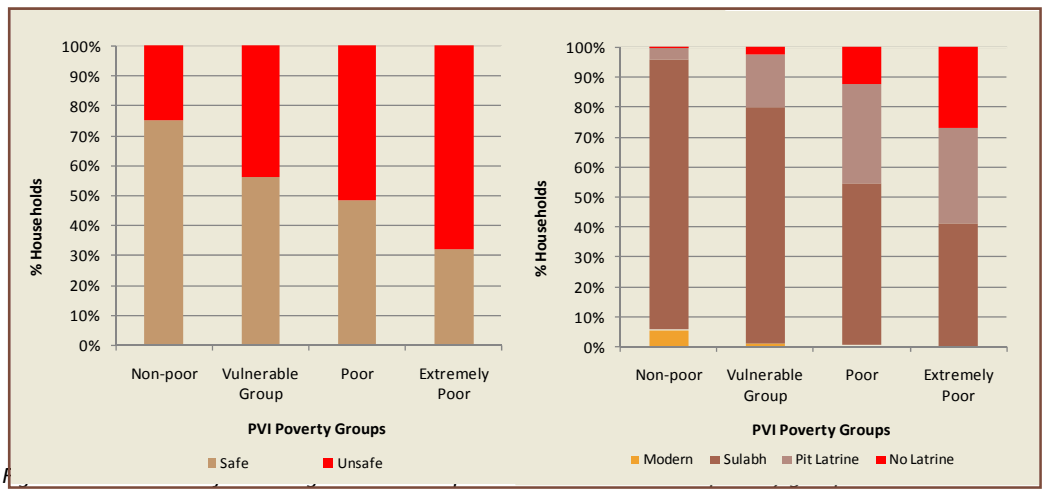


Figure 14 Land and building ownership and PVI poverty groups

7.4.4. Physical Capital and Poverty

The higher correlation statistics of physical assets/capital deprivations with the composite poverty indicates higher proportions of households in the municipality are deprived of this form of asset/capital. This is quite prominent with physical poverty indicators as overcrowding, use of improved cooking fuel, access to communication, access to improved sanitation and dwellings type, which all have higher correlation with the PVI.

Majority of extremely poor households (67.9 percent) do not have access to safe drinking water. Significant proportions of poor and vulnerable households (51.73 percent and 44 percent respectively) also do not have access to safe drinking water. However, 25.15 percent of non-poor households are also found to have no access to safe drinking water. Among the extremely poor population 40.74 percent have 'sulabh' type latrine and 32 percent have pit latrine. There is also significant proportion (27 percent) of extremely poor households without toilet facilities. Similarly among the poor households, 53.8 percent have 'sulabh' type toilet, 33.3 percent have pit latrine but significant proportion (12.45 percent) do not have access to



proper sanitation. Among the vulnerable and non-poor households, majority have 'sulabh' type toilets.

Under security of tenure, one of the forms of physical capital, 98.8 percent of extremely poor and 92.4 percent of poor households are found to be dwelling in overcrowded space. Significant proportion (73 percent) of vulnerable households is also found to be dwelling in overcrowded space. Similarly for the type of dwellings for each of the poverty groups, 60.27 percent of extremely poor households are found to have temporary type 'kacchi' buildings in comparison to 7.34 percent poor and 1.32 percent vulnerable groups in the 'kacchi' type dwellings. This shows households below poverty line are also extremely vulnerable to tenure insecurity. The overcrowding directly affects the human capital and the temporary type of dwellings makes them vulnerable to the natural disasters, environment hazards as well as personal insecurity due to crimes.

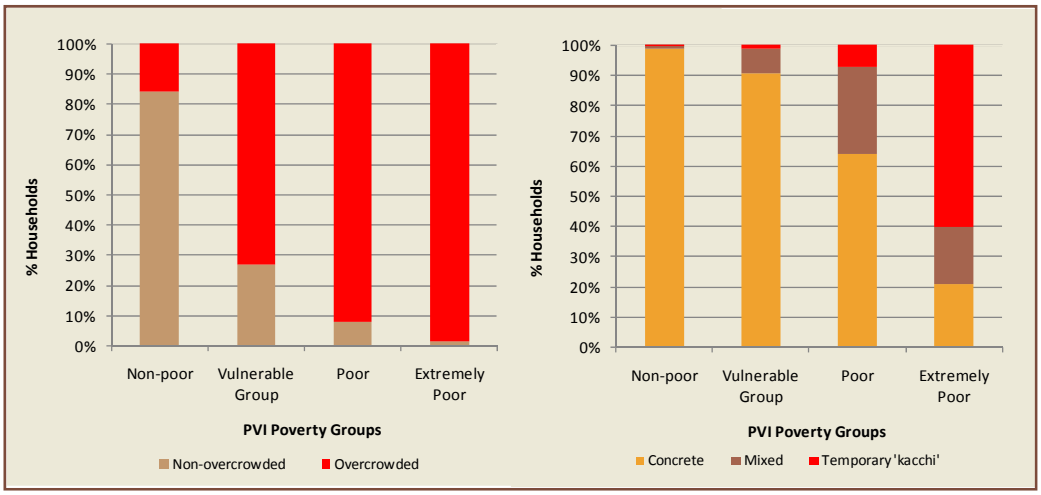
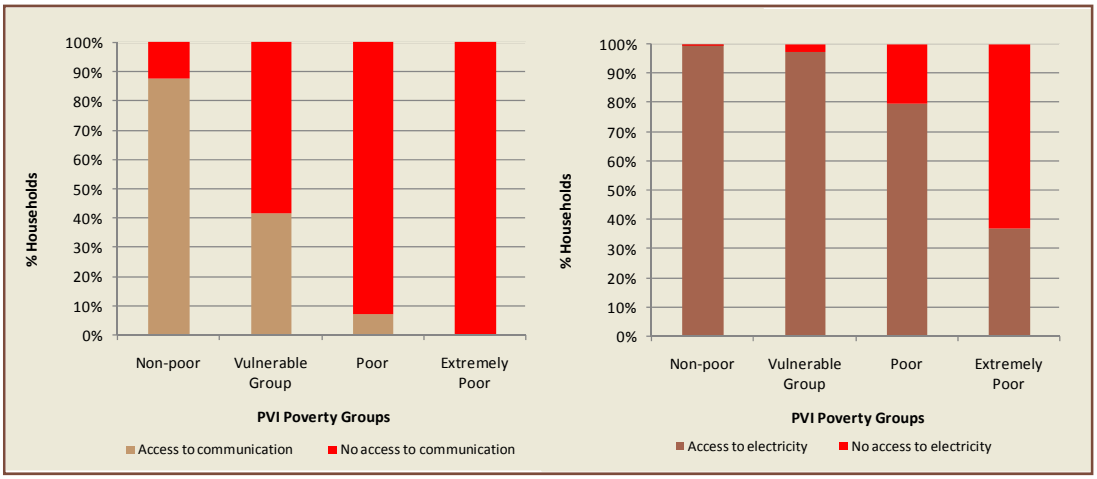


Figure 16 Security of tenure and PVI poverty groups

Physical environment and sanitation conditions in and around the house directly impacts the hygiene and health of the household members. Physical factors like cooking fuel type, unhygienic kitchen, improper solid waste disposal, disposal of night soil and sewer are the main causes of several of respiratory, water borne and other forms of diseases. In the municipality, all the extremely poor households are found to be using fuel wood as cooking fuel, 82.3 percent poor and 45.75 percent vulnerable households are also found to be using fuel wood for cooking in comparison to only 4.5 percent of non-poor households. Majority of extremely poor households (66.25 percent) are found to have kitchen with tap connection in contrary to 54 percent poor households without such type of kitchen. Significant proportions of vulnerable and non-poor households (45.5 percent and 20 percent respectively) also do not have tap connected kitchens.

Majority of households dispose solid waste properly by burying, burning or composting in case of organic wastes. Surprisingly, higher proportions of non-poor households (34.7 percent) are found to dispose solid waste indiscriminately in comparison to vulnerable, poor and extremely poor households. Similarly majority of extremely poor households (90 percent) disposes sewer in open drains; 54.7 percent of poor, 35.8 percent of vulnerable and 19.7 percent of non-poor households also disposes sewer in open drains.

In the municipality, extremely poor households do not have access to telecommunication, 92.56 percent of poor, 58.33 percent of vulnerable and 12.47 percent of non-poor households



also do not have access to telecommunication. Similarly, among the extremely poor, 62.96 percent do not have access to electricity. This is considerably amongst the poor and vulnerable households with 20.31 percent and 2.47 percent respectively.

Figure 17 Access to telecommunication and electricity and PVI poverty groups

Chapter 8

Spatial Distribution of Poverty in Bharatpur

8.1. Spatial Distribution of Poverty

Spatial distribution of poverty/deprivation, in general, can take two forms: spatial concentrated in *'hotspots'* or randomly distributed throughout the city. These hotspots where the prevalence of poverty is high can be considered as the *'poverty pockets.'* Targeting and tackling poverty for both of these requires different approaches, the later requiring much broader approach to address widespread poverty throughout the city. Concentrations further can take two forms: multiple deprivations in one area or several areas which show similar levels of multiple deprivations i.e. clustering (Baud, Sridharan, and Pfeffer 2008). However, poverty/deprivation can exist in both the forms in a city and the assumption that poverty is concentrated in slums may not necessarily hold true.

In Bharatpur Municipality, both the patterns of spatial distribution of poverty are observed. The impoverished households are observed distributed throughout the municipality as well as in several clusters in the outskirts of the core city area.

8.2. Poverty Pockets in Bharatpur Municipality

The PVI poverty map shows several poverty pockets located in Bhojad, Gaikharka and Ganeshsthan in ward 11, Ramnagar and Aptari Chowk in ward 1, Baruwa in ward 8, Narayanpur in ward 14 and Kailash Nagar in ward 13. However, there are several locations with few poor and extremely households clustered together. Ganeshthan and Aaptari Chowk areas have relatively larger poverty clusters with higher concentrations of impoverished households. Other aspect of spatial pattern of poverty is the distribution of impoverished households along the edge of the Tikauli forest in wards 11, 12, 9 and 8. Besides these two poverty cluster areas and other areas with smaller clusters of poor households, distinct poverty hotspots or pockets are not observed. Rather the spatial distribution is observed throughout the municipality and even in the core city area. Smaller poverty clusters of few households are visible throughout the city as well.

Figure 18 Poverty pockets in Bharatpur Municipality

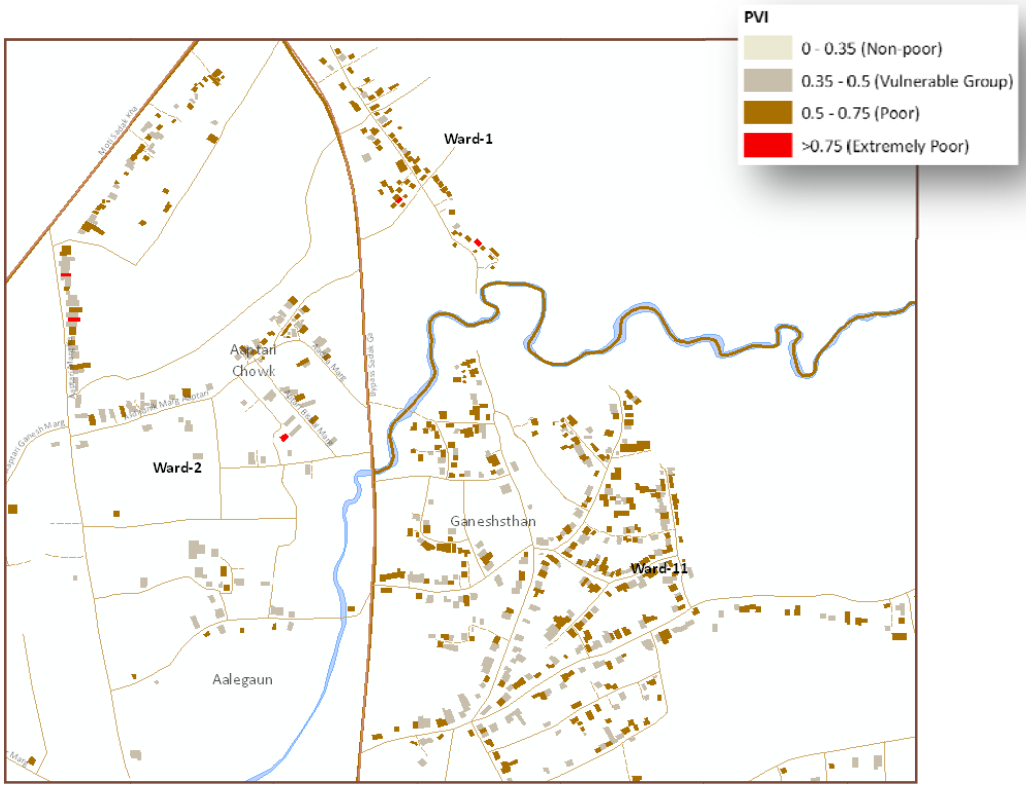


Figure 19 Ganeshsthan and Aaptari Chowk areas with high concentration of impoverished households

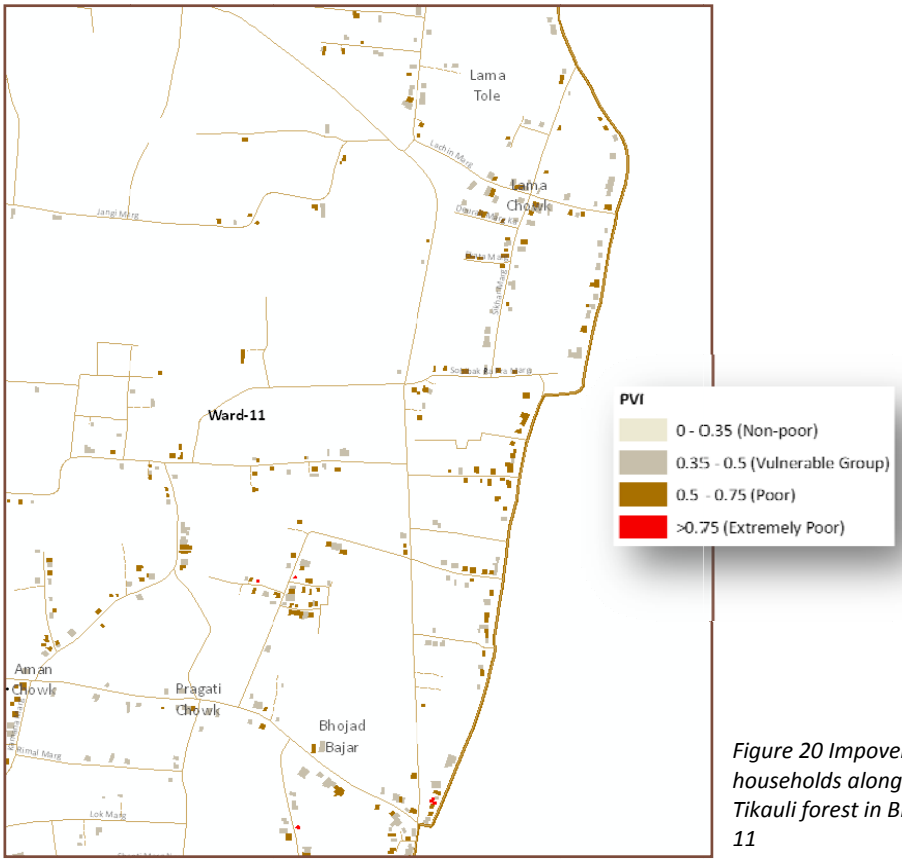


Figure 20 Impoverished households along the edge of Tikauli forest in Bhojad, Ward 11

8.3. Spatial Heterogeneity

The poverty is also seen prevalent throughout the municipality distributed randomly. This is evident in the core city area where poor households are also observed. This also proves that the poverty is not concentrated only in the slums and in other areas where there is a general perception of poverty. Spatial distribution of poor in the outskirts of the city along the border of Tikauli forest (squatter area) also suggest that marginalized communities/households tend to settle in the fringes of the city where there is easy access to natural resources, forest in this case.

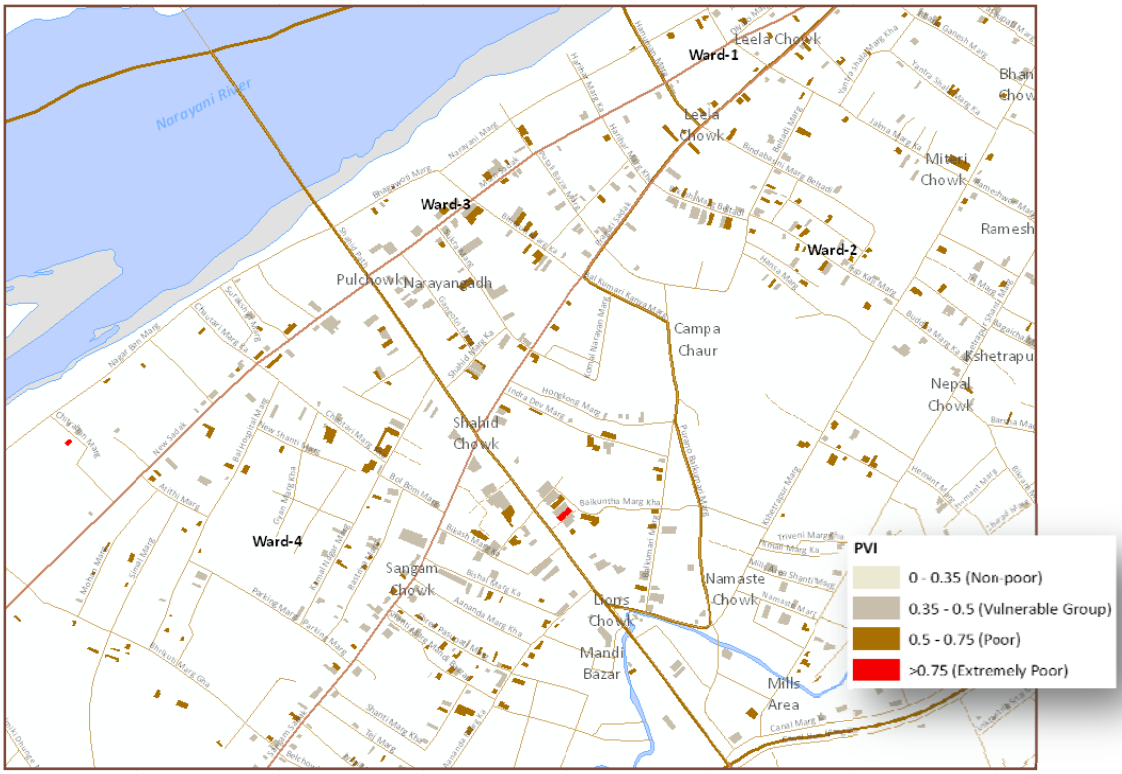


Figure 21 Poor households in the city core area

The spatial heterogeneity of poverty has implications in pro-policy formulation and implementation. The major issue is whether to formulate policies targeting poverty throughout covering heterogeneously distributed poverty or to formulate policies only to target poverty clusters and hotspots. The first type of policy will cover the entire of the municipal area to address common and general poverty issues but will probably have short falls in addressing the needs of the most indigent and impoverished with specific poverty issues, which are in general found to be clustered in hotspots. The second type of policy will specifically address the needs of impoverished communities and households in poverty clusters or hotspots, but tends to fail in addressing the needs of isolated impoverished households scattered throughout the urban region. For these reasons, a synergetic and inclusive approach is required in formulation of pro-poor policy. Such a pro-poor policy needs to be formulated at macro level with an area spatial coverage at administrative ward level of at neighbourhood TLO levels; and at micro level targeting the clustered hotspots. The rationale for macro level policy at wards or TLOs is that the

policy interventions through pro-poor programs will address the overall requirements of a small area which are more often generic poverty related issues such as deprivations of access to infrastructures and services, safe drinking water, hygienic sanitation. The more focussed targeting at poverty cluster level will address specific issues often unique to the targeted cluster such as livelihood issues due to extreme poverty, deprivations in human capitals (education, skill, employment).

8.4. Poverty at Neighbourhood (TLO) Levels

Distribution of poverty at TLO levels also shows spatial heterogeneity. The TLOs in city centre (core city area of wards 2, 3 and 10) have lower poverty incidence than the TLOs in the outskirt wards. However, evidently there is mixture of TLOs with higher and lower prevalence of poverty incidence within the wards themselves. Of the total 293 TLOs in the municipalities, 8 TLOs (about 3 percent of the total) have 50 percent and above households below poverty line among which, Kebi Line in Ward 1 has the highest proportion (80 percent) households below poverty line followed by Jaldevi Mai in Ward 11, Devghat in Ward 1, Indreni in Ward 2, Jaldevi in Ward 11, Thimura in Ward 1 and Nava Jeevan in Ward 11. Similarly, 39 TLOs (13 percent) have 25 to 50 percent households below poverty line.

TLOs in the edges of Tikauli forest and Thimura forest in Ward 11 have higher poverty incidences. These TLOs are Ganeshsthan, Kailasheshwor, Jaldevi, Jaldevi Mai, Subhakamana, Unnatshil, Lama, Nava Jeevan, Manpure, Siddartha Nagar, Kamala Devi Tole. TLOs in Ward 1 Thimura, Ramnagar Ka and Devghat are also found to have higher proportions of households below povertyline.

Bhanu in Ward 4; Prakriti and Utar Anandapur Janaki in Ward 6; Rose garden and Ganesh Mandir in Ward 11; Laligurans in Ward 14; Kamakshya, Harihar Chhetra and Baruwa Tole in Ward 8; Kadaghari in Ward 9 have more than 30 percent households below poverty line showing higher prevalence of poor households in these TLOs. Similarly population poverty incidences in these TLOs are also found to be higher as shown in Figure 23.

Poverty incidence maps are shown in the following figures. The list of TLOs and their poverty incidence is presented in *Appendix 7*.

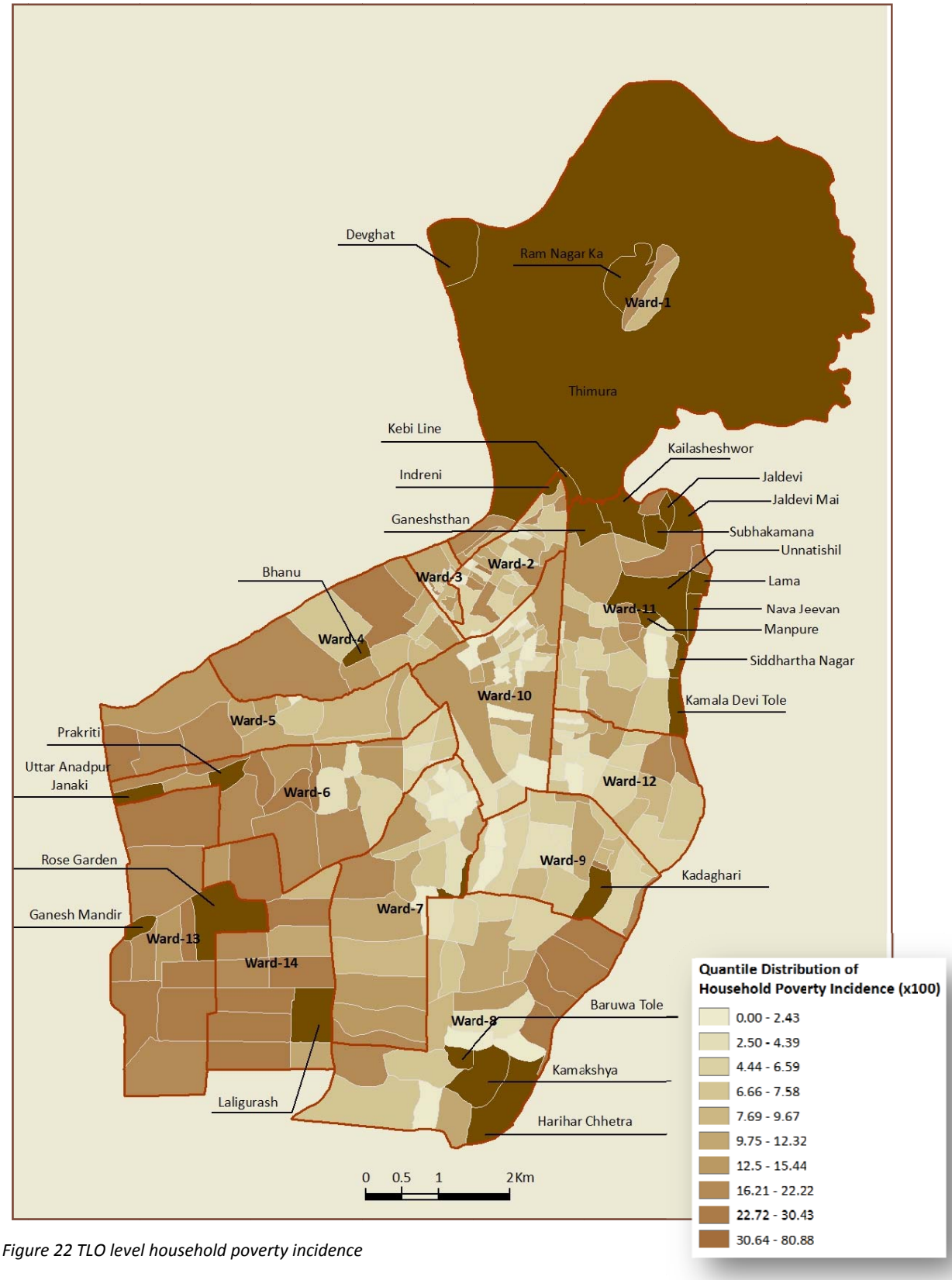


Figure 22 TLO level household poverty incidence

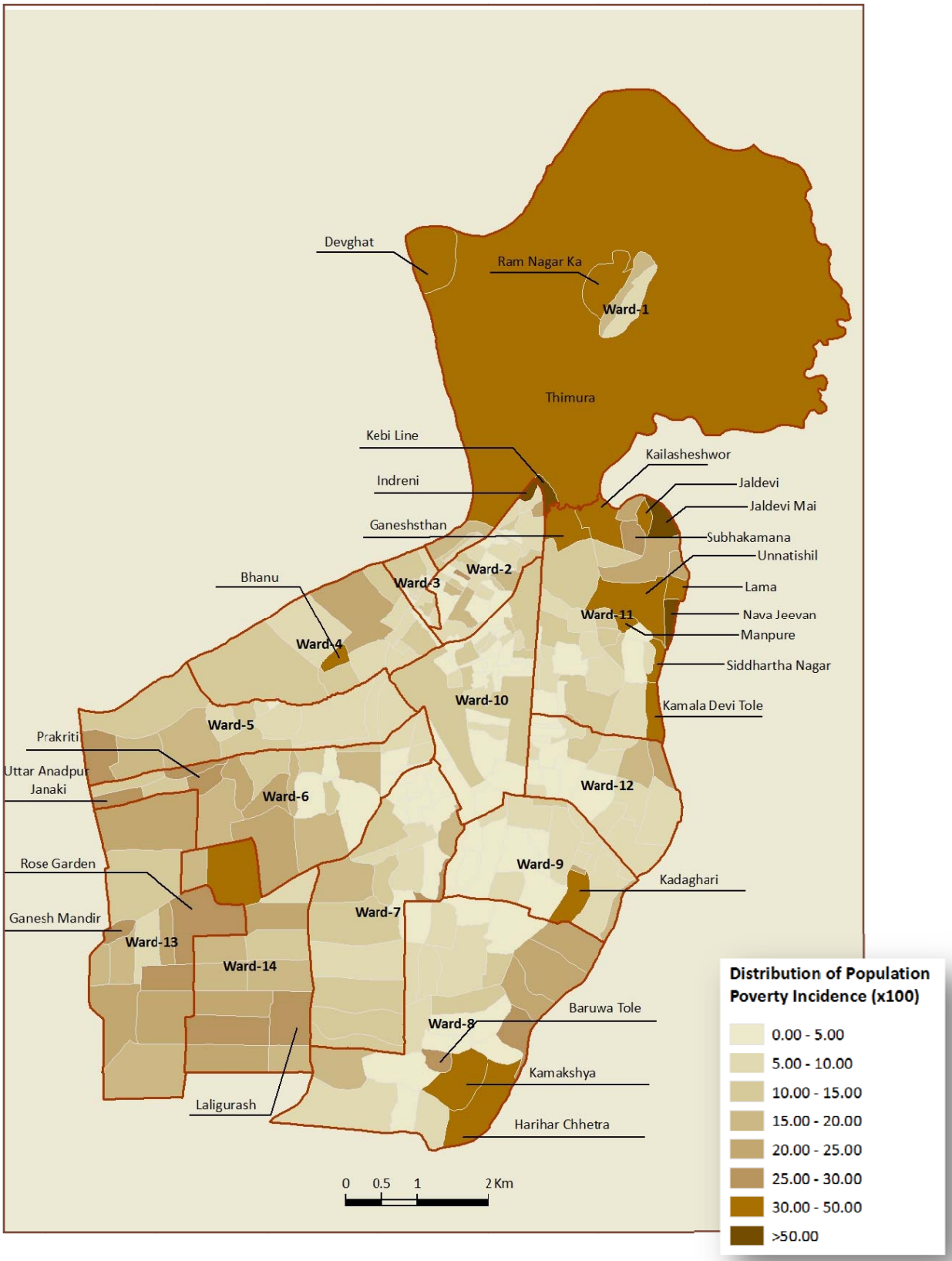


Figure 23 TLO level population poverty incidence

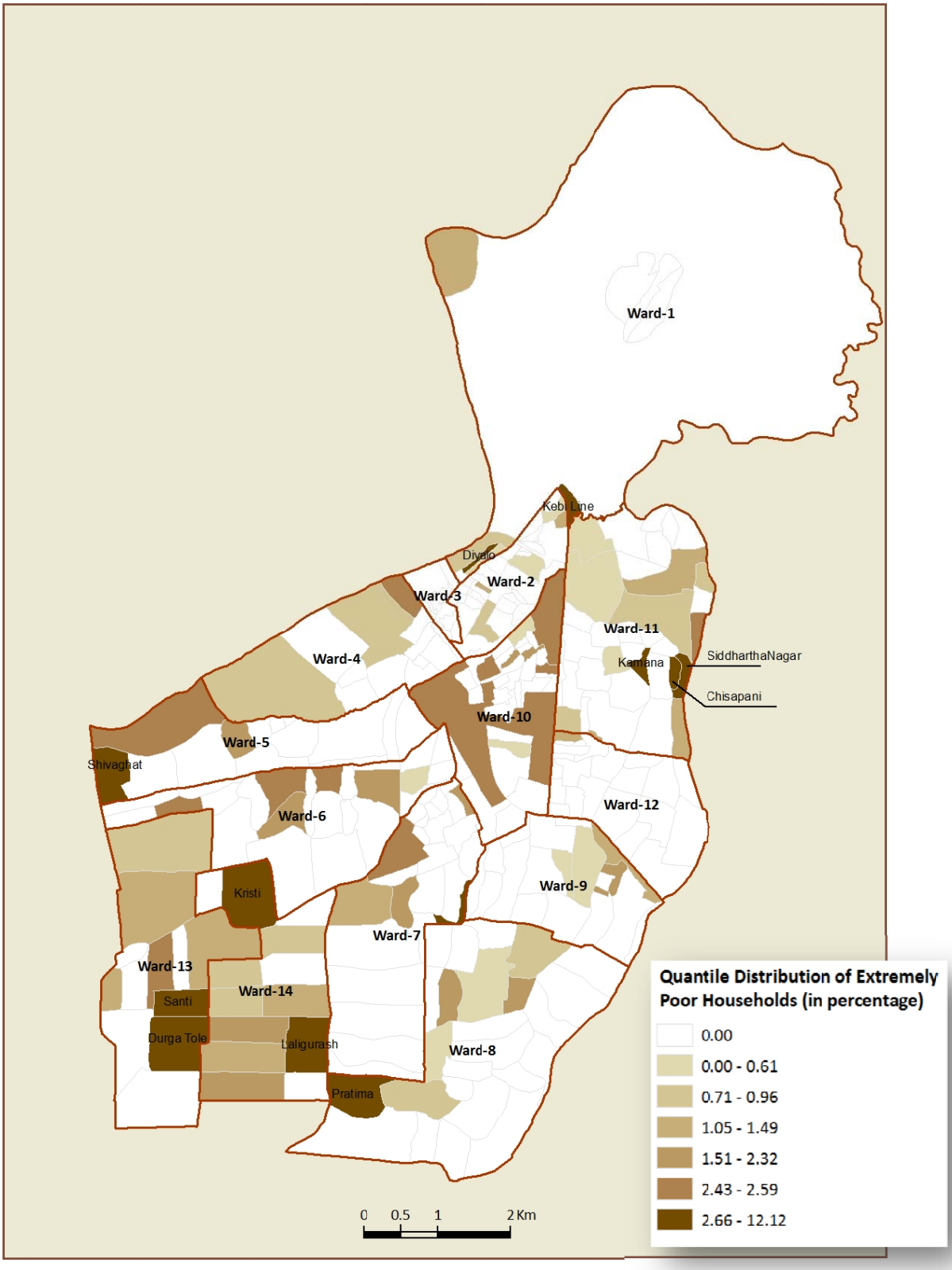


Figure 24 Proportion of extremely poor households in TLOs

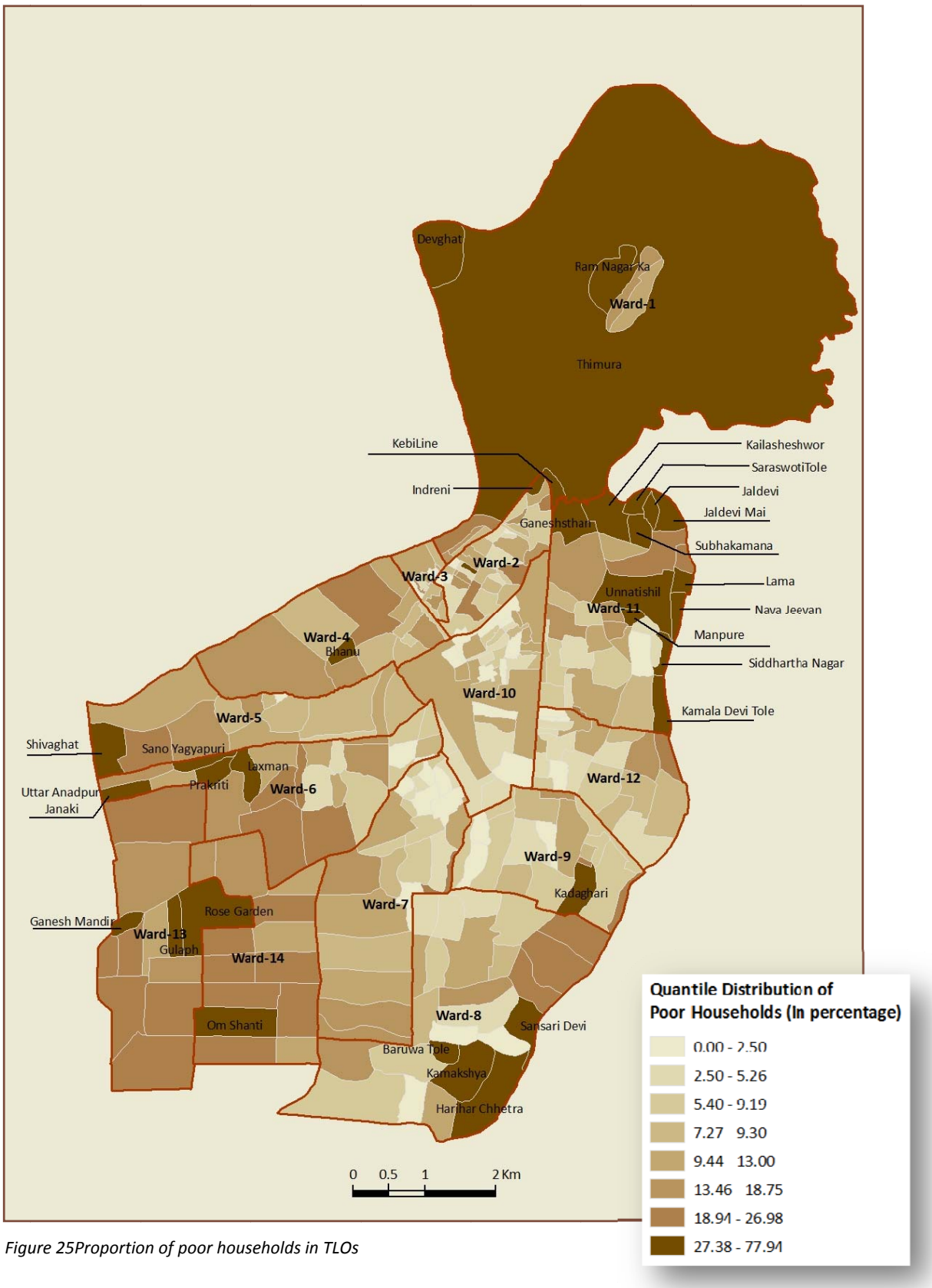


Figure 25Proportion of poor households in TLOs

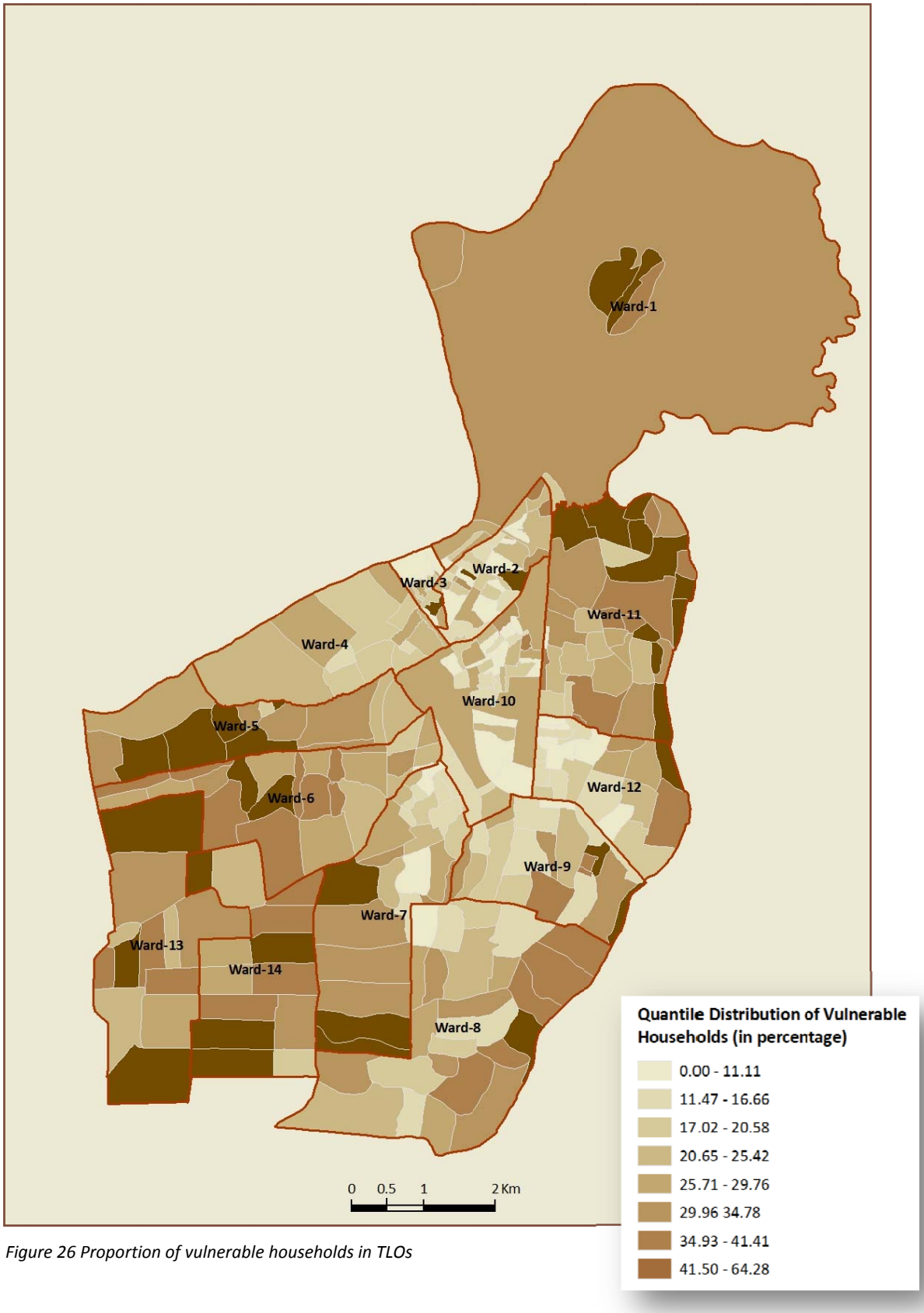


Figure 26 Proportion of vulnerable households in TLOs

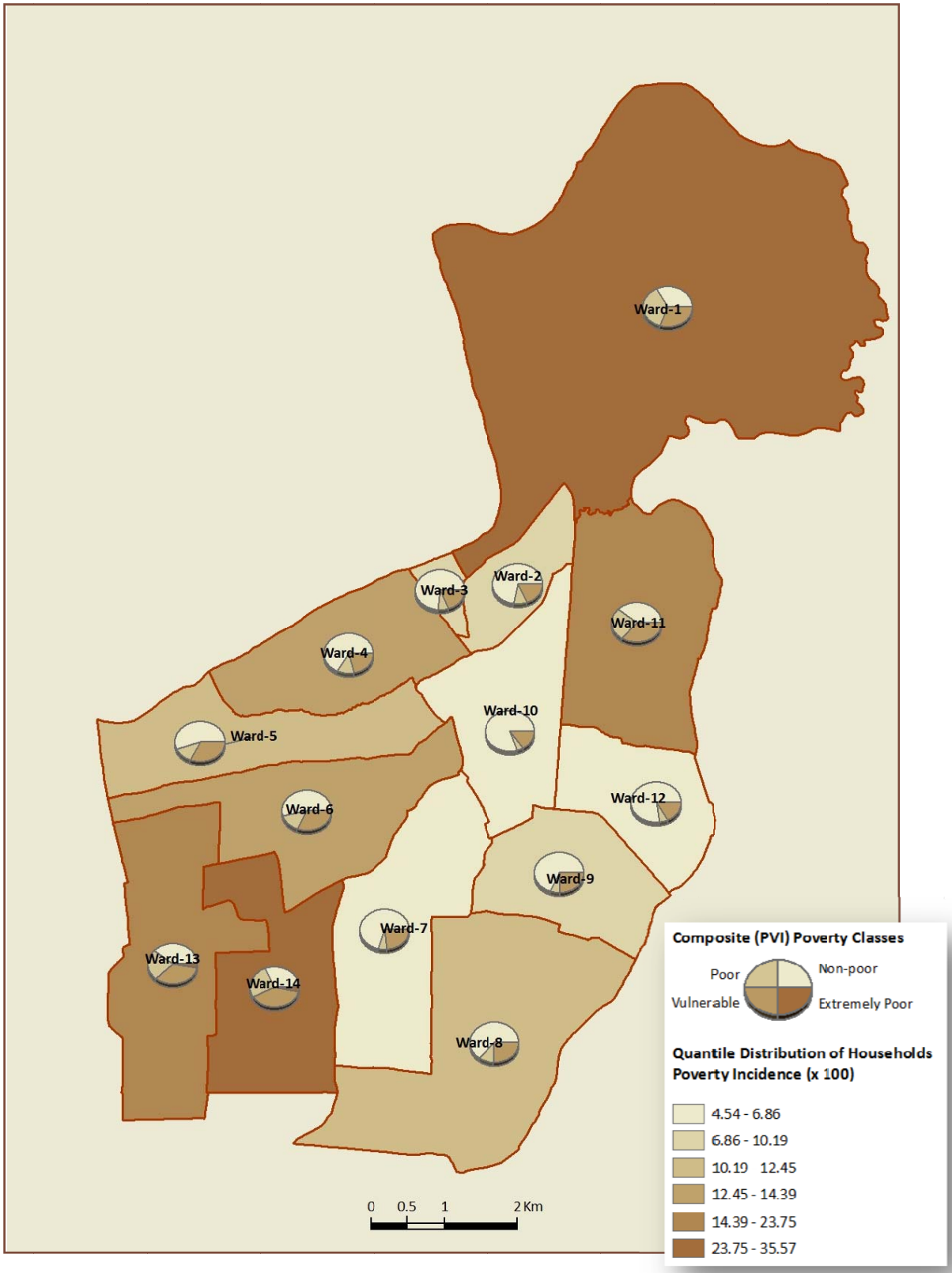


Figure 27 Household poverty incidences and composite poverty groups in ward level

Chapter 9

Status of Gender and Inequality

9.1. Population Pattern and Gender

Of the total population (86,208) in the municipality 48.8 percent are female and 51.2 percent are male population with a sex ratio of 1.05 i.e. 105 males per 100 females, thus showing predominance of male population over that of female. Wards 9, 4 and 12 have higher sex ratios i.e. higher number of males per 100 females (ranging from 106 to 108) while wards 13, 7 and 11have lower sex ratio ranging from 103 to 104. The population composition shows that the percentage of female population is slightly lower in all the wards compared to males.

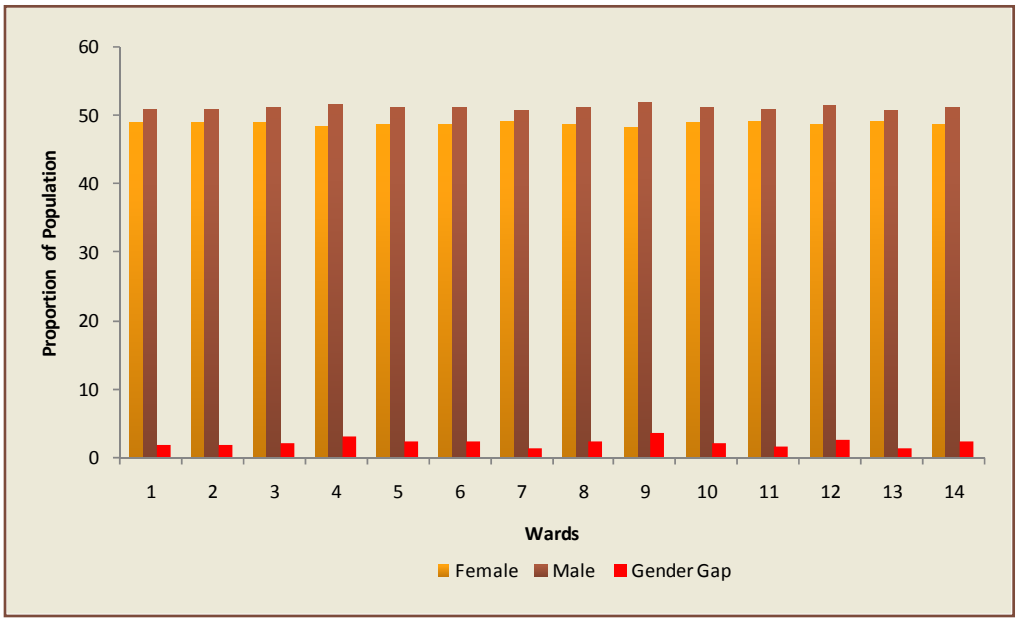


Figure 28 Proportions of male/female and gender ratio gap

Distribution of population by marital status in the municipality shows 47 percent females and 53 percent males are married; 51.5 percent females and 48.5 percent males are unmarried. Among the divorced population, the proportions of male and female are equal and among the widowed population, the proportion of fe-

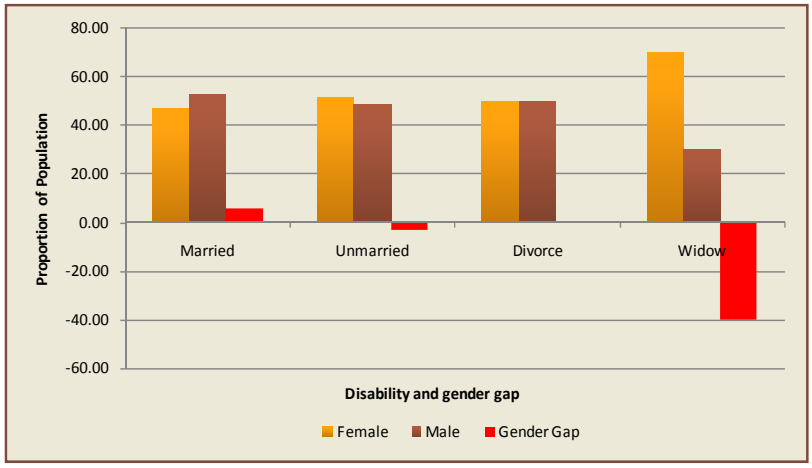


Figure 29 Marital status and gender gap

males is high with 70 percent and 30 percent males respectively. With regard to age at marriage, higher proportions of females are found married in an early age compared to males of the same age group indicating prevalence of early marriage among the females in comparison to males.

Out of total households (17,496) 2,002 households (11.4 percent) are headed by female and majority 15,494 (88.6 percent) are headed by male. The average age of female household head is 53.45 years; while that of male household head is 46.9 years indicating female household heads with absence of adult males in the household. Among the female household head, majority are illiterate (59.6 percent), 19 percent are informally educated or had attended primary school, 15.3 percent have attended up to secondary school, 5.6 percent have intermediate or above level education and only 0.4 percent have masters and above level of education. Among the female household head, majority of the proportion do not involved in productive activities (12 percent are involved in household work and 43.6 percent have no work). About 15.7 percent females household heads are engaged in agriculture, 9.9 percent in own economic enterprises, 2.35 percent in wage labor, 3.5 percent in other income earning activities and only 7.6 percent in formal service.

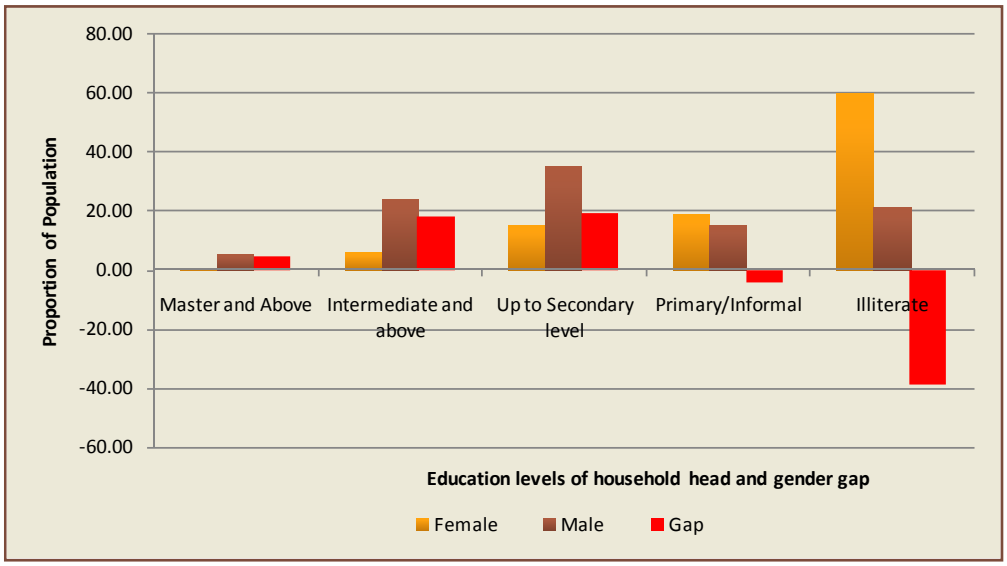


Figure 30 Education levels of household hold head by gender

These statistics indicate that female household heads have lower education levels as well as lower income generating options thus exposing them to poverty traps.

9.2. Status of Female Education

Education is a source of enlightenment and a means to achieve the goal of faster social development. Even after more than 19 years of restoration of multiparty democracy in Nepal, gender disparity in literacy continues and the situation varies from district to district and from one community to another.

The literacy rate of the population 5 years and above is 84.93 percent in the municipality and it is characterized by higher proportion of literate males than females. Among the literates the proportion of females is 79.24 percent while that of males in 90.42 percent amongst their respective population.

Among the total population with formal education, 54.6 percent are male and 45.1 percent are females. Similarly, among the literate (can read and write only) population 58.9 percent are female and 41 percent males, indicating higher proportion of informally educated females. The proportion of female is also higher among the illiterate population with 67.8 percent compare to 32.1 percent of males. This statistics indicate that the prevalence of education deprivation is much higher in females than in males in the municipality with the gap of about 35.7 percent.

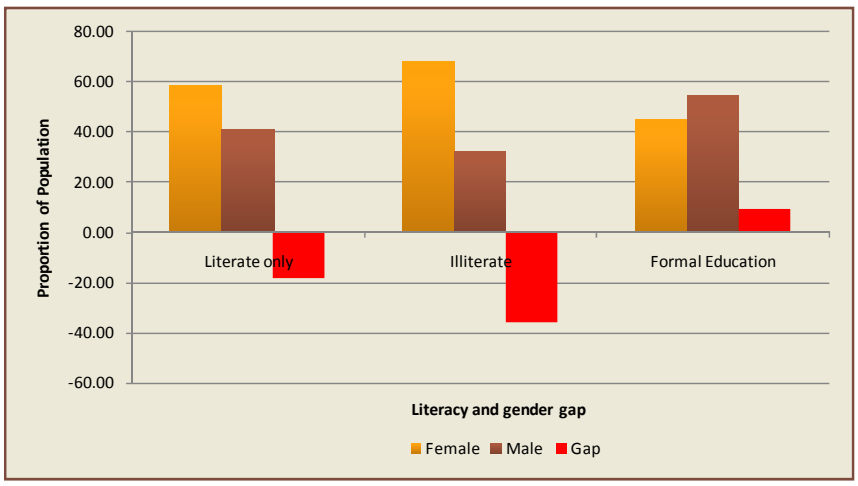


Figure 31 Literacy and gender gap

The literacy rate among the children (5-15 years) is quite high in the municipality among both the boys and girls (98.8 percent in both the girls and boys). Among the adult only about 81 percent are literate with considerably lower proportion of adult literate females to males (73.52 percent females and 88.08 percent males) among their respective groups.

The level of educations of the literate population indicates that about same proportion of female are found in primary, lower secondary and secondary levels (50 percent, 50.4 percent and 49.55 percent respectively) however, the proportion of females in Bachelor level, master and above levels are low compared to males. The gender gap in these education levels are 32.68 percent; 57.43 percent and 77.14 percent respectively. The overall gender gap between male and female is 8.47 percent.

Discrimination among boys and girls in providing education is still in existence in Bharatpur. Most of the poor household as well as medium class household's girl children are suffering from this inequitable social disease. Of the total 23 FGD centres discrimination is existence in ward 8, 6 and 9. However in other FGD centres participants opined that there is no discrimination among boys and girls in providing education. The main reason for discrimination is poverty and household work load for the girl children. Social values and norms, poverty, government apathy, lack of community and political will, illiteracy and negative attitude of parents towards the education of the girl child, cost of education, etc. are some of the factor which have deprived girls and women of their right to education. Beside this hurdles, Bharatpur municipality has made considerable progress in the matter of primary education and has successfully raised the level of education of the girls and women.

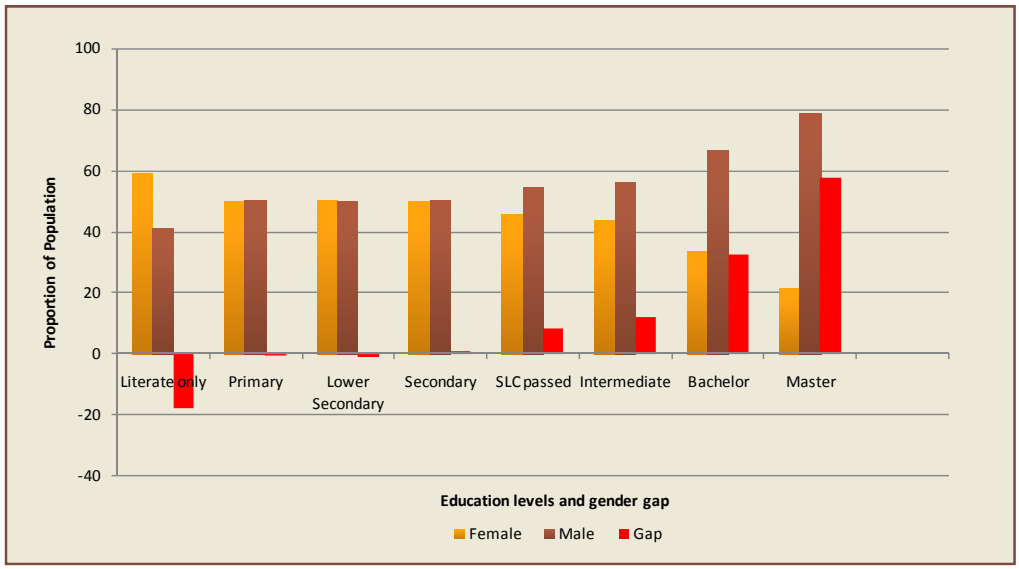


Figure 32 Education levels and gender gap

9.3. Women and Health

Health care of women is important for the promotion of health care of children and family and to involve in income–generating activities. The health status of women in Bharatpur has not been sufficiently upgraded.

Chitwan district is well known for having well health service centres. People of the district have well access to hospital and health facility at the needy time. But, all the poor households of the Bharatpur still have no access to the health centres. Majority of the poor households did not go to the hospital to check up during the illness. The people are still giving first priority to witch doctor for treatment the sick patient due lack of awareness, poor economic condition and lack of access to hospital.

Among the children below 5 years of age more than 97 percent are vaccinated against various diseases; such as BCG, DPT and measles. With regard to immunization the proportion of girls and boys are about same (97.82 percent females and 97.58 percent males).

Especially, the children and women from poor are more vulnerable to various diseases due to consumption of unsafe drinking water and poor hygiene facilities. During last one year a total of 676 persons are contracted to various diseases; and among this 51.18 percent (346) are females. This shows majority of females from different age groups are contracted with various diseases compared to males.

Figure 33 Prevalence of waterborne diseases and gender gap

In case of the pre-natal and post natal check up the participants of the FGD programs have reported that women of their community go to hospital and health post for anti-natal-check up during the pregnancy period. Almost all the women including of the poor clusters/households are regularly go to health centres/hospital for anti-natal-check up except ward 3, 1, 5, 7, 8, 9, 10, 11 and 13. The participants of the FGD programs have also admitted that this trend has developed during last few years due to awareness created by safe motherhood program launched in their community and easy access to this service in their locality.

At present most of the women gave child birth at hospital in the municipality due to increasing awareness about safe motherhood and the recent government policy[24]. Most of the FGD centres (11 centres) participants viewed that pregnant women of their locality took pregnant women to the hospital and health post at the last moment when the delivery case is seen complicate. Most of pregnant women of these areas are giving child birth at home with the help of *Sudeni* (Trained Birth Attendant). The main reasons behind these cases are lack of appropriate knowledge, awareness and poor economic condition of the household.

The spread HIV/AIDS is a major health concern issue for Nepal. According to the census survey More than 90 percent women respondents have heard of AIDS. Awareness of HIV/AIDS is particularly low among women who are not regularly exposed to any media; belong to households with a low standard of living, illiterate and from *Dalit* cast group.

[24] The Government of Nepal has been providing Rs. 1000, if the child is born at hospital.

9.4. Women and Economic Empowerment

The economic empowerment of women includes their participation in economic activities; their access to saving and credits and their control over income and other productive assets such as land, business and industries.

Among the total adult population of 15 years and above 62,261 (52.44 percent) are found to be economically active and remaining are economically inactive in the municipality. Among the economically inactive population, majority are females. Of the total economically active population majority are males (69.27 percent) and only 30.73 percent are females. Among the economically inactive population, 26.81 percent (86.90 percent females and 13.10 percent males) are unemployed and 19.74 percent (46.53 percent females and 53.47 percent males) are student.

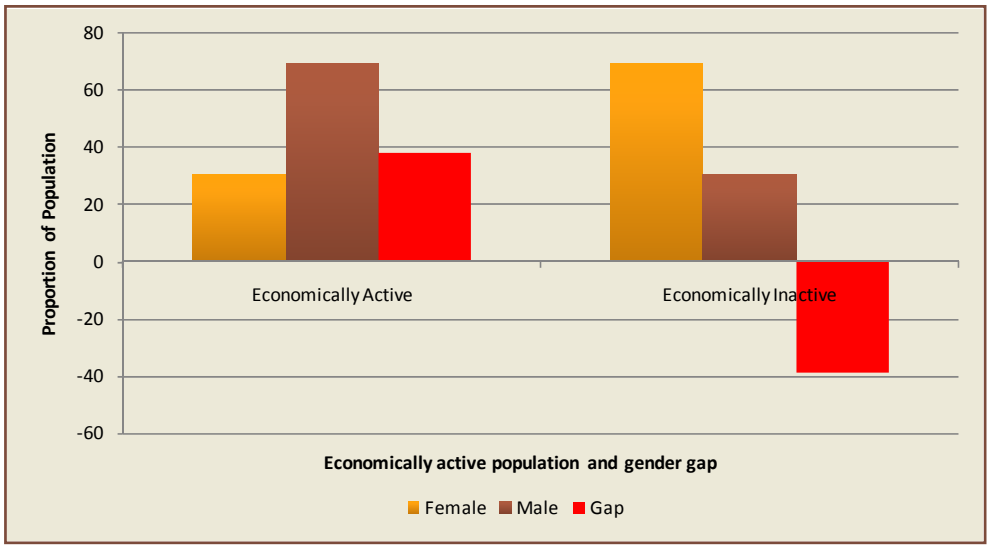


Figure 34 Economically active population and gender gap

Gender involvement in various occupations shows vast majority of females are found involved in household work (97.48 percent) compared to only 2.52 percent males. Proportion of females in other productive occupations is low compared to males (only 25.81 percent in agriculture; 13.66 percent in service; 22.02 percent in own economic enterprises; 18.43 percent in waged labour, 34.62 percent in livestock farming and 14.29 percent in extended economic enterprises). Likewise, among the total employed population in formal sector, the share of women is only 18.08 showing lower women economic participation in formal sector.

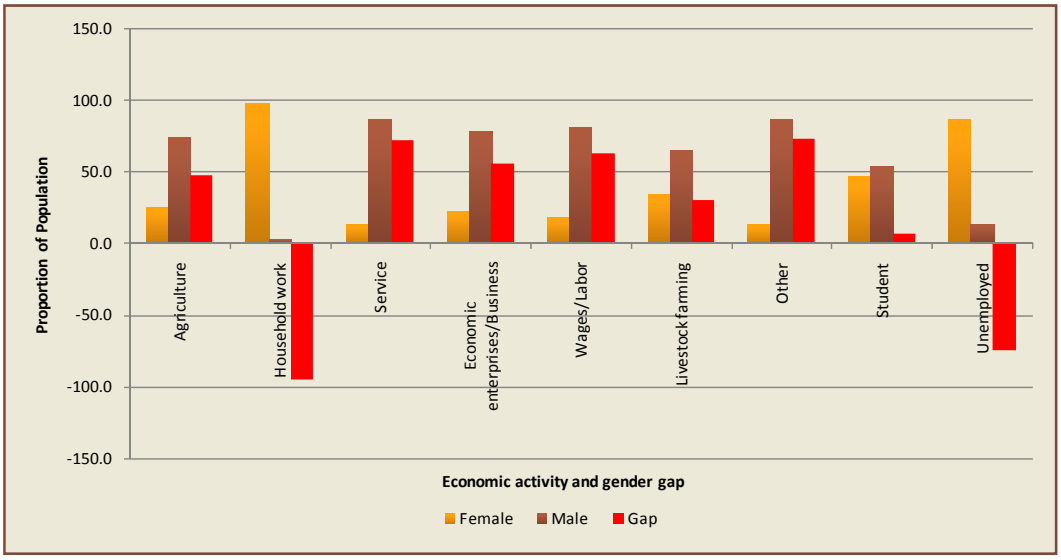


Figure 35 Occupation and gender gap

The analysis indicate significant gap between male/female involvements in various economic activities. Females involved in household work are more prominent. There are wide gaps between male and female in various other activities, significantly in service sector, wage/labour businesses and other activities. Gaps in agriculture and livestock are much less prominent. Unemployment among the females also has higher prevalence.

In majority of the FGD centres (14 centres) women of poor household are involved in income generating activities besides household chores. In these FGD Centres, basically women are involved in agricultural works, wage labor and micro enterprises such as small glossary, tea shop/hotel, cutting and weaving, etc. Moreover women household members in the centers like *Anada Chowk, Bal Sanchya School, Devghat, Gaikhark Chautari, Milan Tole, Nayabasti Tole, Shiva Ghat Mandir, Shree Rastriya* Primary School and ward number *10* office are not involved in income generating activities.

According to the participants of the FGD programs, the quality of women employment is poor in the municipality. Women are continually getting considerably less wage than men, even when the occupational category and actual hours of employment are virtually same. The average per day wage rate for all work (agricultural and non agricultural) for female is Rs. 125 about 60 percent lower than that of male worker (Rs. 200). The lower wage rate of women shows greater exploitation of women by the employers. It also indicates that higher work burden and lower wage rate have affected the health and well-being of women and their dependent families in the municipality.

In majority of FGD centers (20 centers) participants viewed that women in their locality have not got property right to kept and use. However, in 3 FGD centers participants admitted that women of their locality have got property right to use and kept on their ownership.

9.5. Women and Participation

In the process of economic development women's participation is equally important. Women's participation in the decision making process, community development, politics, etc. is an im-

portant indicator of their empowerment. But, the women of Bharatpur are still not able to take part fully in the development activities because of their illiteracy, ignorance, poverty and heavy household work load. The socio-cultural structure (superstition prevalent in the society and negative thinking) has been one of the major obstacles in mobilising women to participate in development mainstream.

Regarding decision making process in household activities and community, it was found that in almost all the FGD centers decision making is made both by males and females jointly except in *Ananda Chowk*, Sharadpur, ward number 4 office and ward number 8 office FGD centers of the Municipality. In these 3 centers, only male are involved in decision making process in household and community level. It indicates that women have got equal right to make decision according to their choice and needs.

In almost all the FGD centers, participants have admitted that women are not actively involved in politics. However, in Two FGD centers (*Milan Tole* and Ward number one) women are involved as ward members. The main reason for not involvement of women in politics in most of the FGD centers are due to the lack of leisure time and lack of political awareness of women and community. This clearly reveals the lower level of political participation of women in municipal level policy.

It was also found from FGD that vast majority of the women of the poor cluster of the municipality are not involved in social organizations. It indicates that women are less empowered and are still not access to development mainstream.

In majority of the FGD centers (14 centers) male and female member of the households are equally involved in all types of works. Moreover, household work is the responsibility of women only and earning outside is the responsibility of men only in 9 FGD centers. In agriculture related activities, both men and women work together. Women are highly engaged in non paid job and informal sector like household work and own agricultural work. This clearly reveals that dissimilarity in work participation between men and women and heavy work load on women.

9.6. Women and Security

Crime against women is a manifestation of social insecurity and of the real lower status of women in the society. Domestic violence is not phenomenon limited to any section-urban, rural, rich or poor, educated or otherwise. It is however, known to be kept under wraps as women are afraid of their family reputation being an aversely affected or for fear further battering (UN-HABITAT). In Nepal, violence against women is one of the major factors responsible for the poor health of women, livelihood insecurity, and inadequate social mobilization.

Though in majority of the poor households, domestic violence against women is not in practice, in some poor households domestic violence is still in existence. The main cause of violence is alcohol drinking by male counterpart, illiteracy, ego of the male counterpart and so on. The main types of the violence are physical abuse and mental torture (beating and scolding). Those women victimized, are suffered physically and psychologically. They are unable to make their own decision, raise voice their own opinions or protect themselves and their children for fear of further repercussions. Their human rights are denied and their lives are stolen from them by the ever present threat of violence.

9.7. Women's Access to Financial Service

As in the national case majority of women are involved only in household works and farm field activities. Majority of the women have no access to credit. *Nirdhan* Bank, Lumanti, Seto Guras, *Tole Bikas Sanstha*, Saving group are providing credit facilities to poor people including women for income generating activities with group collateral. Some women are enjoying this benefit involving themselves in income generating activities. Majority of the women have not involved in income generating activities due to lack of own fund, no access to credit due to lack of collateral and socio/cultural factor.

9.8. Gender-Related Development Index (GDI)

The gender–related development index is simply the HDI adjusted downwards for gender inequality. The greater the value of GDI, lower the degree of gender disparity and lower the value of GDI and higher the degree of gender disparity. The GDI in Bharatpur municipality has score of 0.607 against the HDI value 0.649 indicating medium degree of gender inequality in opportunities or the level of gender inequality in opportunities is not very great. The GDI for the wards 11, 5, 1, 8, 7 and 10 are relatively lower than wards 6, 2, 9, 14, 13, 4, 3 and 12 indicating higher degree of gender inequality in wards 11, 5, 1, 8, 7 and 10.

Table 9 Gender-related development index of Bharatpur municipality

Ward	Equally Distributed Life Expectancy Index	Equally Distributed Education Index	Equally Distributed Income Index	Sum of Three	GDI
1	0.564	0.821	0.401	1.786	0.595
2	0.564	0.865	0.510	1.938	0.646
3	0.564	0.935	0.372	1.871	0.624
4	0.565	0.901	0.425	1.890	0.630
5	0.564	0.829	0.383	1.777	0.592
6	0.564	0.872	0.513	1.949	0.650
7	0.564	0.897	0.347	1.808	0.603
8	0.564	0.865	0.376	1.805	0.602
9	0.565	0.889	0.464	1.918	0.639
10	0.564	0.880	0.385	1.829	0.610
11	0.564	0.803	0.369	1.737	0.579
12	0.564	0.902	0.379	1.845	0.615
13	0.564	0.834	0.495	1.893	0.631
14	0.564	0.829	0.507	1.899	0.633
Total	**0.564**	**0.862**	**0.395**	**1.821**	**0.607**

Chapter 10

Perception of Poverty, its Causes and Needs of Impoverished in Bharatpur

10.1. Perception of Poverty

Poor peoples' perception of poverty differs from that of the policy makers and researchers. This is also the case in Bharatpur, where the PPA has identified and ranked the common perception of poverty through poor peoples' conception and their experiences in daily struggles to meet the basics of these factors. The PPA has identified and ranked these parameters of poverty dimensions as the common indicators of poverty.

Table 10 Perception of poverty from PPA

Poor People's Rank	Indicator	Poverty Dimension
1	Employment	Human poverty
2	Building Ownership	Income/Financial poverty & Tenure Insecurity
3	Land Ownership	Income/Financial poverty & Tenure Insecurity
4	Income	Income/Financial poverty
5	Education	Human poverty
6	Health	Human poverty
7	Drinking Water	Physical poverty
8	Sanitation	Physical poverty
9	Access to Infrastructure	Physical poverty
10	Electricity	Physical poverty
11	Telephone	Physical poverty
12	Ownership of other properties	Income/Financial poverty

The perceptions of poverty and their respective rank indicates human, income, tenure insecurity and physical poverties are considered as the prevalent forms of poverty. This might be due to reasons that these dimensions are the most obvious or visible and apparently most stigmatized in our society. Other dimensions viz. Social poverty, tenure and personal insecurity are considered as secondary as these are achievable through the possession of human, income and physical capitals.

The ranking of assets/capitals and their indicators done in this study is also justified by this peoples' perception and ranking of poverty indicators.

10.2. Poverty and its Causality

The PPA through FGD has identified various causes of poverty which the impoverished population of the municipality suffer from. These causes of poverty also pertain to the lack of assets and capital as identified by the participants of the FGD. The major causes of poverty that have been identified are due to the lack of education, low of income levels, lack of productive assets, lack of skills/vocational trainings, lack of employment opportunities, social exclusion and lack of access to infrastructures. These causes of poverty as identified by the impoverished communities themselves reflect the lack of assets/capital as defined previously. Therefore, it is also evident that the poor peoples' perception of poverty is directly reflected by the assets/capital they own. Framing these causes into the assets-vulnerability framework and ranking them based on the FGD, following conclusion can be drawn:

Table 11 Dimension of poverty and its causes

Dimensions of poverty/deprivation	Causes
Income poverty	▪ Low income levels ▪ Lack of productive assets/capital ▪ Lack of financial resources
Human Poverty	▪ Low wage employment/lack of stable employment ▪ Low education levels/lack of education ▪ Lack of awareness ▪ Low skill levels/lack of skill ▪ Lack of vocational trainings ▪ Lack of labour market/lack of employment opportunities

On ranking the causes, lack of stable employment due to dominance of informal sector employment has been identified as one of the main cause of impoverishment in the municipality. Other causes include lack of education, lack of income and lack of productive capital. Lack of employment opportunities, lack of education and self-awareness have also been identified as the secondary causes of poverty in the municipality.

This clearly indicates that the pro-poor policies need to address these causes and programs need to be formulated to mitigate the effects of these causes of poverty. The pro-poor policies needs to formulate intervention programs targeting towards generation of employment opportunities in formal sector, increasing skills levels through vocational trainings, increasing education levels, promoting micro-enterprises need to be mitigate the effects of the aforementioned main causes of poverty.

10.3. Problems and Needs

The PPA has primarily identified problems related to the social aspect and lack of access to infrastructure. Likewise, needs have also been identified to address the social issues and infrastructure issues. In many cases social and infrastructure problems are related to each other and thus needs a synergetic approach to address the needs of both the aspects influencing each other. Among the social and infrastructure issues followings have been identified in the municipality through the PPA.

Table 12 Social and infrastructure problems

Socio-economic	Infrastructure
▪ Lack of employment and regular income source ▪ Poor financial conditions ▪ Illiteracy and lack of awareness ▪ Tenure insecurity (lack of land and building ownership) ▪ Lack of opportunity	▪ Lack of access to safe drinking water/insufficient drinking water ▪ Lack of toilet and sanitation ▪ Risk of flood hazard due to lack of river control infrastructures ▪ Lack of drainage and sewerage system ▪ Lack of water availability for irrigation ▪ Poor road conditions

Among the identified needs to address the aforementioned problems and issues, the main needs are listed here:

Table 13 Social and infrastructure needs

Socio-economic	Infrastructure
▪ Skilled and vocational trainings ▪ Micro-credit programs for providing access to finances ▪ Cooperatives for managing different programs ▪ Livestock farming ▪ Poultry farming ▪ Veterinary trainings ▪ Entrepreneurship skill trainings and development ▪ Awareness programs ▪ Woman and adult literacy ▪ Vegetable farming and access to market	▪ Community toilet ▪ Community drinking water/community taps ▪ Road maintenance and upgrade ▪ Public toilet ▪ River control ▪ Drainage and sewerage

The details of the project formulation for the aforementioned needs are presented in volume II of the report.

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Appendices

Appendix 1 Poverty Line Analysis

Poverty line or the poverty threshold is defined based on consumption model *'Cost-of-Basic-Needs (CBN)'* method is used in Nepal. The CBN method calculates the regional average expenditures required for food basket for minimum caloric requirements of 2,124 Kcal plus the expenditure required for non-food consumptions of the households. The NLSS-II in 2003/04 has defined poverty line of NRs. 7,901.1 (Food items as NRs. 4,919.2 and non-food items as NRs. 2,981.9) for other urban areas outside Kathmandu (Central Bureau of Statistics 2005). Considering F/Y 2003/04 as the base year, the poverty line for F/Y 2006/07 is computed using the annual urban *Consumer Price Index (CPI)* over the period of four years (2003/04 - 2006/07) published by the Nepal Rastra Bank in its Quarterly Economic Bulletins. The poverty line is calculated using the relation

$$P_y = \sum \frac{P_o \times CPI_y}{CPI_o} \qquad (6)$$

where, P_y is the poverty line in the year y, P_o, is the poverty line in the base year o, CPI_o is the consumer price index in the base year and CPI_y is the consumer price index of the year y. The poverty line P_y is the arithmetic sum poverty lines on food and non-food items.

Table 14 Urban consumer price index in hills and Terai

Fiscal Year	Hills		Terai	
	Food Item	Non-food Item	Food Item	Non-food Item
2003/04 (2060/61)	153.0	160.8	149.2	166.4
2004/05 (2061/62)	158.8	168.8	155.0	174.5
2005/06 (2062/63)	171.5	184.2	169.5	188.1
2006/07 (2062/64)	183.4	193.7	182.8	198.6

Source: Quarterly Economic Bulletin, Mid-October 2007 (Nepal Rastra Bank 2007)

Table 15 Poverty lines in urban regions in hills and Terai

Fiscal Year	Hills		Terai		Hills	Terai	Average
	Food Item	Non-food Item	Food Item	Non-food Item	Poverty line	Poverty line	Poverty line
2003/04 (2060/61)	4,919.20	2,981.90	4,919.20	2,981.90	7,901.10	7,901.10	7,901.10
2004/05 (2061/62)	5,105.68	3,130.25	5,110.43	3,127.05	8,235.93	8,237.48	8,236.71
2005/06 (2062/63)	5,514.01	3,415.83	5,588.50	3,370.77	8,929.84	8,959.27	8,944.55
2006/07 (2062/64)	5,896.61	3,592.00	6,027.01	3,558.93	9,488.61	9,585.94	9,537.27

The poverty line for the F/Y 2006/07 in urban areas is the average of the poverty lines in the urban areas in hills and the Terai calculated as NRs. 9,537.27 (≈NRs. 9,537).

Therefore, per capita income poverty line (IPL_h) of a household is given as:

$$IPL_h = IPL_p \times avg.household\ size \qquad (7)$$

where, IPL_h is the income poverty line for per capita per household, IPL_p is the income poverty line for per capita per person and avg. household size is the average household size in the municipality which is 5.4 persons in Bharatpur Municipality. Therefore, per capita household poverty line in the municipality is NRs.51,500 (i.e. NRs. 9537 * 5.4).

The income poverty ranges are therefore categorized as:

Table 16 Income poverty ranges

Income Poverty	Criteria	Per capita Household income
Non-poor	> 1.5 of ILP	> NRs. 77,249.70
Vulnerable group	1 – 1.5 of IPL	NRs. 51,500.00 - NRs. 77,249.70
Poor	0.5 – 1 of IPL	NRs. 25,749.90 - NRs. 51,500.00
Extremely poor	< 0.5 of IPL	< NRs. 25,749.90

Appendix 2 Poverty Indicators and Scores

Table 17 Poverty indicator hierarchical categories and weightage scores

Rankings	Poverty Dimensions	Indicators	Indicator Categories	Points
1	Income	Poverty line (PL)	non-poor (>1.5 of PL)	0
			vulnerable group (1-1.5 of PL)	0.25
			poor (0.5-1 of PL)	0.75
			extremely poor (<0.5 of PL)	1
2	Land ownership		owned	0
			not-owned	1
3	Building ownership		owned	0
			not-owned	1
4	Security of Tenure	Overcrowding	Separate kitchen (yes)	0
			Separate kitchen (no)	1
		Building type	Concrete	0
			Mixed	0.5
			Kacchi (Temporary)	1
5	Employment	Household head	Formal sector	0
			Informal sector	0.5
			Unemployed	1
		percent family members >15 years in formal sector	80-100 percent	0.00
			50 percent-80 percent	0.25
			20-50 percent	0.50
			<20 percent	0.75
			>20 percent	1.00

6	Education	Education level of House-hold head	Masters and above	0.00
			Secondary above	0.25
			Up to secondary level	0.50
			Informal	0.75
			Illiterate	1.00
		School going status of 5-15 years	>50 percent	0.00
			<=50 percent	0.50
			0.00	1.00
7	Access to safe drinking water		Yes	0.00
			No	1.00
8	Cooking fuel		Modern	0.00
			Kerosene	0.50
			Fuelwood	1.00
9	Access to improved sanitation		Modern	0.00
			Sulabh	0.25
			Open Pit	0.50
			No	1.00
10	Communication	Telephone/Mobile	Yes/no	0/1
		Radio	Yes/no	0/1
		Television	Yes/no	0/1
11	Amenities (Vehicles)	Car	Yes/no	0/1
		Motorcycle	Yes/no	0/1
		Bus/truck/tractor	Yes/no	0/1
12	Electricity		Yes/no	0/1
13	Sanitation	Kitchen type	with tap/modern	0

			without tap/traditional	1
		Sewerage	Sewer connection/septic tank	0
			Latrine pits	0.5
			Open drain	1
		Solid waste	Collection	0
			Other disposal methods	0.5
			Thrown indiscriminately	1
14	Accessibility (within 20 m)	Road type	Black topped	0
			Gravel/earthen	0.25
			Footpath	0.5
			No access	1

Table 18 Building construction type cub-categories and scores

Building Construction Type	Category	Score
Cement Masonry	Concrete	0
RCC Frame Structure	Concrete	0
Mud Masonry/Wooden wall	Mixed	0.5
Concrete Blocks	Mixed	0.5
Stone Masonry	Mixed	0.5
Wooden Matt Wall	Kachhi	1
Temporary Construction	Kachhi	1

Table 19 Household head's employment and scores

Employment of House hold head	Category	Score
Service	Formal	0
Own economic enterprises	Formal	0
Extended economic enterprises	Formal	0
Agriculture/Livestock	Informal	0.5
Wages/Labour	Informal	0.5
Others	Informal	0.5
Student	Unemployed	1
Household works	Unemployed	1
Unemployed	Unemployed	1
Seeking for job	Unemployed	1
No work	Unemployed	1

Table 20 Proportion of adult family members employed in formal sector and scores

percent family members	Score
80-100 percent	0
50-80 percent	0.25
20-50 percent	0.5
>0-20 percent	0.75
0 percent	1

Table 21 Education levels of household head and scores

Education level of House hold head	Category	Score
Above master	Masters and above	0
Master	Masters and above	0
Bachelor	Intermediate and above	0.25
Intermediate	Intermediate and above	0.25
SLC passed	Up to secondary level	0.5
Secondary	Up to secondary level	0.5
Lower Secondary	Up to secondary level	0.5
Informal Education	Primary/Informal	0.75
Primary	Primary/Informal	0.75
Cannot read and write	Illiterate	1

Table 22 School enrolment of children under 15 years and score

School Enrolment	Score
>50 percent	0
<=50 percent	0.5
0	1

Table 23 Access to drinking water and scores

Safe Drinking Water Source	Category	Score
Yard connection with good quality water	Safe	0
Dug well with good quality water	Safe	0
Hand pump with good quality water	Safe	0
Public stand post with good quality water	Safe	0
Stone taps with good quality water	Safe	0
Kuwa with good quality water	Safe	0
River/Stream	Unsafe	1
Kuwa without good quality water	Unsafe	1
Others without good quality water	Unsafe	1

Table 24 Access to improved sanitation and scores

Improved Sanitation	Category	Score
Cistern flush toilet	Modern	0
Ecosan toilet	Modern	0
Sulabh	Sulabh	0.25
Pit Latrine	Pit latrine	0.5
River/forest/outside/public	No	1

Table 25 Cooking fuel used and scores

Cooking Fuel	Category	Score
Gas	Modern	0
Electricity	Modern	0
Biogas	Modern	0
Kerosene/coal	Kerosene	0.5
Wood/Straw	Fuelwood	1
Other combinations	Considering the primary fuel	

Table 26 Kitchen types and scores

Kitchen Type	Category	Score
Full plumbed Kitchen	With tap/modern	0
Full plumbed Kitchen and Place for washing dish with tap outside kitchen	With tap/modern	0
Place for washing dish with tap outside kitchen	With tap/modern	0
Tap at shorter height for washing dish inside kitchen	With tap/modern	0
Tap at shorter height for washing dish inside kitchen and Place for washing dish with tap outside kitchen	With tap/modern	0
No place for washing dish(bucket used for washing)	Without tap/Traditional	1
No tap for washing dish inside kitchen	Without tap/Traditional	1
Place for washing dish without tap outside kitchen	Without tap/Traditional	1

Table 27 Access to sewerage connection and scores

Sewerage type	Category	Score
Sewer connection	Sewer connection/Septic tank	0
Septic tank	Sewer connection/Septic tank	0
Latrine pits	Latrine pits	0.5
Open drain	Open drain	1

Table 28 Solid waste disposal methods and scores

Solid Waste Disposal Type	Category	Score
Collected and Thrown indiscriminately	Collection	0
Collected by Municipality	Collection	0
Collected by Municipality and Composting	Collection	0
Buried	Other disposal methods	0.5
Buried and Burnt	Other disposal methods	0.5
Buried and Collected by Municipality	Other disposal methods	0.5
Buried and Composting	Other disposal methods	0.5
Buried, Burnt and Thrown indiscriminately	Other disposal methods	0.5
Burnt	Other disposal methods	0.5
Burnt and Collected by Municipality	Other disposal methods	0.5
Burnt and Composting	Other disposal methods	0.5
Composting	Other disposal methods	0.5
Thrown indiscriminately	Thrown indiscriminately	1
Thrown indiscriminately and Collected by Municipality	Thrown indiscriminately	1
Thrown indiscriminately and Composting	Thrown indiscriminately	1

Table 29 Access to road and scores

Road access within 20m	Category	Score
Black topped/PCC	Black topped	0
Earthen	Gravel/Earthen	0.25
Gravel	Gravel/Earthen	0.25
Stone paved	Gravel/Earthen	0.25
Foot path	Footpath	0.5
Temporary	Footpath	0.5
No access	No access	1

Appendix 3 Ranking and Weighted Coefficients of Indicators

Table 30 Poverty indicators, rankings and ranked weightage

Rank	Poverty Indicators	Weight
1	Income	0.083
2	Land ownership	0.080
3	Building ownership	0.076
4	Overcrowding - Building type	0.072
5	Kitchen type	0.069
6	Overcrowding - Kitchen	0.065
7	Employment of Household head	0.062
8	Employment of family members	0.058
9	Access to safe drinking water	0.054
10	Cooking fuel	0.051
11	Access to improved sanitation	0.047
12	Education of Household head	0.043
13	percent School going children	0.040
13	Telephone/Mobile	0.036
14	Radio	0.033
15	Television	0.029
16	Amenities (Motorcycle)	0.025
17	Amenities (Car)	0.022
18	Amenities (Bus/truck/others)	0.018
19	Access to electricity	0.014
21	Sewerage	0.011
22	Solid waste	0.007
23	Road accessibility	0.004
	Total weighted sum	**1.0000**

Appendix 4 Poverty Vulnerability Index (PVI) Poverty Line and Poverty Classes

PVI threshold (poverty line) is defined, beyond which the households are considered as the *'poor households."* This threshold of multidimensional poverty is defined as the PVI_{mean} + *standard deviation* of the PVI for the entire municipality. For comparability, the computed PVI poverty line is averaged with the respective PVI poverty lines of other urban areas i.e. Hetauda, Ratnanagar and Panauti Municipalities. The averaged PVI poverty lines is computed as *0.503(≈ 0.5)* for Bharatpur Municipality.

Table 31 Composite poverty line

Municipalities	Mean PVI	Std. Deviation	Variance	Mean +S td. Deviation
Hetauda	0.346	0.129	0.017	0.475
Bharatpur	0.353	0.140	0.020	0.493
Ratnanagar	0.419	0.133	0.018	0.552
Panauti	0.378	0.112	0.012	0.490
			Average	**0.503**

Considering 0.5 as the threshold poverty line, the averaged PVI is further classified into four groups based on its deviation from the respective mean using the standard deviation as the additive/subtractive factor. The variances in standard deviations are adjusted for the computed group threshold values.

Table 32 Poverty groups' threshold values

Poverty Groups	Calculations	Hetauda	Bharatpur	Ratnanagar	Panauti	Average	Avg.-Var[25]
Vulnerable group	PL-std.	0.37	0.36	0.37	0.39	0.37	0.3513[26]
Poor	PL	0.50	0.50	0.50	0.50	0.50	----
Extremely Poor	PL+2*std	0.76	0.78	0.77	0.72	0.76	0.75

From the above computations of threshold values, the poverty groups are classified as:

Table 33 PVI value range and poverty/vulnerability groups

PVI Range	Poverty/Vulnerability Groups
$0 \leq PVI_h \leq 0.35$	Non-poor
$0.35 < PVI_h \leq 0.5$	Vulnerable group
$0.5 < PVI_h \leq 0.75$	Poor
$PVI_h > 0.75$	Extremely poor (Ultra poor)

[25] Variance in standard deviation for Bharatpur Municipality

[26] The threshold for vulnerable group is computed as average threshold value – variance (i.e. 0.37 – 0.0195= 0.3525≈ *0.35*), therefore the threshold value of vulnerable groups is 0.35 PVI in Bharatpur Municipality, which is also used for other municipalities.

Appendix 5 Poverty Statistics in Bharatpur Municipality

The mean household PVI is 0.3363 (Std. Error 0.0011) with the median value of 0.3107, indicating 50 percent households below the value. The standard deviation is 0.1396 with a positive skew of 0.68. The range of the PVI varies from minimum of 0.021 to the maximum of 0.892. the percentiles of PVI are shown in Table 34.

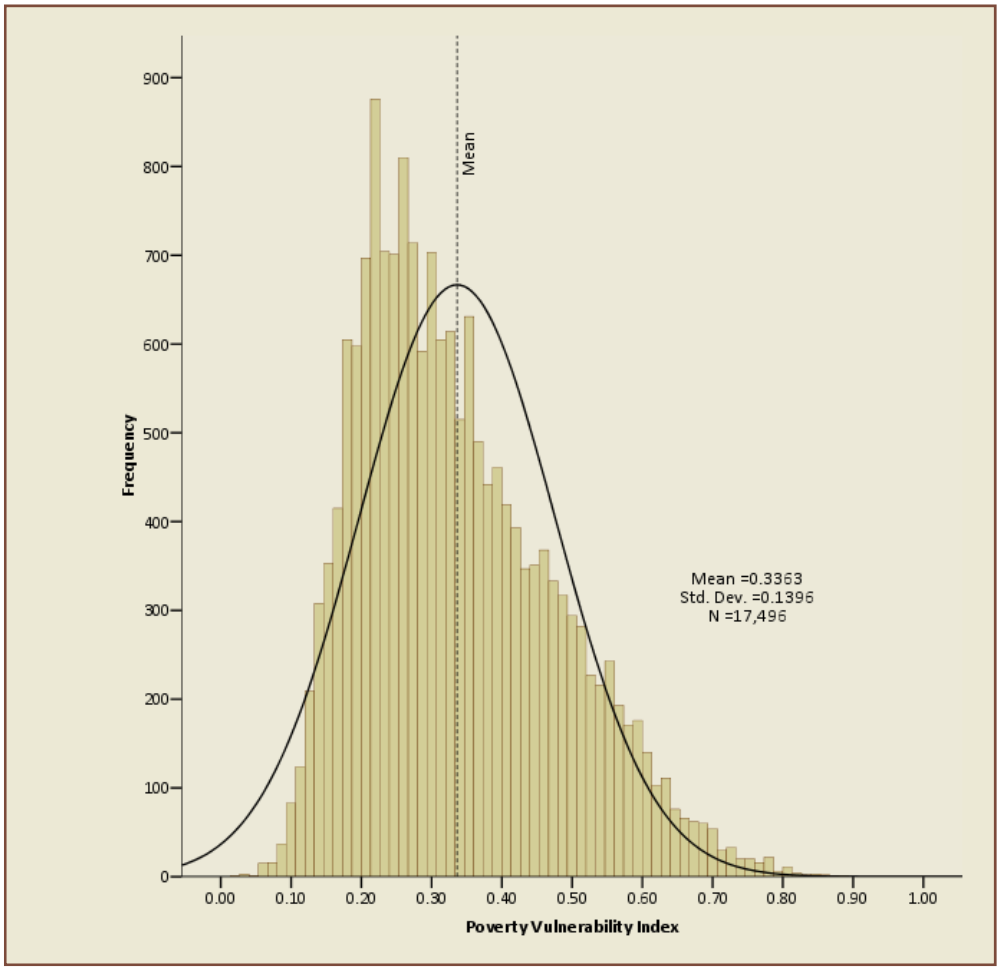

Figure 36 PVI frequency curve

The frequency curve shows higher proportion of households between the PVI range of 0.2 to 0.4. The percentile distribution shows about 60 percentage of households are below 0.35 (i.e. below the poverty line, 85 are below 0.5, 99.7 percent below 0.75 and about 0.3 percent above 0.75 PVI value.

The general statistics of composite poverty i.e. the Poverty Vulnerability in Bharatpur is as follows:

Table 34 PVI statistics in Bharatpur Municipality

Statistics		Value
Mean		0.3363
Std. Error of Mean		0.0011
Median		0.3107
Mode		0.2002
Std. Deviation		0.1396
Variance		0.0195
Skewness		0.6816
Std. Error of Skewness		0.0185
Kurtosis		-0.0380
Std. Error of Kurtosis		0.0370
Range		0.8705
Minimum		0.0217
Maximum		0.8922
Percentiles	10	0.1775
	20	0.2138
	30	0.2437
	40	0.2754
	50	0.3107
	60	0.3505
	70	0.3986
	80	0.4592
	90	0.5389
	95	0.5978

Appendix 6a Ward Wise Poverty Statistics

Table 35 Ward wise household composite poverty (PVI) groups and poverty incidence

Wards	Non-Poor	Vulnerable Group	Poor	Extremely Poor	Total	Households Below Poverty Line	Household Poverty Incidence
1	266	282	815	16	1,379	333	0.356
2	1,110	312	371	16	1,809	167	0.102
3	260	101	209	5	575	32	0.078
4	614	278	190	6	1,088	142	0.131
5	498	363	182	3	1,046	130	0.125
6	492	394	173	6	1,065	155	0.145
7	846	312	172	6	1,336	89	0.069
8	623	346	168	33	1,170	139	0.121
9	755	314	160	21	1,250	85	0.072
10	1,611	397	126	5	2,139	97	0.046
11	1,054	1,009	114	4	2,181	690	0.238
12	1,056	269	107	4	1,436	92	0.064
13	224	221	107	5	557	151	0.241
14	169	249	46	1	465	172	0.278
Total	**9,578**	**4,847**	**2,940**	**131**	**17,496**	**2,474**	**0.141**

Table 36 Ward wise population composite poverty (PVI) groups and poverty incidence

Wards	Non-Poor	Vulnerable Group	Poor	Extremely Poor	Total	Population Below Poverty Line	Population Poverty Incidence
1	1,718	1,232	1,137	25	4,112	1,162	0.283
2	6,054	1,418	766	13	8,251	779	0.094
3	1,683	358	144	-	2,185	144	0.066
4	3,629	994	614	10	5,247	624	0.119
5	2,845	1,582	509	12	4,948	521	0.105
6	3,129	1,798	695	13	5,635	708	0.126
7	4,475	1,343	391	10	6,219	401	0.064
8	3,722	1,445	563	23	5,753	586	0.102
9	4,287	1,326	355	9	5,977	364	0.061
10	8,704	1,468	344	5	10,521	349	0.033
11	5,609	5,124	3,037	40	13,810	3,077	0.223
12	5,487	1,102	384	4	6,977	388	0.056
13	1,343	1,256	624	63	3,286	687	0.209
14	1,093	1,347	753	94	3,287	847	0.258
Total	**53,778**	**21,793**	**10,316**	**321**	**86,208**	**10,637**	**0.123**

Appendix 7 TLO Wise Poverty Statistics

Table 37 TLO wise household composite poverty (PVI) groups and poverty incidence

Wards	TLO Name	Non-Poor	Vulnerable Group	Poor	Extremely Poor	Total	Household Below Poverty Line	Household Poverty Incidence
1	Devghat	19	67	124	3	213	127	0.596
1	Diyalo	39	12	11	2	64	13	0.203
1	Ganesh	76	34	9	1	120	10	0.083
1	Ganeshsthan	0	1	6	0	7	6	0.857
1	Kebi Line	0	13	53	2	68	55	0.809
1	Narayani	22	22	14	0	58	14	0.241
1	Ram Nagar Ga	25	27	12	0	64	12	0.188
1	Ram Nagar Ka	16	43	31	0	90	31	0.344
1	Ram Nagar Kha	45	31	8	0	84	8	0.095
1	Samjhana	5	0	1	0	6	1	0.167
1	Thimura	16	33	51	0	100	51	0.510
2	Aadhunik	33	30	17	1	81	18	0.222
2	Adesh Chowk	51	9	2	0	62	2	0.032
2	Basechi Bazzar	0	0	2	0	2	2	1.000
2	Beltadi	23	1	1	0	25	1	0.040
2	Bhanu Marg	35	9	6	0	50	6	0.120
2	Bharatpur Height	0	1	0	0	1	0	0.000
2	Bikas Path	11	5	2	0	18	2	0.111
2	Bikram Marg	64	3	4	0	71	4	0.056
2	Deuti Tole	28	5	3	0	36	3	0.083
2	Ganesh	15	2	3	0	20	3	0.150

2	Ganesh Marg	24	1	5	0	30	5	0.167
2	Ganesh Nagar	34	1	3	0	38	3	0.079
2	Green Belt	12	3	0	0	15	0	0.000
2	Indreni	2	19	27	0	48	27	0.563
2	Jal Devi	97	36	10	0	143	10	0.070
2	Jalma Hall Tole	26	5	4	0	35	4	0.114
2	Manav Dharam	21	6	6	0	33	6	0.182
2	Milan	1	20	8	1	30	9	0.300
2	Miteri	78	9	4	0	91	4	0.044
2	Namaste	101	14	7	0	122	7	0.057
2	Narayani	66	13	6	1	86	7	0.081
2	Om Shanti	10	1	2	0	13	2	0.154
2	Pashupati	64	14	7	0	85	7	0.082
2	Pragati Path	19	7	1	0	27	1	0.037
2	Pragati Path Gha	28	6	0	0	34	0	0.000
2	Pragati Path Kha	30	5	3	0	38	3	0.079
2	Prithivi Tole	38	9	4	0	51	4	0.078
2	Pustakalaya Marg	18	2	1	0	21	1	0.048
2	Rameshwor Chowk	35	8	4	0	47	4	0.085
2	Rameshwor Ka	13	3	1	0	17	1	0.059
2	Rameshwor Kha	1	3	1	0	5	1	0.200
2	Shanti	67	28	18	0	113	18	0.159
2	Shanti Marg	91	15	5	0	111	5	0.045
2	Shanti Tole	17	2	1	0	20	1	0.050
2	Shiva Mandir	7	1	1	0	9	1	0.111

2	Siddhartha	26	2	1	0	29	1	0.034
2	Sital	8	1	0	0	9	0	0.000
3	Bhirkuti Path	23	7	4	0	34	4	0.118
3	Campus Road	30	12	4	0	46	4	0.087
3	Diyalo	1	0	0	0	1	0	0.000
3	Ganesh Tole	20	6	2	0	28	2	0.071
3	Hangkong Road	3	9	2	0	14	2	0.143
3	Harihar Marg	15	3	1	0	19	1	0.053
3	Main Road Tole Bikas Samiti	33	2	3	0	38	3	0.079
3	Milan Tole	17	4	2	0	23	2	0.087
3	Narayani Tole Bikas Sanstha	58	8	8	0	74	8	0.108
3	Pragati Path	11	0	0	0	11	0	0.000
3	Putali Bazaar	32	7	1	0	40	1	0.025
3	Sahid Marg Tole Bikas	11	3	3	0	17	3	0.176
3	Sahid Tole	19	5	0	0	24	0	0.000
3	Samjhana	33	5	6	0	44	6	0.136
3	Sukra Path	26	10	2	0	38	2	0.053
4	Anand Marg Ka	67	19	8	0	94	8	0.085
4	Anand Marg Kha	58	24	14	0	96	14	0.146
4	Barah Ghare	81	35	22	1	139	23	0.165
4	Bel Chowk Ga	71	31	8	0	110	8	0.073
4	Bhagawati	134	31	15	0	180	15	0.083
4	Bhanu	18	5	12	0	35	12	0.343
4	Chautari	75	23	31	1	130	32	0.246
4	Jyoti Marg	43	9	4	0	56	4	0.071

4	Kamal Nagar Marg	75	19	11	0	105	11	0.105
4	Naughare	38	12	9	0	59	9	0.153
4	Sangam Chowk Ka	23	7	2	0	32	2	0.063
4	Sansari Mai	36	14	4	0	54	4	0.074
5	Baikuntha Tole	80	25	14	0	119	14	0.118
5	Dharapani	40	22	5	0	67	5	0.075
5	Dharma Chowk Tole	33	14	3	0	50	3	0.060
5	Durga	18	8	5	0	31	5	0.161
5	Jagriti Tole	37	35	6	0	78	6	0.077
5	Jana Jagaran	20	22	11	0	53	11	0.208
5	Khore Tole	95	55	13	0	163	13	0.080
5	Lanku Bhagwati	115	36	12	0	163	12	0.074
5	Laxmipur	28	39	14	0	81	14	0.173
5	Nava Jyoti	0	1	0	0	1	0	0.000
5	Pragati	6	5	0	0	11	0	0.000
5	Rameshwor	20	22	4	1	47	5	0.106
5	Shanti	23	24	15	0	62	15	0.242
5	Shivaghat	24	24	19	2	69	21	0.304
6	Adarsa Tole	16	12	4	0	32	4	0.125
6	Anand Chowk	15	13	9	0	37	9	0.243
6	Anandpur Ka	4	4	4	0	12	4	0.333
6	Anandpur Kha	17	14	6	0	37	6	0.162
6	Anupam	28	18	2	0	48	2	0.042
6	Baudik Nagar	91	38	10	0	139	10	0.072
6	Dharma Chowk Tole	5	4	1	0	10	1	0.100

6	Ganesh Tole	1	0	0	0	1	0	0.000
6	Jagriti Tole	15	9	1	0	25	1	0.040
6	Jay Ganesh Tole	65	21	7	0	93	7	0.075
6	Laxman	6	15	8	0	29	8	0.276
6	Laxmi Path	30	14	7	1	52	8	0.154
6	Nava Durga	26	25	14	0	65	14	0.215
6	Nava Jyoti	56	14	5	0	75	5	0.067
6	Naya Srijana	19	11	1	0	31	1	0.032
6	Parawangi Ka	11	3	1	0	15	1	0.067
6	Pipal Chowk	41	16	5	0	62	5	0.081
6	Prakriti	11	10	10	0	31	10	0.323
6	Sano Yagyapuri	8	11	8	0	27	8	0.296
6	Saraswoti	12	8	4	0	24	4	0.167
6	Shiva Mandir	18	14	0	1	33	1	0.030
6	Shiva Panchanga	12	27	14	1	54	15	0.278
6	Suryodaya	41	24	16	0	81	16	0.198
6	Uttar Anadapur	14	11	5	0	30	5	0.167
6	Uttar Anadpur Janaki	12	9	11	0	32	11	0.344
6	Yagyapuri	9	0	0	0	9	0	0.000
7	Annapurna	59	8	5	0	72	5	0.069
7	Baaish Bigha	1	1	0	0	2	0	0.000
7	Bagwani Tole	30	9	1	0	40	1	0.025
7	Bisal Tole	24	4	0	0	28	0	0.000
7	Budhha Chowk	85	29	7	0	121	7	0.058
7	Cancer Tole	33	19	4	0	56	4	0.071

7	Chandani	41	17	2	0	60	2	0.033
7	Dipendra Chowk	47	10	1	0	58	1	0.017
7	Ganesh	0	1	0	0	1	0	0.000
7	Ganesh Tole	35	1	2	0	38	2	0.053
7	Gauri Krishna Tole	0	0	0	0	0	0	-
7	Krishna Gauri	2	1	0	0	3	0	0.000
7	Laligurash	21	1	1	0	23	1	0.043
7	Machapuchre Chowk	17	3	1	0	21	1	0.048
7	Madhya Bindu	12	13	5	0	30	5	0.167
7	Manakamana	28	10	4	1	43	5	0.116
7	Mega Hertz Chowk	21	4	1	0	26	1	0.038
7	Nava Jeevan Tole	30	17	5	0	52	5	0.096
7	Parawangi Kha	13	2	0	0	15	0	0.000
7	Pipal Chowk	14	4	0	0	18	0	0.000
7	Prem Basti	38	25	9	0	72	9	0.125
7	Santi Nagar	44	8	1	0	53	1	0.019
7	Sarad Krishna	10	7	2	0	19	2	0.105
7	Shiva Chowk	38	4	1	0	43	1	0.023
7	Siddhartha Chowk	69	11	2	0	82	2	0.024
7	Sital Chowk	29	5	2	0	36	2	0.056
7	Sitaram	6	12	4	0	22	4	0.182
7	Srijana	44	6	1	0	51	1	0.020
7	Sunrise Tole	45	8	3	1	57	4	0.070
7	Terahsal Chowk	36	43	15	1	95	16	0.168
7	Ujjawal	42	20	6	0	68	6	0.088

8	Ashok	41	20	4	1	66	5	0.076
8	Baaish Bigha	36	5	2	0	43	2	0.047
8	Bandevi	9	8	5	0	22	5	0.227
8	Baruwa Tole	11	10	12	0	33	12	0.364
8	Darai Tole	28	12	4	1	45	5	0.111
8	Devkota Tole	18	10	0	0	28	0	0.000
8	Ganesh	18	7	1	0	26	1	0.038
8	Gauri Krishna Tole	31	2	1	0	34	1	0.029
8	Harihar Chhetra	9	10	12	0	31	12	0.387
8	Harihar Marg	15	10	4	0	29	4	0.138
8	Janaki	59	22	6	0	87	6	0.069
8	Jyoti	86	14	6	1	107	7	0.065
8	Kadaghari	0	0	0	0	0	0	#DIV/0!
8	Kamakshya	4	6	6	0	16	6	0.375
8	Krishna Gauri	17	8	3	0	28	3	0.107
8	Lok Shanti Tole	32	7	2	0	41	2	0.049
8	Madhya Bindu	2	1	0	0	3	0	0.000
8	Pandey Ghumti Tole	23	3	0	0	26	0	0.000
8	Parijat	38	14	9	1	62	10	0.161
8	Pratima	17	9	5	1	32	6	0.188
8	Radha Krishna	48	9	3	0	60	3	0.050
8	Salayani Ka	21	25	17	0	63	17	0.270
8	Salayani Kha	18	18	11	0	47	11	0.234
8	Sansari Devi	15	27	17	0	59	17	0.288
8	School Line	32	8	0	0	40	0	0.000

8	Shanti	16	9	1	0	26	1	0.038
8	Shanti Marg	72	17	3	0	92	3	0.033
8	Sitaram	1	0	0	0	1	0	0.000
8	Tripureswor	1	0	0	0	1	0	0.000
9	Adarsha	44	15	0	0	59	0	0.000
9	Bashant Chowk Ka	53	9	4	1	67	5	0.075
9	Bashant Chowk Kha	29	25	4	1	59	5	0.085
9	Beni Chowk	24	4	0	0	28	0	0.000
9	Bihani	27	17	4	0	48	4	0.083
9	Bikash Chowk (Anugrat Nepal Tole)	56	29	6	0	91	6	0.066
9	Bishal Chowk	121	20	4	0	145	4	0.028
9	Durga	49	11	3	0	63	3	0.048
9	Kadaghari	12	5	14	0	31	14	0.452
9	Milan	55	13	4	0	72	4	0.056
9	Paras	16	2	3	0	21	3	0.143
9	Parmananda Saraswoti	77	21	6	0	104	6	0.058
9	Prithvi Ka	24	9	3	0	36	3	0.083
9	Sarad Krishna	28	11	2	0	41	2	0.049
9	Shajha	73	15	7	0	95	7	0.074
9	Shiva Mandir	35	17	1	0	53	1	0.019
9	Shivasakti	9	11	5	0	25	5	0.200
9	Tribeni	4	3	4	0	11	4	0.364
9	Tripureswor	50	41	7	0	98	7	0.071
10	Aankha Hospital	67	9	6	0	82	6	0.073
10	Anand Marg Ka	1	0	0	0	1	0	0.000

10	Bharatpur Height	4	0	0	0	4	0	0.000
10	Bhupu Sainik	86	23	4	0	113	4	0.035
10	Birendra	30	7	5	0	42	5	0.119
10	Birendra Campus	69	7	3	0	79	3	0.038
10	Chaubis Kothi Tole	46	1	0	0	47	0	0.000
10	Chitrasen	38	12	1	0	51	1	0.020
10	Degree Campus	21	3	3	0	27	3	0.111
10	Himali Kha	28	1	1	0	30	1	0.033
10	Himali Path Ka	47	10	4	1	62	5	0.081
10	Himchuli	0	1	0	0	1	0	0.000
10	Indreni Chowk	70	10	2	0	82	2	0.024
10	Janadesh	1	0	0	0	1	0	0.000
10	Janapath	59	6	5	0	70	5	0.071
10	Jyoti Nagar	31	1	0	0	32	0	0.000
10	Kalika Mandir Chowk	37	9	2	0	48	2	0.042
10	Kalika Path	78	6	6	0	90	6	0.067
10	Milan	66	7	5	0	78	5	0.064
10	Nava Samrat	0	0	0	0	0	0	-
10	Parawangi Ka	55	9	2	0	66	2	0.030
10	Parawangi Kha	160	31	6	0	197	6	0.030
10	Parijat	0	1	0	0	1	0	0.000
10	Pragati Path	80	19	0	0	99	0	0.000
10	Prithvi	63	22	4	0	89	4	0.045
10	Prithvi Ka	7	3	0	0	10	0	0.000
10	Ramaila	1	0	0	1	2	1	0.500

10	Ramailo	39	9	4	0	52	4	0.077
10	Sapta Gandaki Chowk	82	18	9	0	109	9	0.083
10	Satsang	19	0	0	0	19	0	0.000
10	Shankar Chowk	121	5	7	0	133	7	0.053
10	Shiva Mandir	44	22	2	0	68	2	0.029
10	Sital	34	12	1	0	47	1	0.021
10	Syauli Bazaar	140	16	2	0	158	2	0.013
10	Tamang	54	25	4	0	83	4	0.048
11	Barpipal	13	13	6	0	32	6	0.188
11	Basechi Bazzar	111	65	26	1	203	27	0.133
11	Bashantpur (Sahasi Tole)	97	62	19	0	178	19	0.107
11	Chimkeshwori	20	44	19	1	84	20	0.238
11	Chisapani	11	10	1	1	23	2	0.087
11	Dipjyoti	37	12	3	0	52	3	0.058
11	Ganeshsthan	71	218	226	1	516	227	0.440
11	Gorkhali	29	8	4	0	41	4	0.098
11	Himchuli	23	15	4	0	42	4	0.095
11	Jagriti	9	3	3	0	15	3	0.200
11	Jaldevi	2	9	12	0	23	12	0.522
11	Jaldevi Mai	3	11	21	0	35	21	0.600
11	Janadesh	22	3	1	0	26	1	0.038
11	Kailasheshwor	6	22	14	0	42	14	0.333
11	Kamala Devi Tole	8	32	26	1	67	27	0.403
11	Kamana	19	9	4	1	33	5	0.152
11	Lama	2	37	22	0	61	22	0.361

11	Manpure	9	14	14	0	37	14	0.378
11	Mukti Nagar Chhetra	67	24	7	0	98	7	0.071
11	Namuna	17	22	11	0	50	11	0.220
11	Naurange	43	40	10	0	93	10	0.108
11	Nava Jeevan	4	34	37	2	77	39	0.506
11	Naya Kiran	49	19	5	0	73	5	0.068
11	Nilgiri	21	5	1	0	27	1	0.037
11	Parijat	67	10	0	0	77	0	0.000
11	Pokhari Chowk	72	22	5	0	99	5	0.051
11	Pragati (Anand Bazaar)	18	20	1	0	39	1	0.026
11	Pragati Path	50	23	4	0	77	4	0.052
11	Prashiddha (Jitman)	33	17	10	0	60	10	0.167
11	Salleri	39	23	5	0	67	5	0.075
11	Sarosawti Tole	10	41	20	0	71	20	0.282
11	Shanti	56	25	5	0	86	5	0.058
11	Shanti Marg	25	25	22	1	73	23	0.315
11	Siddhartha Nagar	23	26	24	2	75	26	0.347
11	Subhakamana	13	30	19	0	62	19	0.306
11	Unnatishil	23	55	58	1	137	59	0.431
12	Aastha	117	23	8	0	148	8	0.054
12	Ananda Tole	66	28	5	0	99	5	0.051
12	Basant Chowk	43	5	4	0	52	4	0.077
12	Bashantpur (Sahasi Tole)	0	1	0	0	1	0	0.000
12	Central Town	19	1	0	0	20	0	0.000
12	Chetana	48	8	3	0	59	3	0.051

12	Dipendra	12	23	12	0	47	12	0.255
12	Ekata	65	10	1	0	76	1	0.013
12	Gharelu	32	3	1	0	36	1	0.028
12	Hamro	64	16	4	0	84	4	0.048
12	Jagriti Chowk Tole	47	9	7	0	63	7	0.111
12	Jilla Karyalaya	42	11	4	0	57	4	0.070
12	Kalika	20	9	6	0	35	6	0.171
12	Manju Shri	68	8	11	0	87	11	0.126
12	Narayan	71	7	2	1	81	3	0.037
12	Naurange	41	10	1	0	52	1	0.019
12	Nava Ratna	57	14	2	0	73	2	0.027
12	Nava Samrat	29	5	4	0	38	4	0.105
12	Pokhareli Tole	122	9	4	0	135	4	0.030
12	Purnima	23	14	3	0	40	3	0.075
12	Radha Krishna	58	9	2	0	69	2	0.029
12	Sahayogi	44	13	5	0	62	5	0.081
12	Suryodaye	14	0	0	0	14	0	0.000
13	Anandpur Ka	42	53	29	1	125	30	0.240
13	Araniko	20	10	10	0	40	10	0.250
13	DurgaTole	35	25	17	7	84	24	0.286
13	Ganesh Mandir	7	4	5	0	16	5	0.313
13	Gulaph	20	9	11	0	40	11	0.275
13	Jagriti	6	11	6	0	23	6	0.261
13	Kailash	17	27	12	0	56	12	0.214
13	Narayani	0	1	0	0	1	0	0.000

13	Ram Mandir	41	28	14	1	84	15	0.179
13	Rambag	6	11	4	0	21	4	0.190
13	Rose Garden	21	20	15	0	56	15	0.268
13	Sai Ram	19	16	4	1	40	5	0.125
13	Santi	11	10	5	2	28	7	0.250
13	Tribeni	0	0	0	0	0	0	0.000
14	Jagriti	13	10	6	1	30	7	0.233
14	Jagriti Tole	13	21	8	0	42	8	0.190
14	Kalyanpur	6	6	2	0	14	2	0.143
14	Kristi	30	16	12	8	66	20	0.303
14	Laligurash	16	30	26	7	79	33	0.418
14	Namuna	21	18	14	1	54	15	0.278
14	Narayani	27	31	23	1	82	24	0.293
14	Nava Jeevan Tole	6	2	2	0	10	2	0.200
14	Nava Kalayan	12	24	10	1	47	11	0.234
14	Om Shanti	15	34	21	1	71	22	0.310
14	Pratima	0	1	0	0	1	0	0.000
14	Rose Garden	4	2	5	1	12	6	0.500
14	Srijana	6	8	8	0	22	8	0.364
14	Tamang	27	26	10	0	63	10	0.159
14	Tribeni	15	21	10	1	47	11	0.234
14	Ujjawal	4	3	0	0	7	0	0.000
	Total	**10,410**	**4,508**	**2,377**	**78**	**17,373**	**2,455**	**0.141**

Table 38 TLO wise population composite poverty (PVI) groups and poverty incidence

Wards	TLO Name	Non-Poor	Vulnerable Group	Poor	Extremely Poor	Total	Household Below Poverty Line	Household Poverty Incidence
1	Devghat	83	141	203	5	432	208	0.481
1	Diyalo	239	44	43	6	332	49	0.148
1	Ganesh	436	141	43	6	626	49	0.078
1	Ganeshsthan	-	4	23	-	27	23	0.852
1	Kebi Line	-	74	244	7	325	251	0.772
1	Narayani	129	126	69	-	324	69	0.213
1	Ram Nagar Ga	118	127	58	-	303	58	0.191
1	Ram Nagar Ka	88	233	150	-	471	150	0.318
1	Ram Nagar Kha	214	140	28	-	382	28	0.073
1	Samjhana	38	-	4	-	42	4	0.095
1	Thimura	90	171	252	-	513	252	0.491
2	Aadhunik	166	150	78	4	398	82	0.206
2	Adesh Chowk	260	45	10	-	315	10	0.032
2	Basechi Bazzar	-	-	12	-	12	12	1.000
2	Beltadi	132	1	6	-	139	6	0.043
2	Bhanu Marg	181	32	26	-	239	26	0.109
2	Bharatpur Height	-	5	-	-	5	-	-
2	Bikas Path	72	28	7	-	107	7	0.065
2	Bikram Marg	354	18	14	-	386	14	0.036

2	Deuti Tole	139	24	6	-	169	6	0.036
2	Ganesh	86	9	12	-	107	12	0.112
2	Ganesh Marg	131	8	24	-	163	24	0.147
2	Ganesh Nagar	169	3	9	-	181	9	0.050
2	Green Belt	59	14	-	-	73	-	-
2	Indreni	12	118	134	-	264	134	0.508
2	Jal Devi	480	169	54	-	703	54	0.077
2	Jalma Hall Tole	140	24	18	-	182	18	0.099
2	Manav Dharam	118	35	28	-	181	28	0.155
2	Milan	3	100	38	6	147	44	0.299
2	Miteri	406	44	15	-	465	15	0.032
2	Namaste	493	73	35	-	601	35	0.058
2	Narayani	310	54	27	3	394	30	0.076
2	Om Shanti	75	5	9	-	89	9	0.101
2	Pashupati	305	63	27	-	395	27	0.068
2	Pragati Path	110	32	4	-	146	4	0.027
2	Pragati Path Gha	178	32	-	-	210	-	-
2	Pragati Path Kha	190	22	15	-	227	15	0.066
2	Prithivi Tole	178	40	20	-	238	20	0.084
2	Pustakalaya Marg	104	11	5	-	120	5	0.042
2	Rameshwor Chowk	164	29	20	-	213	20	0.094
2	Rameshwor Ka	70	13	10	-	93	10	0.108
2	Rameshwor Kha	5	8	3	-	16	3	0.188
2	Shanti	348	131	91	-	570	91	0.160
2	Shanti Marg	456	71	26	-	553	26	0.047

2	Shanti Tole	89	4	4	-	97	4	0.041
2	Shiva Mandir	35	6	6	-	47	6	0.128
2	Siddhartha	114	7	3	-	124	3	0.024
2	Sital	36	4	-	-	40	-	-
3	Bhirkuti Path	171	36	24	-	231	24	0.104
3	Campus Road	176	70	14	-	260	14	0.054
3	Diyalo	3	-	-	-	3	-	-
3	Ganesh Tole	77	20	6	-	103	6	0.058
3	Hangkong Road	18	51	9	-	78	9	0.115
3	Harihar Marg	85	14	4	-	103	4	0.039
3	Main Road Tole Bikas Samiti	197	3	13	-	213	13	0.061
3	Milan Tole	89	15	8	-	112	8	0.071
3	Narayani Tole Bikas Sanstha	311	32	42	-	385	42	0.109
3	Pragati Path	54	-	-	-	54	-	-
3	Putali Bazaar	198	32	5	-	235	5	0.021
3	Sahid Marg Tole Bikas	67	19	7	-	93	7	0.075
3	Sahid Tole	81	20	-	-	101	-	-
3	Samjhana	199	18	25	-	242	25	0.103
3	Sukra Path	150	46	12	-	208	12	0.058
4	Anand Marg Ka	328	74	39	-	441	39	0.088
4	Anand Marg Kha	287	99	57	-	443	57	0.129
4	Barah Ghare	419	167	92	6	684	98	0.143
4	Bel Chowk Ga	372	147	31	-	550	31	0.056
4	Bhagawati	707	147	88	-	942	88	0.093
4	Bhanu	89	14	49	-	152	49	0.322

4	Chautari	366	89	141	4	600	145	0.242
4	Jyoti Marg	223	36	14	-	273	14	0.051
4	Kamal Nagar Marg	373	80	41	-	494	41	0.083
4	Naughare	191	58	37	-	286	37	0.129
4	Sangam Chowk Ka	97	25	5	-	127	5	0.039
4	Sansari Mai	176	67	22	-	265	22	0.083
5	Baikuntha Tole	390	113	55	-	558	55	0.099
5	Dharapani	205	96	18	-	319	18	0.056
5	Dharma Chowk Tole	170	67	10	-	247	10	0.040
5	Durga	91	32	19	-	142	19	0.134
5	Jagriti Tole	191	159	27	-	377	27	0.072
5	Jana Jagaran	92	105	45	-	242	45	0.186
5	Khore Tole	494	263	46	-	803	46	0.057
5	Lanku Bhagwati	565	144	44	-	753	44	0.058
5	Laxmipur	127	186	63	-	376	63	0.168
5	Nava Jyoti	-	5	-	-	5	-	-
5	Pragati	38	18	-	-	56	-	-
5	Rameshwor	97	106	17	3	223	20	0.090
5	Shanti	118	131	49	-	298	49	0.164
5	Shivaghat	136	118	87	9	350	96	0.274
6	Adarsa Tole	81	68	20	-	169	20	0.118
6	Anand Chowk	81	66	34	-	181	34	0.188
6	Anandpur Ka	17	26	14	-	57	14	0.246
6	Anandpur Kha	98	89	36	-	223	36	0.161
6	Anupam	164	105	6	-	275	6	0.022

6	Baudik Nagar	498	166	44	-	708	44	0.062
6	Dharma Chowk Tole	22	16	6	-	44	6	0.136
6	Ganesh Tole	8	-	-	-	8	-	-
6	Jagriti Tole	92	33	2	-	127	2	0.016
6	Jay Ganesh Tole	316	105	32	-	453	32	0.071
6	Laxman	34	84	38	-	156	38	0.244
6	Laxmi Path	158	71	37	4	270	41	0.152
6	Nava Durga	139	129	72	-	340	72	0.212
6	Nava Jyoti	285	66	22	-	373	22	0.059
6	Naya Srijana	95	52	5	-	152	5	0.033
6	Parawangi Ka	55	14	5	-	74	5	0.068
6	Pipal Chowk	241	96	17	-	354	17	0.048
6	Prakriti	75	67	57	-	199	57	0.286
6	Sano Yagyapuri	44	48	39	-	131	39	0.298
6	Saraswoti	58	43	16	-	117	16	0.137
6	Shiva Mandir	103	75	-	7	185	7	0.038
6	Shiva Panchanga	79	158	60	2	299	62	0.207
6	Suryodaya	247	134	72	-	453	72	0.159
6	Uttar Anadapur	74	54	18	-	146	18	0.123
6	Uttar Anadpur Janaki	71	41	48	-	160	48	0.300
6	Yagyapuri	46	-	-	-	46	-	-
7	Annapurna	287	36	21	-	344	21	0.061
7	Baaish Bigha	4	7	-	-	11	-	-
7	Bagwani Tole	150	36	2	-	188	2	0.011
7	Bisal Tole	107	18	-	-	125	-	-

7	Budhha Chowk	421	114	32	-	567	32	0.056
7	Cancer Tole	134	71	21	-	226	21	0.093
7	Chandani	213	77	8	-	298	8	0.027
7	Dipendra Chowk	226	51	6	-	283	6	0.021
7	Ganesh	-	5	-	-	5	-	-
7	Ganesh Tole	189	3	9	-	201	9	0.045
7	Gauri Krishna Tole	-	-	-	-	-	-	-
7	Krishna Gauri	10	8	-	-	18	-	-
7	Laligurash	129	5	6	-	140	6	0.043
7	Machapuchre Chowk	86	10	4	-	100	4	0.040
7	Madhya Bindu	63	72	22	-	157	22	0.140
7	Manakamana	134	51	17	4	206	21	0.102
7	Mega Hertz Chowk	109	22	4	-	135	4	0.030
7	Nava Jeevan Tole	138	74	22	-	234	22	0.094
7	Parawangi Kha	59	7	-	-	66	-	-
7	Pipal Chowk	75	22	-	-	97	-	-
7	Prem Basti	193	113	44	-	350	44	0.126
7	Santi Nagar	211	37	4	-	252	4	0.016
7	Sarad Krishna	60	26	4	-	90	4	0.044
7	Shiva Chowk	175	13	4	-	192	4	0.021
7	Siddhartha Chowk	336	45	5	-	386	5	0.013
7	Sital Chowk	134	17	7	-	158	7	0.044
7	Sitaram	30	66	15	-	111	15	0.135
7	Srijana	209	28	5	-	242	5	0.021
7	Sunrise Tole	222	35	8	3	268	11	0.041

7	Terahsal Chowk	192	200	74	3	469	77	0.164
7	Ujjawal	213	95	35	-	343	35	0.102
8	Ashok	214	106	14	3	337	17	0.050
8	Baaish Bigha	184	32	12	-	228	12	0.053
8	Bandevi	50	35	25	-	110	25	0.227
8	Baruwa Tole	76	58	50	-	184	50	0.272
8	Darai Tole	139	66	23	4	232	27	0.116
8	Devkota Tole	92	46	-	-	138	-	-
8	Ganesh	108	27	5	-	140	5	0.036
8	Gauri Krishna Tole	163	9	4	-	176	4	0.023
8	Harihar Chhetra	51	41	45	-	137	45	0.328
8	Harihar Marg	83	51	17	-	151	17	0.113
8	Janaki	303	97	29	-	429	29	0.068
8	Jyoti	450	77	20	6	553	26	0.047
8	Kadaghari	-	-	-	-	-	-	-
8	Kamakshya	14	24	26	-	64	26	0.406
8	Krishna Gauri	88	32	11	-	131	11	0.084
8	Lok Shanti Tole	179	36	8	-	223	8	0.036
8	Madhya Bindu	6	5	-	-	11	-	-
8	Pandey Ghumti Tole	117	18	-	-	135	-	-
8	Parijat	195	64	29	4	292	33	0.113
8	Pratima	79	61	21	6	167	27	0.162
8	Radha Krishna	234	36	10	-	280	10	0.036
8	Salayani Ka	111	130	70	-	311	70	0.225
8	Salayani Kha	80	91	49	-	220	49	0.223

8	Sansari Devi	81	131	81	-	293	81	0.276
8	School Line	169	37	-	-	206	-	-
8	Shanti	94	40	4	-	138	4	0.029
8	Shanti Marg	368	78	10	-	456	10	0.022
8	Sitaram	12	-	-	-	12	-	-
8	Tripureswor	5	-	-	-	5	-	-
9	Adarsha	220	71	-	-	291	-	-
9	Bashant Chowk Ka	286	33	25	3	347	28	0.081
9	Bashant Chowk Kha	139	126	16	6	287	22	0.077
9	Beni Chowk	126	23	-	-	149	-	-
9	Bihani	165	97	14	-	276	14	0.051
9	Bikash Chowk (Anugrat Nepal Tole)	284	121	22	-	427	22	0.052
9	Bishal Chowk	602	89	15	-	706	15	0.021
9	Durga	260	52	8	-	320	8	0.025
9	Kadaghari	73	25	86	-	184	86	0.467
9	Milan	295	61	15	-	371	15	0.040
9	Paras	101	8	14	-	123	14	0.114
9	Parmananda Saraswoti	452	80	17	-	549	17	0.031
9	Prithvi Ka	116	41	13	-	170	13	0.076
9	Sarad Krishna	167	55	5	-	227	5	0.022
9	Shajha	370	62	33	-	465	33	0.071
9	Shiva Mandir	175	82	3	-	260	3	0.012
9	Shivasakti	50	55	25	-	130	25	0.192
9	Tribeni	25	15	17	-	57	17	0.298
9	Tripureswor	277	187	23	-	487	23	0.047

10	Aankha Hospital	325	39	19	-	383	19	0.050
10	Anand Marg Ka	4	-	-	-	4	-	-
10	Bharatpur Height	28	-	-	-	28	-	-
10	Bhupu Sainik	457	91	18	-	566	18	0.032
10	Birendra	172	31	14	-	217	14	0.065
10	Birendra Campus	354	36	15	-	405	15	0.037
10	Chaubis Kothi Tole	209	3	-	-	212	-	-
10	Chitrasen	196	57	4	-	257	4	0.016
10	Degree Campus	112	28	16	-	156	16	0.103
10	Himali Kha	147	5	2	-	154	2	0.013
10	Himali Path Ka	273	44	17	2	336	19	0.057
10	Himchuli	-	7	-	-	7	-	-
10	Indreni Chowk	359	53	10	-	422	10	0.024
10	Janadesh	6	-	-	-	6	-	-
10	Janapath	282	24	22	-	328	22	0.067
10	Jyoti Nagar	152	3	-	-	155	-	-
10	Kalika Mandir Chowk	191	41	5	-	237	5	0.021
10	Kalika Path	407	38	21	-	466	21	0.045
10	Milan	323	43	14	-	380	14	0.037
10	Nava Samrat	-	-	-	-	-	-	-
10	Parawangi Ka	311	42	6	-	359	6	0.017
10	Parawangi Kha	773	141	17	-	931	17	0.018
10	Parijat	-	4	-	-	4	-	-
10	Pragati Path	421	94	-	-	515	-	-
10	Prithvi	296	85	13	-	394	13	0.033

10	Prithvi Ka	26	12	-	-	38	-	-
10	Ramaila	4	-	-	3	7	3	0.429
10	Ramailo	198	32	11	-	241	11	0.046
10	Sapta Gandaki Chowk	417	110	37	-	564	37	0.066
10	Satsang	87	-	-	-	87	-	-
10	Shankar Chowk	621	24	25	-	670	25	0.037
10	Shiva Mandir	202	85	6	-	293	6	0.020
10	Sital	183	49	5	-	237	5	0.021
10	Syauli Bazaar	715	77	5	-	797	5	0.006
10	Tamang	277	121	15	-	413	15	0.036
11	Barpipal	72	59	19	-	150	19	0.127
11	Basechi Bazzar	542	277	122	3	944	125	0.132
11	Bashantpur (Sahasi Tole)	499	281	91	-	871	91	0.104
11	Chimkeshwori	103	216	86	4	409	90	0.220
11	Chisapani	60	45	6	1	112	7	0.063
11	Dipjyoti	173	47	16	-	236	16	0.068
11	Ganeshsthan	318	1,071	969	4	2,362	973	0.412
11	Gorkhali	154	33	22	-	209	22	0.105
11	Himchuli	107	63	14	-	184	14	0.076
11	Jagriti	37	11	21	-	69	21	0.304
11	Jaldevi	9	39	42	-	90	42	0.467
11	Jaldevi Mai	15	63	99	-	177	99	0.559
11	Janadesh	109	11	4	-	124	4	0.032
11	Kailasheshwor	26	105	58	-	189	58	0.307
11	Kamala Devi Tole	31	144	124	4	303	128	0.422

11	Kamana	96	43	15	2	156	17	0.109
11	Lama	7	187	113	-	307	113	0.368
11	Manpure	37	68	50	-	155	50	0.323
11	Mukti Nagar Chhetra	318	124	31	-	473	31	0.066
11	Namuna	84	118	53	-	255	53	0.208
11	Naurange	215	212	49	-	476	49	0.103
11	Nava Jeevan	18	176	188	10	392	198	0.505
11	Naya Kiran	260	90	22	-	372	22	0.059
11	Nilgiri	85	23	3	-	111	3	0.027
11	Parijat	324	41	-	-	365	-	-
11	Pokhari Chowk	349	105	18	-	472	18	0.038
11	Pragati (Anand Bazaar)	99	100	3	-	202	3	0.015
11	Pragati Path	231	111	17	-	359	17	0.047
11	Prashiddha (Jitman)	153	71	37	-	261	37	0.142
11	Salleri	209	109	17	-	335	17	0.051
11	Sarosawti Tole	47	206	83	-	336	83	0.247
11	Shanti	286	115	21	-	422	21	0.050
11	Shanti Marg	115	130	84	3	332	87	0.262
11	Siddhartha Nagar	125	143	125	6	399	131	0.328
11	Subhakamana	74	140	80	-	294	80	0.272
11	Unnatishil	121	292	296	3	712	299	0.420
12	Aastha	570	107	23	-	700	23	0.033
12	Ananda Tole	336	125	27	-	488	27	0.055
12	Basant Chowk	209	31	13	-	253	13	0.051
12	Bashantpur (Sahasi Tole)	-	5	-	-	5	-	-

12	Central Town	101	3	-	-	104	-	-
12	Chetana	242	35	9	-	286	9	0.031
12	Dipendra	54	133	47	-	234	47	0.201
12	Ekata	323	40	1	-	364	1	0.003
12	Gharelu	162	15	3	-	180	3	0.017
12	Hamro	317	66	22	-	405	22	0.054
12	Jagriti Chowk Tole	245	49	31	-	325	31	0.095
12	Jilla Karyalaya	218	35	21	-	274	21	0.077
12	Kalika	98	49	32	-	179	32	0.179
12	Manju Shri	324	34	45	-	403	45	0.112
12	Narayan	343	23	12	4	382	16	0.042
12	Naurange	210	40	7	-	257	7	0.027
12	Nava Ratna	273	56	6	-	335	6	0.018
12	Nava Samrat	153	17	17	-	187	17	0.091
12	Pokhareli Tole	587	43	11	-	641	11	0.017
12	Purnima	115	78	16	-	209	16	0.077
12	Radha Krishna	297	38	12	-	347	12	0.035
12	Sahayogi	231	70	21	-	322	21	0.065
12	Suryodaye	55	-	-	-	55	-	-
13	Anandpur Ka	223	305	142	5	675	147	0.218
13	Araniko	110	53	51	-	214	51	0.238
13	DurgaTole	170	130	70	29	399	99	0.248
13	Ganesh Mandir	41	17	22	-	80	22	0.275
13	Gulaph	109	41	48	-	198	48	0.242
13	Jagriti	39	67	19	-	125	19	0.152

13	Kailash	92	163	58	-	313	58	0.185
13	Narayani	-	15	-	-	15	-	-
13	Ram Mandir	249	159	65	3	476	68	0.143
13	Rambag	29	50	18	-	97	18	0.186
13	Rose Garden	91	121	69	-	281	69	0.246
13	Sai Ram	95	93	14	4	206	18	0.087
13	Santi	62	46	34	10	152	44	0.289
13	Tribeni	-	-	-	-	-	-	-
14	Jagriti	85	46	21	7	159	28	0.176
14	Jagriti Tole	79	107	45	-	231	45	0.195
14	Kalyanpur	29	27	13	-	69	13	0.188
14	Kristi	159	87	72	37	355	109	0.307
14	Laligurash	77	161	105	29	372	134	0.360
14	Namuna	113	95	67	4	279	71	0.254
14	Narayani	144	172	117	4	437	121	0.277
14	Nava Jeevan Tole	37	9	11	-	57	11	0.193
14	Nava Kalayan	64	131	45	7	247	52	0.211
14	Om Shanti	88	186	126	2	402	128	0.318
14	Pratima	-	2	-	-	2	-	-
14	Rose Garden	33	11	18	4	66	22	0.333
14	Srijana	31	52	55	-	138	55	0.399
14	Tamang	149	153	38	-	340	38	0.112
14	Tribeni	75	115	44	4	238	48	0.202
14	Ujjawal	29	19	-	-	48	-	-
	Total	**53,440**	**21,649**	**10,249**	**312**	**85,650**	**10,561**	**0.123**