



Field Assessment Concerning Multiple Deprivations in Squatter Settlements and Slum Communities in the Kathmandu Valley, Nepal

by Adam Little



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Executive Summary

This study is the result of a field assessment conducted in slum communities and squatter settlements in the Kathmandu Valley, Nepal from May 7th to May 26th. The purpose of this study is to determine the most significant and urgent deprivations and vulnerabilities faced by the people who live in these neighbourhoods scattered throughout the region, and to find possible areas of intervention for NGOs, INGOs, and other development organizations. With these results, we hope that these organizations will be able to use their resources to discover the most effective methods for providing Kathmandu's slum dwellers and squatter settlement inhabitants with access to basic urban services, increasing access to financial and labour markets, and improving overall quality of life. The areas under assessment include: Household Profiles; Housing, Shelter and Safety; Sanitation and Water Infrastructure; Food Security and Urban Farming; Energy Infrastructure; Access to Capital and Financial Services; Economic Self-Reliance and Sustainability; and Environmental Sustainability. The quantitative and qualitative results are presented in the order in which they were asked to participants, except in cases where the grouping of thematic data was appropriate and relevant. In addition, figures from Lumanti's report "Status of Squatter Communities along the Bagmati River and its Tributaries in Kathmandu Valley" are given along with results from this assessment where relevant. The results are then analysed, and the implications of these results for development practice are articulated before prescriptive advice for intervention is given.

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Introduction

In the past decade, many areas of the world have experienced massive rates of rural to urban migration, resulting in mass urbanization as a consequence. As of 2007, more than half of the world's population is living within cities, and the current trend is expected to double by 2050 as the world's population and urbanization rates continue to grow exponentially (Angel et al, 2011, p.54). In Nepal, the city dweller population increased three fold in a ten year period from 1991 to 2001, and it is estimated that urban growth rates have escalated following this period (Thapa & Murayama, 2009, p.50). Due to rural immigration and rapid urbanization, many impoverished Nepalese citizens have been pushed into substandard living conditions in dense and overcrowded squatter settlements and slums throughout the country's cities (Acharya, 2010, p.180). Pull factors such as schooling, health care facilities and economic opportunities have made Kathmandu an attractive destination for rural to urban migration. However, over 35 percent of Kathmandu households live below the poverty line, and the inability of the Nepalese state and Kathmandu municipal government to keep pace with rapid rates of in-migration combined with escalated land prices and rents have forced Kathmandu's poor into slum and squatter settlements and sub-standard housing (Sengupta, 2006, p.106). The prevalence of slums is not only a problem in Kathmandu and South Asia, but the expansion of substandard housing is a phenomenon that is expanding throughout the developing world. Globally, approximately one out of every three city dwellers now lives in a slum (Sengupta, 2006, p.106). This figure totals over one billion people, or over one seventh of the world's entire population.

In the Kathmandu Valley, there is a fundamental difference between slums and squatter settlements. Although the inhabitants of both types of communities suffer from multiple deprivations, a basic lack of land rights for people who live in squatter settlements makes their living conditions much less secure. Out of 45 identified impoverished communities, 40 communities are considered "squatter settlements" because of a fundamental lack of land rights. The other five are considered "slums" because of their status as permanent indigenous settlements (Lumanti, 2008, p.12). Combined, these slums and squatter settlements are home to 13,243 people in 2,844 households, and approximately two-thirds to four-fifths of these communities are located on the polluted banks of Kathmandu's five major rivers: Bagmati, Bishnumati, Hanumante, Tukcha, and Dobikhola (Lumanti, 2012, p.12). While there have been some key improvements contributing to increased standards of living in these communities in recent years, thanks in part to efforts by the local non-governmental organizations such as Lumanti, international NGOs, the Kathmandu municipal government, and through self-mobilization, these communities continue to be confronted by widespread poverty, lack of basic services, and land insecurity.

The slums and squatter settlements located near the banks of the five major rivers in the Kathmandu Valley are exposed to high levels of pollution due to the poor state of the city's rivers (Lumanti, 2008, p.12). In 2008, there were approximately 2,205 households containing nearly 10,000 out of the total identified 13,243 population living along these banks (Lumanti, 2008, p.13). Although all five identified indigenous slum communities exist along the banks of these rivers, they contain a much smaller share of the population. Approximately 517 residents living in 109 households were living in these slum communities in 2008, and it is expected that this figure has increased in the past 4 years (Lumanti, 2008, p.16).

Several studies have shown that in recent years, populations in squatter settlements have increased more dramatically than slum populations, primarily because of high rates of inbound migration. Despite the fact that many slum and squatter residents travel abroad to seek economic opportunities, there are much higher rates of inbound migration that are increasing the populations of these impoverished neighbourhoods. Migration can be broken into two separate categories: internal migration and external migration. External migration occurs when people migrate into these communities from districts outside of the Kathmandu Valley, and internal migration occurs when people move from one settlement within the valley to another (Lumanti, 2008, p.37). It was estimated in 2008 that approximately 23 percent of households have migrated internally, and 77 percent have migrated externally from outside of the Valley. In 35 out of 45 identified slums and squatter settlements, population increases are due to higher rates of external migration than internal migration. (Lumanti, 2008, p.37). This distinction is important because it will have far reaching implications for developing and maintaining infrastructure in the communities that will house and support these inbound migrants.

This report begins by articulating the objective of the study, followed by a section outlining the methodology used in data collection. Findings are analysed for each section in the assessment, which include: Household Profiles; Housing, Shelter and Safety; Sanitation and Water Infrastructure; Food Security and Urban Farming; Energy Infrastructure; Access to Capital and Financial Services; Economic Self-Reliance and Sustainability; and Environmental Sustainability. The quantitative and qualitative results are presented in the order in which they were asked to participants, except in cases where the grouping of thematic data was appropriate and relevant. The results are then analysed in the discussion section, and the implications of these results for development practice are articulated before prescriptive advice for intervention is given. Finally, the conclusion will briefly summarize the report and its implications for future development.

Objective

The primary objective of this study is to examine the key issues relevant for the urban poor, slum and squatter communities of Kathmandu Valley based on primary research findings. The findings of this study could be used to inform possible areas of intervention to improve the overall quality of life within these communities. The study was designed to compliment existing research and findings to be shared with key actors working on urban slum and squatter issues in Kathmandu.

A three-week on-site assessment was carried out through individual interviews with both slum and squatter dwellers in Kathmandu and Lalitpur cities in the Kathmandu Valley. Areas of the assessment can be categorized into two main groupings: (1) Access to basic urban services, including issues concerning safe and adequate shelter, water and sanitation infrastructure, food security, and energy infrastructure; and (2) Issues involving livelihoods and opportunities, such as employment opportunities, access to capital and financial services, economic self-reliance, and environmental sustainability.

Literature Review

Consequences of Migration and Urbanization in Kathmandu

According to the Human Development Index, Nepal is one of the least developed countries in the world (Pyaiuryal, 2010, p.20). Nepal has the lowest per capita income in all of South Asia, and the second lowest per capita wealth in the world (Pyaiuryal, 2010, p.20). Nepal is also predominantly rural in composition, with over 85 percent of the population living in rural areas. Nepal is also very uneducated, as less than 40 percent of the national population was literate in 2005 (Pradhan et al, 2005, p.277). The capital and main urban centre of Nepal, Kathmandu, is the largest metropolitan region in the country when combined with three nearby municipalities: Kiritpur, Madhyapur Thimi and Bhaktapur (Thapa et al, 2008, pp.45-46). Kathmandu City is comprised of “two densely populated urban centres,” namely, ‘Kathmandu Metropolitan City’ and ‘Lalitpur Metropolitan City’ (Thapa et al, 2008, p.45). Although they are separate in both political and administrative arenas, the two cities will hereby be referred to as ‘Kathmandu’ (unless otherwise noted) because of the fact that they have grown together and have no significant geographical or sociocultural boundaries (Thapa et al, 2008, p.46). When combined, Kathmandu and Lalitpur had a population of over 834,837 people in 2001 spread over 65 square kilometres, although current population estimates are much higher (Thapa et al, 2008, p.46).

Even though increasing rates of urbanization have been documented all over the developing world, Nepal has one of the highest urbanization rates in Asia, which has been gaining momentum since the 1970s (Thapa et al, 2008, p.45). 42 new urban centres were developed from 1971 to 2001, and the urban population of the country has increased eightfold from 400,000 to 3.2 million in this same period (Thapa et al, 2008, p.45). Theoretically, urbanization can be attributed to either net in-migration, natural growth of the population, urban expansion due to structural changes, or any combination of these three factors (Tiwari, 2008, p.80). In Kathmandu, high rates of in-migration from rural to urban areas are the primary cause of increased urbanization. In previous years, many rural to urban migrants would eventually return to their place of origin after working in urban centres for a period of time. Recently, this trend has changed, and higher proportions of migrants are now settling permanently into Nepal’s cities (Tiwari, 2008, p.98).

In the past 20 years, Kathmandu has ranked among South Asia’s fastest growing cities with a yearly urban population growth rate ranging between 6 percent and 7 percent (Rademacher, 2009, p.516). Even though the first attempt to establish an effective urban development agency in Nepal dated back to 1935, the real implementation of urban development policies truly began in the 1960s (Thapa et al, 2008, p.48). Urban development expanded greatly in the late 1960s to 1970s through the establishment of institutions and the implementation of various laws, acts, development projects, and programs. However, the impact of failed efforts to address the Kathmandu’s problems with adequate long-term solutions can be seen all throughout the city today (Rademacher, 2009, p.516). Rajesh Thapa argues, “Traffic congestion, lack of drinking water and unplanned growth eventually degraded Kathmandu’s urban environment, threatened health and quality of life, adversely affected tourism prospects and reduced related employment opportunities” (Thapa et al, 2008, p.48). Kathmandu is a very densely populated city with an estimated 985 people per square

kilometre, and increasing rates of migration into the city is putting a massive strain on already limited resources and infrastructure (Thapa et al, 2008, p.46).

Due to poor planning and the inability of the municipal government to cope with expanding urban problems, the city suffers from major setbacks in providing urban services. These issues must be overcome in order for Kathmandu to become a successful and developed modern city. Generally speaking, the major problems Kathmandu faces city-wide include issues related to the water supply, housing, economic opportunity, sanitation and environmental degradation (Thapa et al, 2008, p.52). Kathmandu invariably suffers from a shortage of water that is fit for human consumption. The drinking water supply varies in intermittent patterns of supply through piped water infrastructure that only covers “a small portion of urban residents” (Thapa et al, 2008, p.52). Common problems with the drinking water supply include chronic shortages, inadequate quantities, contamination due to inadequate sewerage, and water loss due to inferior infrastructure and illegal connections to the supply (Thapa et al, 2008, p.53). Up to one third of the city’s population completely lacks access to safe drinking water as a consequence. In rural areas, studies have shown that as many as “one-third of deaths of children below the age of five in the rural regions of Nepal were due to water borne diseases such as cholera, typhoid fever, dysentery and gastro-enteritis” (Pradhan et al., 2005, pp.277). Despite these findings, the government has not put much emphasis on the link between health and water in policy measures (Pradhan et al., 2005, pp.277).

Environmental problems have proliferated throughout Kathmandu because of high rates of population growth throughout the valley combined with the failure of the municipal government to increase the supply of infrastructure and urban services equal with increasing demand (Thapa et al, 2008, p.54). Air pollution, water pollution, and the amount of human and solid waste have become major issues that the municipal government has been unable to deal with effectively (Thapa et al, 2008, p.54). Insufficient and inadequate sewerage and waste collection and disposal services exacerbate these problems tremendously. Consequently, the condition of the Bagmati river and its tributaries are so poor that they support almost no aquatic life (Thapa et al, 2008, p.54). The disastrous state of the Kathmandu Valley’s rivers can be attributed to four major causes: human encroachment on the banks of rivers; the untreated discharge of the city’s sewage into the river system; high rates of dumping solid waste into the rivers and its banks; and sand mining practices in the river and its banks. In addition, ground water is contaminated “due to seepage from pits and septic tanks, and open defecation” (Thapa et al, 2008, p.55).

Poor management of municipal solid waste has caused serious environmental and health hazards in Kathmandu (Alam et al, 2008, p.1088). Currently, the municipal government is unable to handle approximately half of the solid waste produced daily (Alam et al, 2008, p.1088). This is problematic because solid waste dumped in the streets and other public areas pose serious health risks to inner city inhabitants (Alam et al, 2008, p.1088). In addition, improper waste storage in uncontrolled dumping sites could potentially contaminate water supplies, which is often the case in the Kathmandu Valley (Alam et al., 2008, p.1088). Concerning the severity of the solid waste management problems in Kathmandu, Alam et al. stated, “Kathmandu has faced great challenges in solid waste management including not only the collection, transfer, and final disposal of waste, but also a lack of public awareness of the solid waste system, haphazard urbanization, the introduction of environmentally unfriendly materials, and changing consumer consumption patterns” (Alam et al, 2008, p.1088). Solid waste also comes into direct contact with the Bagmati River due to a landfill in

close proximity to its banks which lacks proper lining and treatment of leachate (Alam et al, 2008, p.1088). Consequentially, improper handling of solid waste has resulted in death for both animals and humans through the contamination of both crops and water supplies (Alam et al, 2008, p.1096).

Although environmental problems require urgent attention in Kathmandu, reforms have historically negatively impacted the regional economy. In the past decade, the total number of industries in Kathmandu has been reduced by 37 percent or more, which has dramatically increased unemployment rates (Thapa et al, 2008, p.49). One explanation for this decline is the municipal government's relocation of many polluting manufacturing industries in the city to areas outside of the urban centre, combined with strict controls on the establishment of new industries within city limits (Thapa et al, 2008, p.49). Currently, 41 percent of Kathmandu's population are considered "economically active" and 44 percent of all households are "involved in agriculture and non-agricultural economic activities" (Thapa et al, 2008, p.49). 35 percent of Kathmandu's households are employed by small scale non-agricultural economic activities which have been greatly affected by new environmental controls (Thapa et al, 2008, p.50). Despite these problems, GDP per capita remains much higher in Kathmandu than in the country's other regions, which keeps the city an attractive prospect for potential migrants and industries (Thapa et al, 2008, p.51).

Nepal's Progress and the third Nepal Living Standard Survey

In Nepal, the seven year period from 2003 to 2010 was one in which "Nepal struggled with political uncertainty, deteriorating economic progress, reduction in the level of capital expenditure, fiscal indiscipline and corruption and excessive load shedding, among other issues" (Dhungel, 2011, p.1). However, despite these multiple systemic problems, the Nepali government has reported significant social and economic progress in this same period. In 2010, Nepal's Central Bureau of Statistics conducted the third Nepal Living Standard Survey which assessed trends of economic conditions and standards of living for the entire country. Released in 2011, the third NLSS claims that there has been significant progress in the past 7 years in many social sectors, especially in the areas of health and education, and in many other areas which would make Nepal a "star performer of the MDGs" (Khanal, 2011, p.1). It also claimed, "Development indicators related to poverty reduction have improved over the years which reduce poverty levels from 31.5 percent in 2003/4 to 13 percent in 2012" (Dhungel, 2011, p.1). This survey also reported an extremely impressive 13.7 percent annual growth rate over the seven year period, a rate which would place it among the most rapidly growing counties in the world.

Concerning poverty reduction, the NLSS claimed that home owning households have decreased from 91.6 percent in 2003/4 to 89.7 percent in 2010, with a modest increase in house renting from 5.4 to 7.8 percent in the same period (Dhungel, 2011, p.1). The report also claimed that households with access to electricity in the country have dramatically increased from 37.2 percent to 69.9 percent, and that access to drinking water also increased from 81.2 percent to 83 percent (Dhungel, 2011, p.1). In addition, it was reported that remittances received by households during this period have also increased from 31.9 percent to 55.8 percent, a total amount which has increased from 46 billion rupees per annum to 310 billion rupees per annum. Also, this survey claimed that aggregate GDP per capita in Nepal has increased by an average 18.3 percent per year,

growing from 80,111 rupees per year in 2003 to 202,372 rupees per year in 2010 (Dhungel, 2011, p.1).

The problem with these statistics is that they are completely unreliable. Not only do they contradict the major political and economic problems the country faced during the period under evaluation, but the current Nepali government also has an incentive to claim conditions have improved, namely, consolidation of power during politically tempestuous times. Although the latter point is arguable, the fact that these statistics contradict economic trends during this period is undeniable. Dilli Khanal claimed, "Cross checks on the compatibility among aggregate numbers of poverty linked variables reveal that there are doubts on the magnitude of poverty reduction that would have taken place during the last seven years, as depicted by the recent NLSS results" (Khanal, 2011, p.1). He also claims that the results of the survey have not been taken seriously by academics, civil society groups, and development practitioners due to the un-believability of this report (Khanal, 2011, p.1). For example, widespread load shedding and power outages in the country have caused many important industries in the industrial corridor to shut down, resulting in a sharp decline in industrial output and employment in the country (Dhungel, 2011, p.1). It is unclear how this economic disaster contributes to claims of massive economic growth and declines in the poverty rate.

In addition, deprivation based indices estimate the national poverty rate at 65 percent for Nepal in 2010 (Khanal, 2011, p.1). This figure stands in stark contrast to the Central Bureau of Statistics' claim of a current country-wide poverty rate of 13 percent. If the \$1.25 USD approached is used as a threshold for measuring absolute poverty rates in the country, the poverty rate would currently stand at 55 percent (Khanal, 2011, p.1). These figures correspond more closely to the 48.6 percent of households that reported inadequate levels of household income in the same report (Khanal, 2011, p.1). The third NLSS also claims that a 4.4 fold increase in remittances have been one of the primary contributors to poverty reduction in the country, but there is a large gap in the data between increased per capita remittances received and per capita consumption. Also, food prices have risen by 1.8 times in this period, and more than doubled for pulse and vegetables. These factors do not help to explain an 18 percent reduction in the country's poverty rate. Because of these inconsistencies and farfetched claims of Nepal's Central Bureau of Statistics, it is essential for independent surveys and assessments to be conducted in order to understand the true state of poverty and economic progress in the country.

Status of Slums and Squatter Settlements

One of the primary features of urban growth in Kathmandu is the growth and proliferation of squatter settlements throughout the city (Archaya, 2010, p.183). In 2003, UN-HABITAT's report *Slums of the World* ranked Nepal fourth in a list of countries with the highest percentage of the population living in slums or squatter settlements, behind Ethiopia, Chad and Afghanistan (Rademacher, 2009, p.516). In Kathmandu, the growth and proliferation of slums and squatter settlements can be attributed to an influx of migrants, rapid urbanization, persistent poverty, and high costs associated with housing and land development (Shreshtha, 2010, p.85). The failure of the

municipal government to deal with urban development issues perpetuates population growth rates in slums and settlements throughout the Valley.

Although no official definition exists for “slums” and “squatter settlements” in Nepal, the general consensus is that slums are characterized by a lack of essential urban services, and squatter settlements are areas that have encroached on public land and lack fundamental land rights (Thapa et al, 2008, p.55). Out of 45 identified impoverished communities, 40 communities are considered “squatter settlements” because of a fundamental lack of land rights. The other five are considered “slums” because of their status as permanent indigenous settlements (Lumanti, 2008, p12). The United Nation’s UN-HABITAT has defined slums as, “Run-down areas of a city characterized by substandard housing and squalor and lacking in tenure security” (Archaya, 2010, p.185). However, in Kathmandu, slum dwellers do have high rates of tenure security through title ownership. Lumanti has defined squatter settlements as, “Communities where people settled on land without any legal right to be there, neither as tenants or owners” (Archaya, 2010, p.186). Combined, these slums and squatter settlements are home to 13,243 people in 2,844 households. In 2008, approximately 81 percent of these communities are located on the polluted banks of Kathmandu’s five major rivers: Bagmati, Bishnumati, Hanumante, Tukcha, and Dobikhola (Lumanti, 2012, p.12). High end estimates suggest that there could be as many as 63 settlements today (Sengupta, 2006, p.110).

Location of Squatter Settlement	Number of Settlements	Total Population	Male	Female	Total Household	Average Household size
Bagmati	11	3,903	2,025	1,851	863	4.5
Bishnumati	5	1,564	768	796	306	5.1
Hanumante	1	2,422	1,290	1,132	589	4.1
Dhobikhola	5	1,247	653	594	271	4.6
Tukucha	2	843	459	384	176	4.8
Other location	16	2,747	1,390	1,357	530	5.2
Total:	40	12,726	6,612	6,114	2,735	4.7

Table 1: Population and Number of Households by Location (Lumanti, 2008, p.14)

The slums and squatter settlements located near the banks of one of the five major rivers in the Kathmandu Valley are exposed to high levels of pollution due to the horrible state of the city’s

rivers (Lumanti, 2008, p.12). In 2008, there were approximately 2,205 households containing nearly 10,000 out of the total identified 13,243 population living along these banks (Lumanti, 2008, p.13). Although all five identified indigenous slum communities exist along the banks of these rivers, they contain a much smaller share of the population. Approximately 517 residents living in 109 households were living in these slum communities in 2008, and it is expected that this figure has increased in the past 4 years (Lumanti, 2008, p.16).

Nearby river	Name of Squatter Settlement
Bagmati	Shanti Nagar, Bijay Nagar, Jagrit Nagar, Gairigaun, Chandani Tole, Pragati Tole, Kalimati Dole, Kimal Phant, Bansighat, Kuriyagaun, Shankhamul
Bishnumati	<p><u>Squatter Settlements</u> Dhikure Choki, Kumaristhan Buddhajyoti Marga, Balaju Jagriti Tole, Sangam Tole, Ranibari</p> <p><u>Slums</u> Inyatole, Ramghat, Hyumat, Dhaukhel, Bhim Mukteshowr</p>
Hanumante	<u>Manohara Bhaktapur</u>
Dhobikhola	Shanti Binayak, Devi Nagar, Bishal Nagar, Kalopul, Pathivara
Tukucha	Narayantole Maharajjung, Khadipakha Maharajunj,
Other location	Palkapot, Anam Nagar, Maijubahal, Kamarigal, Radhakrishna Chowk, Mulpani, Kapan Dhungen, Subigaun, Ramhiti, Mahankal, Dhumbarahi Sokedhara, Mandikhatar, Goldutar

Table 2: Name of River and Nearby Slums and Squatter Settlement (Lumanti, 2008, p.14)

Several studies have shown that the population has increased more dramatically in squatter settlements than slums in the past several years because of high rates of inbound migration. Despite the fact that many slum and squatter residents travel abroad to seek economic opportunities, there are much higher rates of inbound migration that are increasing the populations of these impoverished neighbourhoods. The migrant population in Nepal is relatively unskilled and uneducated compared to migrant populations in many other developing countries (Tiwari, 2008, p.98). Migration can be broken into two separate categories: internal migration and external migration. In this case study, external migration occurs when people migrate into slum and squatter communities within Kathmandu from districts outside of the Kathmandu Valley, and internal migration occurs when people move into a settlement from areas within the valley (Lumanti, 2008, p.37). It was estimated in 2008 that approximately 23 percent of households have migrated internally, and 77 percent have migrated externally from outside of the Valley. In 35 out of 45 identified slums and squatter settlements, population increases are due to higher rates of external migration than internal migration. (Lumanti, 2008, p.37). This distinction is important because it will

have far reaching implications for developing and maintaining infrastructure in the communities that will shelter and support these inbound migrants. Many studies suggest that migrants from rural to urban areas are much more likely to settle low-income communities upon arrival in urban areas (Archaya, 2010, p.179).

Bala Archaya defined poverty as, "A condition in which a person is lacking in the basic needs like food, clothes, shelter, and safe drinking water. It is the condition of excluding access to basic human resources like education, health, freedom and opportunities. Similarly, people feel alone, powerless, helpless and socially underprivileged in psychological pain" (Archaya, 2010, p.182). All of these conditions of poverty can be witnessed in Kathmandu's many slums and squatter settlements. Slums and squatter settlements are both characterized as lacking minimum necessary levels of physical and social requirements for human habitation. These include inadequate housing, poor sanitary conditions, high levels of human concentration, and a lack of economic and social opportunities (Archaya, 2010, p.179). In Kathmandu, many slums and squatter settlements will have a more permanent structure than many similar impoverished areas throughout the world (Archaya, 2010, p.186). Hosing structures in squatter settlements have been changing from temporary to semi-permanent residencies in recent years, and the percentage between these two types of homes is no approximately fifty-fifty (Lumanti, 2008, p.42). Many communities may be over 20 years old and contain permanent houses, schools, hospitals, businesses, and public offices. However, these communities face many problems because of a lack of land rights and security. Slums also face many similar problems to squatter settlements, including persistent poverty, lower than average income, poor living conditions, and poor facilities, all of which contribute to a lower quality of life. However, the disadvantaged people in these communities face relatively fewer problems than those who inhabit squatter settlements because of higher rates of home ownership and land security (Archaya, 2010, p.186). People who inhabit these communities are often involved in the informal sector of the economy due to a lack of education, poor health, and inadequate skills compared to average city dwellers (Archaya, 2010, p.187). Sociologists argue that there is more to slum and squatter life than physical and social deprivation. Bala Archaya argues, "Sociologically, it is a way of life, a subculture with a set of norms and values, which is reflected in poor sanitation and health practices, deviant behaviour and characteristics, attributes of apathy and social isolation" (Archaya, 2010, p.185). Per capita income in these impoverished areas is below the \$1 USD per day absolute poverty threshold, and income is lowest among communities along the Bagmati River at 3861 rupees. Communities in other areas have only slightly higher levels of income (Lumanti, 2008, p.42).

Studies point out that most slum and squatter inhabitants live in these areas out of necessity, rather than out of choice (Sengupta, 2006, p.107). NGOs in Kathmandu have brought the issues concerning slums and squatter settlements to the media, leading to increasing awareness in the past decade (Sengupta, 2006, p.105). The government response to squatters has been varied and often contradictory. Their approach has been a mixture of assisting in increasing the quality of life in these areas, occasionally demolishing settlements, and most often neglecting these communities outright (Sengupta, 2006, p.105-106). The squatter population has increased dramatically due to a policy vacuum, as estimates suggest that squatter populations have increased by as much as 400 fold since 1985 (Sengupta, 2006, p.110). There is a general negative perception of squatter settlements in Kathmandu, as many residents view these inhabitants as "putting immense pressure on the economic and environmental structure of the city" (Sengupta, 2006, p.106). Social exclusion of those

who inhabit low-income neighbourhoods contributes to persistent levels of poverty (Archaya, 2010, p.187). However, slum dwellers and squatter settlement inhabitants persevere despite negative social perceptions, a lack of sound policy, and the inability of the government to sustainably manage these sensitive areas (Sengupta, 2006, p.106).

Methodology

Prior to the assessment, secondary research was conducted to determine gaps in the current research. Individual interviews with slum and squatter dwellers were chosen as the most appropriate methodology in order to cover key areas of the focus of the study while leaving questions open ended to initiate further discussion. The questions included both closed and open-ended questions resulting in a mix of quantitative and qualitative data. A mapping exercise was used to locate the communities in coordination with Lumanti – a local NGO that works on urban poverty issues in Nepal. Based on the mapping exercise, a sample size of 36 interviews with members of 36 different households was determined. The scope of the questions covered three primary areas of inquiry: 1) General Profile / Background, 2) Living Conditions and Basic Services, and 3) Economic Self Reliance. These sections were then divided into several subsections that included quality of shelter and safety; water and sanitation infrastructure; food security and urban farming; energy infrastructure; access to capital and financial services; economic self-reliance and sustainability; and environmental sustainability.

Sampling

Sampling criteria were selected to cover a range of neighbourhoods, including slum neighbourhoods, squatter settlements, communities which reside in close proximity to a river, and communities which do not. All 45 slums and squatter settlement locations were placed on a map of Kathmandu Valley in order to ensure a good geographic spread of communities covered by the assessment. Random sampling was then used to select the households. Sampling quotas were used to ensure a range of interviewees to include both genders, and youth from each gender. Youth is categorized as a person between the ages of 18 and 25. It was essential to establish these analytic clusters before conducting the field assessment so that it would be possible to collect differences in deprivations faced by different types of communities (slum, squatter, river and non-river communities), and from the perspectives of women, men and youth.

Location	District	River/Non-river	Male	Female	Youth		Total HHs
					Male	Female	
Slums							
BhimMukteshowr	KTM	River (Bishnumati)	1	2	1	0	4
Hyumat	KTM	River (Bishnumati)	1	2	0	1	4
Kumbheshowr	Lalitpur	Non-river	1	2	0	1	4
Lohal	Lalitpur	Non-river	1	2	0	1	4
Inaytole	KTM	River (Bishnumati)	1	2	0	1	4
Squatter Settlements							
Khadipakha	KTM	Non-river	2	1	0	1	4
Pathivara	KTM	River (Dhobikhola)	1	2	1	0	4
Mandikhatar	KTM	Non-river	2	1	1	0	4
Sankhamul	KTM	River (Bagmati)	2	1	1	0	4
Total:			12	15	4	5	36

Table 3: Assessment Sampling Table

In total, 36 households in 9 communities were interviewed for this study, averaging 4 interviews per community. Out of these communities, 5 fall under the “slum” category (Bhim Mukteshowr, Hymat, Kumbheshowr, Lohal and Inaytole) and 4 fall under the “squatter settlement” category (Khadipakha, Pathivara, Mandikhatar and Sankhamul). Within these categories, 3 neighbourhoods are within close proximity to the Bishnumati River, one was located next to the Dhobikhola River, one next to the Bagmati River, and 4 were non-river communities. Within these communities, a total of 16 male and 20 females were interviewed, including 4 males and 5 females between the ages of 18 and 25. We believe that the range and mix of these criteria represents a solid sample of the population.

Challenges and Limitations

At the time of the assessment, political instability surrounding the drafting of the Nepalese constitution resulted in a series of frequent, persistent and unpredictable strikes that severely hampered freedom of mobility in Kathmandu. This resulted in revising the sampling of households and sampling became less random, as we were restricted to visiting only those communities that were accessible during this turbulent period. However, the integrity of the sampling criteria was maintained through the established analytic clusters. The schedule for visiting slums and squatter neighbourhoods had to be revised almost daily in order to meet our goal of 36 total interviews.

Compounding this challenge, the destruction of the Thapathali squatter settlement during the first week of interviews resulted in a lack of trust and willingness from many neighbourhoods to participate in interviews out of fear that the information they provided might lead to their own

eviction and destruction of community. This resulted in delaying interviews until it was deemed feasible, in coordination with Lumanti and representatives of the communities, to commence visits and questioning.

Interviews were conducted during the normal working hours of 9 am to 5 pm on weekdays could skew the figures, as it is likely that the averages for people who are unemployed, retired or out of the labour force were interviewed compared to real averages. However, because most of the assessment concerned data relating to the household level, it is unlikely that the facts and figures presented in this report are significantly compromised as a reflection of reality. Finally, slum communities are overrepresented in this study due to problems with access to squatter settlements during this period. In order to correct this overrepresentation, separate data for slums and squatter settlements are given in the analysis in cases where there were significant divergences in percentages between these two types of communities. The appendices contain separate data for slums and squatter settlements for every area under investigation.

Findings

The following section contains the quantitative results of closed ended questions, and qualitative results of open ended questions. The results are listed by category and subcategory, and are displayed in the same order in which the questions were asked, except in cases where different groupings were relevant and appropriate to understanding the data.

Section 1: Household Profile

In aggregate, a total of 16 men and 20 women were interviewed with a mean age of 40.94 years. The “youth” group averaged an age of 20.89, while the “non-youth” group averaged at 47.62 years of age. Divided upon caste lines, 13.89 percent of respondents were Brahman / Chhetri, 47.22 percent were Janajati, 38.89 percent were Dalit, and 0 percent of all other castes were represented. Each household contained an average of 6.64 people, with an average of 1.27 children under the age of 15. Out of children who are old enough to be eligible for enrolment in school, 100 percent of boys and 100 percent of girls were reported to be actively attending school. Out of all households with children from 0 to 15, approximately 71.43 percent of these household have both parents residing in the house. Death and migration were the only reasons given for the absence of a parent, with 71% of households without a parent reporting death, and 29% reporting migration abroad. In total, 82.8 percent of adults over the age of 18 are literate to the extent where they are able to read a letter on their own. Households within squatter communities exhibited a lower literacy rate at 73.53 percent, than slum community households at 93.23 percent.

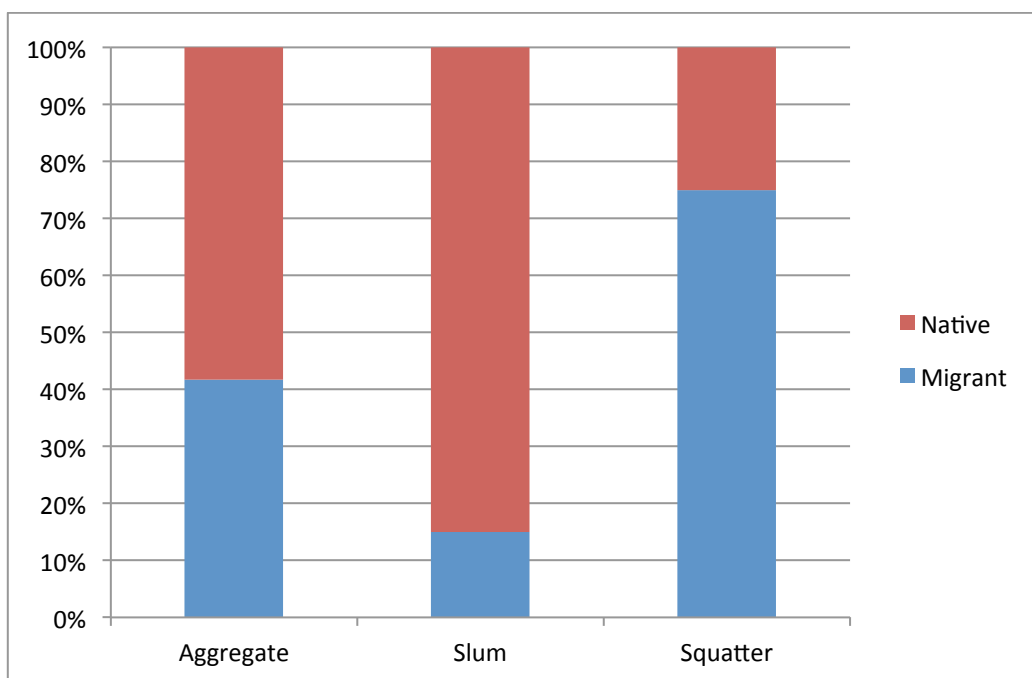


Figure 1: Comparative migrant percentages in Slums and Squatter Settlements.

On average, 58.33 percent of all interviewees are native to the Kathmandu Valley, with 85 percent in slum communities and 25 percent in squatter settlements, indicating much higher rates of migration into squatter settlements. 41.67 of all respondents are migrants from other regions within Nepal outside of the Kathmandu Valley, and 0 percent are migrants from outside of Nepal. Concerning migration, there is a large disparity between slums and squatter settlements, where 85 percent of respondents in slums are native to the Kathmandu Valley, while only 25 percent of those interviewed in squatter settlements were native. All non-Kathmandu native migrants interviewed were from regions within Nepal, and 0 percent interviewed were non-Nepali. For people who did migrate into the Kathmandu Valley, the average time living in Kathmandu is 29.73 years, which corresponds almost exactly to an average of 29.17 years living in slums or squatter settlements.



The Hyumat slum neighbourhood, a community on the banks of the Bishnumati River.

Section 2: Basic Urban Services

2.1: Housing, Shelter and Safety

All households within the survey averaged 4.89 rooms per household, a figure which did not differ greatly between slum, squatter, river, and non-river communities. These households contained an average of 2.94 bedrooms which accommodated an average of 2.32 people per bedroom. 55.56 percent of all households were reported to be primary cement bonded in their construction, a figure that varied greatly between river and non-river communities, which were

reported at 70 percent and 31.25 respectively. 22.22 percent of all households were reported to be primarily bonded by mud, again with a substantial difference between river (15 percent) and non-river communities (31.25 percent). 22.22 percent of all households were reported to be bonded by a mixture of cement and mud bonding, and 0 percent interviewed reported living in a home primarily constructed with wood or branches. The percentage of cement bonded homes did not vary considerably between slums and squatter settlements which both averaged around 55-56 percent, although homes in squatter settlements had a higher rate of being constructed with both cement and mud bonding at 31.25, compared to only 15 percent in slums. Also, slums had a higher rate of homes that were only bonded by mud at 30 percent, compared to 12.5 percent in squatter settlements. River communities had the highest rate of cement bonded homes at 70 percent, while non-river homes had the lowest rate at 37.5 percent. In addition, the majority of homes visited in squatter settlements had tin roofs, while homes in slums had much more sturdy roofs.

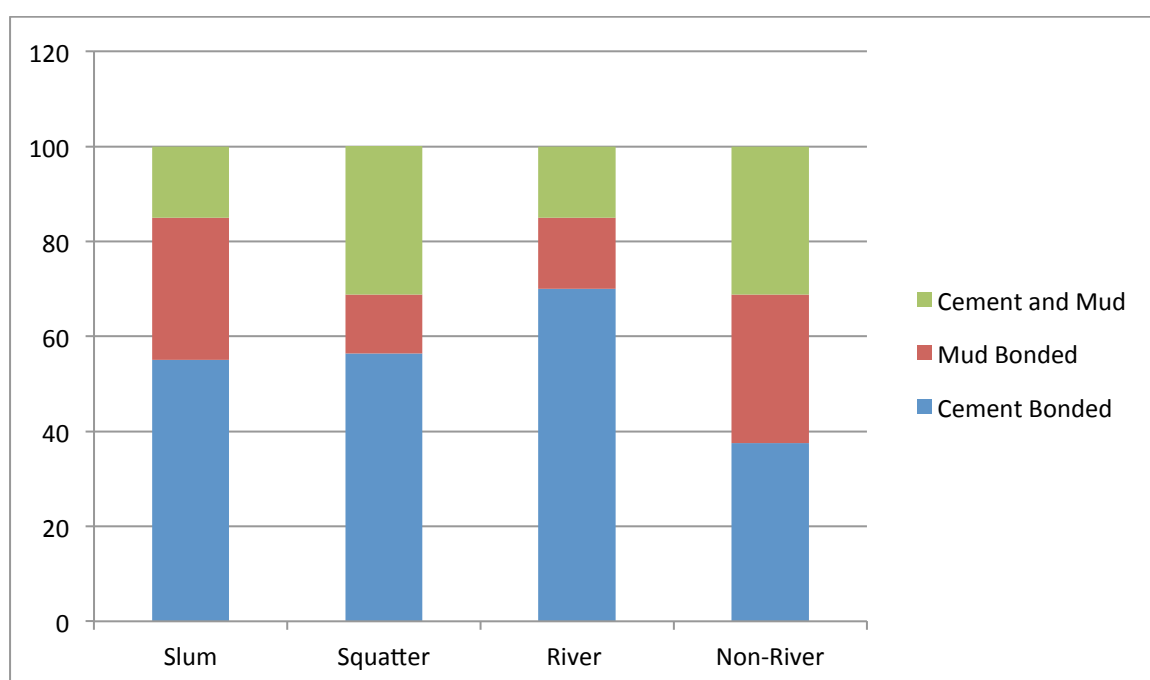


Figure 2: Comparative house construction bonding percentages.

All interviewees were asked, "On a scale of one to five, how often do you feel that you are in danger?" The scale ranged from 1, which represented "never" having feelings of endangerment and concerns for one's personal well-being, to 5, representing "always" having feelings of personal endangerment. Overall, all respondents averaged a score of 2.02, which represents "infrequently" feeling endangered. On average, men felt endangered slightly more often with a score of 2.13 compared to women's average score of 1.95. A squatter settlement resident explained why his neighbourhood has become safer when stating, "Many drug addicts died in this neighbourhood, and after that some senior brothers and we [the neighbourhood] established a club which worked to prevent illegal activities. People who came from outside of the neighbourhood were questioned, and suspicious people were handed over to the police." The endangerment score differed by more than an entire point between river and non-river communities, where river communities scoring 2.5, and non-river communities scoring 1.44. The reason for this difference is unknown. A mere 5.56 percent

of respondents reported being seriously injured while living in their communities, and none of the reasons given for their injuries indicated hazardous living conditions within their neighbourhoods.

Out of the 8.33 percent of respondents who reported being previously evicted, 100 percent of these people came from the Bhim Mukteshowr neighbourhood, and they all believe that they were evicted unfairly. 3 out of the 4 interviewees from the Bhim Mukteshowr neighbourhood reported being previously evicted and relocated to their current residence along the Bishnumati River. These residents claim to have been given land in compensation for their eviction (which is now Bhim Mukteshowr), but received no relocation assistance. Although members from this community were given compensation for moving, many other people have not been so fortunate. One squatter settlement resident gave what is claimed to be the general consensus concerning the matter of eviction and compensation. "People should not be moved away from their homes by force. They should be provided with alternatives if it is compulsory to move." A Bhim Mukteshowr resident who went through this relocation process explained, "When the government constructed the bridge, our house lied in the road, which is why we had to move to Bhim Mukteshowr. The government managed this for us. They provided us with land here, but we had to put effort for building a new house to live in ourselves. We don't even have 'lalpurja' (written proof of land ownership) of this house." Another resident of Bhim Mukteshowr stated, "We are facing some threats in this area. We were told that this is a slum neighborhood not very long ago, a fact which we learned from the newspaper 'Nepal Samachar Patra'. So we fear that we might have to leave this place. But this is not really a slum. We moved to this side of the road because of the advantages of living here, like jobs, cattle raising, and being close to the river." Residents within all communities visited during this assessment have also expressed fears of future eviction.

44.44 percent of all respondents are afraid of future eviction by the government, a figure which is much higher in squatter settlements at 62.5 percent because of a fundamental lack of land rights, compared to slum communities where 30 percent expressed fears of future eviction. There is an even larger difference in expressed fear between river and non-river communities, where 65 percent of interviewed river community residents expressed fears of eviction, while only 18.75 percent of respondents in non-river communities expressed the same fear. The higher rate of eviction fears in riverside communities can largely be explained by the government's plans to move people off of riverbanks in the Kathmandu Valley. This fear is exacerbated by the recent destruction of the Thapathali community, which existed on the banks of the Bagmati River. A riverside community member expressed a common concern, "We fear that we might have to move away from this place. We have faced problems from government two times before because we don't have land rights." However, people from all analytic clusters face the same fear of eviction to some extent, even slum dwellers who have the advantage of land rights compared to those who live in squatter settlements. One slum community member stated their concern, "We are afraid that we might have to move from here. We have rights that we should be able to defend, but then again, if people come here and use force, then we have no choice."

An astounding 94.44 percent of respondents claim that living conditions have improved since residing in their current neighbourhood, most of who claim that living conditions have improved quite dramatically. The main areas of improvement include road construction, home improvements and expansions, the development of drinking water facilities, the construction of health facilities, better sewage and drainage infrastructure, the development of community and

youth centres, the construction of toilets within the household, reduction in illicit activities, and major improvements in general sanitation. When asked who was responsible for these improvements, nearly all respondents gave credit to Lumanti, the municipal government, and community groups. A slum resident explained common improvements in their neighbourhood when stating, “There were many changes in the past. Houses are made of better materials now. Women are also engaged in work and small business now. Only one or two family members from this neighbourhood are living abroad for work, so economic conditions have improved.” A squatter settlement resident said that her quality of life has increased in many unexpected ways due to improvements in her neighbourhood. “[Before the improvements,] I didn’t know how to deal with strangers. I used to be shy. But I am open now and can share what I think. All credit goes to ‘Lumanti’.” However, many of these successes have not been easily accomplished. One slum resident expressed the frustration associated with neighbourhood improvements when explaining:

“We used to buy water from a tanker. Each house used to get 5 to 6 buckets of water. But it is very difficult to raise money from people in this community, so the tanker stopped supplying water. We attempted to build street lamps in this community, but people didn’t show any interest. We even went to the municipal ward office in hopes of receiving a donation, but they didn’t take our proposal seriously. No one is willing to step forward to donate even 20 or 30 rupees for buying a bulb.”

When participants were asked what they believe to be the worst thing about living in the slums or squatter settlements, 42.86 of all respondents claimed that there was nothing wrong with living in these communities, or claimed that it felt natural to live amongst substandard conditions. A few respondents in this group stated that their previous problems are now gone due to development within these communities. “There were many changes in the past. It was even hard to walk on the street due to all the garbage. But this has changed. It was also very frightening to walk at night because jackals used to come here. There were not as many houses back then. Just open land and garbage were everywhere,” stated one respondent. Another respondent claimed that most of the dimensions under assessment have improved since their family first started living in a slum community. “There have been many developments since the past. We used to live in small huts, but we have good houses now. There used to be no electricity, no road, and no toilet.” Now everyone in this neighborhood has access to these urban services.

Despite these positive responses, the majority of respondents who believe, or were willing to admit, that there were considerable problems within these communities gave varying answers. 25.7 percent of people said that the threat of eviction due to a lack of land rights was the worst thing about living in these communities, an answer given by 37.5 percent of squatter settlement inhabitants, as opposed to only 5 percent of slum dwellers. 14.29 percent of people claimed that the negative social perception or social stigma faced by people who live in these communities is the worst problem. Only 11.43 percent stated that pollution and sanitation is the worst thing about living in their communities. A common theme that came into discussion, especially amongst the youth, was the problem of illicit activities being conducted by both residents and outsiders. One resident expressed their frustration, “I don’t feel bad about living here, but people from outside of the community deal drugs here. Prostitutes also come here and destroy the good name of this place.” Other responses include the lack of economic opportunities, lack of education, and neglect of children.



Layers of homes in the Kadipakha squatter settlement.

2.2: Water and Sanitation Infrastructure

When respondents were asked how sanitary their living conditions are overall on a scale of 1 to 5, with 1 being “extremely unsanitary” and 5 being “extremely sanitary” the aggregated average score was 3.61. This score is located between 3, which represents a feeling of neutrality, and 4, which represents “sanitary.” Therefore, respondents overall have neutral to positive feelings about sanitation in their neighbourhoods. This average does not vary greatly between analytic clusters. Similarly, when respondents were asked how clean they *believe* their drinking water to be on a scale of 1 to 5, with 1 being “extremely unclean” and 5 being “extremely clean” the aggregated average score was 3.74, also indicating mostly neutral and positive feelings. On average, members of riverside communities believe their water is less clean with a score of 3.35, than riverside communities whose score averaged at 4, indicating “clean” drinking water. 20 percent of interviewees believe that their water is treated, with women scoring the lowest out of all the analytic clusters (11.76 percent), as many women stated that they didn’t know if their drinking water is treated or not. 72 percent of people interviewed claim to treat water themselves, with the river communities being the highest cluster at 100 percent. Most people who claimed to not treat or filter water themselves stated that it wasn’t necessary because their water comes from a natural source. The great majority of people who filter their water do so adequately with an installed filtration

system, while the minority use more questionable methods, such as exposing bottles of drinking water to sunlight, or running drinking water through a cloth. The majority of respondents filter their water because they are unsure of the cleanliness of their water at its source. "The water for drinking is not clean. We are provided with taps. The water is sent from Sundarijal. We don't know whether they treat the water there, so we filter the water before drinking," stated one respondent.

100 percent of respondents in all analytic clusters have access to a toilet which are all located inside the household or just outside of the household. No one claimed to use a communal latrine as their primary toilet. The average number of people per toilet averaged at 5.75 people per toilet, and there was no significant variation between the analytic clusters. 86.11 percent of households contained at least one non-flush toilet with connected sewerage, 8.33 percent had at least one flush toilet connected to sewerage and 5.56 had at least one flush toilet connected to a septic tank system. In every riverside community, the sewer pipes drained directly into the river without treatment. 100 percent of respondents claimed to have adequate privacy when using the toilet, and 100 percent claimed to wash their hands, all with soap and water, after defecation. Many interviewees claim to have once urinated and defecated into open spaces, but because of improvements in toilet facilities all throughout slums and squatter settlements in Kathmandu, 0 percent of interviewees still claim to still do so. However, because of inadequate sewer systems and the widespread practices of draining faecal matter into Kathmandu's many rivers, 47.22 percent of respondents believe that they are either sometimes or often exposed to human waste (excrement).

When respondents were asked how often they are exposed to solid waste (rubbish) on a scale of 1 to 5, with 1 being "never exposed" and 5 being "always" the aggregated average score was 2.14, a number which corresponds to infrequent exposure. 66.67 of respondents have access to an official dumping site, where their rubbish is collected regularly by municipal waste removal services on a regular basis. This figure diverges greatly between slum communities and squatter settlements, where 100 percent of people interviewed in slums claim to have access to an official dumping site, and only 25 percent of those who live in squatter settlements make the same claim. In addition, many people who have access to an official dumping site still claim to throw a majority of their garbage in the river or on the street because of unreliable collection services or far distances from such sites. One participant explained, "We don't have proper waste management facilities. We dispose of rubbish in the river. There are some rickshaws available that come to collect waste, but they only come every week, so they are of no use to us. There is a dumping site nearby, but we don't use it." Out of the 75 percent of respondents who don't have access to official dumping site, many take matters into their own hands by incinerating inorganic waste, and composting organic waste for the use of fertilizer. One respondent even claimed to burn garbage inside of his one room hut, where he and his family are exposed to the potentially toxic fumes. One squatter settlement explained the ingenuity of those without formal access to regular waste collection services when stating, "We incinerate inorganic waste and bury organic waste to make fertilizer. We can sell some plastics and paper as well. The metropolitan vehicles come if we are in serious need of it."

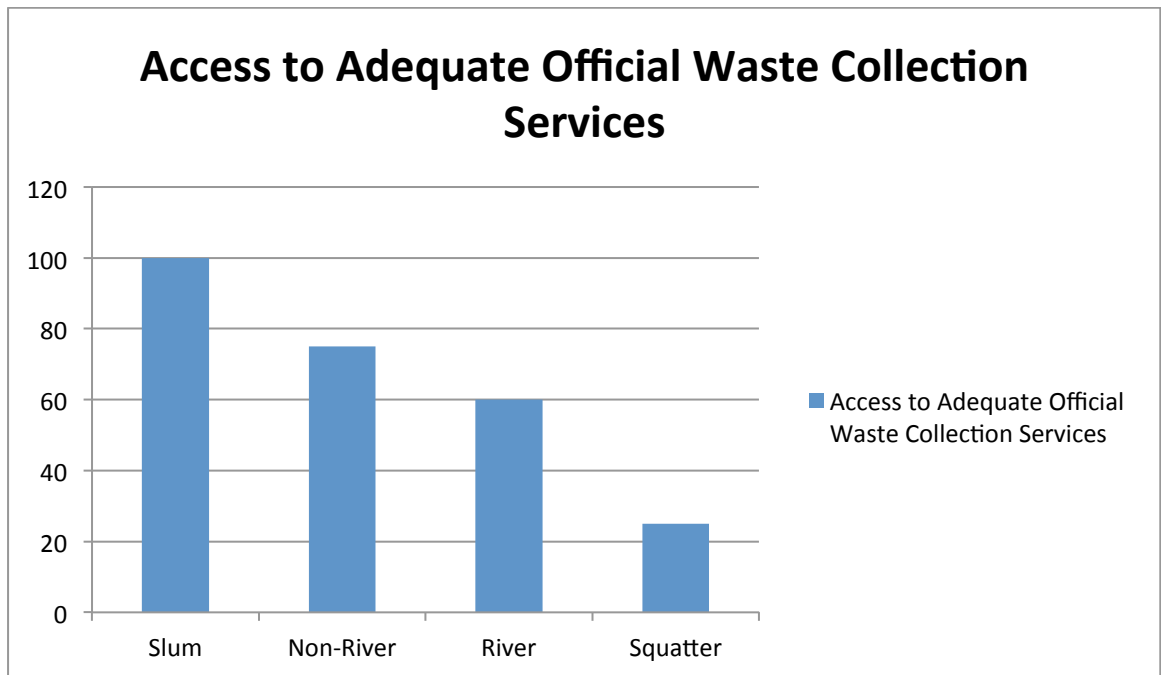


Figure 3: % Access to Adequate Official Waste Collection Services

16.66 percent of interviewees claim to have suffered from a serious illness, while most respondents claimed to have only suffered from minor routine illnesses. There is no statistical trend in types of illnesses suffered from this 16.66 percent. 100 percent of respondents claim to seek medical treatment when they are ill from either a government run hospital or a private clinic. 91.67 percent of all respondents believe they have adequate access to medical treatment, with women being the lowest analytic cluster at 85 percent.



The inside of a bone factory existing in the centre of the Khumbheshwor Slum neighbourhood in Lalitpur.

2.3: Food Security and Urban Farming

Out of all respondents, 100 percent believe that food is too expensive, and all 100 percent also believe that food has become more expensive in the last three years, many stating that it has become as much as 4 times more expensive. 13.89 percent of those interviewed grow their own food, the highest incidence being squatter communities at 25 percent. Most land used for cultivation is in close proximity to the household within the community, while one respondent claimed to own land on the outskirts of Lalitpur. Food is almost entirely grown for personal consumption as opposed to income generation, and seasonal vegetables and crops such as maize being the most popular options. Out of all participants who grow their own food, most claim to have “very little” land they have to utilize for cultivation. One respondent estimated his plot to be 15 by 15 feet. The most common tools used for cultivation are the spade, homemade organic fertilizer, and using one’s own hands. 25 percent of respondents raise animals for consumption, with the most popular options being chickens and ducks, both for their meat and eggs. A few respondents also claimed to raise goats, many of which can be seen wandering throughout these neighbourhoods.

11.11 percent of respondents claimed to not have enough money to purchase food over the past 7 days preceding the interview. Out of this group, most people use multiple adaptation strategies in order to survive during this period, with 100 percent claimed to have relied on less expensive food, 50 percent claimed to have borrowed food, 50 percent claimed to have limited portion sizes, and 50 percent claimed to have reduced their total number of meals. There is no significant difference between the analytic clusters for food shortages in this short period of time. However, 25 percent of respondents claimed to have not had enough money for food within the past six months, and there is a considerable divergence between slum communities and squatter settlements, where slums dwellers came in at 12.5 percent, and squatter inhabitants at 43.75 percent. During the past six months, 77.78 percent claim to have relied on less expensive food, 77.78 percent claimed to have borrowed food, 22.22 percent claimed to have limited portion sizes at meals, and 22.22 percent claimed to have reduced their total number of meals.

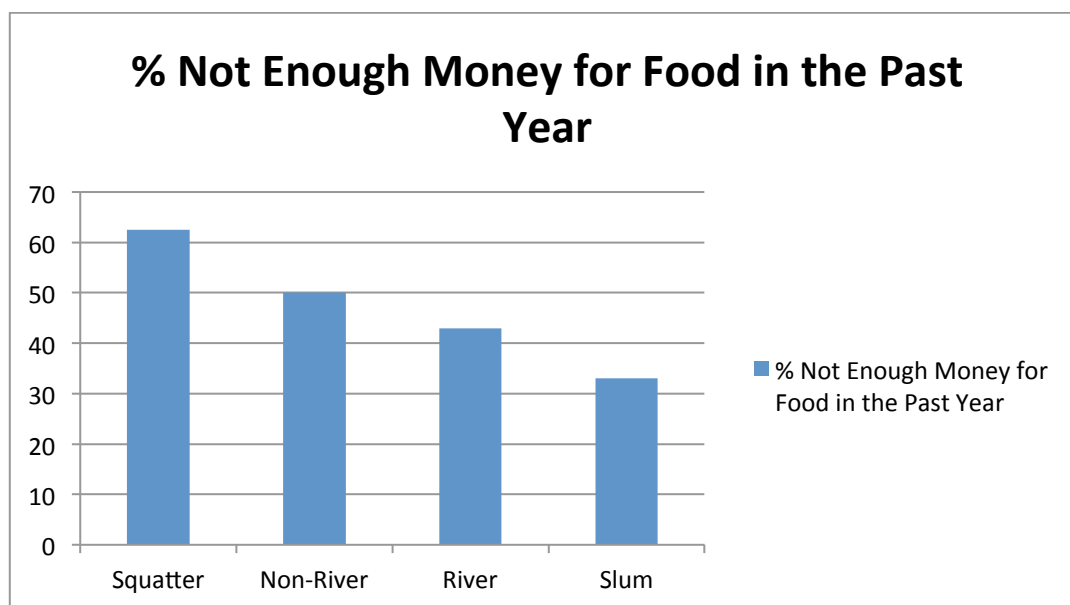


Figure 4: % Not Enough Money for Food in the Past Year

When asked if there have been times where there has not been enough money for food within the past year, 50 percent of all respondents claimed to have had this problem, with 33 percent of people in slum areas and 62.5 in squatter settlements. When asked about their adaptation strategies employed within the past year, 66.67 percent claimed to have relied on less expensive food, 80 percent claimed to have borrowed food, 20 percent claimed to have limited portion sizes at meals, and 20 percent claimed to have reduced their total number of meals. In addition, 22.22 percent of respondents without enough money for food in the past year claimed to have restricted consumption by adults in order for young children to eat an adequate amount of food. When asked why there was not enough money for food, one resident stated, "Food items are very expensive. It is very difficult to survive. Earning money is very hard." Many people had a difficult time quantifying the period of time in which they didn't have enough money for food, and many had trouble clearly articulating their adaptation strategies. However, one woman clarified the situation when stating, "These kinds of problems are the reality for all poor people." In addition, a few participants stated that it is more difficult to purchase adequate food during general strikes. One squatter settlement resident explained, "These strikes force us to get food available at the local market. We have to survive on whatever is available to us."



A goat resting in the Mandikhatar squatter settlement in Kathmandu.

2.4: Energy Infrastructure

100 percent of interviewees have electricity within their households from the electric grid with an average monthly cost of 416.98 rupees per month. 100 percent of respondents also prefer electrical lighting as their primary source of indoor lighting, which 100 percent claim to use for all general household purposes. 0 percent of those interviewed claim to not have sufficient money for indoor electricity, therefore all questions pertaining to their indoor lighting use behaviours were irrelevant. However, periods of blackouts due to daily load shedding are a problem for slum dwellers and squatter settlement inhabitants as it is for all residents in the Kathmandu Valley. 59.37 percent of respondents claim to use candles as their primary alternative source of indoor lighting during blackouts, while 25 percent use inverters, 18.75 percent use emergency lights, 6.25 percent use kerosene lamps, and 3.12 percent use backup generators.

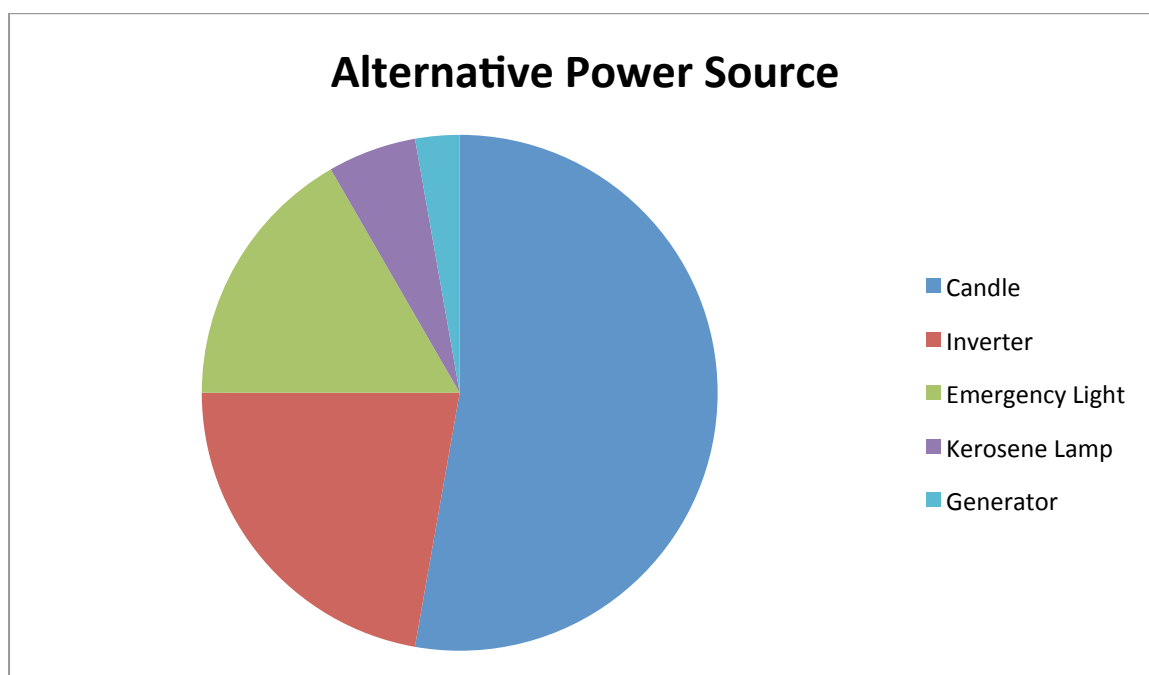


Figure 5: Alternative Power Sources used During Load Shedding.

For cooking and heating water, 86.11 percent of all interviewed use LP Gas as their primary fuel source for cooking and heating water. In addition, 5.56 prefer to use electricity for rice cookers as their primary source for cooking, 5.56 percent use kerosene stoves, and 2.78 percent use fuel efficient wood stoves. Although the majority of people use LP Gas stoves, LP gas can be expensive at 1425 rupees per container, so many people use alternative fuel sources for cooking when low on gas. For alternatives, 40 percent use kerosene stoves, 5 percent use fuel efficient wood stoves, 5.56 use makeshift sawdust stoves, 5 percent use LP only as a secondary source, and 22.5 percent use no alternative. The average cost of fuel used for cooking and heating water is 1029.02 rupees per month.

Very few respondents claim to use firewood at all, and those who do generally collect wood scraps and sawdust from mills and factories that use a large amount of wood in the production of

their products, such as furniture factories. No one was able to estimate how much a bundle of firewood weighed, how much money is spent per month, or exactly where they purchased this wood from because the location of collection can frequently change. In addition, there was rarely a single person within the household who carries out the task of wood collection. However, it is clear that 100 percent of respondents who use wood, woodchips and sawdust do so through legal obtainment and market transactions. Most respondents were also unsure of which species of tree they prefer their wood to come from, but a few indicated that they prefer agarwood because it “burns nicely.”



A squatter settlement community demonstrating how this stove is used.

Section 3: Livelihoods

3.1: Access to Capital and Financial Services

100 percent of all interviewees stated that they did not pay any kind of recurring fees on their homes, or are living within families that do not pay any kind of recurring rents or fees. Recurring rents and fees are largely irrelevant for those who live in squatter settlements, and

respondents living in slums were mostly homeowners. However, a few respondents in slums claim that they rent out a part of their home to renters, indicating that not all inhabitants of these communities are home owners.

41.67 percent of respondents claim to have borrowed money within the past year, a trend that is much higher in squatter settlements (53.33 percent) than slum communities (17.5 percent). 73.33 percent did so through formal channels such as commercial banks, MFIs, INGOs, Credit and Savings Cooperatives, and Women’s Savings Groups. The other 26.67 percent borrowed money through informal channels, such as relative, friends, or local shops. Out of those who obtained a loan, 56.25 percent stated that they took out a loan from a Credit and Savings Cooperative, 6.25 percent took out a loan from a Local Non-Governmental Organization, 6.25 percent took out a loan from a Women’s Saving Group, and 25 percent borrowed money from friends or relatives. No collateral was ever required from interviewed borrowers, but many who took out loans were required to do so against an already existing savings account in their name. Most respondents also had to pay modest interest rates on money borrowed, but unreliable data on interest rates created difficulties in reporting an accurate average interest rate. The reasons given for borrowing money or taking out loans vary greatly, and include reasons ranging from general household expenditure, to funding weddings, and future migration of family members. Some residents have expressed difficulty in obtaining loans in times of need. One interviewee stated, “We faced situations where we had to take out a loan, but we didn’t get it so easily. We sometimes have to skip meals, and sometimes we eat cheap food.”

When interviewees were asked if they feel isolated from the existing financial system, only 14.71 percent of respondents claimed that they do indeed feel isolated. This figure was much higher in squatter settlements, non-river communities, and amongst the youth at 25 percent, 28.57 percent, and 33.3 percent respectively.

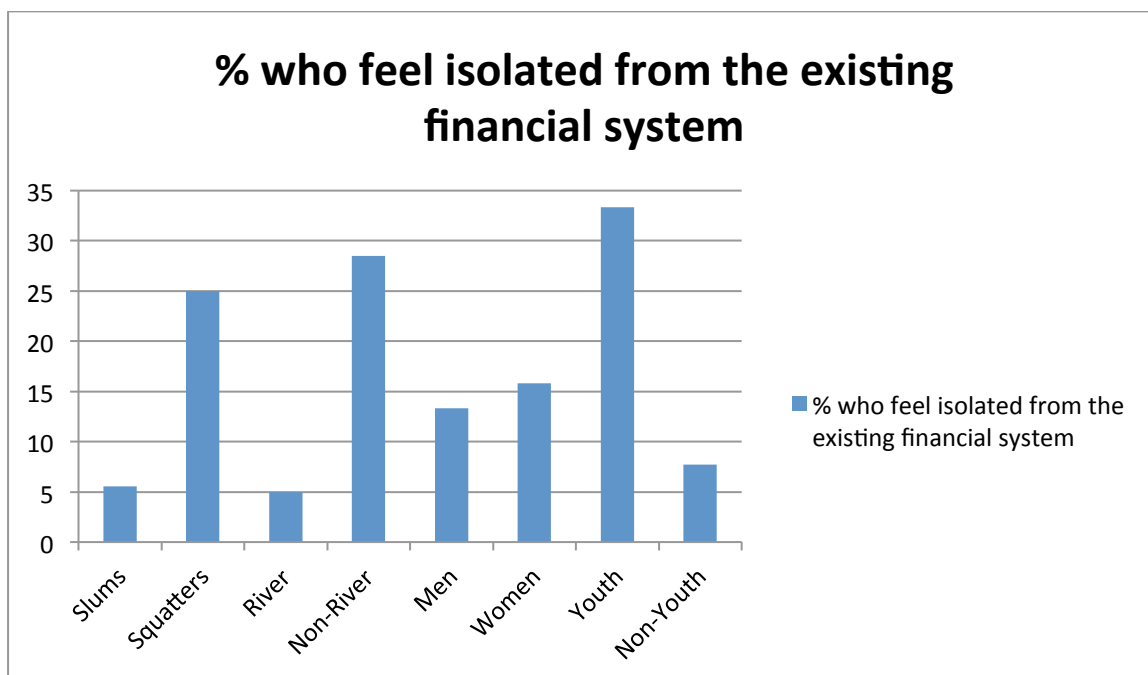


Figure 6: % Who Feel Isolated from the Existing Financial System

In aggregate, 83.33 percent of respondents have money invested in a savings account, a figure which is lowest in non-river communities at 68.75 percent. Interviewees claim to save an average of 700 rupees a month, which is lowest in squatter settlements (460 rupees per month) and river communities (425 rupees per month). Only 3.33 percent of all interviewed keep their savings in a traditional bank, while 70 percent keep their savings in a Savings and Credit Cooperative, 10 percent at a Microfinance Institution, and 26.67 percent at a Women's Savings Group. The majority of respondents claim to be saving for general use on an "as per need" basis, while other responses include paying for education, future medical expenditures, home improvements, and future business ventures. Many are also undecided on how they will use their savings.



A playground in the Emukhel Children Park built by the Bridge of Life Foundation. Located in the Khumbheshwor slum neighbourhood in Lalitpur.

3.2: Economic Self-Reliance and Sustainability

In total, 41.67 of those interviewed were formally or informally employed, 52.78 percent are either unemployed or out of the labour market, and 5.56 were retired. Unemployment was significantly lower in the youth analytic cluster at 11.11 percent. Out of those who reported to be employed, 62.5 percent were either privately employed or engaged in entrepreneurial activities, and 31.25 percent were employed by the government. The nature of employment varied greatly, with a majority of respondents claiming to either own or work in a local shop, with other responses including trek guiding, teaching, labour work, and domestic alcohol production. Many residents in

the Khumbheshwor slum are employed as street sweepers for the Municipal Sanitation Department. Only 27.73 percent of respondents claimed to be the primary household income generator, while 18.18 percent claimed that there are multiple earners. 47.06 percent of those interviewed stated that they are paid in daily wages, a figure which is highest in squatter settlements at 62.5 percent, while 52.94 percent reported having a more steady income flow. 70.59 percent reported to having steady work, and 52.94 percent of those employed claim to pay taxes on their income. 0 percent of all children under the age fifteen were reported to be employed in the formal or informal sectors.

When asked what economic opportunities are available to slum dwellers and squatter settlement communities, an overwhelming majority claimed that there are either “no available opportunities” or “very few” available economic opportunities. The minority of respondents were more optimistic, reporting that some opportunities do exist, including operating small scale businesses and working at local slaughterhouses. Although these figures are important to understanding the nature of employment for slum dwellers and squatter settlement inhabitants, the exact figures are most likely skewed due to the fact that assessments were conducted during working hours, when those who are not employed are more likely to be available for interviews.

When participants were asked to state the ways in which they are prepared for an emergency such as sickness, poor crop yield, or a natural disaster, 61.11 percent claimed to have some form of preparation. Out of those who are prepared for such an emergency, 86.36 percent stated they are prepared through savings, 4.54 percent have some form of insurance, 45.45 percent will rely on their food storage, and 5 percent who fall under the category “other”, such as selling their property or relying on fuel storage. Out of the 38.89 percent of respondents who stated that their households are not prepared in case of an emergency, many claimed that they would expect to rely on government assistance. “We haven’t saved anything for possible natural disasters. We just hope the government will support us,” said one squatter settlement resident.

Concerning migration, 36.11 percent of participants reported having a family member who migrated outside of Nepal. This trend is highest in squatter settlements at 50 percent. Popular migration destinations include countries in the Middle East, Malaysia and The United States of America, while other destinations include countries in the European Union and Japan. 78.57 percent of respondents claim that the primary motivation for migration was employment, while 14.28 percent went abroad for purposes of obtaining an education. When asked about the nature of employment of those currently or previously abroad, the overwhelming response was “manual labour.” 90.9 percent of respondents who have a family member living abroad receive remittances, primarily in cash. Those currently or previously living abroad have been reported to be absent for an average of 6.51 years, although this figure is not reflective of an average time spent abroad in total because the majority are still living in their host countries. Out of those interviewed who have family members abroad, most claimed that these former household members migrated because of a lack of economic opportunities. Many also depend on remittances sent home as an essential source of income. One squatter settlement resident explained, “I don’t have job. Two of my sons are living abroad. One is in Saudi Arabia, and the other is in Qatar. They say that they don’t have enough money to send back home. We don’t have any primary source of income in the family, so we are hoping that they send money soon.”



Women selling trinkets off of blankets in a busy open air market.

3.3: Environmental Sustainability

In total, only 13.89 percent of respondents claim to have either been personal victims of flooding or have personally known someone who was the victim of flooding. In addition, only 2.78 percent of respondents claim to know someone who has been displaced because of the annual rising of river levels. One respondent stated that no one has these problems because the rivers in Kathmandu are becoming shallower. When respondents were asked to explain how their lives are made more difficult during monsoon season, 38.88 percent reported that there is no negative effect, while the other 61.11 percent reported that water leaking into their households is the only problem. No other negative effects were reported.

50 percent of respondents reported that they believe they are exposed to toxic materials on a regular or semi-regular basis. When asked what type of toxic materials they are exposed to, the overwhelming majority reported being exposed to the carcasses of slaughtered animals. The explanation for this phenomenon is that most slum and squatter communities are either located next to slaughter houses, bone factories, or carcasses that are dumped in the river from these industries. In the non-river Khumbheshwor slum neighbourhood in Lalitpur, there is an open air bone factory where animal carcasses are heaped into massive piles, and the bones are then ground down and used for the manufacturing of buttons. The stench of the rotting carcasses permeates

throughout the entire neighbourhood and disturbs its residents. However, exposure to toxic materials is understandably more common in riverside communities, reported at 65 percent, due to the large amount of waste in Kathmandu's rivers.

When participants were asked about the worst environmental problems in their communities, the most common answers given were, in order of frequency: river pollution; slaughter houses and bone factories; unsanitary conditions due to improper waste management; and persistent unpleasant stench. A few respondents also claimed that there were no environmental problems, or stated that they did not know about environmental issues. When asked what they think should be done to improve the local environment, the most common answers included the need for better management of pollution at the source, including river pollution management, solid waste management, and better management of slaughterhouses and bone factories. One slum resident living in a riverside community said that sewage connected to the river system is the primary cause of the river's high levels of pollution. "The main problem is that all of the city's drains are gathered in a single place (the rivers). The polluted water in the river comes from all over the city and gets collected here. I only hope that people upstream will stop throwing waste in the river," he said. Another slum resident elaborated on the severity of the problem, "We don't have any management here. The river is polluted with sewage. The sewage is collected in the river even from the constitution hall." Feeling persecuted, another resident stated, "We should clean the river and get rid of the pollution. Throwing waste in the river should be stopped. Outside people do such things, but the blame comes to us."

Respondents also frequently stated the need to raise awareness of environmental issues that impact the residents of these communities. Methods of raising awareness include education and community organization. There was also a strong desire amongst most respondents for community solidarity, where they believe that the community needs to act in a unified manner in order to overcome the challenges they face. Some also believe that stronger leadership is required in order to unite the community and raise awareness, while others believe that people should be united through community organizations such as youth and community clubs. The need for an open dialogue between community members and the municipal government was also often expressed. Many also demanded that community members need to take personal responsibility for their actions, a responsibility that would have to be taken collectively in order to improve environmental conditions.



Severe pollution in the Bishnumati River, located next to Hyumat.

Discussion

Due to recent improvements in slum neighbourhoods and squatter settlements, many areas under assessment showed very positive to moderately positive results. Most results in the areas of Housing Shelter and Safety, Water and Sanitation Infrastructure, Energy Infrastructure, and Access to Capital and Financial Services were largely positive, overall. One very positive area under examination is the well-being of children. It is very encouraging that 100 percent of children within these communities are enrolled in school and do not work in the productive sector. The wellbeing of children is promising for the future of leadership in these communities.

Despite these positive results, there are areas in this assessment that primarily exhibit negative results, namely, Food Security and Urban Farming, Economic Self Reliance and Sustainability and Environmental Sustainability. Deprivations cited in these areas give insight on potential intervention by NGOs. It is clear that people within these communities require access to less expensive food, and many could benefit from growing crops and vegetables and raising animals for consumption, although sufficient land required for an expansion in urban agriculture could be an issue. In addition, action needs to be taken to help people in times where there is not enough money for regular adequate food consumption. There is also a tremendous need to expand adult education and create economic opportunities that can guarantee steady flows of income for people in these areas, particularly for youth. Better management of pollution, solid waste management, slaughter industry management, and improved sewerage would go a long way to improve the quality of life of people who live in slums and squatter settlements. Options for employing local people in the areas of environmental improvement could potentially increase employment and resolve environmental issues simultaneously.

Despite these shortcomings, slums neighbourhoods and squatter settlements conditions have indeed improved dramatically over the years according to feedback from respondents. Thanks to the efforts of organizations such as Lumanti, community members, and the municipal government, the majority of respondents claim that their quality of life is much higher than it used to be in previous years. The fact that 94.44 percent of respondents have reported community improvements is very significant, and should be encouraging to development practitioners, government officials, and community members. However, despite these gains, there is still great room for improvement, and the continued dedication of NGOs, community members, and the municipal government is absolutely necessary to further increase the quality of life for those who live in poverty.

On average, it is undeniable that squatter communities suffer from greater rates of multidimensional poverty. In almost every category examined in this assessment, inhabitants of squatter settlements seem to be faring much worse than all other analytic clusters. In nearly every category under examination, people who live in squatter settlement either exhibit results equal to their slum counterparts, or have higher incidences of deprivation. It is difficult to establish the determinant in the causal relationship between poverty and land rights, as it is unclear whether poverty is the primary determinant for living in communities without fundamental land rights, or if a lack of land rights leads to greater multidimensional poverty. Despite the exact determinant of these higher rates of deprivation, it is clear that squatter settlements are in greater need of intervention in many more areas than slum communities.

Increasing rates of inbound external migration will also continue to have significant implications for the wellbeing of these communities. Not only will improvements in existing living conditions and infrastructure be required for those currently living in these areas, but the ability to support a rapid influx of people from Nepal's many regions will also be essential to successful improvements in these impoverished areas. Inbound migration could potentially put a dramatic strain on already limited resources. Therefore, improvements in living conditions could only be a temporary fix if the future accommodation of migrants is not taken into consideration.

In addition to the complications faced by increasing rates of migration, the inhabitants of these communities face the very real threat of eviction. In the evening of May 7th, 2012, during the first week of this assessment, the government announced its plans to evict and clear the Thapathali squatter settlement on the following morning. In the early morning hours of May 8th, 2012, approximately three-thousand police officers arrived in Thapathali, followed by bulldozers which immediately began to destroy homes. The victims who were the first to have their homes bulldozed did not have adequate time to collect their belongings due to a late night announcement of demolition on the 7th, and the subsequent early morning arrival on the 8th. These people were reported to have lost everything. The destruction of the entire community was completed before noon of the same day, including homes, schools and medical facilities (Anon, 2012, p.1). Even though Prime Minister Dr. Baburam Bhattarai urged squatters to use land in the Chobhar area for relocation, tents and makeshift shelters could be seen throughout the rubble of Thapathali only days after demolition (Himalayan Times, 12/5/2012, p.1). Days later, the Prime Minister publicly announced that members of squatter settlements should not listen to advice or receive assistance from NGOs, but instead should rely on the government for support (Ekantipur, 13/5/2012, p.1). This public opposition to NGOs could potentially cause a rift between Kathmandu's municipal government and NGOs, which could consequently reduce effectiveness of development in these areas.

A shortcoming of this study is related to the vulnerability of slum dwellers and squatter settlement inhabitants to exogenous shocks. For example, when respondents were asked how they were prepared in the event of such a shock, such as loss of employment, food shortage, or natural disasters, many respondents did not seem to understand that this question was an attempt to determine household vulnerability to shocks. Many people would answer "first aid kit" or "government disaster relief" at first before being pressed for further information. This can be taken as an indication that many households are ill prepared, or have not even thought about preparation in the event of an exogenous shock. Because of this fact, it is very important for further research to be conducted in these neighbourhoods to assess the relative shock vulnerability of slums and squatter settlements compared to statistical averages in the Kathmandu Valley.



A photograph taken days after the destruction of the Thapathali squatter settlement on the Bagmati River.

Conclusion

This report has detailed the results of a field assessment and interviews conducted in May, 2012 in the Kathmandu Valley. Although there are many deprivations faced by the residents of slum and squatter settlements, the vast improvements in these neighbourhoods in the past several years should be encouraging to all development practitioners who wish to continue this positive trend. These improvements demonstrate that increasing the well-being of these impoverished people is a realistic endeavour despite the many obstacles that stand in the way of success. However, the main areas that require the *most* urgent attention and intervention are not clear. Therefore, it is essential for development organizations and NGOs to determine the most efficient and effective methods to remedy these systemic problems by assessing the time and resources available to dedicate to slum and squatter settlement improvement projects and programs. It is also essential to take high rates of future inbound external migration into consideration when developing intervention and improvement projects. Although many deprivations were assessed in this study, it is important for organizations who wish to improve the conditions in these neighbourhoods to compare these results and statistics to regional statistics in the Kathmandu Valley. Without this baseline comparison, it is nearly impossible to determine the significance of these figures. Any statistic given can be open to a plethora of interpretations without the foundation of regional statistical comparison.

As previously mentioned, this study is intended to be complimentary to Lumanti's 2008 report "Status of Squatter Communities along the Bagmati River and its Tributaries in Kathmandu Valley". Although a few comparisons between statistical results were given in the Findings section of this report, most of Lumanti's report was intentionally omitted. There are several reasons for omission. First, Lumanti's report was released in 2008, and the statistics and demographics could have significantly changed in this 4 year period. Second, this study included two slum neighbourhoods in Lalitpur that were not included in Lumanti's report. Third, Lumanti included dozens of neighbourhoods that were not assessed in this report. Fourth, many of the measurements employed were significantly different between the two reports, making comparison difficult. Fifth, the analytic clusters between the two reports are also very different. Sixth, Lumanti's report covers the entire statistical population, while this assessment only contains a small sample of the population. Finally, although there is some overlap between the two reports, they both cover many different areas in both scope and focus concerning the well-being of slum dwellers and squatter settlement inhabitants. Because of this final point, it is essential to review both reports when searching for possible areas of intervention.

As for the future of these communities, there is no doubt that the events following the destruction of the Thapathali will continue to present a new set of challenges for slum dwellers and squatter settlement inhabitants. Thapathali was only one out of several communities Mercy Corps was in contact with, and they were meant to be the first community visited and interviewed during this assessment. The destruction of this community created a huge challenge that had to be overcome in conducting this assessment, and none of it would have been possible without the support of Lumanti, and especially Roshani Joshi who escorted and introduced us to every community we visited. It seems likely that the national and municipal governments will continue to create opposition to intervention in these sensitive neighbourhoods, and attempts to establish active dialogues and mutual participation between government agencies and NGOs would be beneficial to the residents of these communities. The recent destruction of Thapathali not only

presents a unique set of challenges for inhabitants of these impoverished neighbourhoods, but also presents a new set of barriers that must be overcome by NGOs and other development organizations who actively promote the increased well-being of people living in these dynamic and resilient communities.

Appendix 1: General Questions

	Aggregate	Slum	Squatter	River	Non-River	Male	Female	Youth	Non-Youth
Average Age	40.94	38.1	44.5	39.05	43.31	43.31	39.05	20.89	47.62
% Brahman / Chhetri Interviewed	13.89	5	25	15	12.5	17.65	10		
% Janajati Interviewed	47.22	30	68.75	60	31.25	80	45		
% Dalit Interviewed	38.89	65	6.25	25	56.25	29.41	45		
% Madhesi / Tarai Interviewed	0	0	0	0	0	0	0		
% Other Caste Interviewed	0	0	0	0	0	0	0		
Average People per Household	6.64	6.8	6.44	5.85	7.63				
% Household with Children < 15	1.28	.8	1.88	1.15	1.44				
Average # Children Attending School	2.19	1.78	2.5	2.3	2.09				
% Children Attending School	100	100	100	100	100				
% Boys Attending School	100	100	100	100					
% Girls Attending School	100	100	100	100	100				
% Both Parents in HH	71.43	66.67	75	70	61.54				
% Children in HH Not Related	0	0	0	0	0				
Mean % of Literate Adults	82.8	73.53	93.23	82	82.9				
% Kathmandu Native	58.33	85	25	70	43.75	56.25	60		
% Nepali Migrant	41.67	15	75	30	56.25	43.75	40		
% Non-Nepali Migrant	0	0	0	0	0	0	0		
Average Years Ago Migration	29.73	29.67	29.75	27.33	31.33	31.43	28.25		
Average Years Living in Slums	29.17	31.45	26.31	27.45	31.31	32.19	26.75		

Appendix 2: Housing, Shelter and Safety

	Aggregate	Slum	Squatter	River	Non-River	Male	Female	Youth	Non-Youth
Average # of Rooms in HH	4.89	5.25	4.44	4.25	5.69				
Average # of Bedrooms in HH	2.94	3.21	2.63	2.84	3.06				
Average People per Bedroom	2.32	2.21	2.46	2.23	2.44				
% Cement Bonded Homes	55.56	55	56.25	70	37.5				
% Mud Bonded Homes	22.22	30	12.5	15	31.25				
% Wood Constructed Homes	0	0	0	0	0				
% Cement and Mud Bonded Homes	22.22	15	31.25	15	31.25				
1 to 5 Scale: Frequency of Danger	2.02	1.95	2.13	2.5	1.44	2.13	1.95	2.5	1.93
% Injured in Slums / Settlement	5.56	0	12.5	5	6.25	12.5	0	12.5	3.7
% Who believe living conditions have improved	94.44	90	100	90	100	100	90	100	92.59
% Who believe cost of living is too high	97.22	100	93.75	95	100	100	95	100	96.3
% Who have been evicted	8.33	15	0	15	0				
% Evicted with Relocation Assistance	0	0	-	0	-				

% Received Land Compensation	100	100	-	100	-				
% Believe Evicted Unfairly	100	100	100	100	100	100	100	100	100
% Afraid of Future Eviction	44.44	30	62.5	65	18.75	43.75	45	37.5	48.15

Appendix 3: Water and Sanitation Infrastructure

	Aggregate	Slum	Squatter	River	Non-River	Male	Female	Youth	Non-Youth
1 to 5 Scale: Sanitary Conditions	3.61	3.55	3.68	3.5	3.75	3.63	3.6	3.44	3.67
1 to 5 Scale: Sanitary Drinking Water	3.74	3.6	3.9	3.53	4	3.72	3.75	3.56	3.8
% Who Believe Water is Treated	20	0	42.86	95	25	28.57	11.76	12.5	22.73
% Who Treat Water Themselves	72	93.75	78.57	100	43.75	75	70	88.89	66.67
% With Access to a Toilet	100	100	100	100	100				
Average # People per Toilet	5.75	5.7	5.8	5.83	5.65				
% With Non-Flush Toilet	86.11	85	38.89	80	93.75				
% With Flush Toilet Connected to Municipal Sewer	8.33	15	0	10	6.25				
% With Flush Toilet Connected to Septic Tank	5.56	0	5.56	10	0				
% With Adequate Toilet Privacy	100	100	100	100	100	100	100	100	100
% Wash Hands After Defecation	100	100	100	100	100	100	100	100	100
% Who Wash with Soap and Water	100	100	100	100	100	100	100	100	100
% Who Urinate or Defecate in Open Spaces	0	0	0	0	0	0	0	0	0
% Who Believe Exposed to Human Waste	47.22	35	18.75	50	0	56.25	40	44.44	48.15
1 to 5 Scale: Frequency of Exposure to Solid Waste	2.14	2.75	1.38	2.2	2.06	1.875	2.35	2.22	2.11
% With Access to an Official Dumping Site or Container	66.67	100	25	60	75				
% Who Have Suffered from Serious Illness	16.66	10	25	15	18.75	18.75	15	11.11	18.52
% Who Seek Medical Treatment	100	100	100	100	100	100	100	100	100
% Who Believe They Have Adequate Access to Medical Treatment	91.67	85	100	100	100	100	85	88.89	92.59

Appendix 4: Food Security and Urban Farming

	Aggregate	Slum	Squatter	River	Non-River	Male	Female	Youth	Non-Youth
% Who Believe Food is Too Expensive	100	100	100	100	100	100	100	100	100
% Who Believe Food Has Become More Expensive in the Past 3 Years	100	100	100	100	100	100	100	100	100
% Who Grow Their Own Food	13.89	5	25	15	12.5				
% Who Raise Animals for Food	25	30	25	30	25				
% Who have not had enough money for food in the past week.	11.11	10.52	12.5	10.53	12.5				
% Who have not had enough money for food in the past six months	28.13	12.5	43.75	25	31.25				
% Who have not had enough money for food in the past year	50	33	62.5	43	50				

Appendix 5: Energy Infrastructure

	Aggregate	Slum	Squatter	River	Non-River	Male	Female	Youth	Non-Youth
% Who Have Access to Electricity in HH	100	100	100	100	100				
% With Electricity Grid Access	100	100	100	100	100				
Average Electricity Cost per Month	416.98	431.8	396.67	421.3	409.3				
% Who use LP Gas as a Primary Cooking Fuel Source	86.11	85	87.5	95	12.5				
Average Cooking Fuel Cost per Month	1029.02	995.2	1062.90	944	1138				

6: Access to Capital and Financial Services

	Aggregate	Slum	Squatter	River	Non-River	Male	Female	Youth	Non-Youth
% Owned HH	100	100	100	100	100				
% HH Borrowed Money in Past Year	41.67	17.5	53.33	35	5				
% Who Feel Isolated from the Existing Financial System	14.71	5.56	25	5	28.57	13.33	15.8	33.33	7.69
% Who Have Money Invested in Savings	83.33	85	81.25	95	68.75				
Average Rupees Saved per Month	700	1042.86	460	425	1093				

Appendix 7: Economic Self Reliance and Sustainability

	Aggregate	Slum	Squatter	River	Non-River	Male	Female	Youth	Non-Youth
% Currently Employed	41.67	45	37.5	50	31.25	50	35	11.11	51.85
% Privately Employed	62.5	55.56	85.71	90	42.85	70	80	100	71.43
% Employed by Government	31.25	44.44	14.29	10	57.15	30	40	0	35.71
% Interviewee Primary HH Earner	27.27	28.57	25	33.33	14.29	36.36	18.18	0	31.58
% Employed Who Pay Taxes	52.94	55.56	50	53.33	71.43	60	42.85	0	56.25
% Employed Paid in Daily Wages	47.06	33.33	62.5	60	28.57	40	57.15	0	50
% Employed Paid in Steady Income	52.94	66.67	37.5	40	71.43	60	42.86	100	50
% Employed With Steady Work	70.59	77.78	62.5	60	85.71	80	57.14	100	68.75
% Under 15 Employed	0	0	0	0	0				
% Prepared for Emergency	61.11	70	50	85	31.25				
% With Migrated Family Member	36.11	25	50	56.25	25				
% HH Who Receive Remittances	90.9	100	85.71	87.5	100				
Average Migration Time / Time Spent Abroad (Years)	6.51	8.76	5.23	6.94	5.36				

Appendix 8: Environmental Sustainability

	Aggregate	Slum	Squatter	River	Non-River	Male	Female	Youth	Non-Youth
% Past Flooding Victims	13.88	10	18.75	20	6.25				
% Displacement from Annual Rising River	2.78	0	6.25	0	6.25				
% Negatively Affected by Monsoon Season	38.88	41.67	56.25	35	43.75				
% Exposed to Toxic Materials	50	75	18.75	65	31.25	50	50	50	48.15

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