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Mahalaxmi Municipality, Nepal

Situation Analysis for Green Municipal Development

May 2018



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All seven reports are available at www.gggi.org/country/nepal/

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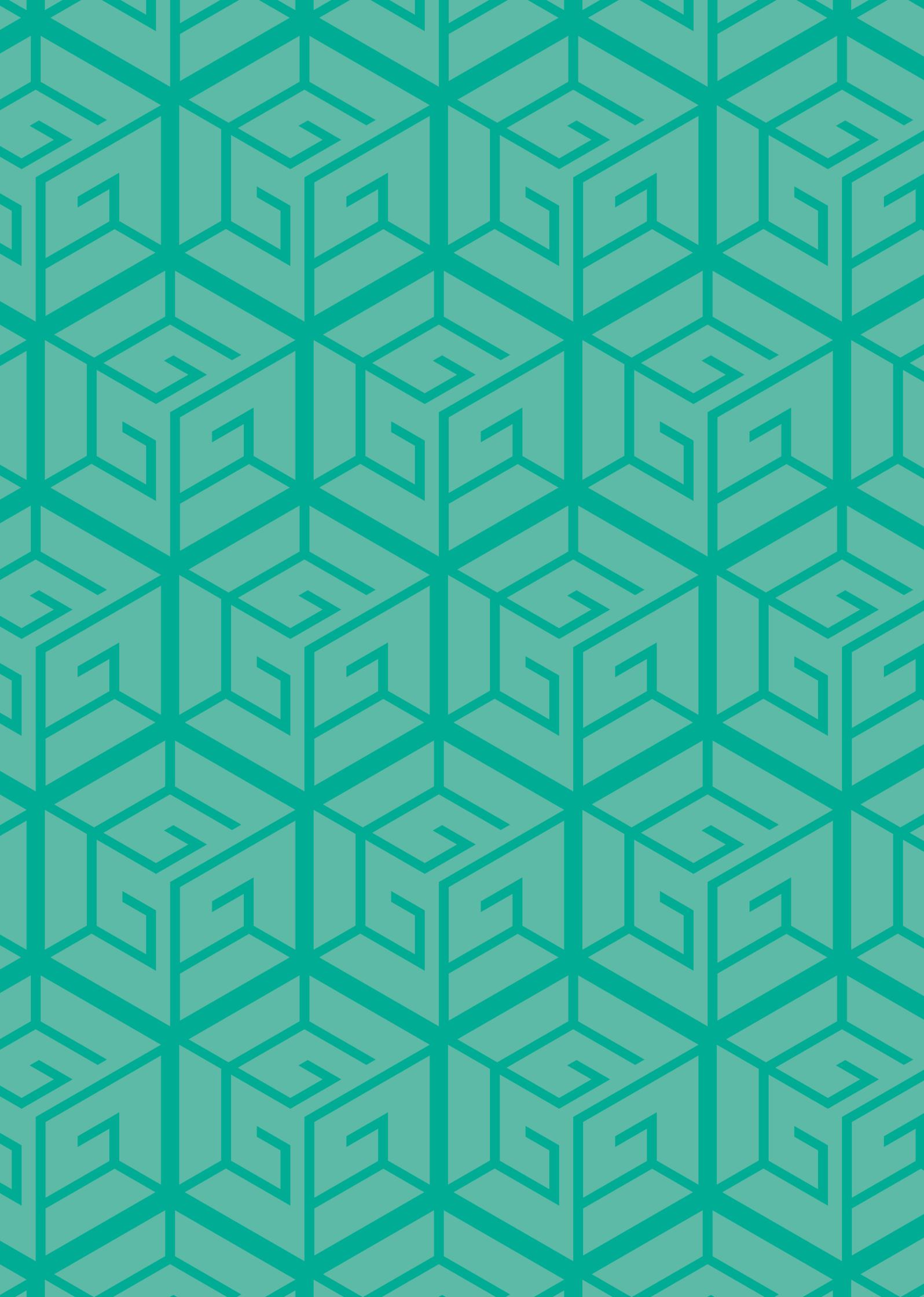
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Abbreviations and Acronyms

AAGR	average annual growth rate (exponential)
BS	Bikram Sambat (Nepali calendar)
CBO	community-based organization
EFLGP	Environmentally Friendly Local Governance Program
FY	fiscal year
GGGI	Global Green Growth Institute
GMDP	Green Municipal Development Program
ICT	information and communication technology
LGCDP	Local Governance and Community Development Programme
LPG	liquefied petroleum gas
MoFAGA	Ministry of Federal Affairs and General Administration
MoFE	Ministry of Forests and Environment
MoUD	Ministry of Urban Development
NGO	non-governmental organization
NPR	Nepali rupees
RCC	reinforced cement-concrete
SDG	Sustainable Development Goal
USD	United States Dollars
VDC	village development committee



PART 1: INTRODUCTION

1. Background

1.1 Urbanization in Nepal

The rapid pace of urbanization in Nepal in recent decades and the recent declaration of many new municipalities has reinforced the need to bring sustainable urban development to the forefront of Nepal's development agenda.

Nepal recorded an average annual urban growth rate of 3.38 percent between 2001 and 2011 (CBS 2014: 31) – one of the highest in Asia, and as of 2011 had 58 municipal governments (metropolitan cities, sub-metropolitan cities and municipalities), which covered 17.1 percent of the population. In recent years the number of municipal governments has increased five-fold with the number standing at 293 in May 2018 including 6 metropolitan cities, 11 sub-metropolitan cities and 276 municipalities (nagarpalikas). These areas now cover about 42% of Nepal's population (MoUD 2016a).

This situation, alongside the greatly increased levels of authority and the increased funding provided to municipal governments under Nepal's new federal constitution (2015), set the stage for the planned development of Nepal's municipal areas.

The development of Nepal's new municipalities presents many challenges and opportunities. On the one hand, many have neither adequate populations nor adequate economic structures to justify significant infrastructure investments. On the other hand, their early stage of development provides the opportunity to guide them along the path of sustainable development.

The Government of Nepal has committed to the sustainable development of its urban areas in its Environmentally Friendly Local Governance Framework and associated program (EFLGP) (MoFALD 2013), its Fourteenth National Plan (2016/17–2018/19) (NPC 2017), its National Urban

Development Strategy (2017-2031) (MoUD 2017) and its National Report for Habitat III (2016–2036) (MoUD 2016b).

1.2 Green Municipal Development Program

Since 2015, the Global Green Growth Institute (GGGI) has supported the Government of Nepal to align its national development policies with the green growth paradigm. This paradigm builds on a model of economic growth that targets the key aspects of economic performance of environmental sustainability, poverty reduction and economic growth (Figure 1).

In 2017, GGGI in partnership with Nepal's Ministry of Federal Affairs and General Administration (MoFAGA) and seven of Nepal's new municipalities, launched the Green Municipal Development Program (GMDP). The focal point for the program is the Ministry of Forests and Environment (MoFE). Phase one of the program began in 2017 and will run to December 2018.

The goal of the program is to support the seven municipalities to identify and capture localized green growth opportunities. The program is designed to respond to the needs of federal and local governments and is founded on long-term municipal engagement. It aims to provide a range of customized technical and financial services to the municipalities as well as supporting inter-municipal learning and capacity building.

An initial program activity was the carrying out of a green municipal growth situation analysis in the seven partner municipalities of Belkotgadhi, Dakshinkali, Mahalaxmi, Melamchi, Namobuddha, Palungtar, and Thaha, which are shown in Figure 2. This report is one of a series of seven reports that present the findings of the analysis for Mahalaxmi Municipality in Lalitpur District.

¹It is important to note here that the recent increases in the number of municipal governments have mainly been outcomes of political decisions and many parts of the new municipalities have more rural than urban characteristics.

²See <http://gggi.org/> for information on the Global Green Growth Institute.

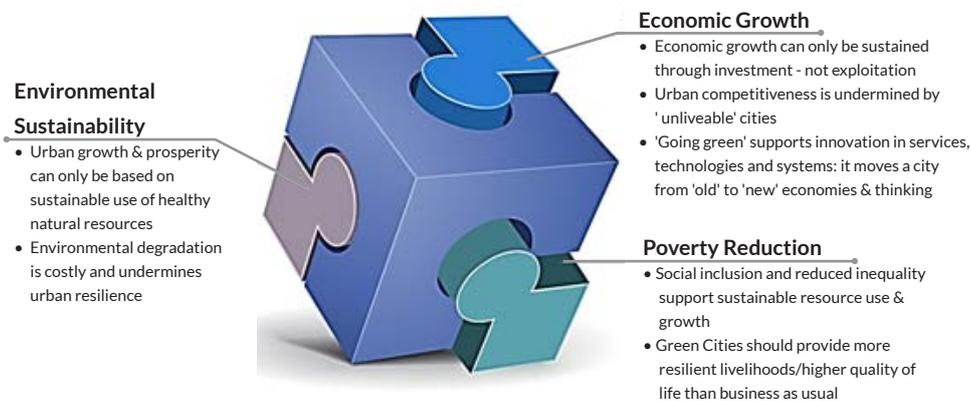


Figure 1: GGGI's Green Growth concept
 Source: GGGI 2017a

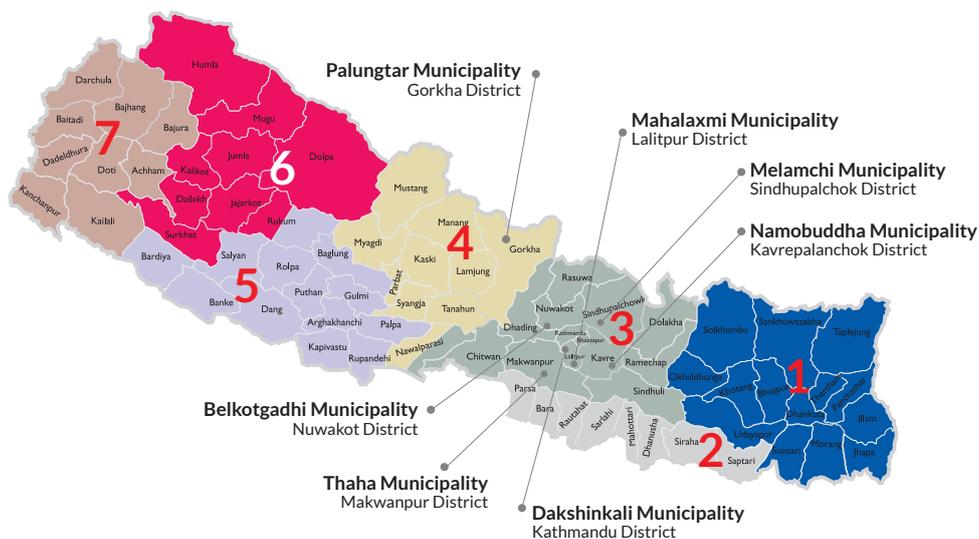


Figure 2: Location of the seven GMDP partner municipalities

1.3 Objectives

The objectives of the situation analysis of the seven new municipalities were as follows:

- Analyze and assess the current baseline and trends in the municipalities across economic, social and environmental dimensions, and understand the deeper reasons and drivers of change.
- Analyze and assess the policy and regulatory landscape in which the municipalities operate.
- Analyze and assess the institutional, technical, managerial and financial structure and capacity of the municipal administrations.
- Identify and formulate practical, operational and strategic findings based on the assessment.
- Advise on priority sectors, policy and planning interventions and possible projects that could be pursued to support green growth in the municipalities with GGGI inputs and consultations.
- Conduct a stakeholder assessment of the findings at national and municipal levels.

1.4 Methodology

This situation analysis report was prepared through the following steps and inputs:

- Studied secondary information about the municipality from authentic sources, which were verified by consulting other sources to the extent possible.
- Held discussions with the mayor Mr. Rameshwor Shrestha and his team on 1 November 2017 at the municipal office, guided by a five-point questionnaire (see Annex 1.1 for questions and Annex 2 for meeting minutes in Nepali).
- Held focus group discussions with local entrepreneurs (members of Lalitpur Chamber of Commerce and Industry – Mahalaxmi Branch) at their office and with representatives of social and environmental NGOs (see Annexes 1.2–1.4 for research questions and Annex 3 for participants).
- Shared preliminary findings at the GMDP Launch and First National Consultation Workshop, held on 14–15 November 2017 in Kathmandu in the presence of high-level officials from partner ministries, the mayors and the chief administrative officers (CAOs) of partner municipalities, and representatives from other relevant ministries.
- GGGI Nepal and Headquarter teams reviewed final drafts of the report.



Discussion with mayoral team (November 2017)



Focus group discussions with members of Lalitpur Chamber of Commerce and Industry – Mahalaxmi Branch (left) and NGO activists (right) at their offices .



Opening session of the GMDP Launch and First National Consultation Workshop (November 2017) (above). Belkotgadhi Mayor Mr. Khanal speaking at the program (below).



2. Green Municipal Development in Nepal

2.1 Overview

'Green growth' is a model of economic growth that targets the key aspects of economic performance of poverty reduction, job creation, social inclusion and environmental sustainability (see Figure 1). In other words, green municipal growth aims to ensure that investments on infrastructure and other types of physical development create socioeconomic benefits that are proportionately distributed in societies while ensuring that development does not result in environmental degradation. The green growth concept builds on the concept of sustainable development.

The commitments of the Government of Nepal to sustainable development are explained in Section 1.1.

above. Among these, Nepal's National Report for Habitat III (MoUD 2016b) builds on the country's commitment to Sustainable Development Goal 11 of making cities and human settlements inclusive, safe, resilient and sustainable by 2030. The sustainable development of Nepal's urban areas is also key to enabling Nepal to achieve its aim of graduating from Least Developed Country to Middle-Income Country status by 2030, for which cities have a major role to play as engines of economic growth.

Nepal's National Urban Development Strategy (2017–2031) has the five underlying and interconnected guiding principles of inclusivity, resilience, green development and efficiency (Table 1).

Table 1: Guiding principles of National Urban Development Strategy, Nepal (2017-2031)

Guiding principles	Explanation
Inclusivity	Urban areas should be socially inclusive in terms of ethnicity, caste, gender, and economic class. Inclusion should be reflected in the space the city provides for the nurturing and celebration of social and cultural diversity and sensitivity particularly to disadvantaged, marginalized and minority groups, and poor people and youth in general. Inclusivity promotes social justice and contributes to equity and balanced development. The increasing rates of poverty in urban areas mean that their development needs to be pro-poor in terms of addressing the poor's basic needs for education, health, housing, livelihoods and transportation.
Resilience	Resilience refers to physical and social resilience to make urban areas safer and adaptable to environmental and economic change. The major focus should be on physical, social, economic and institutional resilience, which are pivotal for mitigating short and long-term vulnerability resulting from disasters and the regional and global impacts of climate change. Planning and urban development should enhance the capacity of urban areas to cope with different types of hazards and to absorb shocks and risks.
Green development	Strategies for urban development should be guided by keeping urban areas green, cool, and wet. The main thrust should be on saving, protecting and promoting greenery including green parks, green open spaces, urban agriculture and forests. Urban areas should promote low carbon emission land use and technology and the use of green materials, increase the use of alternative energy, reduce the effects of urban heat islands and lower ambient temperatures. They should also promote and protect clean water bodies (ponds, wells, rivers and canals) that contribute to the survival of aquatic life, urban biodiversity and the recharging of ground water.
Efficiency	Urban areas need to be efficient, well governed and effectively managed to become sustainable, inclusive, resilient and green. The strategy should therefore be guided by i) enhancing the capability and technical competence of local governments, ii) the institutionalization of transparency and accountability in urban planning and development processes, and iii) the citizen-oriented delivery of services and development outcomes.

Many of Nepal's new municipalities are predominantly rural in character. Most have limited technical capacity and have only limited funds. Given their limited resources, a fundamental question for Nepal's new municipalities is whether they should focus on large-scale projects or on creating livable communities.

Many of Nepal's municipalities are rich in terms of natural resources and need to avoid a business as usual path of haphazard urbanization, which has predominantly occurred so far across most of South Asia development. The green growth concept offers an alternative approach to urban development by stressing the optimal and wise use of local resources for sustainable and inclusive economic development through public participation. There is immense scope for green urban development in Nepal, and the time is right to promote this as municipalities gear up to exercise their newly acquired executive powers following the recent establishment of a federal system of governance in Nepal.

2.2 Green Urban Growth for Nepal

The characteristics and the transformations needed to produce green urban areas are listed in Boxes 1 and 2. The realization of such green urban areas will make a very large contribution to the achievement of Nepal's national development goals, including the Sustainable Development Goals and its 'Nationally Determined Contributions' to reduce greenhouse gas emissions.

Box 1: The characteristics of green urban areas

In line with the green growth paradigm, green urban areas are:

- innovative and smart
- resource efficient and low carbon
- climate smart and resilient
- prosperous and bankable
- healthy and livable
- inclusive and pro-poor (GGGI 2017b).

Box 2: The transformations needed to produce green urban areas

- Transform the way they plan, to achieve the vision of smart, green and sustainable urban areas. Unplanned growth has negative environmental consequences that can be avoided by creating well-informed urban plans.
- Transform the way they design and operate buildings, to achieve resource efficient, low carbon and disaster-proof built environments.
- Transform the energy they produce and consume, to shift away from using polluting fossil fuels to cleaner forms of renewable energy.
- Transform waste to resources, to close the waste and resources loop and to move towards circular economies.
- Transform water resource management, to improve access to clean water and sanitation.
- Transform the way people move and connect, to achieve connected and non-motorized cities to limit the use of fossil fuel-based transportation.
- Balance expansion and growth with inclusion, to move to inclusive and pro-poor urban areas.
- Transform the way urban areas manage and account for their assets, to create bankable and creditworthy cities that attract green finance.



As Nepal's municipalities urbanize, they have the option to follow either the business-as-usual pathway of haphazard and environmentally damaging growth or to shift to a green growth development trajectory. The green growth pathway has the three components of environmental sustainability, economic growth and poverty reduction:

Environmental sustainability

Urban growth and prosperity should be based on the sustainable use of natural resources. Nepal's new municipalities have the opportunity to avoid unplanned urbanization and instead use existing tools and knowledge to better plan their development and their use of natural resources. This is very important for Nepal, which is situated in a vulnerable mountain ecosystem and is very prone to earthquakes, floods, landslides and other natural disasters and the impacts of climate change. These factors and the impacts of large scale human settlements and widespread migration are key factors in Nepal's development trajectory. The current high rate of urbanization is leading to large-scale environmental degradation, which has high costs and undermines urban resilience. In addition, compact, coordinated and connected urbanization is challenging to achieve in Nepal because of the limited availability of land across hill and mountain areas.

Economic growth

Sustainable economic growth needs sustained and planned investment. Urban areas not only need to aim for sustainable economic growth by generating economic activity, but also need to focus on strengthening their financial resources. Municipal finance is one area that needs further attention in the context of financing urban infrastructure improvements.

There are many challenges for developing the infrastructure of Nepal's municipalities, which primarily rely on the state and central governments for their funding:

- *The devolution of power:* The legal and policy barriers to municipalities accessing other sources of financing.
- *Creditworthiness:* Most urban areas lack creditworthiness to raise debt in national and international markets.
- *Access to international finance:* Nepal's urban areas currently have limited access to international financing.
- *Own sources of revenue:* Municipal bodies are responsible for providing basic public services including street lighting, water, sanitation and other services, but have limited capacity to generate funds to pay for them.
- *Valuation of assets:* Municipal governments are unsure how to manage and optimize increased asset values through infrastructure investments.
- *Capacity building:* The limited capacity and awareness of municipal bodies to design and implement revenue generation and integration tools.

- *Earthquake damage:* The basic services infrastructure of the areas covered by the seven municipalities was badly damaged by the April–May 2015 earthquakes. The adoption of a green growth pathway will support innovation in municipal services, technologies and systems, especially for municipalities that are embarking on the urbanization process.

Poverty reduction

As cities develop, inclusive green urban growth becomes a vital component for achieving inclusive, sustainable and efficient urbanization. Social inclusion is an important aspect of the current municipality structure in Nepal and one of the elected positions in municipalities is for a person from a disadvantaged group. Gender equality is promoted in municipal bodies including by the stipulation in the Local Level Electoral Act (2017) that either the mayor or deputy mayor is a woman. In pursuing green growth Nepal's municipalities should promote and facilitate resilient livelihoods and an improved quality of life.

2.3 International Policy Drivers

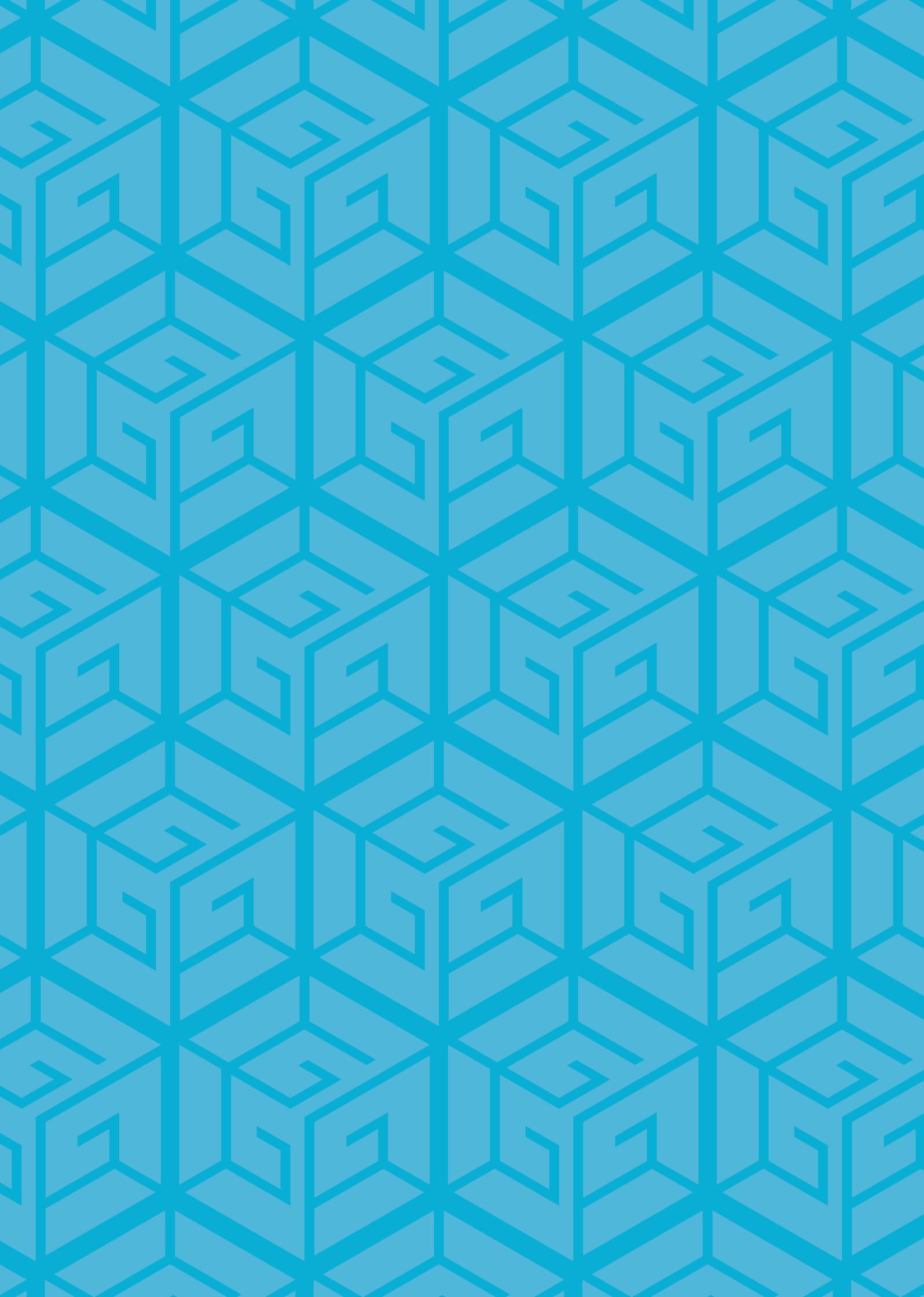
Two major international policy instruments are particularly relevant for the promotion of green urban development in Nepal:

Nationally Determined Contributions – The following Nationally Determined Contributions (NDCs) that Nepal submitted to the United Nations Framework Convention on Climate Change (UNFCCC) under the Paris Agreement (2016) emphasize sustainable and green urbanization:

- “Promote economic development through low carbon emissions with a focus on (i) energy, (ii) agriculture, (iii) forests, (iv) industry, (v) human settlements and waste, (vi) transport and (vii) commercial sectors.”
- “Maintain 40 per cent of the total area of the country under forest cover.”

Sustainable Development Goals – SDG 11 is to “Make cities and human settlements inclusive, safe, resilient and sustainable.” The following SDG targets are most relevant to the development of Nepal's municipalities:

- Target 11.3: “By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.”
- Target 11.B: “By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels.”



PART 2: BASELINE SITUATION AND TRENDS

3. Basic Information

3.1 Location, Formation and Administrative Sub-Divisions

Mahalaxmi Municipality is located in the north-east of Lalitpur district in Province 3 (Figure 3). It has an area of 26.51 km². The municipality was formed in 2015 by amalgamating Imadol, Lubhu, Tikathali, Siddhipur, and Lamatar village development committees (VDCs). The five erstwhile VDCs have been split to divide the municipality in 10 wards (Figure 4 and Table 2).

The municipality lies directly adjacent to the Patan-Kathmandu conurbation with the northwest part now incorporated in this conurbation. The municipality derives its name from the Mahalaxmi-Mahabhairav Temple in Lubhu.

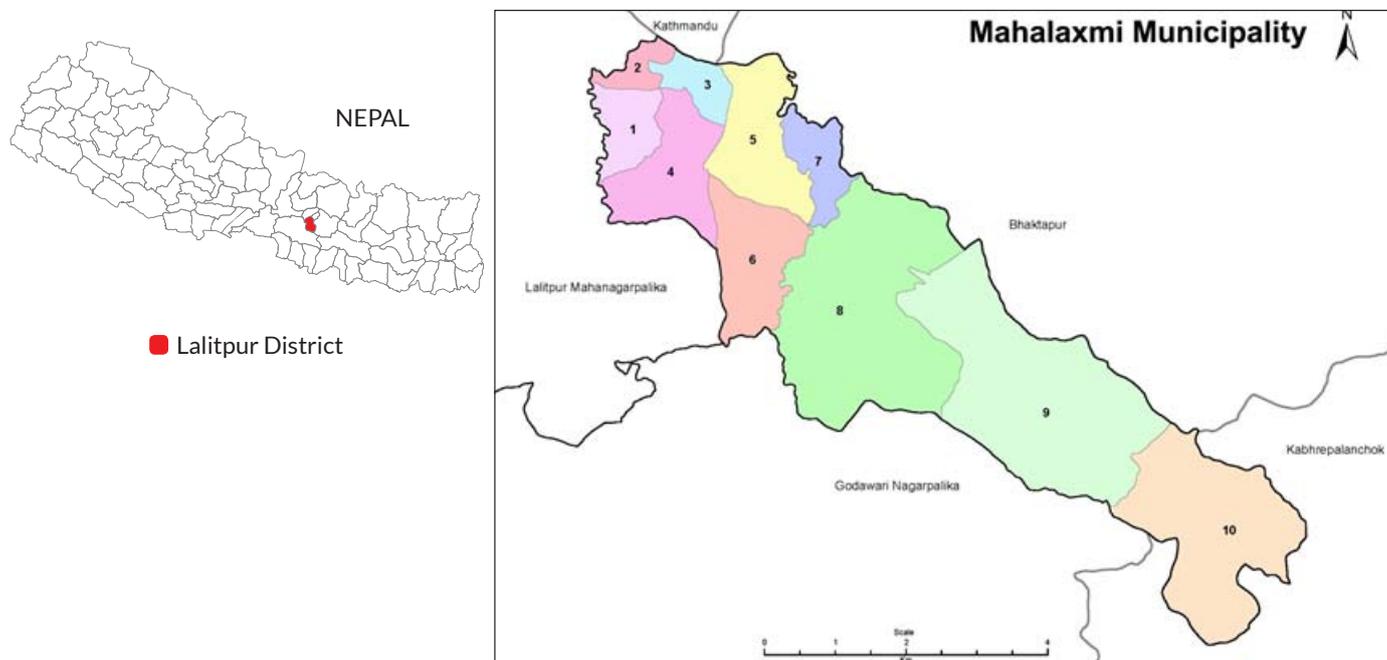


Figure 3: Location map of Mahalaxmi Municipality

Source: CDNDoGM 2016/17

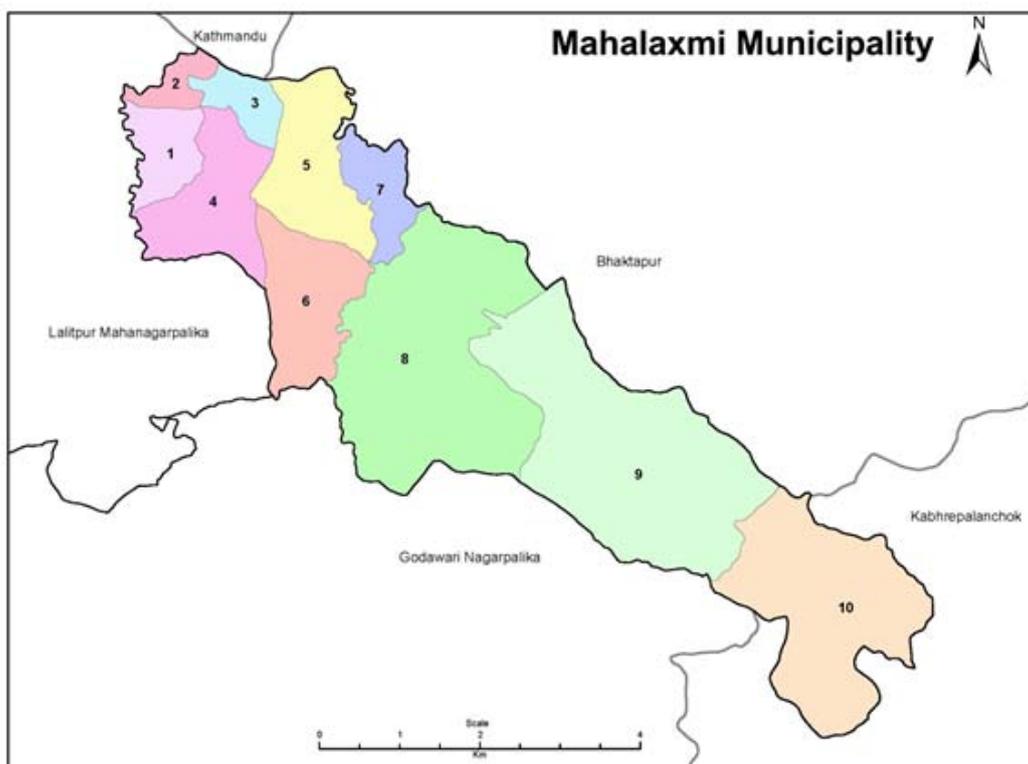


Figure 4: Wards of Mahalaxmi Municipality

Table 2: Erstwhile VDCs, current wards and population data – Mahalaxmi Municipality

Erstwhile VDCs		Ward	
Name	Area (km ²)	No.	Area (km ²)
Imadol	4.02	1	0.95
		2	0.45
		3	0.63
		4	1.99
Lamatar	11.06	9	6.57
		10	4.49
Lubhu	6.40	8	6.40
Siddhipur	2.01	6	2.01
Tikathali	3.01	5	2.08
		7	0.93
Total	26.51		26.51

Sources: CDNDoGM 2016/17 for area; CBS 2011 for population.

3.2 Demography

The following data is derived from the 1991, 2001 and 2011 national population and housing censuses (CBS 1992, 2002, 2012).

Population growth and trends – The population of the current municipal area (equivalent to the five erstwhile VDCs) increased from 29,626 in 1991 to 35,802 in 2001 and then almost doubled to 62,172 in 2011 as the area became part of the main Kathmandu-Patan conurbation (Table 3). The average annual growth rate increased from

1.89% between 1991 and 2001 to 5.52% in the following 10 years (Figure 5). Much of the growth has been in Imadol in the northwest of the municipality. In 1991, Imadol VDC made up about 22% of the total population, but by 2011 accounted for almost 44%. Between 2001 and 2011, Imadol accounted for just over two-thirds of the municipality’s total population gain.

The population will cross the 100,000 mark by 2021 if the 5% annual growth rate is maintained. A lower growth rate of 3% would see the population crossing 100,000 by 2027.

Table 3: Households, population and average household size – Mahalaxmi Municipality

Census year	No. HHs	Population			Sex ratio	HH Size	Density (p/ha)	Decadal change		
		Total	Male	Female				No. HHs	Population	AAGR (%)
1991	5,532	29,626	14,802	14,824	99.85	5.36	11.18			
2001	7,262	35,802	17,899	17,903	99.98	4.93	13.51	1,730	6,176	1.89
2011	14,930	62,172	31,071	31,101	99.90	4.16	23.45	7,668	26,370	5.52

Sources: CBS 1992, 2002, 2012. AAGR = average annual growth rate (exponential); p/ha = persons per hectare

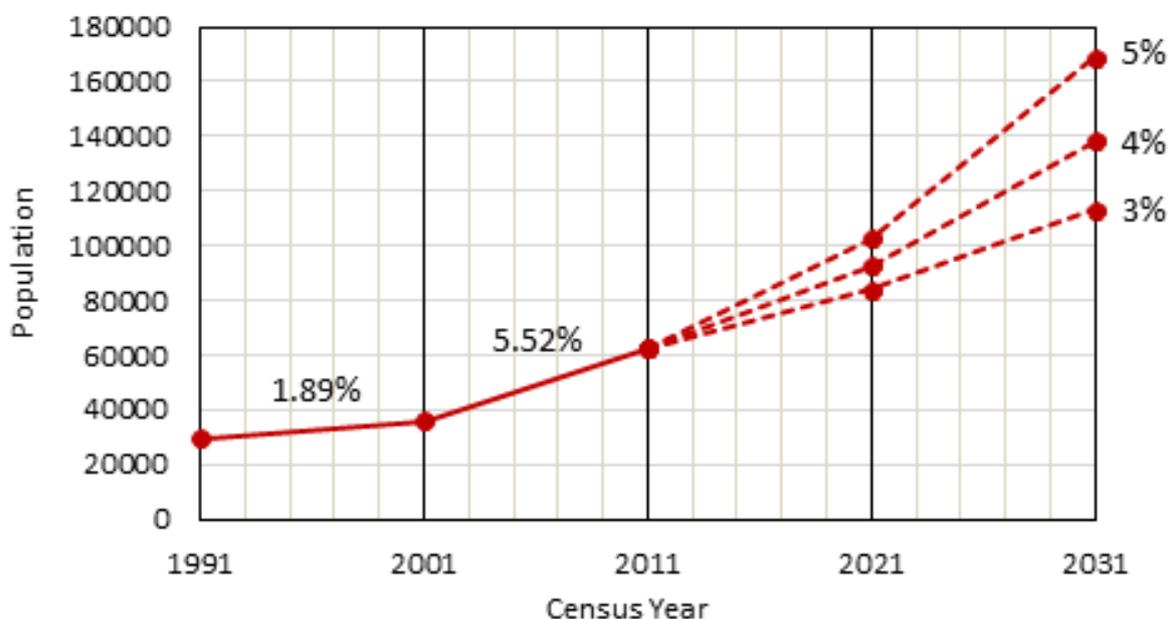


Figure 5: Population projection beyond 2011 – Mahalaxmi Municipality

Source: CBS 1992, 2002, 2012

Table 4: Age-wise population – Mahalaxmi Municipality

Age group	Total	Share (%)	Males	Females	Sex ratio M:F
0 to 14	14,697	23.64	7,725	6,972	110.80
15 to 59	42,716	68.71	21,144	21,572	98.02
60 and above	4,759	7.65	2,202	2,557	86.12
Total	62,172	100.00	31,071	31,101	99.90

Source: CBS 2012

Age – In 2011, the economically active age-group (aged 15–59 years) made up 69% of the population (Table 4), which is a large proportion and an economic advantage.

Caste and ethnicity – It is important to know the caste and ethnic makeup of an area as different ethnic groups have different perceptions, stakes and interests and it is important that all groups are fairly represented and provided with opportunities. The point was made during the focus group discussions that development decisions can be made more quickly in areas where there is a social and ethnic mix relative to places where there is domination by one particular ethnic group.

In 2011, Newars and Chhetris were the most numerous social groups (Figure 6). Newars made up 87% of the population of Siddhipur and more than half of the population of Lubhu, which is not surprising given that they are ancient Newar towns. Many Tamangs live in the rural areas of Lamatar making up 16% of the population there.

Literacy – The adult literacy rate in Belkotgadhi in 2011 was only 61.67% with female literacy standing at only 54.11% compared to 69.92% for male literacy.

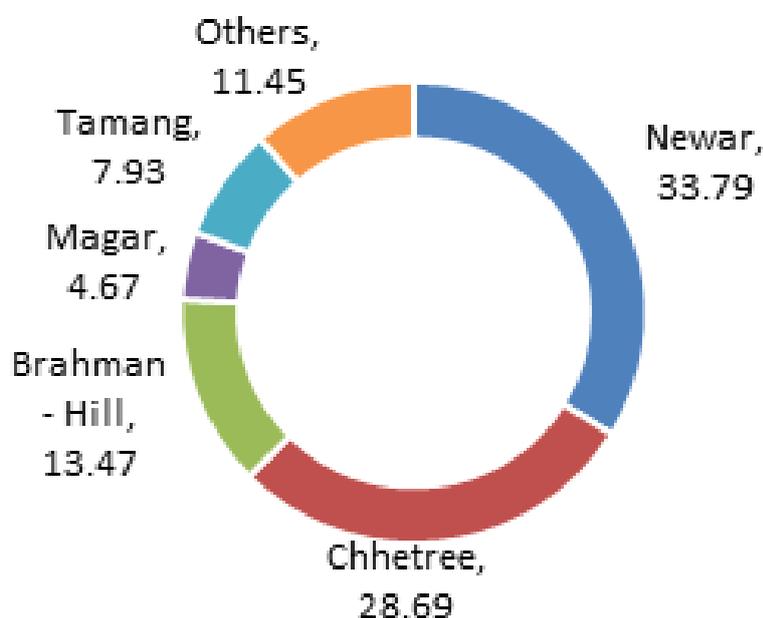


Figure 6: Population by caste and ethnicity – Mahalaxmi Municipality

Source: CBS 2012.

3.3 Land Use and Urban Growth Patterns

The built up urban areas of the municipality increased from only 1% of the area in 1994 (Figure 7) to about a quarter in 2017 (Figure 8). The coverage of forested areas remained constant at about 30% of the area, but the cultivated area shrunk from 75% in 1994 to 46% in 2017.

Due to its proximity to the Kathmandu-Patan conurbation, Imadol in the northwest of the municipality, which was a series of scattered settlements, has developed into a densely populated built-up residential area.

Although there are still large patches of agricultural land in Lubhu and Lamatar in the southeast, the farmland across all of the municipality is being rapidly transformed into residential developments. The old core areas of Siddhipur and Lubhu towns are being surrounded by scattered residential development as seen from the huge changes between 2003 and 2017 shown on Figures 9 and 10.

3.4 Market Centers

Mahalaxmi Municipality is a rapidly urbanizing area with mixed land use. Many commercial enterprises have grown up along the Imadol-Lubhu road in the Imadol area resulting in the development of a linear market. The local traditional markets continue in Lubhu and Siddhipur (Sanagaun) towns where basic consumer goods are traded. Dhungin bazaar and Lakuri Bhanjyang bazaar serve rural hinterlands and are known for the trade of agricultural products and bamboo products respectively.

3.5 Places of Attraction

Mahalaxmi Municipality has an interesting mix of urban and rural areas and new and traditional settlements. Lubhu and Siddhipur towns are traditional Newar settlements with a rich heritage and ancient temples and monuments. Lakuri Bhanjyang on the edge of the Kathmandu Valley in the southeast is a spectacular viewpoint and a popular tourist and trekking spot known for its spectacular sunrise and Himalayan views.

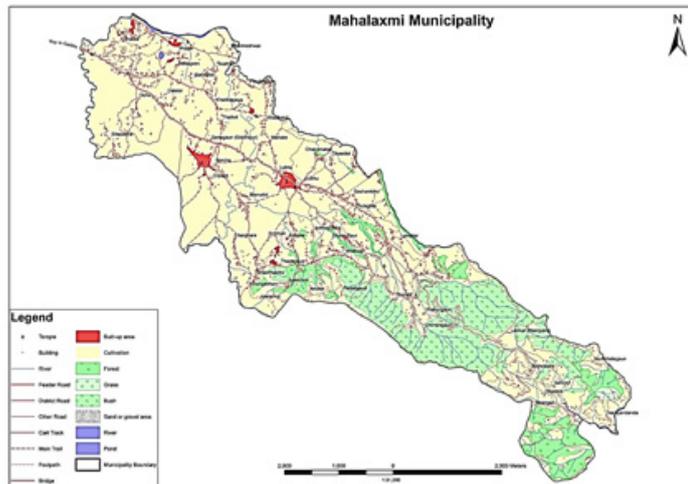


Figure 7: Land use map of Mahalaxmi Municipality, 1994
Source: DoS 1994

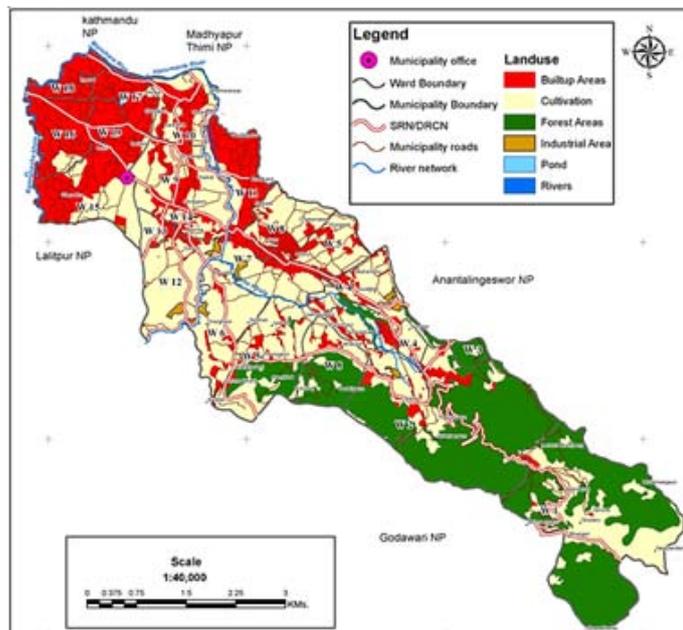


Figure 8: Land use map of Mahalaxmi Municipality, 2017
Source: DoS 1994



Figure 9: Satellite image of Siddhipur and Lubhu areas (October 2003)

Source: Google Earth



Figure 10: Satellite image of Siddhipur and Lubhu areas (February 2017)

Source: Google Earth

4. Environment and Natural Resources

Rivers – The Godawari River is the main river in the municipality. It flows from the neighboring Godawari Municipality and in its upper parts is one of the cleanest rivers in the Kathmandu Valley. Because of this, many businesses have grown up supplying water to the Kathmandu Valley suppliers from tube wells drilled along the Godawari River. Although the government banned the installation of deep tube wells within 200 meters of rivers, this has not been stringently enforced and is threatening the sustainability of water use from the Godawari River.

Ponds – The municipality has six ponds – Boje Pokhari, Kamal Pokhari, Inbahal Pokhari, Nyatha Pokhari, Mayalpani and Sankha Pokhari. They are important for recharging ground water while some have cultural significance.

Forests – Forests cover 7.9 km² or 30% of the municipality and are almost all in the southeast of the municipality managed by local community forest user groups.

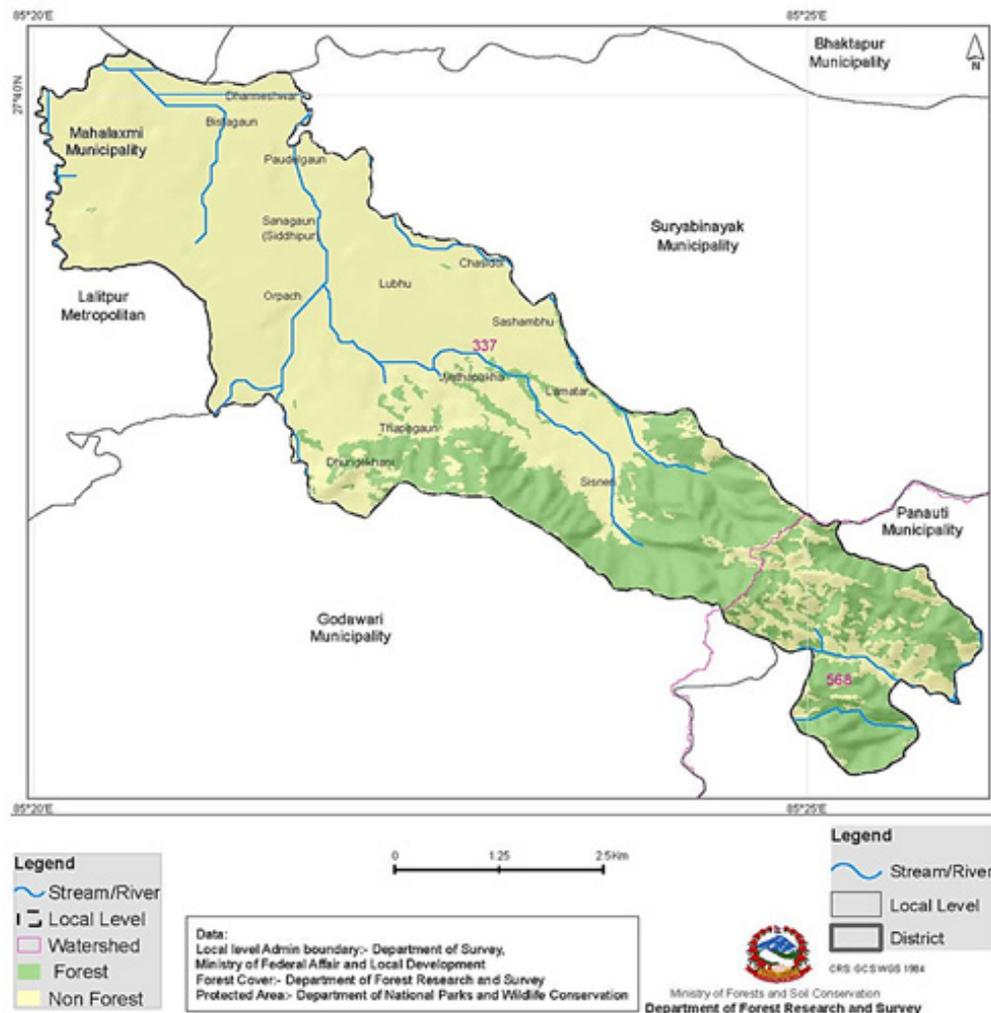
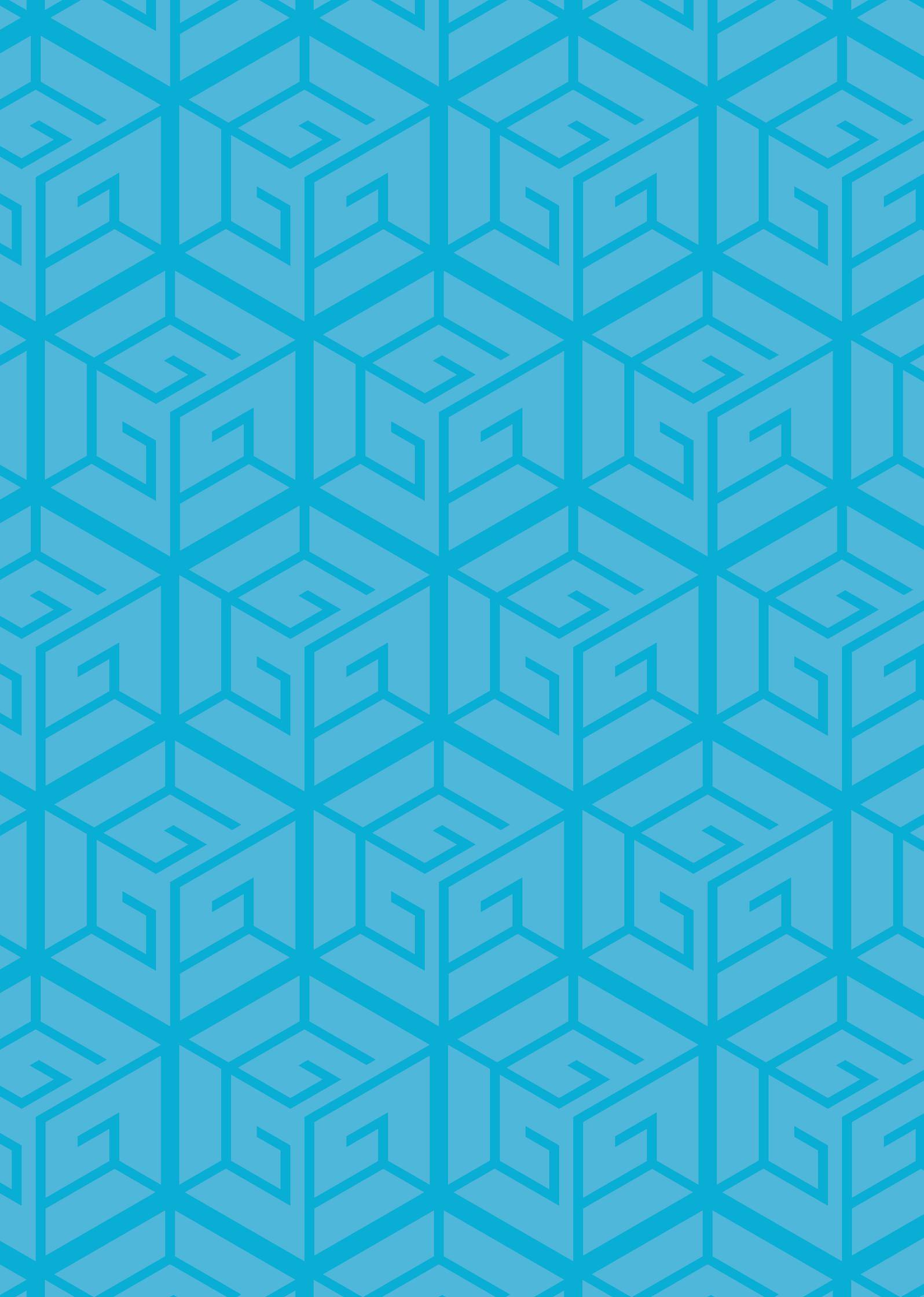


Figure 11: Forest map – Mahalaxmi Municipality
 Source: DoFRS (2017)



5. Economy

The main traditional occupation is agriculture, and it is still common in all areas of the municipality except Imadol. A number of dairy farms remain in Imadol. In the southeast (Lamatar), rice, wheat, maize and millet and seasonal vegetables and fruits are grown. The rising urbanization and loss of farmlands has led many locals to switch to non-farm occupations. In Imadol, non-farm activities dominate the economic landscape. Imadol previously had many brick kilns, which are being replaced by residential developments. Many people commute to the urban centers of Kathmandu, Patan and Bhaktapur for work.

In Lubhu and Siddhipur, besides agriculture, indigenous people engage in home-based industries. Almost every house in Lubhu has a handloom for textile production. Lubhu is a major supplier of textile to Kathmandu's garment factories. Siddhipur is famous for producing sukuls – a handmade mat made from dry grass.



Handloom in Lubhu (left); women weaving sukul in Siddhipur (Photo courtesy: N. Shrestha)

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6. Infrastructure, Facilities and Basic Services

6.1 Housing

Houses are an important asset that indicate their owners' economic status. They can be used as collateral against loans. The 2011 national census (CBS 2012) reported the following for Mahalaxmi Municipality:

- Of the 14,930 households in Mahalaxmi Municipality, about two-thirds lived in their own buildings while one-third lived in rented houses.
- Most households (68.5%) lived in buildings with outer walls of cement bonded bricks or stones. In the rural areas, buildings with mud-bonded bricks or stones predominated. About 30% of households lived in buildings with reinforced concrete (RCC) foundations and 36.6% in buildings with cement bonded bricks or stones.
- 69% of households lived in houses with RCC rooves and 15% in houses with galvanized iron rooves.

Note that the 2015 earthquakes caused considerable damage to the many houses in the rural parts of the municipality with outer walls of mud-bonded bricks or stones.

6.2 Roads and Transportation

Mahalaxmi Municipality is easily accessible from neighboring areas via the Kathmandu Ring Road and the Imadol-Lubhu road, which runs along the axis of the municipality from Gwarko to Lakuri Bhanjyang via Lubhu and Lamatar (Figure 12). Other important strategic roads include the Thaiba-Sanagaun, Krishna Mandir-Imadol-Tikathali, Gwarko-Lubhu and Balkumari-Manohara roads. About 4 km of the proposed Kathmandu Outer Ring Road will pass through the municipality, and if built will accelerate urbanization in the area.

In 2011, 494 of the municipality's 14,930 households owned four-wheel vehicles and 5,262 households owned motorcycles. Vehicle ownership was highest in Imadol. The Imadol part of the Gwarko-Lubhu road is busiest in terms of traffic flow. A survey carried out between 6 am and 6 pm in July 2016 for the Municipal Transport Master Plan found that of the four locations surveyed the Imadol area recorded the highest traffic volume of 10,411 passenger car units in the 12 hour period.

The municipality is served by buses, minibuses and microbuses that run to and from Lagankhel, Kalanki, and Ratna Park in Kathmandu (Table 5). Local people said that these services are, however, inadequate given the rising number of commuters who work in the conurbation. There is a need for high-capacity buses along the Lakuri Bhanjyang-Lubhu-Gwarko route, with secondary routes served by smaller buses

6.3 Other Services

The following data is from the 2011 national census (CBS 2012):

Drinking water – In 2011, only 43% of households had taps or piped water supplies as their main sources of drinking water. Despite being the most urbanized area of the municipality, Imadol was least served by piped water with less than 5% of households having piped water. Just over half of Imadol's households depended on water trucks for their drinking water! Tikathali was also less well served by piped water. Between 85% and 92% of households in Lamatar, Lubhu, and Siddhipur had piped water as their primary source of drinking water. The conservation of wells in Imadol and Tikathali needs urgent attention as these are important water sources.

Cooking fuel – In 2011, LPG was reported as the main cooking fuel with 80% of households using LPG and 14% firewood. about two-thirds of households used firewood for cooking in the most rural part of the municipality, Lamatar. Only 0.44% used electricity for cooking.

Lighting – 96% of households used National Grid electricity for lighting their houses.

Toilets – In 2011, 97% of households had access to toilet facilities, with 82% having flush toilets. A few households in Lubhu (1.1%) and Lamatar (2.3%) did not have their own toilets.

Solid waste management – To date, all municipal governments of the Kathmandu Valley except Bhaktapur are dumping their solid waste in the Sisdol area in Nuwakot district – about 27 km away from Kathmandu.

This landfill site is estimated to have the capacity for only two more years of the Valley’s waste. Mahalaxmi Municipality is a rapidly urbanizing area with an increasing amount of solid waste meaning that the municipality urgently needs to find a sustainable way of managing its solid waste.

Fecal sludge management – Although municipality-specific information was not available, the status of fecal sludge management in the urbanized areas of the municipality is probably similar to other parts of the Kathmandu Valley. About 70% of households in the Valley dispose of their excreta directly into sewer lines (HPCIDBC 2011). Due to the lack of functional wastewater treatment facilities, almost all sewage ends up untreated in rivers. Although the remaining 30% of households use on-site systems (pit latrines and septic tanks), which are more environmentally friendly,

the sludge collected there is also directly or indirectly discharged into rivers. Thus, regardless of it is handled or disposed of, rivers continue to be on the receiving end.

6.4 Social Infrastructure

Schools – As of 2016, the municipality had 50 pre-primary and primary schools, 32 lower secondary and secondary schools and 10 higher secondary schools. Twenty-nine of these schools are run by local communities.

Healthcare – Local people have easy access to Nepal’s central level hospitals including the KIST Medical College at Gwarko, which is located in the municipality and provides 24-hour emergency health care and sophisticated health care services. An Ayurveda hospital is located in Imadol. Each of the erstwhile VDCs has at least a health post or basic health center.

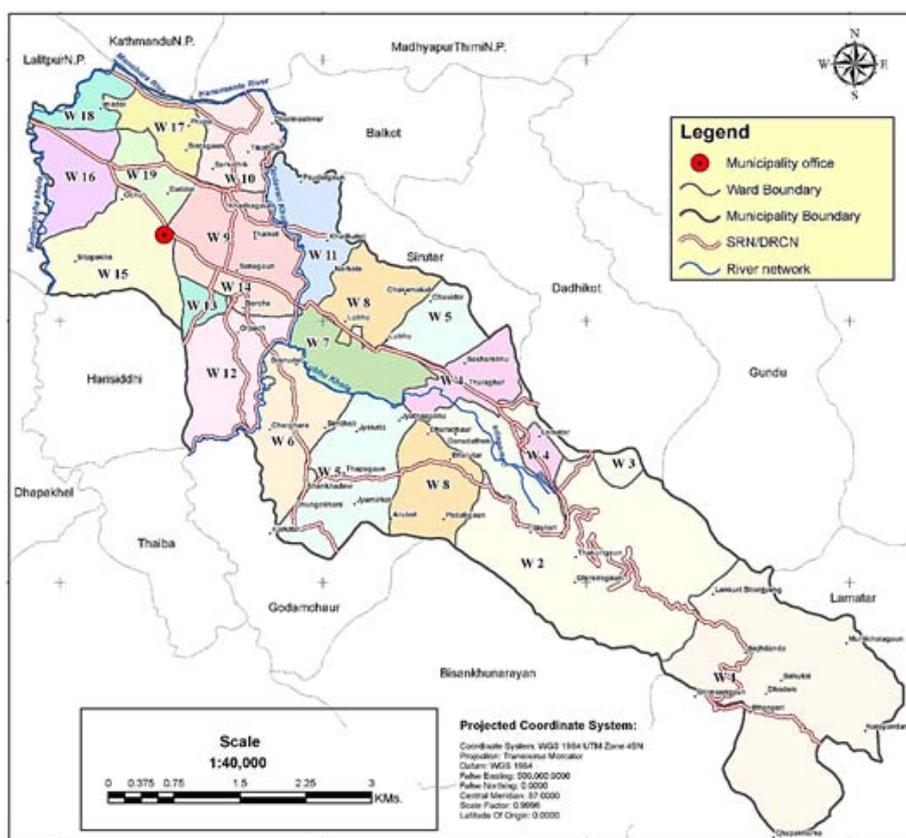


Figure 12: Road network – Mahalaxmi Municipality
Source: Mahalaxmi Municipality 2017a

Table 5: Public transport services – Mahalaxmi Municipality

Route	Vehicle type	No. vehicles operating per day
Lagankhel–Narkate–Tikathali	Buses, minibuses	8
Kalanki–Godawari Khola–Tikathali	Buses, minibuses	18
Ratna Park–Sanagaun–Siddhipur	Tempos	7
Ratnapark–Buddhamarg–Siddhipur	Microbuses	4
Lagankhel–Changathali	Minibuses	10-12
Lagankhel–Lubhu	Buses, minibuses	12-15
Lagankhel–Dhungin	Buses, minibuses	30
Lagankhel–Manedobhan	Buses	2

Source: Mahalaxmi Municipality 2017b

7. Policy, Regulation and Planning

Local Level Governance Act – The basis for the functioning of local governments (municipalities and rural municipalities [gaunpalika]) were established by the promulgation of the Local Level Governance Act, 2017. The act, formulated in accordance with the Constitution of Nepal, 2015, grants local governments significant legislative, executive and judicial rights. It gives local legislatures the power to formulate local laws in line with federal level legislation, while local judiciaries can decide cases related to irrigation, daily wages, pastures and other issues.

The act gives local governments the authority to manage teachers, staff and education up to the basic level (Grade 8) and to oversee basic health care. They can set up their own police forces, issue land ownership certificates, collect revenue on property, and register births, deaths and marriages. They can also levy taxes on house rent, entertainment, property and tourism.

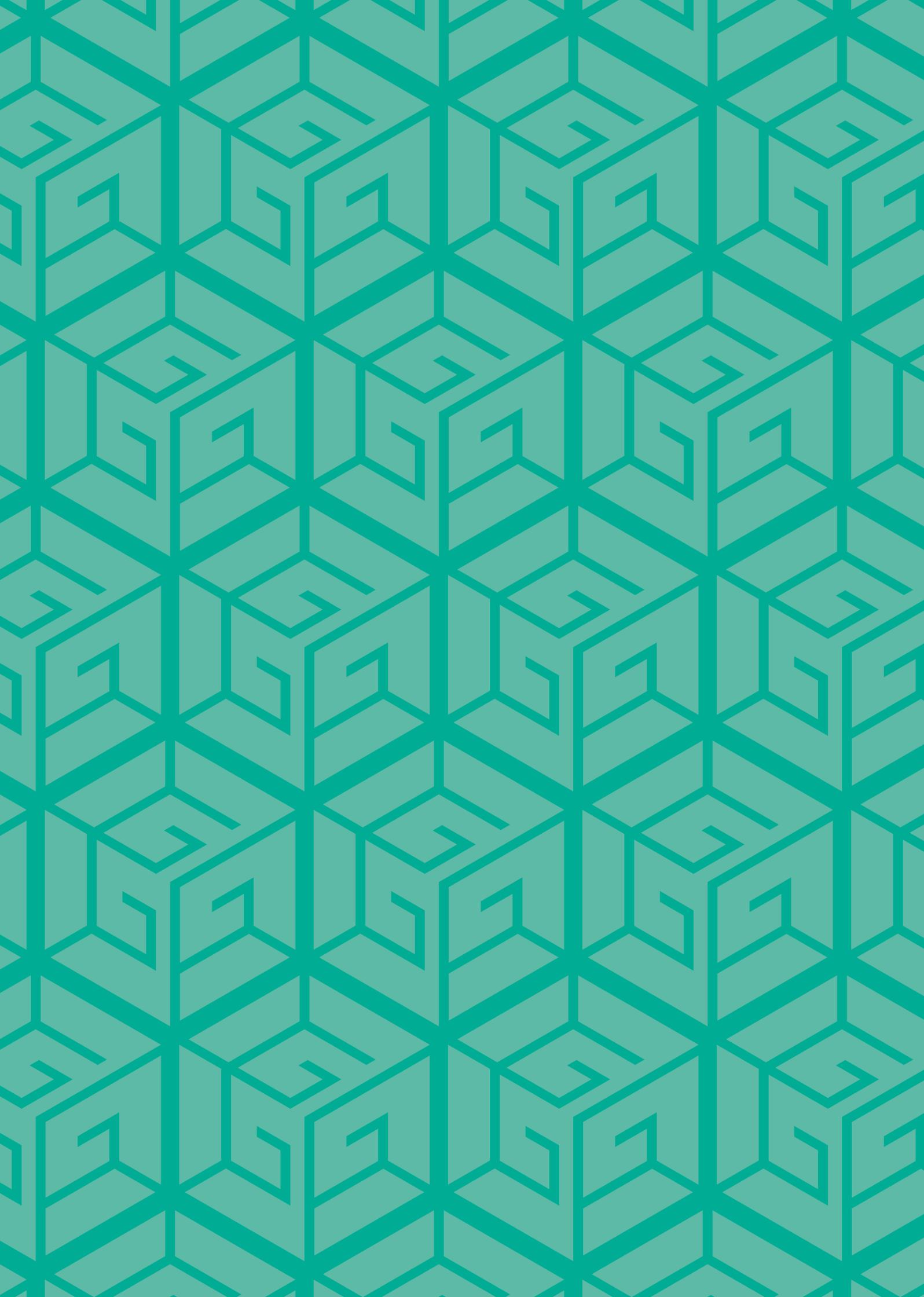
Policies and vision – Being a new municipality, Belkotgadhi Municipality is yet to prepare the legal provisions necessary to run the office as per its rights and obligations under the Constitution of Nepal 2015 and the Local Level Governance Act. Belkotgadhi Municipality's vision is: "Agriculture, tourism, and infrastructure development as the basis for a modern prosperous city."

Municipal vision and policies– Mahalaxmi Municipality's vision statement is "Clean, Green, Prosperous, Full of Beauty – Mahalaxmi Municipality."

Towards the achievement of its vision, the municipality has prepared the following policies:

- Municipality Municipal Council (Work Division) Rules, 2074 BS (2017)
- Municipality Municipal Council Work Performance Rules, 2074 BS (2017)
- Finance Act, 2074 (2017)
- Financial Administration Rules, 2074 BS (2017)
- Integrated Property Tax Collection and Management Directive 2074 BS (2017)
- Judiciary Committee Formation Directive 2074 BS (2017)
- Municipal Police Rules, 2074 BS (2017).

Major programs – Mahalaxmi Municipality is one of 191 municipalities where the Local Governance and Community Development Programme (LGCDP) 2 is being implemented. Executed by MoFAGA, LGCDP is a national program that empowers citizens to engage with local governments and increases the capacity of local governments to manage resources and deliver basic services in an inclusive and equitable way besides strengthening the institutional framework for decentralization, devolution and community development. Mahalaxmi Municipality is also preparing to implement Environment-friendly Local Governance Programme (EFLGP) and Child-friendly Local Governance Programme (CFLGP), which were designed by MoFAGA.



8. Municipal Institutions and Capacity

8.1 Organizational Setup

As per earlier guidelines prepared by MoFALD, the municipality formed the following six thematic committees, which are all chaired by the Mayor:

- Public Service and Capacity Development Committee
- Economic Development Committee
- Social Development Committee
- Infrastructure Development Committee
- Environment and Disaster Management Committee
- Legal Committee.

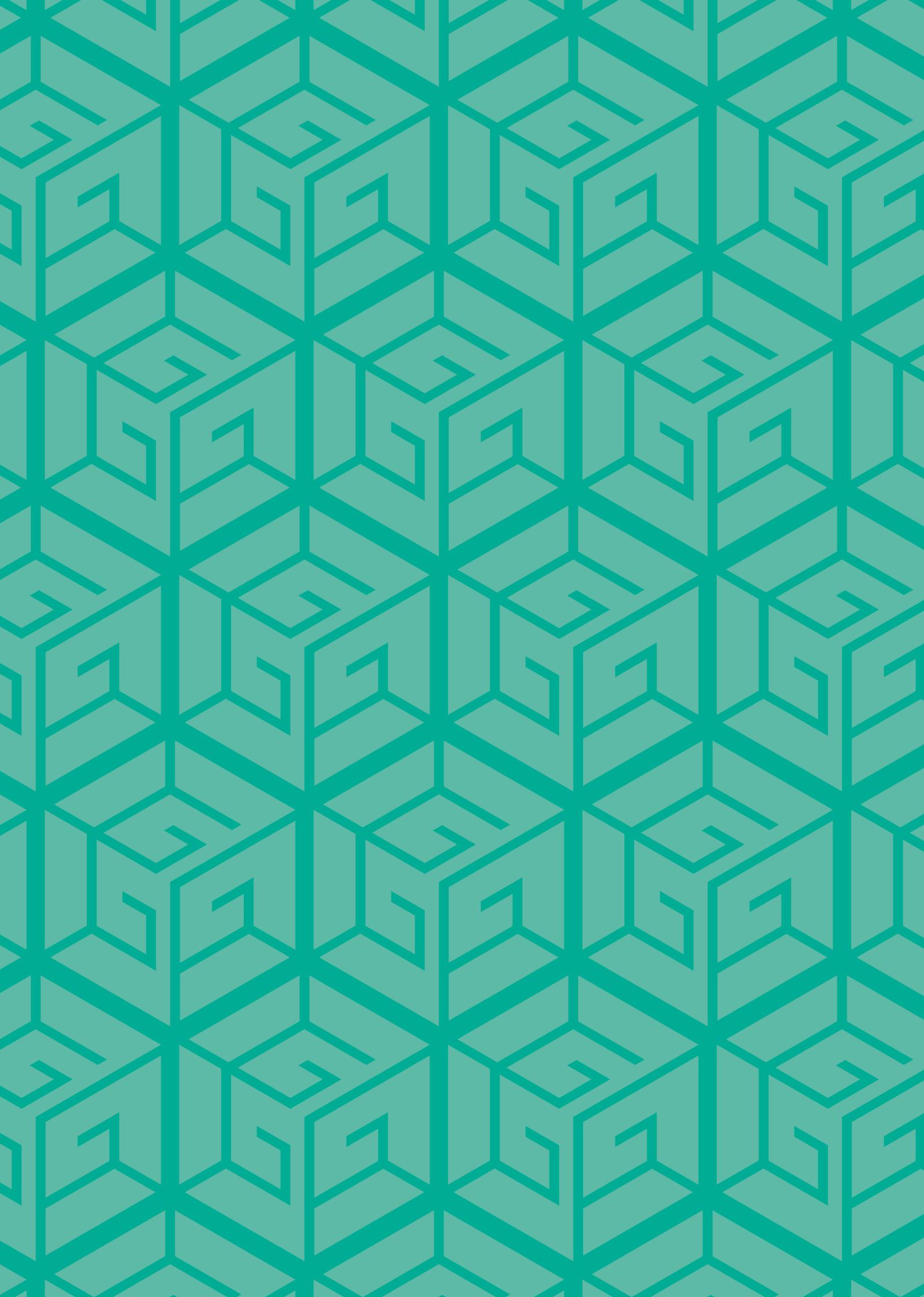
Note that the first local government elections (including municipality elections) under the new federal constitution were held in 2017. The municipality's website is at <http://www.mahalaxmimun.gov.np/en>

8.2 Technical and Physical Capacity

Mahalaxmi Municipality does not have its own office building and operates from a rented building in Imadol. It neither has its own land for building its office nor enough financial resources to buy land.

The office recently issued a public appeal for the donation of one hectare of land within 500m of the Imadol – Dhungin Bus Park road to build the municipality office on. The budget for building an office can only be secured once a municipality owns suitable land. If land does not become available in the ideal location, the municipality plans to build its office anywhere in the municipality where land can be freely acquired.

The availability of technical human resources in the Municipal Office is far too little to service the growing workload. Currently the municipal office has one engineer, one environment engineer and one sub-engineer apart from a few technical officers deputed for earthquake reconstruction purposes. The municipal office is seeking to create positions for additional technical staff.



9. Municipal Finances and Revenue

The issuing of permits was the municipality's main source of internal revenue between FY 2014/15 and 2016/17 (estimated) (Table 6). The inclusion of Imadol in the municipality, which is one of the fastest growing areas in Nepal has boosted the municipality's revenues. However, Imadol also represents a classic example of haphazard development with poor road networks and water supply facilities. A balance

needs to be struck between applying building permits as a revenue generating tool and as a tool for planned urbanization.

The amount of external income far outweighs internal income although the gap has decreased over the years from 84:16 in FY 2014/15 to an estimated 76:24 in FY 2016/17 (Figure 13).

Table 6: Breakdown of revenue – Mahalaxmi Municipality (FYs 2014/15–2016/17)

Description	2071/072 BS (2014/15)		2072/073 BS (2015/16) – revised		2073/074 BS (2016/17) estimated	
	NPR	USD	NPR	USD	NPR	USD
1. Internal sources						
1.1 Local taxes						
1.1.1 Land revenue	1,831,567	17,782	1,000,000	9,709	1,500,000	14,563
1.1.2 House and land taxes			50,000	485	100,000	971
1.1.3 Rent taxes			50,000	485	50,000	485
1.1.5 Annual business taxes						
1.1.5.1 Business registration			100,000	971	100,000	971
1.1.5.2 Business renewal			50,000	485	50,000	485
1.1.5.3 Business taxes			50,000	485	50,000	485
1.1.9 Advertisement taxes			25,000	243	25,000	243
1.2 Service fees			20,000	194	20,000	194
1.2.6 Evaluation fees for immovable properties			30,000	291	100,000	971
1.2.8 Other fees			20,000	194	20,000	194
1.3 Charges						
1.3.2 Building permits	11,242,750	109,153	15,000,000	145,631	21,000,000	203,883
1.3.3 Recommendation charges	6,243,251	60,614	6,500,000	63,107	6,500,000	63,107
1.3.4 Relationship certification charges			30,000	291	30,000	291
1.3.5 Other charges			20,000	194	30,000	291
1.7.8 Contingency income	449,136	4,361	449,136	4,361		
Total of revenue from internal source	19,766,703	191,910	24,594,136	238,778	30,775,000	287,136

2. External sources						
2.1 Grants						
2.1.1 Grants from Government of Nepal						
2.1.1.1 Recurrent conditional grant					5,000,000	48,544
2.1.1.2 Recurrent unconditional grant	1,031,200	10,012			5,000,000	48,544
2.1.1.3 Capital conditional grant (public construction)	3,845,000	37,330	8,743,000	84,883	10,000,000	97,087
2.1.1.4 Capital unconditional grant			29,754,000	288,874	50,000,000	485,437
2.1.2 Government of Nepal/LGCDP recurrent grant	4,091,372	39,722	4,863,000	47,214	5,000,000	48,544
3.1.3 Revenue distribution registration	2,651,745	25,745	8,000,000	77,670	10,000,000	97,087
5.1 Other grants		-		-		-
5.1.1 Social security	11,493,400	111,586	12,000,000	116,505	12,500,000	121,359
5.1.2 District development committee capital grant	11,987,760	116,386		-		-
5.1.3 District Administrative Office (earthquake relief)	67,215,000	652,573	26,280,000	255,146		
5.1.5 District development committee recurrent grant	1,807,400	17,548				
Total revenue from external sources	104,122,877	1,010,902	89,640,000	870,291	97,500,000	946,602
1.7.7 Responsibility transferred from erstwhile VDCs	26,022,111	252,642				
Net after tax deduction	59,871	581				
Bank deposits			41,907,243	406,866		
Grand total	149,971,563	1,456,035	156,141,379	1,515,936	128,275,000	1,245,388

Source: Mahalaxmi Municipality Income Expenditure Information FY 2071/72; Budget, Policy and Program FY 2073/74. Note: 1 USD = NPR 103.

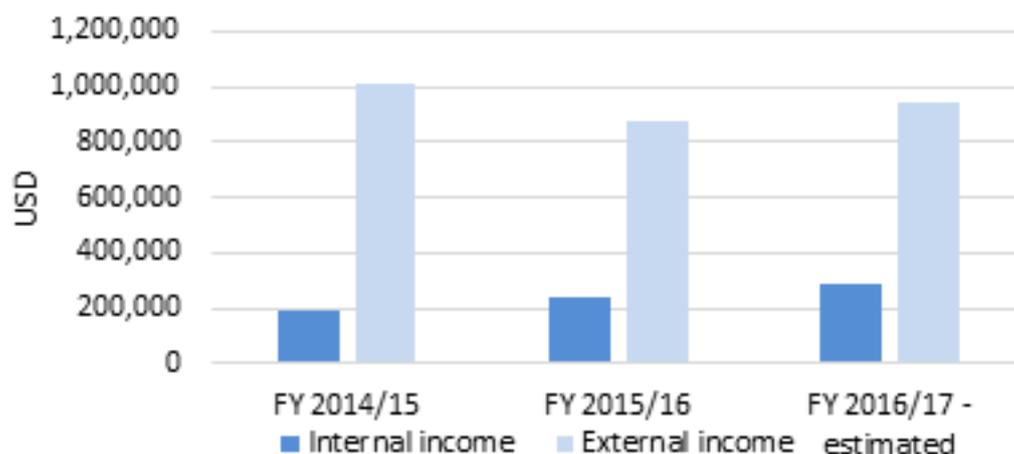


Figure 13: Internal and external income of Mahalaxmi Municipality (FYs 2014/15–2016/17)

There was a large increase in the amount of capital expenditure between 2014/15 and 2016/17 (Table 7), which is encouraging as capital expenditure promotes socioeconomic and infrastructure development whereas recurrent expenditure mainly goes for administrative costs.

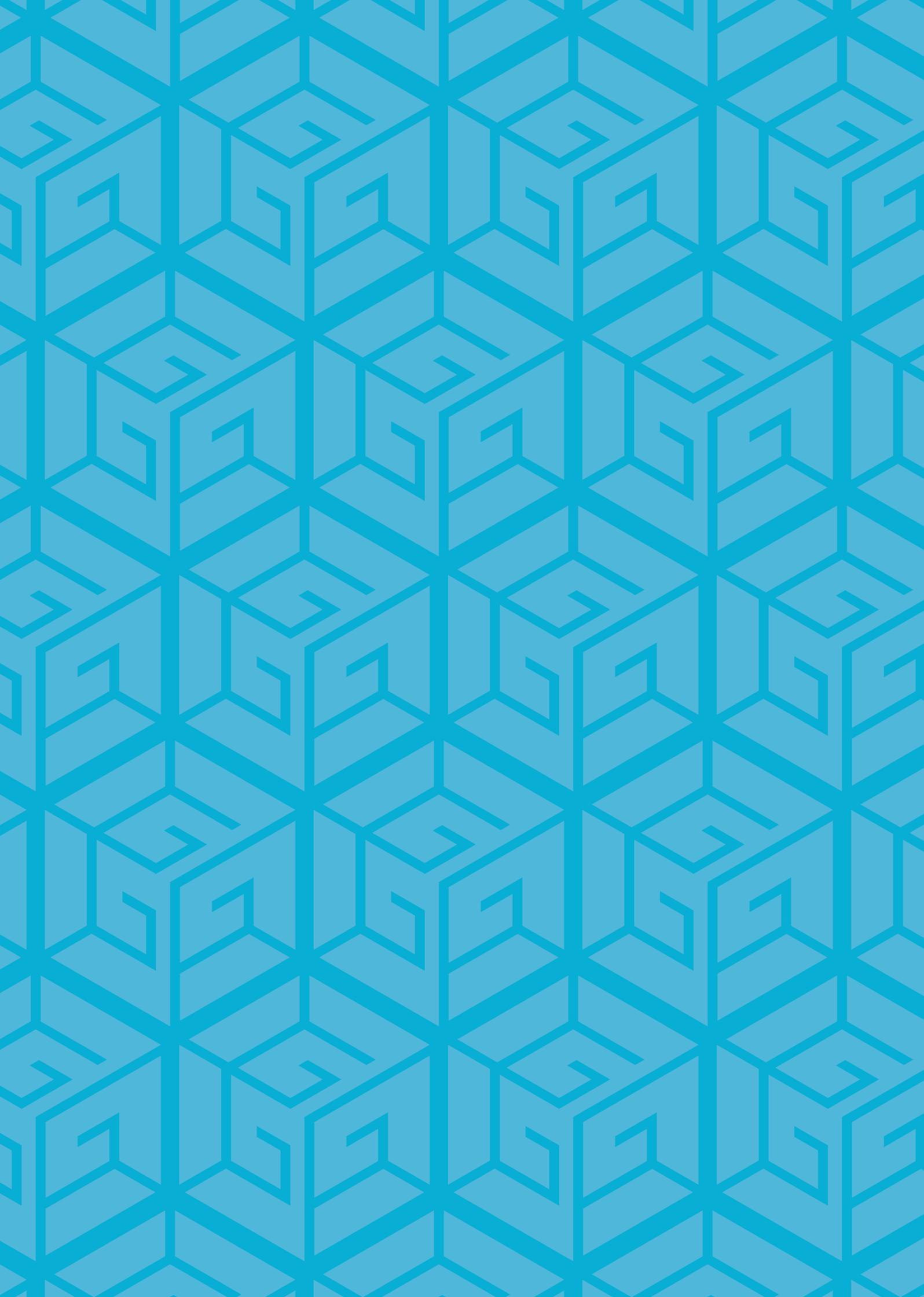
The budget of Mahalaxmi Municipality for 2016/17 was NPR 402.5 million (Table 8), twice the size of the previous year's budget. The ratio of external to internal income (76.4:23.6) follows the past trend. Putting aside the conditional grant, capital expenditure in 2016/17 was expected to be three times recurrent expenditure.

Table 7: Municipal expenditure – Mahalaxmi Municipality (FYs 2014/15 – 2016/17)

Description	FY 2071/072 BS (2014/15)		FY 2072/073 BS (2015/16)		FY 2073/074 BS (2016/17) – estimated	
	NPR	USD	NPR	USD	NPR	USD
Recurrent	85,090,068	826,117	48,788,771	473,677	80,239,000	779,019
Capital	22,974,253	223,051	79,506,933	771,912	128,584,500	1,248,393
Total	108,064,321	1,049,168	128,295,704	1,245,589	208,823,500	2,027,413

Table 8: Estimated budget of Mahalaxmi Municipality for FY 2074/75 (2016/17)

Description	Amount		Share (%)
	NPR	USD	
A. Income			
Internal revenue	94,850	921	23.56
Integrated property tax	20,000	194	21.09
Property registration fee	30,000	291	31.63
Charge (for recommendations etc.)	35,350	343	37.27
Others	9,500	92	10.02
External revenue: Inter-governmental fiscal transfer (IGFT)	307,678	2,987	76.44
Total income	402,528	3,908	100.00
B. Expenditure			
Recurrent	74,450	723	18.50
Capital	224,334	2,178	55.73
Conditional grant	103,744	1,007	25.77
Total expenditure	402,528	3,908	100.00



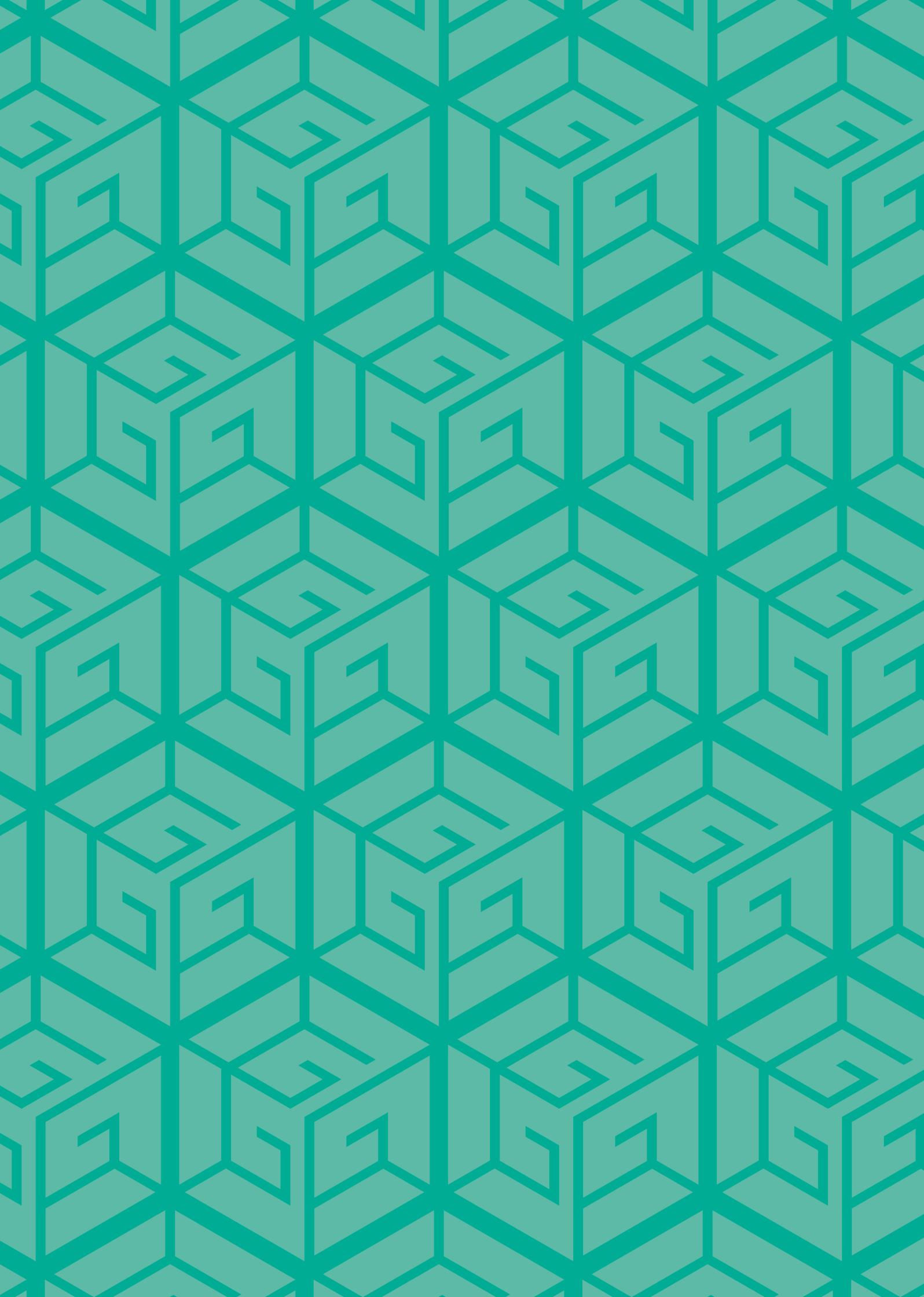
10. Municipal Stakeholders and Groups

Mahalaxmi Municipality has many NGOs and community-based organizations. Table 9 lists stakeholders who could support the implementation of the Green Municipal Development Program in Mahalaxmi Municipality.

Table 9: Municipal stakeholders – Mahalaxmi Municipality

Category	Stakeholders
Government organizations	Federal level: Ministry of Federal Affairs and General Administration, Ministry of Forests and Environment, Ministry of Urban Development Provincial level: Provincial government (under formation) Local level: Lalitpur District Coordination Committee
Business community	Lalitpur Chamber of Commerce and Industries – No. 2 Branch
NGOs (field of engagement)	Nepal Red Cross Society–Lalitpur branch (earthquake recovery), DEPROSC Nepal (service provider), ENPHO (water and sanitation), Lumanti (post-earthquake reconstruction), FSCN, Voice of Children and CWIS (child protection), Ekal Mahila Samuha (social mobilization), Anandit Upakar (child protection)
Community-based organizations (no.)	38 tole improvement committees*, 19 ward civic forums with 486 members (190 women, 293 men) and 10 citizen awareness centers with 257 members (235 women, 22 men).

Source: Municipal Office, FGDs. Note: *tole in Nepali means neighborhood.



PART 3: SECTORAL, POLICY AND PROJECT FINDINGS

11. Priority Sectors and Strategic Themes

To realize its vision of a clean, green, prosperous and beautiful municipality Mahalaxmi Municipality needs to identify and harness its potentials and competitive advantages.

The municipality covers a relatively small area compared to many other municipalities. Despite this, it possesses an interesting mix of modern urban areas (Imadol), traditional settlements (Lubhu and Siddhipur) and rural areas (Lamatar). Its main advantages lie in its proximity to the large cities of Kathmandu, Patan and Bhaktapur; good connectivity (good access to services available in neighboring areas); high population density in urban areas and the range of economic activities. Tourism and business development are priority sectors for municipal development as reflected in the municipal office's priorities and opinions expressed in the focus group discussions.

11.1 Tourism

Every year thousands of international tourists visit the Kathmandu Valley to see its tangible and intangible heritage. There is potential for Mahalaxmi Municipality to promote Lubhu and Siddhipur as traditional settlements with a rich heritage. Heritage-based tourism should be developed for international and domestic tourists. Scholars, researchers and students from within and outside the country should also be targeted. Tourism has a potential to contribute to conserving the area's heritage and traditional practices and for generating economic opportunities.

Lakuri Bhanjyang offers a different type of tourism with its spectacular sunrise and Himalayan views. Lamatar is a relatively underserved area where most locals are Tamangs. Home-stay programs would not only harness the tourism potential of the area but also help promote socioeconomic development. Tourism promotion could be linked to sanitation and hygiene improvements and the development of entrepreneurship skills to improve local living standards.

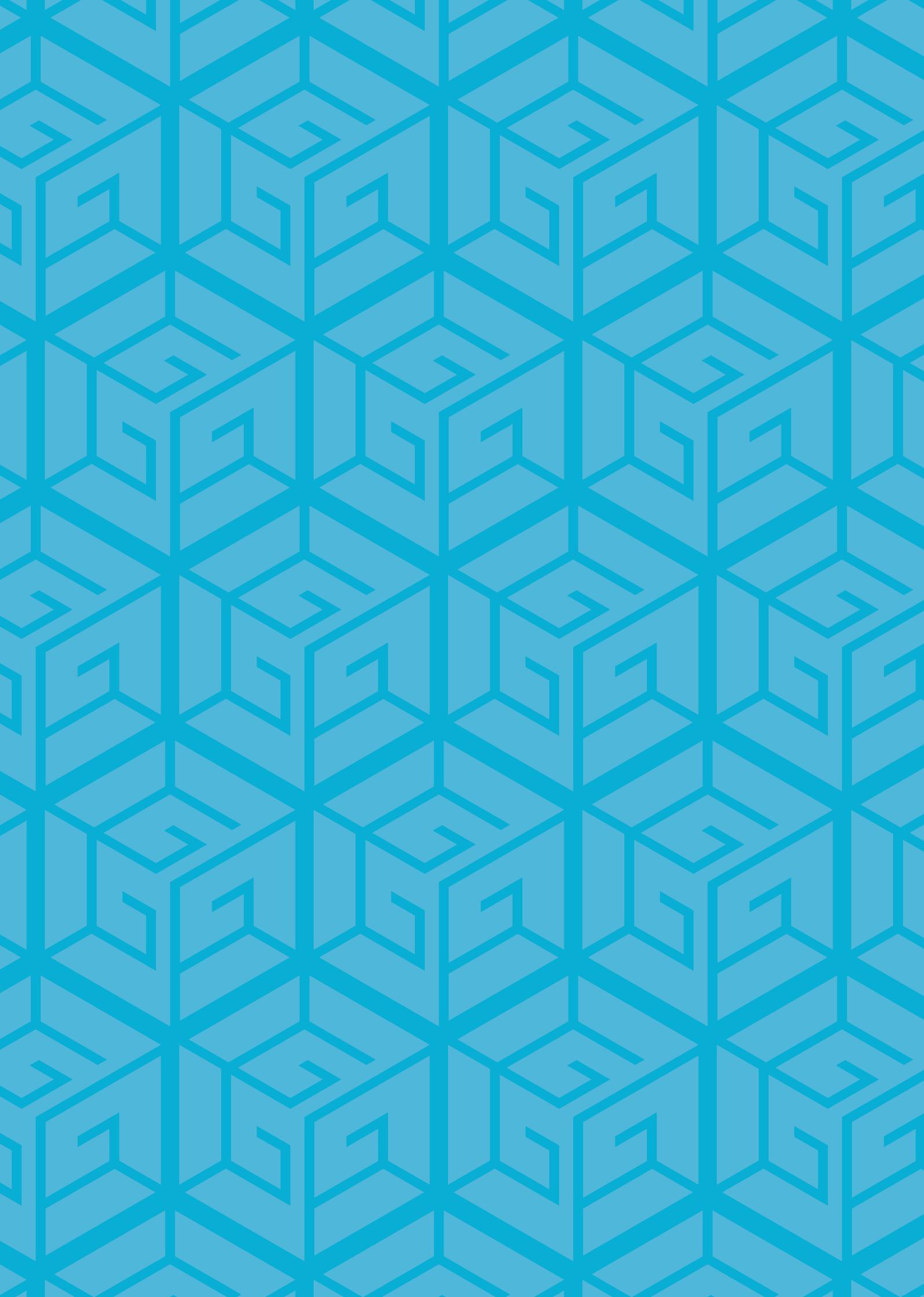
11.2 Enterprise development

Due to its proximity to Nepal's main conurbation and capital city, Imadol is a rapidly urbanizing area with a rising concentration of economic enterprises, most of which are related to construction materials and house furnishing. The traditional settlements of Lubhu and Siddhipur are known for home-based industries.

Lubhu is a major producer of handloom textiles for garment factories in Kathmandu. Some households still use traditional wooden handlooms while others have switched to electric looms. Although electric looms are more efficient, the reliability of power supplies can be problematic. Many households have scaled up their handloom industries.

Siddhipur is famous for producing sukul mats. Although fewer sukuls are used in houses they are gaining popularity as traditional flooring material in restaurants and as souvenirs. There is scope for making other saleable products from dried grass using local skills and knowledge.

The promotion of home-based industries and economic activities is important as the primary source of income of many local households used to be farming. These activities help many households build economic resilience in the face of falling economic returns from agriculture. These industries are important from the viewpoint of gender inclusion as many women are engaged in them. Note that there are more women in the economically-active population of the area.



12. Policy and Planning Recommendations

Mahalaxmi Municipality needs to invest in soft initiatives such as plans and policies as well as hard initiatives such as projects to face its challenges and to make the most of its opportunities. It needs to prepare seven types of municipal plans (and sub-plans) (Table 10). This exercise provides the opportunity to integrate green growth concepts and principles into municipal planning and development. The municipality has already prepared a number of rules and directives (see Section 7 above).

Technical and logistic support to municipal staff – As a relatively new municipality with limited human resources, Mahalaxmi Municipality needs technical and logistical support. The municipal office has one civil engineer and one environmental engineer to carry out regular municipal tasks. Given the rapid urban growth in the municipality, the municipality has too few technical human resources to service the growing work load. The short-term technical and logistic support needs are as follows:

- **Supplementary technical human resources:** Although the municipal office plans to create additional positions for technical human resources, external support in the form of short or mid-term engineering or planning staff would go a long way to build the municipality's

capacity for sustainable urbanization based on green growth principles. As engineers are not usually trained to address urbanization issues, the municipality's technical team should have an urban planner.

- **Trainings and exposure visits for the mayoral team on urban management:** The mayor and other elected representatives are not necessarily skilled as managers but need managerial skills to carry out their jobs. They also need to keep updated about urban challenges and practices to be able to address them. Likewise, the municipality's chief administrative officer (formerly executive officers) have important roles as they are advisors to the mayor, and as urban area managers.
- **Trainings and exposure visits for municipal staff:** Municipal staff need to update their skills and knowledge from time to time to learn about ways to address emerging issues – particularly about sustainable urbanization and green growth.
- **ICT support:** Improved service delivery through information and communication technology (ICT)-based applications including interconnectivity between municipal office and ward offices would promote time-saving and environment-friendly ways of doing business and managing urban areas. An IT-based platform could be created whereby municipal officials could respond to problems posted online or reported through mobile apps by residents.

Table 10: Municipal plans and policies needed by Mahalaxmi Municipality

Plans	Objectives	Components
(1) Comprehensive town development plan	To realize the municipal vision and priorities by promoting infrastructure development that proceeds with green growth potentials and concerns, and to promote planned urbanization.	<ul style="list-style-type: none"> a. Baseline mapping b. Twenty-year perspective plan guided by structural land use plan considering the trend of urban growth and land use change c. A Multi-sector Investment Plan of short to mid-term infrastructure and socio-economic projects (5–7 years) d. Measures to integrate the following companion plans that will be prepared separately: <ul style="list-style-type: none"> i. Risk sensitive land use plan ii. Municipal transport master plan iii. Tourism master plan iv. Environment preservation master plan including natural resource management plan v. Municipal finance plan
(2) Risk sensitive land use plan	To ensure safe housing while promoting local architecture; to ensure safety from floods, landslides, and climatic risks; and to prevent river pollution	<ul style="list-style-type: none"> a. Multi-hazard risk assessment (including climate risks) and zoning b. Slope and watershed analysis c. Byelaws on setbacks from rivers and streams
(3) Building byelaws	To control population density, ensure space for mobility, and preserve traditional architecture	<ul style="list-style-type: none"> a. Setback, ground coverage, height, and floor area ratio b. Guidelines for buildings in traditional settlements of Lubhu and Siddhipur
(4)Municipal Transport Master Plan (2017)	To ensure efficient and effective mobility within the municipality and to and from neighboring areas	<ul style="list-style-type: none"> a. Twenty-year road construction and connectivity plan b. Integrated land use c. Transport options d. Traffic management including road safety e. Parking management
(5) Tourism master plan	To harness the municipality's tourism potential, attract private investment and address poverty in underserved areas (e.g., through homestay programs)	<ul style="list-style-type: none"> a. List potential investment projects b. Identify sites, activities and costs for homestay programs, ecotourism and other community-based tourism programs c. Map tourism potential areas and activities d. Market and promote the area's tourist attractions
(6) Environment protection master plan including natural resource management plan	To protect environmentally sensitive areas and promote environment-friendly practices	<ul style="list-style-type: none"> a. An inventory of natural resources including forests and public lands b. An inventory of flora and fauna c. Mapping of environmentally sensitive areas d. The zoning of natural resources and land e. The management of river mining f. Solid waste management g. Landslide and soil erosion prevention and reduction h. The prevention of air, water, soil and noise pollution i. The management of urban parks and recreational areas and activities
(7) Municipal finance plan	To improve and increase revenue collection, explore new avenues for revenue generation and optimize investment and expenditures ensuring value for money	<ul style="list-style-type: none"> a. Long-term planning and budgeting b. Review tax rates and service fees c. Identify revenue sources d. A procurement plan e. Asset management f. A GIS-based information system documenting firms, businesses and other tax paying entities in the municipality g. A GIS-based land information system (with data on land ownership, area, plot number and size, land price and location)

13. Ideas for Projects

The Green Municipal Development Program is identifying potential infrastructure projects for prioritization and support based on their economic, social and environmental worth. In discussions with local stakeholders the project identified 10 types of projects that would benefit the municipality (see Annex 4). Further discussions with stakeholders identified the following five projects as the ones with the greatest potential.

Project 1. Strengthen the urban economy by promoting tourism

Description: Although rich in heritage, the traditional Newar settlements of Lubhu and Siddhipur lag behind in terms of infrastructure and services as many of the buildings are old and dilapidated, and local people, most of whom come from farming families, struggle economically with the loss of economic returns from farming activities. Due to high built density, upgrading the urban infrastructure and services in the core old town areas will be a challenge. Tourism could be a viable tool to regenerate these settlements, capitalizing on the cultural values they possess.

Tourism can also support development in the predominantly rural areas in Lamatar which lag behind in terms of development. The promotion of Lakuri Bhanjyang as a tourist destination will not only boost the economy as a whole by creating new jobs and economic activities (which, in turn, generate revenues for the municipality) but would also help uplift the socioeconomic situation of this less developed part of the municipality.

Objective: Create and strengthen livelihood options through the promotion of place and activity-based tourism.

Activities

1. Develop a tourist circuit linking Lubhu and Siddhipur towns with Lakuri Bhanjyang with the provision of basic services including safe drinking water, public toilets, teashops and eateries under the public-private partnership modality.
2. Conserve the tangible heritage of traditional buildings, monuments and ponds

3. Promote homestay programs, eco-tourism, and agro-tourism in appropriate areas focusing on marginalized communities and areas and run awareness programs on hospitality and sanitation.
4. Promote traditional cultural activities
5. Promote educational tours and heritage walks
6. Promote local products (food, souvenirs) by mobilizing women and marginalized groups.
7. Mobilize local youth to promote tourism and entrepreneurship in partnership with local cooperatives.

Project 2. The promotion of home-based industries

Description: The traditional settlements of Lubhu and Siddhipur are known for home-based industries and economic activities. Lubhu is a major supplier of textiles while Siddhipur is famous for producing sukul mats. The promotion of the home-based textile industries in Lubhu and sukul weaving in Siddhipur would increase the incomes of farming households. These industries have helped many households build economic resilience in the face of falling economic returns from agriculture. They are important from the viewpoint of gender inclusion as many women are engaged in them.

Objective: Make home-based industries more economically efficient and effective.

Activities

1. Support technological improvements using energy-efficient and eco-friendly measures for Lubhu's textile producers.
2. Strengthen the market for local products by establishing dedicated outlets inside and outside the municipality.
3. Run skills development and entrepreneurship training courses.
4. Promote activity-based tourism by engaging visitors in traditional economic activities such as handloom and sukul weaving.
5. Carry out research on alternative marketable products based on dry grass.

Project 3. The integrated development of the Godawari River Civilization

Description: The excessive extraction of water from the Godawari River by water tanker operators threatens the river's ecosystem and the sustainability of water use. Moreover, with rising urban growth, riverside land use changes and the absence of planned and coordinated conservation efforts is threatening the river with environmental degradation. The river is also known for its cultural values with many associated local ceremonies and rituals. Given its environmental, ecological, and cultural significance, the conservation of Godawari River can be promoted using a holistic approach to safeguard it learning lessons from recent efforts to protect the Bagmati River Civilization.

Objective: Conserve and safeguard the Godawari River for the sustainable production of clean river water.

Activities

1. Treat wastewater flowing into the river through, for instance, reed bed technology.
2. Establish a green park or belt along the riverside for recreation and as a green buffer to manage storm water.
3. Build retention ponds and other green infrastructure on the riverbank to store excess water and to collect storm water.
4. River cleaning activities.
5. River training activities.
6. Run awareness programs on river pollution and measures to minimize it.
7. Organize river festivals.

Policies

1. The regulation of water extraction from river bank areas.
2. Guidelines on the minimum setback from rivers for physical construction.
3. The relocation of industries that pollute the river.

Project 4: Integrated solid waste management

Description: Mahalaxmi Municipality is rapidly urbanizing, which implies a corresponding increase in solid waste. The areas solid waste is transported to Sisdol in Nuwakot district, more than 27 km away. This is problematic as the Sisdol landfill site will soon be full and transporting waste faraway uses fuel and is not sustainable. The volume of solid waste needs to be decreased by converting it into compost and energy while extracting recyclable materials (see Box 3 for an example from Nepal of turning waste into energy).

Objective: Manage solid waste in a sustainable and environment-friendly way while turning waste into resources.

Activities

1. Build a recycling center with a material recovery facility.
2. Build a large-scale organic waste composting plant that produces organic manure.
3. Improve the waste collection system by collecting and processing different kinds of waste separately.
4. Support for waste separation at source.
5. Run awareness campaigns through NGOs on household solid waste management.
6. Train and support farmers on the use of organic manure.
7. Train and support waste collectors on health and hygiene.
8. Integrate waste collectors' activities into the overall solid waste management process.

Project 5: Integrated fecal sludge management

Description: With rising urbanization, the management of the area's growing amount of fecal sludge is a thorny issue. Septic tanks are the only active component of fecal sludge management in the Kathmandu Valley. A conceptual wastewater master plan for the Valley encourages the large-scale adoption of onsite systems such as septic tanks (ADB 2010). This would relieve pressure on future centralized wastewater treatment systems and lower associated construction costs, including the cost of large sewer systems. Septic tanks are entirely funded by house owners with no financial load on municipalities. However, their construction is undertaken by households with no economies of scale and most are not properly designed or built. Moreover, septic tanks are not an easy option in densely built areas such as Imadol, Lubhu and Siddhipur. The need is for both short-run (e.g., septic tanks) and long-run solutions (wastewater treatment plants). The increasing volume of wastewater in the municipality points to the need for a wastewater treatment plant that both treats wastewater and produces biogas and compost fertilizer as in a similar plant in Dhulikhel (see Box 3).

Objective: Manage fecal sludge at household and municipality levels in an environment-friendly and integrated way.

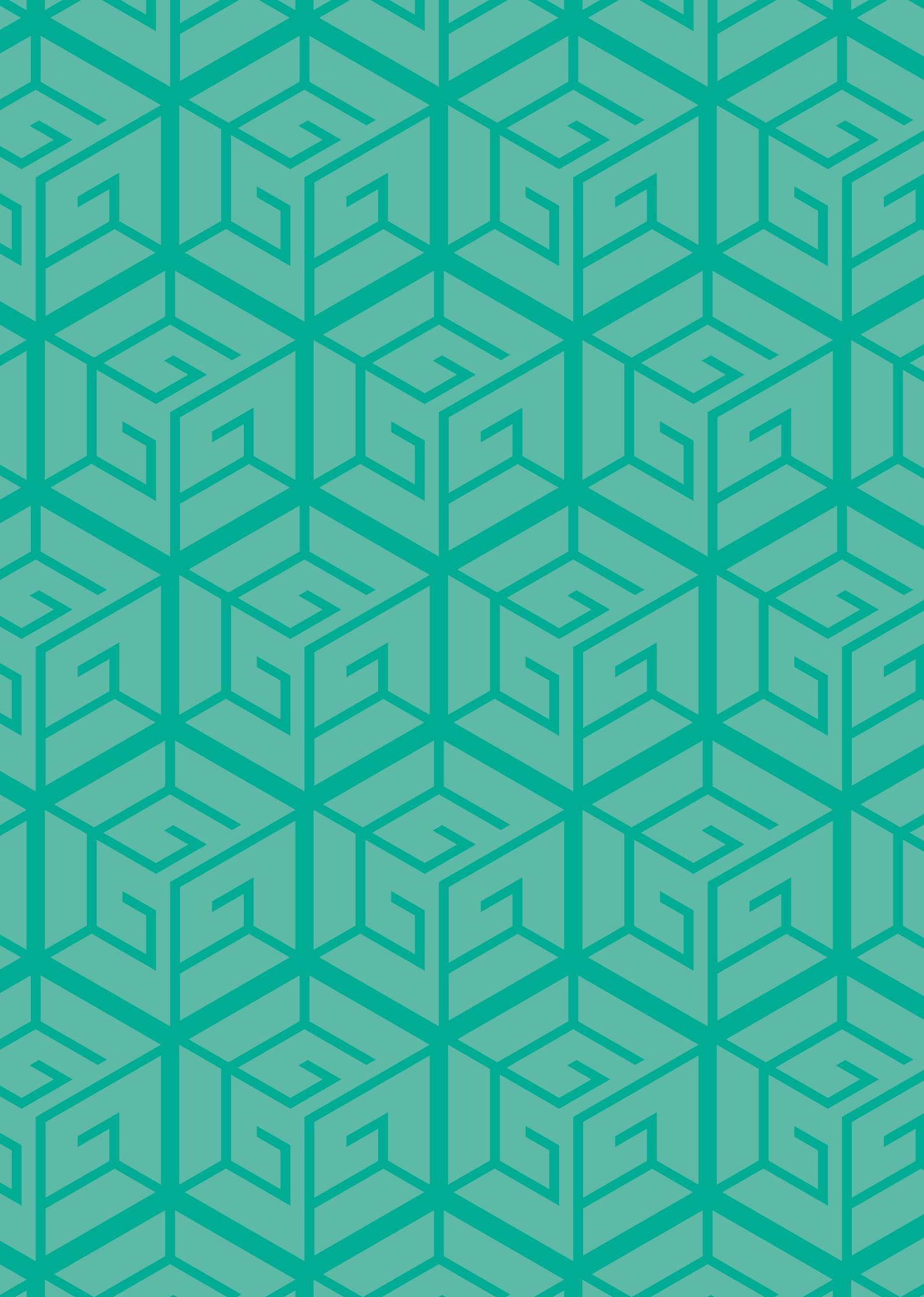
Activities

1. Build a wastewater treatment plant with a biogas reactor.
2. Provide technical support for the design and construction of septic tanks in small and remote housing areas via a municipal help-desk.
3. Integrate commercial septic tank cleaning businesses into municipal fecal sludge management.
4. Run awareness programs on the proper design and construction of septic tanks.

Box 3: Examples of associated good practices from Nepal

Wastewater treatment – Nepal’s first large-scale community-based wastewater treatment plant and biogas reactor has been set up at Shreekhandapur in Dhulikhel Municipality. It treats the wastewater of 200 households and produces biogas for cooking for 60 families. Solid waste is separated and sent to two biogas reactors. Liquid waste is sent to reed bed treatment plants and the digested sludge can be used as compost fertilizer.

Waste into energy – Kathmandu Metropolitan City has launched a pilot project to convert waste into energy with a sample production of 14 KWs of electricity from a biomethanation plant at Teku, Kathmandu. The Alternative Energy Promotion Centre has also initiated large scale biogas projects including one in Bhairahawa with a capacity of 3,700 cubic meters that produces one large tanker of LPG per day. This conversion of waste to energy could be replicated in other parts of the country.

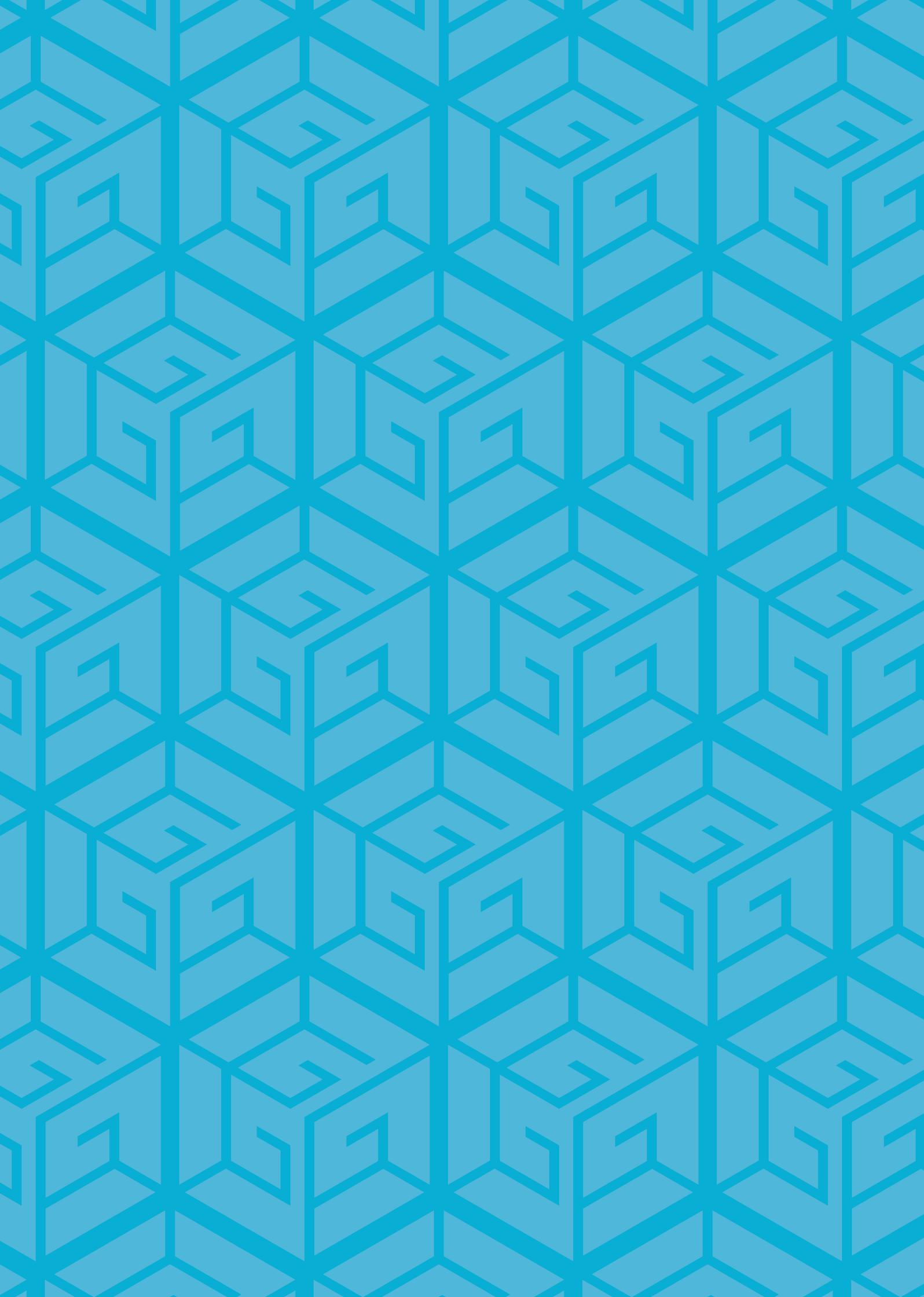


14. Conclusions

This report presents a situation analysis of Mahalaxmi Municipality. Mahalaxmi is a municipality with a mix of modern urban areas, traditional settlements and rural lands. The opportunities for development are varied with scope for heritage-based tourism in the traditional towns of Lubhu and Siddhipur while Lakuri Bhanjyang is already a popular nature tourism spot. Lubhu and Siddhipur are also known for home-based industries that offer the opportunity to leverage traditional skills to build economic resilience. Tourism and home-based industries stand out as the municipality's priority sectors.

Based on a quick assessment, a list of potential projects has been prepared building on discussions and consultations with the mayoral team. Additional inputs were received from discussions with local stakeholders that helped explore and understand additional dimensions to make these project concepts more socio-economically attractive and environmentally responsible. A list of plan and policy recommendations are also given.





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Annex 1 – Research Questions

Note: Green growth is defined as a model of economic growth that targets key aspects of economic performance including poverty reduction, job creation, social inclusion and environmental sustainability..

Annex 1.1 Meeting with the mayor and his or her team

1. You lead a new municipality. What is your vision for the municipality, and the priorities for your tenure? What are the technical (e.g., staff) and physical barriers (e.g., office space) faced by your office?2. In terms of infrastructure development, how do you evaluate the status of the municipality? Where do your priorities lie and why?
2. In terms of infrastructure development, how do you evaluate the status of the municipality? Where do your priorities lie and why?
3. Although infrastructure development generally tops the list of municipal priorities (and this is because the majority of public demands are related to infrastructure), there are now equally important concerns about economic development, social inclusion and environmental sustainability.
 - 3.1 What are the economic potentials in the municipality, and to what extent have these been harnessed? What are the challenges?
 - 3.2 Socially and economically diverse groups live in the municipality. How does such diversity reflect in terms of public demands you receive, and how do you (plan to) ensure social inclusion in the planning and delivery of municipal services?
 - 3.3 Infrastructure development often takes place at the cost of environmental losses. To what extent have you been successful in balancing the use of natural resources while implementing infrastructure projects? What are the key challenges?

4. The Green Municipality Development Program (GMDP) aims to promote green growth. How would you define the scope of GMDP in this municipality? What should be the priority projects?
5. Would you share your top 5 project ideas for your tenure in terms of priority? Why are these the priorities?

Annex 1.2 Focus group discussion with business community/private sector

- 1.1. Please explain your work and engagement in this municipality.
2. What are the business and economic opportunities you see in the municipality? What are the challenges or barriers?
3. What are the opportunities for public-private partnerships, and what has been the response of the municipality and government agencies to the possibility of partnering with your organization?
4. There are limited examples where the private sector works on green growth. How do you plan to change this? What related support do you expect from the municipality?
5. What are your key projects and initiatives for the next 5 years with or without collaboration with the municipalities?
6. The Green Municipality Development Program (GMDP) promotes green growth. How would you define the scope of the program in this municipality? What should be priority projects?

Annex 1.3: Focus group discussion with NGO and CBO leaders

1. Please explain your work and engagement in this municipality.
2. What are the major social development gaps in this municipality? What were some past initiatives to address them, and to what extent were they successful?
3. Do you think the existing (infrastructure) projects have helped to reduce social disparities (including economic disparities)? Please give examples of successful projects as well as failures.
4. How do you judge the role of the municipality in promoting social inclusion in the municipality? What do you expect from the municipality?
5. What are your key projects and initiatives for the next 5 years with or without collaboration with the municipalities?
6. The Green Municipality Development Program (GMDP) promotes green growth. How would you define the scope of GMDP in this municipality from the perspective of working with the NGO and CBO sector? What should be priority projects?
3. Do you think that existing infrastructure projects have been effective in taking care of the environment? Can you give examples of successful projects as well as failures?
4. How do you judge the role of the municipality in promoting environmental sustainability in the municipality? What related support for this do you expect from the municipality?
5. What are your key projects and initiatives for the next 5 years with or without collaboration with the municipalities?
6. Have any of your environment concerns been mainstreamed into the municipality's planning? Where do you see the opportunities to do this?
7. The Green Municipality Development Program (GMDP) promotes green growth. How would you define the scope of GMDP in this municipality from the perspective of working with environmental organizations and communities in this municipality? What should be priority projects?

Annex 1.4 Focus group discussion with environmental organizations and activists

1. Please explain your work and engagement in this municipality.
2. What are the major environmental problems and issues in this municipality? What are the past initiatives to address them, and to what extent have these been successful?

Annex 2 - Minutes of Meeting with Mayoral Team (1 November 2017)

एकत्रिय मणिल तथा स्थानीय विकास प्रयत्नानाम एवम्
 उन्नयन उन्नत इन्डियन (५५५) संघे सहकार्यमा
 गत महानकरी दुःपण हित नगरपालिका विकास
 (Green Municipal Development Program) कार्यक्रम प्रचलन
 गर्ने संघस्थापना अग्रे गति २०७५/७६ पुरा गर्ने क्व दिने
 गार् प्रमुख श्री कोठवाल केव्हे इत्येको प्रहमसतामा
 इन्फोर्म कार्यक्रम आयोजना गर्ने हित नगरपालिका
 विकास कार्यक्रम अन्तर्गत संघालत गर्ने समीक्षात्मक
 सुची तयार गरियो ।

उपस्थित अधिकारी
 श्री गार् प्रमुख : रामेश्वर केव्हे
 श्री समिन्सी प्रमुख प्रशासनिक अधिकृत : पुर्व क खड्का
 श्री इ. : प्रकाश सिंह थापा
 श्री इ. : हितेश ब. उ पन्त
 श्री परावर्त ब. म. - ५५५ - श्री कृष्ण जोशी
 श्री प्रो. वा. वि. - श्री सन्तोष कुमार गुप्ता

निर्णयहरू - दस्तावेजका विषयहरू :-
 १) हित नगरपालिका विकास कार्यक्रम अन्तर्गत निम्न
 आयोजना पहिचान गरियो ।
 क) नगरपालिका क्षेत्र अन्तर्गत पौरवर्गीय स्तरीय संरचना अन्तर्गत
 गर्ने
 ख) लाम्बुली मञ्जुश्री पर्यटन स्थलको रूपमा विकास गर्ने
 ग) लाम्बुली र लाम्बुली सम्वन्धित क्षेत्रको विकास गर्ने
 घ) जग्गावली तथाको संरक्षण तथा इन्फ्रस्ट्रक्चर विकासको साथै
 शलको विकास गर्ने र पर्यटकीय क्षेत्रको स्थायी विकास गर्ने
 ङ) लाम्बुली, सिद्धपुर, लाम्बुली, गोरखा + लिम्बु + तिहार गर्ने
 च) लाम्बुली हिते कम्पडा अन्तर्गत विकास तथा प्रचलन गर्ने
 छ) तिहार साभान्नी हितको संरक्षण तथा वडास्तरको विकास गर्ने
 ज) हित विकास तथा प्रचलन गर्ने केन्द्र विकास गर्ने
 झ) सौहार्दपूर्ण संरचनापन गर्ने
 झ) land pooling को अवधारणा अवगत गर्ने

निर्णय १ (अन्त)

२) निर्णय नं. १ मा उल्लेखित कार्यका हतका लागि
 अतिरिक्त पूर्ण प्राविधिक तथा आर्थिक सुवी खालका
 सहयोगी संस्थाहरूको/संस्थाहरूको मागको हुवा हुवी सहयोगी
 माग गर्ने निर्णय गरियो ।

Annex 3 – Participants in Focus Group Discussions (November 2017)

Green Municipal Development Program

FGD with Business Community/ Private Sector

Date: Nov 13, 2017

Venue: Mahalaxmi Municipality

SN.	Name of the Participants	Designation	Organizations / Firms	Phone No.	Email address	Signature
1	Keshab Shrestha	chairman	LCCI Branch	9851003990		
2	Bal Krishna Shrestha	ex-chairman	"	9851232863		
3	Juju Kaji Mahajan	member	"	9841353125		
4	Punam Raihos	office secretary	LCCI staff	9860206115		

Attendance Sheet

Green Municipal Development Program

FGD with NGO/CBO Leaders and Environmental Organizations/Activists

Date: November 8, 2017

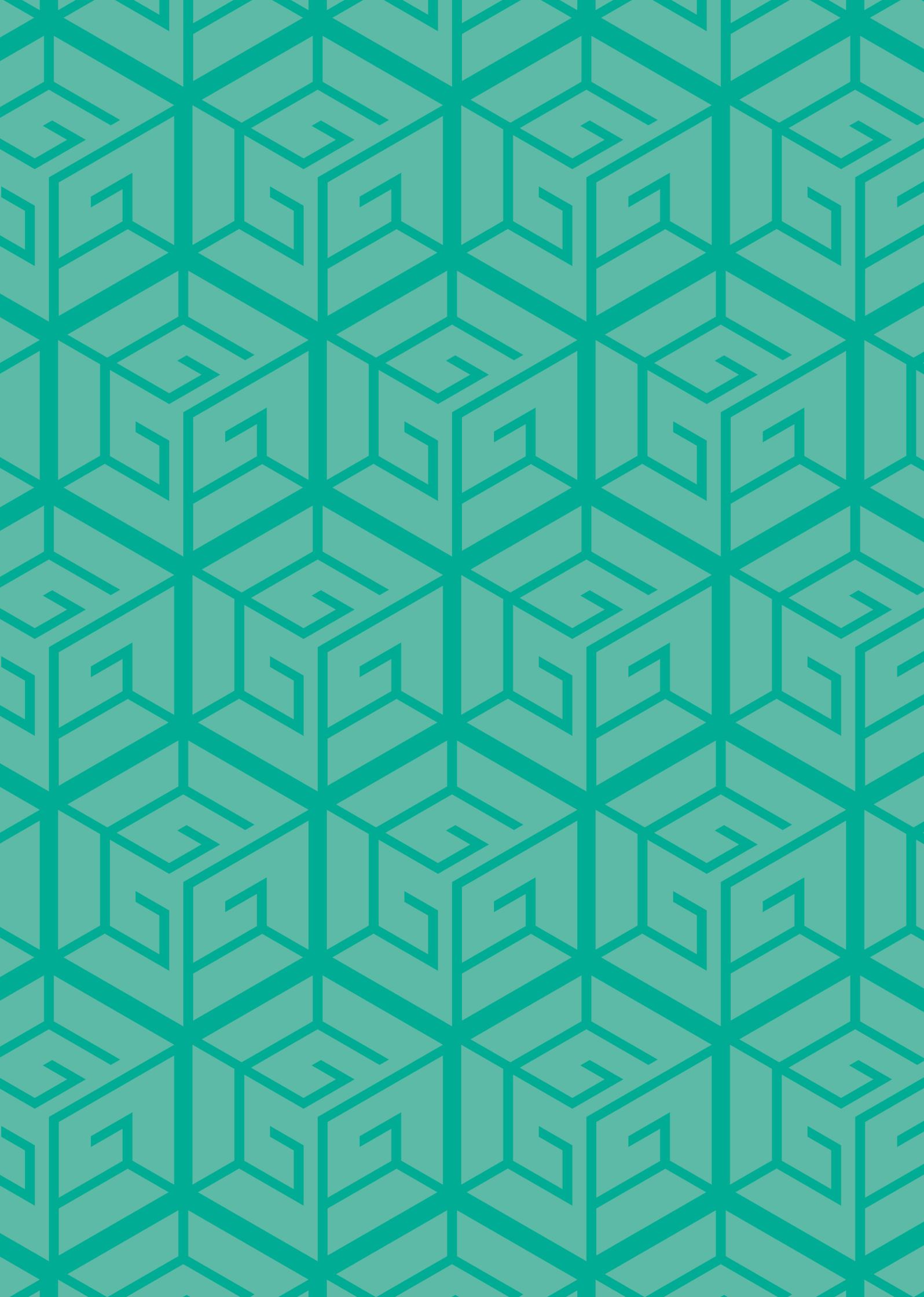
Venue: Mahalaxmi Municipality

SN.	Name of the Participants	Designation	Organizations / Firms	Phone No.	Email address	Signature
1	Surya Bhattarai	Chairperson	FSCN	9851098744	surya.bhattarai@gmail.com	
2	Pragya Gurung	Program Coordinator	FSCN	985210247	pragya.gurung@fscnepal.org	
3	Sujit Gautam	PO	FSCN	9813100074	sujit@fscnepal.org	
4	Narayan Bhattarai	Livelihood officer	FSCN	9849100011	narayan@fscnepal.org	

Attendance Sheet

Annex 4 – Project Ideas from Municipal Consultations

Project Ideas
1. Conservation of ponds
2. Development of Lakuri Bhanjyang (scenic hill top) as a tourist destination
3. Commercial agriculture in Lamatar and Lubhu
4. Conservation of the Godawari river
5. Development of tourism circuit linking historic settlements (Lubhu and Siddhipur) and natural attractions (Lakuri Bhanjyang)
6. Promotion and management of home-based handloom industries in Lubhu
7. Management of construction materials-related shops in one place
8. Drainage management and waste processing
9. Solid waste management
10. Land-pooling projects for planned urbanization





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This report is one of a set of seven
situation analyses of the Nepalese
municipalities of Belkotgadhi,
Dakshinkali, Mahalaxmi,
Melamchi, Namobuddha,
Palungtar and Thaha.

All seven reports are available at
www.gggi.org/country/nepal/