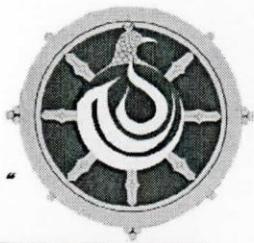




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ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF WORKS AND HUMAN SETTLEMENT

"Construction Industry: Solutions through innovation and improved technology"



MINISTER

Foreword

Lhamoizingkha town, previously known as kalikhola is a small settlement located in southern part of Dagana. It is the centre for three gewogs –Nichula, Karmaling, and Lhamoizingkha. It has relatively flat terrain.

Lhamoizingkha was declared as a yenlag thromde in 2015 and has seen development since then. Lhamoizingkha could become a centre connected with three major highways after the completion of the Dagapela-Dalbari Secondary National Highway. Given its regional connectivity and the locational advantage, there will be huge economic opportunities. Lhamoizingkha has the potential to become another gateway for central Bhutan.

The Structure Plan for Lhamoizingkha has been prepared in cognizance of the existing conditions and the land uses of Lhamoizingkha. It is envisioned to be developed as a service center, adopting the principles of accord with nature, self-reliance, sense of place, conviviality, balanced movement, protect and preserve sensitive zones and Low impact development.

The plan will set out the general direction and objectives for the development of Lhamoizingkha. The structure plan has been prepared through a process of consultation and public participation. The local leaders, officials and the landowners contributed in its preparation. One of the major exercises of this plan has been the focus group discussion to gather views and understand issues from the point of view of the local people.

This plan is a manifestation of people's aspiration and hope for quality life and will serve as an overall framework to guide development and land use in Lhamoizingkha over the next 20 years. The plan was approved during the 33rd Policy and Planning Committee of the Ministry (PPCM) meeting on April 2, 2021.

The entire document has been divided into two sections, Report on Lhamoizingkha Structure Plan and Development Control Regulation. We hope that the plan will be implemented in its true form, principles and spirit.

Tashi Delek!

Dorji Tshering

Zhabtog Lyonpo

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1: INTRODUCTION

1.1 Background

Unlike other rapid developing towns in Bhutan, there had been no proper development for Lhamoizingkha other than few institutional buildings. The commercial area had no scope for expansion as it was very congested and the structures were built on state land. There were several discussions and deliberation at various stages to shift the commercial center. An alternate site was also identified by the business community and the gewog administration but the site was found to be under tree plantation.

To the people's delight, the land occupied by business community was granted as Kidu by His Majesty the King in 2012. The plots were demarcated and the lag thrangs were issued to the business license holders. The local government then requested the Ministry for a plan for the town in May 2013. Subsequently, a team of planners from the Department visited the site in November 2013 to conduct a preliminary visit for the preparation of development plan for Lhamoizingkha. During the site visit, the planning boundary was agreed between planners and local government whereby the boundary comprises of the entire area of Lhamoizingkha for holistic development. Surveyors from the Department were deployed to carry out topographical survey of the planning area and it was completed in June 2014. Later, the planning boundary was approved as Yenlag Thromde Boundary by the Parliament, in 2015.

The formulation of Development plan for Lhamoizingkha was initiated in 2015 and several rounds of discussion both at the local government and the Department level were carried out. The proposed Sunkosh Hydro-Electric Project (HEP) and East-West Highway would have major influence for the development of Lhamoizingkha and the region. However, the status of Sunkosh HEP was not certain and the plan could not be finalized. In addition, there were several changes on ground in terms of land and survey details. Many new structures and roads have come up over the period of 5 years. In view of the changes, the Department took up the task to review and update the Structure Plan in the fiscal year of 2018-2019. Further discussions were carried out with the local government to ascertain the status of sunkosh project but the local government did not have concrete information on the project. Despite that, the plan review was carried out as Lhamoizingkha has economic and tourism potential given its locational advantage and connectivity to the central region of the country.

The topographical survey was then updated to incorporate the new structures and roads in December 2019. A focussed group discussion was also carried out to involve the stakeholders including representations of people (tshogpas) to understand the issues and problems in Lhamoizingkha and gather information on their aspiration for Lhamoizingkha.

1.2 Administration and Location

Lhamoizingkha is a small settlement located in the southern part of Bhutan. It is located at 26° 45' N and 89°48' E with an average altitude level of 134 meter above mean sea level. Lhamoizingkha Thromde falls under Lhamoizingkha gewog under the jurisdiction of Lhamoizingkha Dungkhag. The Dungkhag was formally handed over to Dagana Dzongkhag from Sarpang Dzongkhag on April 26th 2007¹. The Dungkhag Administration governs the three gewogs of Lhamoizingkha, Nichula and Karmaling.

A significant lake is located in the gewog called Lhamoi Tsho. The name of the gewog Lhamoizingkha is derived from the Dzongkha word, (Lhamoi meaning goddess and Zing meaning lake (Pond). This beautiful lake is visited by thousands of local residents and residents from the neighboring Indian borders come and worship as their local deities.

Lhamoizingkha town was previously known as Kalikhola as the river Kalikhola flows through the western part of the area. It was a small town with a population of 778 in 2005. Later in 2015 during the Parliament discussion on Declaration of Thromdes, Lhamoizingkha was approved as the Yenlag Thromde of Dagana Dzongkhag. It shares border with the Indian States of Assam and West Bengal and was accessible only through Indian Highway until the inauguration of Raidak-Lhamoizingkha road in 2015.

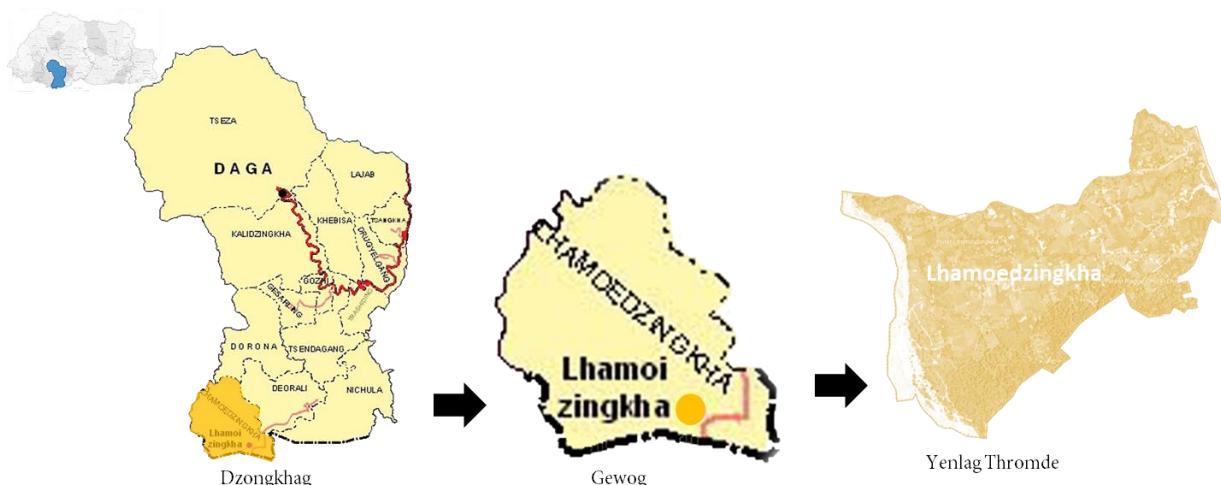


Figure 1: Location Map of Lhamoizingkha

1.3 Development History

Lhamoizingkha functioned as a market center for the agriculture produce for the near-by villages. It was the entry point for the people from lower Dagana. The town thrived and grew from 1940s but the growth slowed down as the security of the southern region became an issue in 1990s. Moreover, the insurgents from neighbouring Indian states of Assam and Bengal

¹ ["Sarpang Dzongkhag Administration online – "Handing-Taking"](#)

affected the development of the settlement till 2003. After 2003, Lhamoizingkha became easily accessible without the security issues and infrastructure development of Lhamoizingkha took place rapidly. However, the development of town was stagnant for decades as most of the business people were residing on the government land. Those landowners were granted land kidu by His Majesty the King in 2012. Today, Lhamoizingkha town has most of the institutions and is gaining its importance in the region.

1.4 Planning Boundary

The second parliament in its 5th session declared Lhamoizingkha as Yenlag Thromde for Dagana Dzongkhag. The Thromde is bordered by Kalikhola and Sunkosh river to the west and east respectively, Secondary National Highway (SNH) to the North and Indo-Bhutan International Boundary to the South. It has an acreage of 779.56 acres (3.15 sq.km). The planning boundary consists of three Chiwogs, lower part of Lhamoizingkha, Loongsilsa and a small part of Kuendrelthang of Lhamoizingkha Gewog. The planning boundary houses the office of Dungkhag and Gewog administration. More importantly, the landscape of Lhamoizingkha has distinct character determined by the Chhuzhing and areca nut trees. The forces of urbanization might annihilate the natural scenery of Lhamoizingkha, therefore, the structure plan was prepared for the Yenlag Thromde.

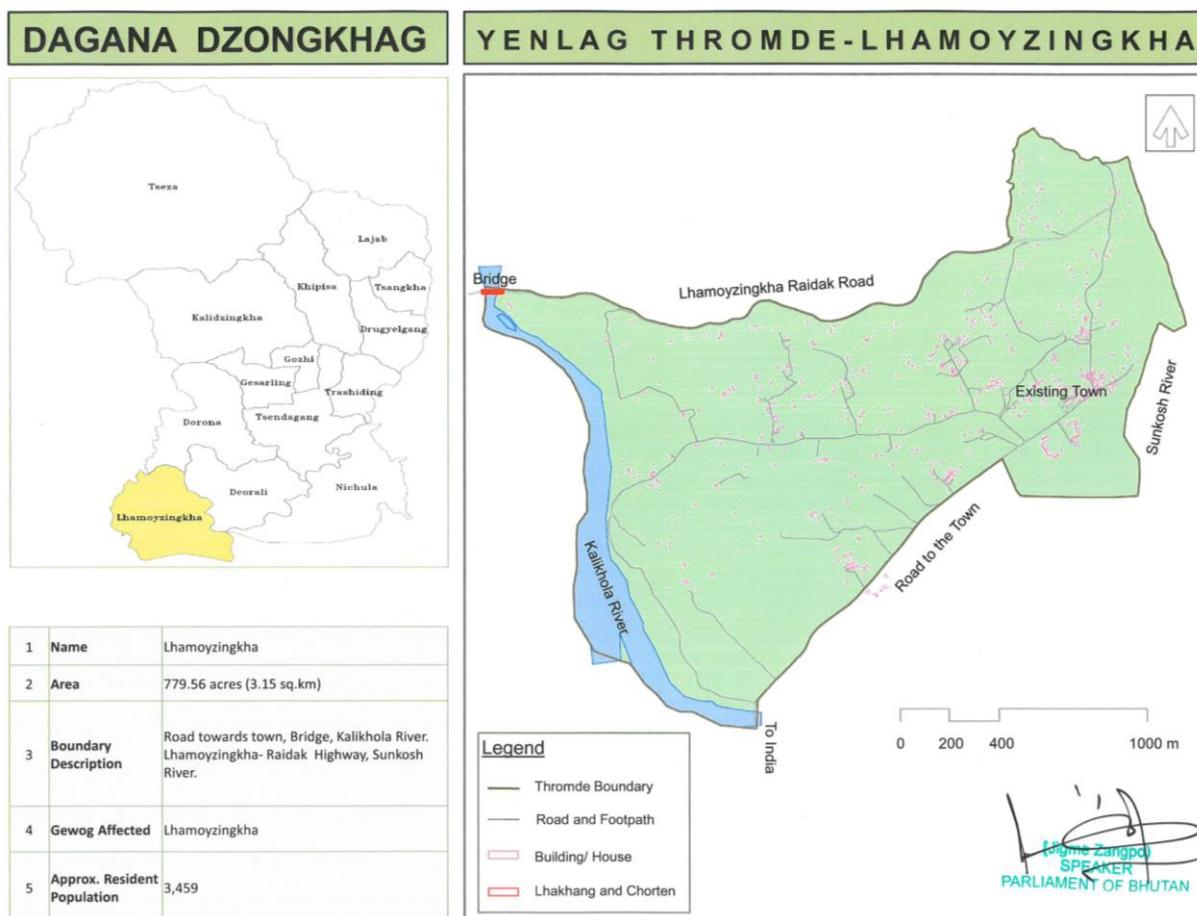


Figure 2: The planning area for Lhamoizingkha Yenlag Thromde as declared by Parliament

1.5 Connectivity

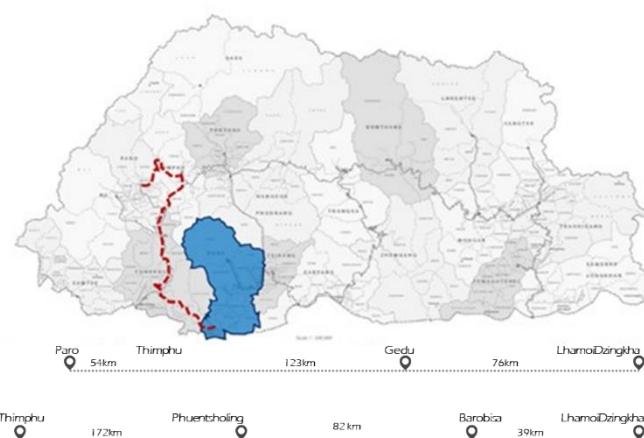


Figure 3: Connectivity map of Lhamoizingkha

Earlier, Lhamoizingkha was one of the inaccessible border settlements in Bhutan. It was only accessible by a 121 km motorable road passing through the neighboring Indian State of West Bengal, connecting Lhamoizingkha to its nearest border town of Bhutan, Phuentsholing. It would take one day journey stretching over 273 km for government officials, businessmen and people of Lhamoizingkha to reach the Capital.

With the opening of Manitar-Lhamoizingkha road to traffic, the new passage to Lhamoizingkha brought the areas of the Dungkhag closer and also put an end to the isolation of the place from the rest of the country in the year of 2015. Today, the town is conveniently connected by a 203 km motorable road from Thimphu within 5-6 hours journey and 101 km to the commercial town Phuentsholing within 4-5 hours journey via Gedu. Once the Dagapela-Lhamoizingkha Secondary National Highway is completed, the area will be connected to the settlements in central Bhutan.

1.6 Regional Context

Lhamoizingkha is strategically located in southern part of Dagana bordering with Indian state of West Bengal. With the existing roads from Raidak and completion of construction of Dagapela-Lhamoizingkha SNH, it would further enhance its strength of location economies. It has an opportunity to be another gateway to central Bhutan and enhance its economical productivity as an urban centre. Most of the villagers in the vicinity visits Lhamoizingkha for shopping for their daily needs. Agriculture farming is the main source of income for majority of the population in the region besides livestock production. The structure plan should capitalize on this strength and promote agriculture-based processing units within the planning boundary.

Due to its location, Lhamoizingkha enjoys most of the facilities as compared to the two other gewogs (Karmaling & Nichula) under the Dungkhag Administration. The planning area has majority of amenities and services of Dungkhag Administration like BHU (grade-I), RNR Center, Central School, Banking Institutions and offices of Gewog and Dungkhag Administration, BPC, RBA and RBP which are further supplemented by Community Centre in the gewog, Extended Class Room and Out Reach Clinic in the other gewogs. Residents of Karmaling and Nichula avail health and higher education services, banking and financial services from Lhamoizingkha.

Despite the fact that most of the Gewogs that form the catchment area for Lhamoizingkha are now connected by road and have access to other infrastructure and services, Lhamoizingkha would continue to retain its importance in the regional context. This is because of major development programs like Southern East-West highway which is under way, further strengthening its strategic location.

The location of Sunkosh river which has a potential for both hydropower and riverfront development and Phibsoo wild life sanctuary in the vicinity gives an opportunity to promote water sports and eco-tourism, which further strengthens its locational advantage. Though it is only visited by a few local tourists at present, the activation of these tourism-related economic opportunities is essential for future development prospects.

1.7 Planning Considerations

Various higher level plans such as Comprehensive National Development Plan for Bhutan (CNDP) 2030, 12th Five Year Plan for Dagana Dzongkhag and National Human Settlement Strategy (NHSS) were referred to understand the overarching visions, principles and the potentials for Lhamoizingkha and Dagana Dzongkhag as a whole.

1. Comprehensive National Development Plan for Bhutan 2030

According to the Summary of the ADB F/S Alignment Study for Lhamoizingkha-Sarpang section, the Lhamoizingkha-Sarpang road is divided into three sections. The Lhamoizingkha-Kerabari section will provide access to the Sunkosh Hydropower Project near Kerabari. Improvements to this road section will also be made, including a bridge across the Sunkosh River, as part of that project. The new road will end in the new Sarpang Township.

CNDP which is a strategic document identifies Phuentsholing-Dagana-Sarpang as a potential southern economic corridor. It states that the Jigmeling Industrial Estate in Gelephu which is under construction will become one of the industrial centres in the southern economic corridor and it will be utilizing Dagachhu hydropower. Thus, the Jigmeling Industrial Estate and neighbouring areas are identified as model of regional development for industrial estates and hydropower station development projects and Sunkosh hydropower station could be planned to sustain the area's industry.

Furthermore, Dagana and Tsirang are identified as new tourism destinations for agri-based tourism, offering experience of traditional farm life in Bhutanese organic agriculture. This will attract not only Bhutanese city dwellers, but also foreigners who come to visit via the National Capital Region (Paro-Thimphu-Punakha/Wangdue). In addition, Dagana and Tsirang can provide food and power supplies to the National Capital Region and adjacent Linked Urban Centres identified in the document, namely, Samtse-Phuentsholing and Sarpang-Gelephu, because both Dagana and Tsirang are promising areas for agriculture and Dagana has the additional potential of hydropower generation.

2. 12th Five Year Plan, Dagana Dzongkhag

In the 12th FYP, following activities were proposed for Lhamoizingkha:

- Establishment of a Teacher Resource Centre under Lhamoizingkha Dungkhag to achieve the objective of improved quality of education & skills,
- Renovation of Lhamoizingkha Paldenchoeling Lhakhang,
- Implementation of infrastructure projects in Lhamoizingkha Yenlag Thromde, the activities are as listed in the table below:

Table 1: Activities for the implementation of LAP as proposed in the 12th FYP, Dagana Dzongkhag

Sl. No.	Activity	Unit cost (Nu. in Million)	Remarks	Total (Nu. in M)
1	Internal Urban road	15.0 per km	2 KM	30
2	Strom Water Drainage	16.13	1 KM	16.13
3	Street Light	0.03	10 Poles	0.3
4	Footpath	0.05	100 m	5
5	Water supply	9.43	1	9.43
6	Sewer	40.00	1 km	40
Total		65.64	100.86	

- Waste management in Thromdes including, Lhamoizingkha Yenlag Throm,
- Commercialization of agriculture produce by converting fallow land into cultivable land enhancing agriculture production, winter vegetables for Gewogs of Tsendagang, Tashiding, Drujeygang and three gewogs under Lhamoizingkha Dungkhag.

Furthermore, some of the activities for the Dzongkhag under the central agencies' mandate which will have positive impact on the development of Lhamoizingkha are as tabulated:

Table 2: Central Agencies' activities for Dzongkhag

Sl. No	Activities	Plan outlay (Nu. in Million)	Implementing agency
1	Improvement of Lhamoizingkha-Dalbari road	80	MoWHS
2	Improvement of Sunkosh-Dagapela road	100	MoWHS
3	Construction of Lhamoizingkha-Sarpang highway	1307.05	MoWHS
4	Construction of Dalbari-Dagapela road	200	MoWHS

These activities of construction of new roads like Lhamoizingkha-Sarpang to fill in the missing link for Southern East-West highway and completion of Dalbari-Dagapela road, improvements in the existing road will improve the regional connectivity of Lhamoizingkha, thereby enhancing its locational advantage as an entry point for the central region.

3. National Human Settlement Strategy (NHSS) 2017

The NHSS identifies Dagana as having a favourable climate and fertile land for agriculture but still is one of the least developed Dzongkhags. The Dzongkhag gets cut off frequently during

the monsoons due to landslides, as the only connection is the Dagana-Sunkosh highway. The proposed Sunkosh hydroelectric project and the Lhamoizingkha-Dagapela road is anticipated to have positive impact for the Dzongkhag.

Based on the analysis of the opportunity and strengths, the following strategies are proposed for the Dzongkhag:

- Enhance agriculture, livestock and non-wood forest production. Support in the form of land terracing, rehabilitation and plantation of citrus and cardamom, supply of high quality disease-resistant seeds and seedlings, supply of labour saving farm machinery, irrigation and capacity development, such as cooperatives, awareness, advanced training on farming and marketing skills, will be provided. Mandarin and cardamom can be considered for cash cropping.
- Alternate connectivity options should be considered during the monsoon season.
- Bird watching and orchid tours can be organized in Gesarling and Tashiding gewogs. Wachey cave in the same region can also be made into a tourist attraction.

It can be inferred from all these documents that agriculture, livestock farming and tourism are the major potentials for Dagana Dzongkhag at large and there is potential for agro-based industries and warehouses in Lhamoizingkha due to its strategic location along the Indian border.

2: EXISTING SCENARIO

2.1 Climate and Vegetation

Lhamoizingkha is located in the southern foothills of Bhutan and has sub-tropical climate. It has hot and wet summer and warm-pleasant winter. It is one of the hottest places in Bhutan. However, the breeze from the river Sunkosh and the forest surrounding the settlements helps lower the temperature.

During rainy season, it receives heavy downpour. The average monthly temperature and rainfall data are illustrated as follows:-

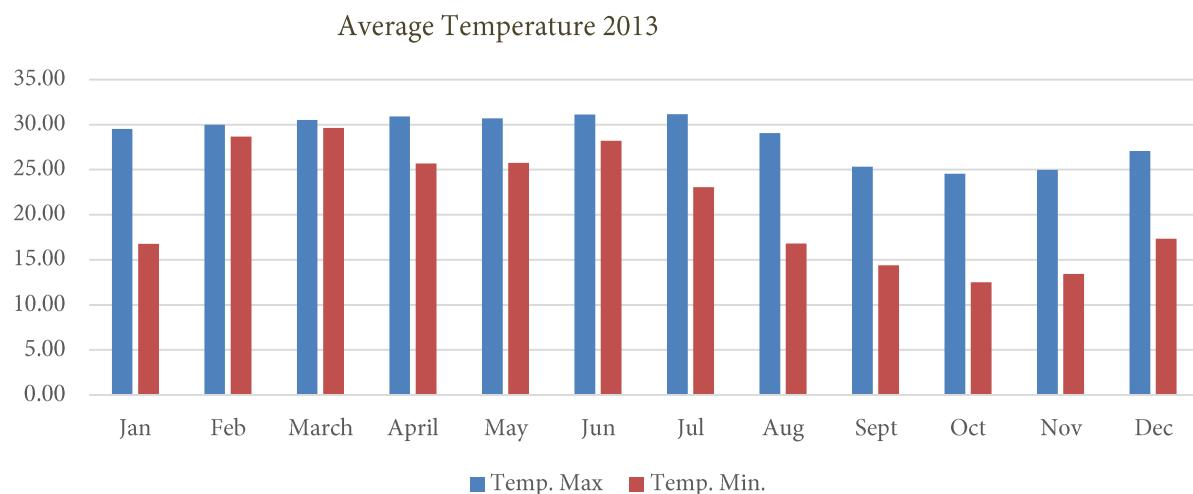


Figure 4: Average Temperature details for Lhamoizingkha

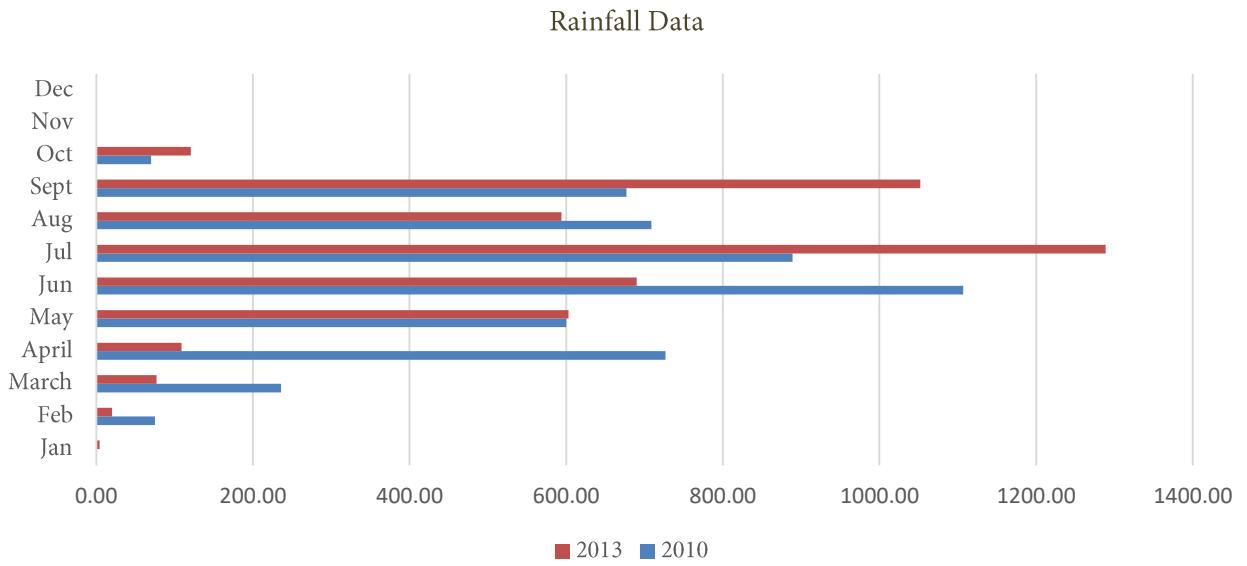


Figure 5: Rainfall data for Lhamoizingkha

2.2 Site Profile

Lhamoizingkha is relatively flat compared to other settlements in Bhutan. It has an average slope gradient of 1.7%. The section AA' shows the profile from Kalikhola river bank to Sunkosh bank and shows a gradual decrease in gradient with few drops in-between indicating streams passing through the area and finally dropping down to the lowest area within the planning boundary near the river Sunkosh at the extreme east. The section BB' starts from the higher ground at the Raidak-Lhamoizingkha SNH and it gently drops down with few small streams flowing downwards into the plains of paddy and areca nut fields. The section CC' depicts the steep gradient near the SNH sloping downwards and gradually towards the RBP area.

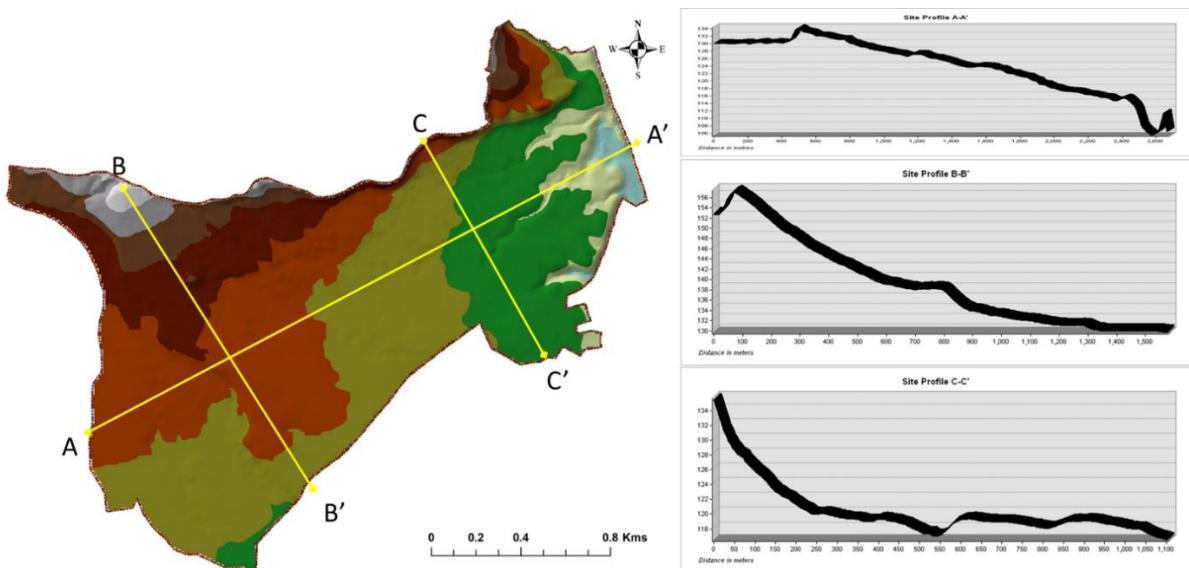


Figure 6: Site profile

2.3 Demography

As per the Population and Housing Census of Bhutan 2017, among the towns in Dagana Dzongkhag, Lhamoizingkha has the highest number of regular household (HH) population with 1576 persons representing 49.9% of the total urban population in the Dzongkhag and with 385 persons as institution households². This sums to a total population of 1961 persons in the area. The mean HH size of Lhamoizingkha is 3.8 and the total number of households is 416.

The population pyramid of Lhamoizingkha shows the distribution of ages across a population divided down the center between male and female members of the population. The slightly longer bar length on the right side indicates higher sex ratio. For every 1000 female there is 1022 male. The pyramid also depicts wider base with narrower top, indicating that majority, 31.4 % of population are within the age group of 10-19 with only 1.5% within the age group of 75 and above. However, a gradual decline in fertility rates is observed in 2017 depicted by the narrower base of the pyramid for the age group of 0-4 and 5-9. The planning area has largely young population indicating potential labour force for the development of the area. With this, there is a need for infrastructure, services and facilities for the youth and later when this group graduates to the working group, there will be a need for creation of employment opportunities to avoid social issues such as unemployment, crime and other social disharmony.

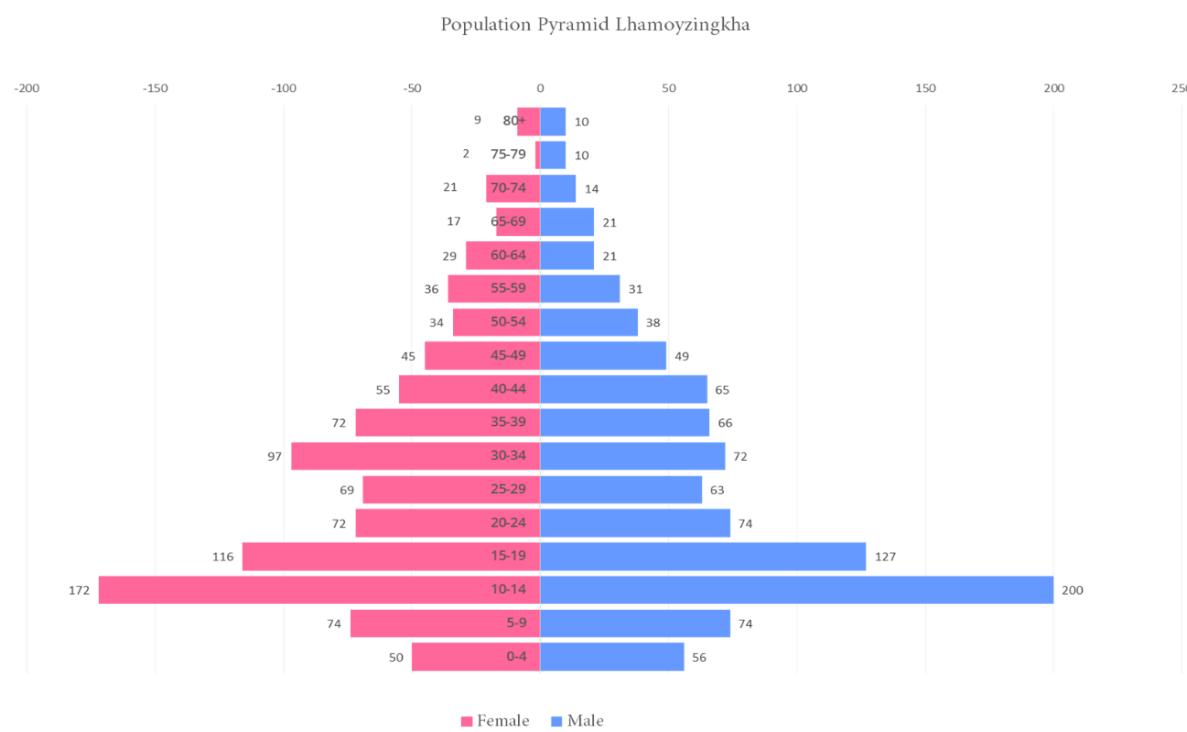


Figure 7: Population pyramid for Lhamoizingkha

² Institutional Household consists of a group of persons who live in an institution, having common arrangements for food or taking their food from a common kitchen (PHCB 2017)

PHCB 2017 also indicates that the majority of population in Lhamoizingkha are originally from Dagana Dzongkhag which accounts to 65.4% of the total population. The native population of Lhamoizingkha accounts to 38.7% (745 people) and rest are migrants from other gewogs of Dagana and other Dzongkhags with only one person from Gasa. The planning area has a diverse population as there are migrants from 19 Dzongkhags. Family move and education are the top reasons for migration with 23.48% and 13.22 % respectively.

2.4 Economy

Of the total population (1961) 34% accounting to 661 people are working population employed in different sectors. Of the 661 employed population, 230(37%) are employed in agriculture sector, followed by 122(20%) in public administration and security sector and only 2 working in Mining/Quarrying industry.

From the remaining 1300 people, 273 are currently studying, 306 engaged in taking care of household or family and 14 are either with long term illness/disability or retired/pensioner. Only 46 people (3.45% unemployed) are looking for job and rest are engaged in other secondary or tertiary sector.

The overall literacy for Lhamoizingkha is quite high at 74.7% and the breakdown of the level of qualification is as shown in Figure 9. According to the PHCB 2017, 72.67% of the total population can read and write in Dzongkha and 74.7% can read and write in English.

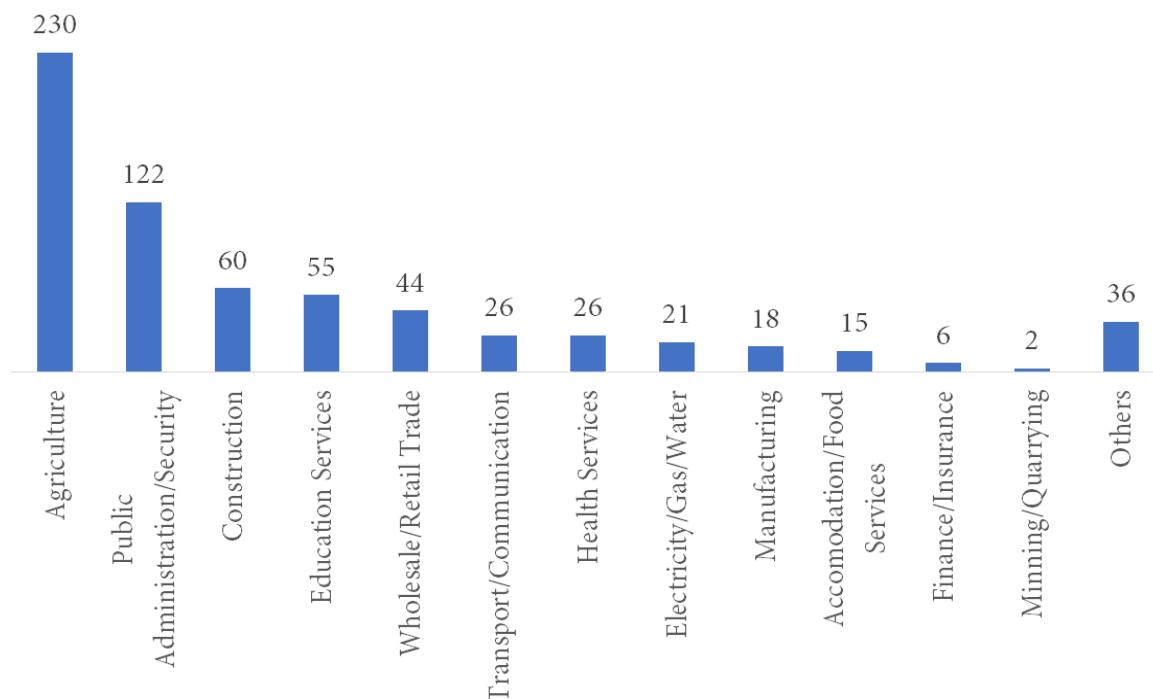


Figure 8: Occupational breakdown of Lhamoizingkha

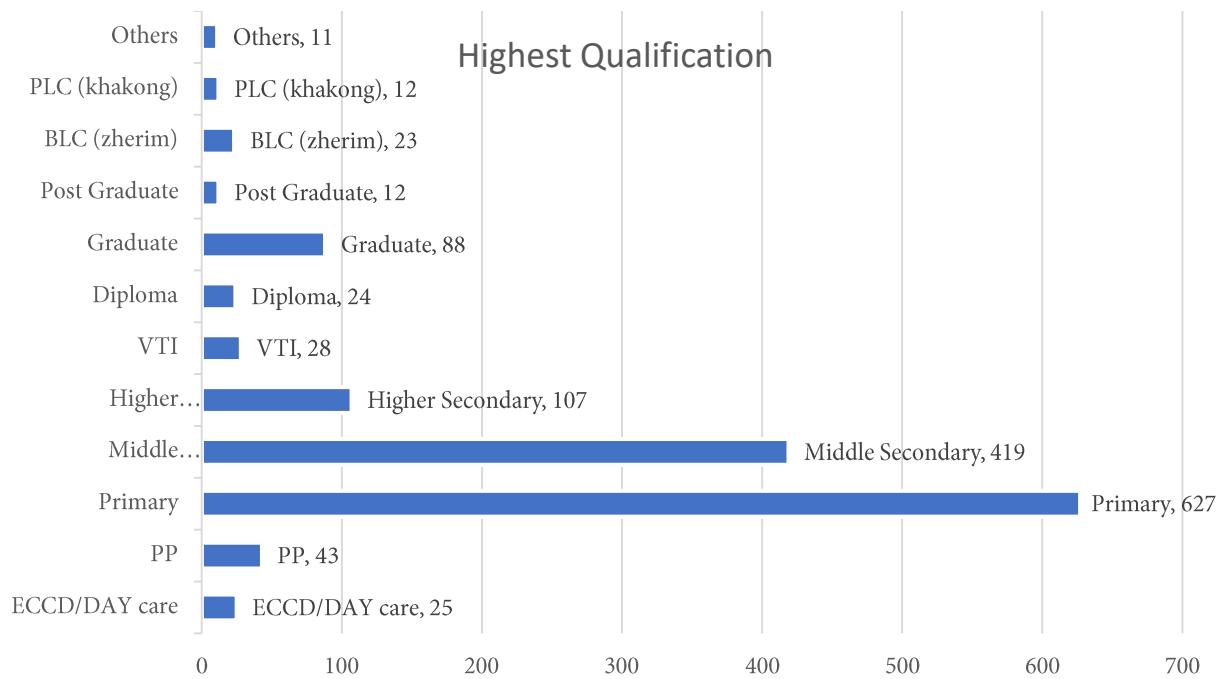


Figure 9: Highest qualification of residents

Agriculture is the major economic activity in Lhamoizingkha with areca nut as their main cash crop. People have also started cultivating chilli. Apart from these, they grow rice and maize for their consumption and surplus are sold in the market. Of the 416 households, 125 households practice livestock farming with each household owning about 1 to 3 cows as per the result of the focus group discussion carried out as part of participatory planning for the review of the plan.

In terms of vehicle ownership, 21 households (5.05%) own commercial vehicles while 102 households (24.52%) own non-commercial vehicles.

2.5 Environment

Lhamoizingkha is surrounded by vegetation. It has thick forested area towards the north and is located in close proximity to Phibsoo Wildlife Sanctuary. Some of the plants species found in the forest plantation areas within Lhamoizingkha are *Shorea robusta* (*sal*), *Tectona grandis*, *acacia catechu*, *dalbergia sissoo*, *bombax ceiba*, *terminalia alata*, *gmelina arborea*, *michelia doltsopa*, *toona ceilata* and *aquilaria sinensis*. There are a total of 3 forest plantation areas within the boundary as can be seen from the figure below, Beleter top, Beleter and Range Compound with a total area of about 90.2 acres. The list of plant species as received from the Forest Range office, Lhamoizingkha is annexed.



Figure 10: Location of forest plantation areas within and in vicinity of the planning area

2.6 Institutions

Lhakhang and Mandhir

There are two religious establishments in Lhamoizingkha, viz., Paldenchoeling Lhakhang and Shiv Mandhir. Paldenchoeling Lhakhang was constructed in 2003 and currently has about 14 monks and a Lam. The Dratshang was established as the local residents had a difficult time during the annual rituals and for the overall wellbeing of the residents. The structure of main Lhakhang needs renovation, which will be carried out in the 12th Five Year Plan. Shiv Mandir was established around 1952 and currently has two people looking after it. In addition, a number of chortens form the culture and heritage of the area.



Figure 11: Religious structures in Lhamoizingkha

Lhamoizingkha Central School

Lhamoizingkha has a central school located next to the existing commercial centre. The students are mostly from the three gewogs under Dungkhag administration. The school started as early as 1961 and the current strength is 413 boys and 399 girls out of which 169 boys and 167 girls are in boarding. The school has a total of 33 teaching staffs and 21 non-teaching staffs.

Other Government Institutions

Lhamoizingkha plays an important administrative role in the region due to the presence of Dungkhag and Gewog office and Dungkhag court within the planning area. It also has a grade I BHU (10 bedded) with one doctor and 37 other health workers providing health care services to the region. Apart from its catchment area of Karmaling, Nichula and Lhamoizingkha gewog, people from nearby Chhukha Dzongkhag and occasionally Indians from the nearby border area also visit the health center to avail the service.

In addition, it has some of the important government institutions such as Renewable Natural Resource Centre (RNR), Regional Revenue and Custom Office (RRCO), Bhutan Agriculture and Food Regulatory Authority Office (BAFRA) and Immigration Office.

Royal Bhutan Police (RBP) and Royal Bhutan Army (RBA) are also located within the boundary.

Corporate Institutions

It also has two important State Owned Enterprises namely Bhutan Post Corporation Limited (BPO) and Food Corporation of Bhutan Limited (FCB). Bhutan Power Corporation (BPC) and Bhutan Telecom (BT) are the two important corporate offices located in the area.

Financial institutions

Bank of Bhutan (BOB) and Bhutan Development Bank Limited (BDBL) provide banking services to the residents of Lhamoizingkha and its neighbouring settlements.

The location of the institutions are illustrated in Figure 12.

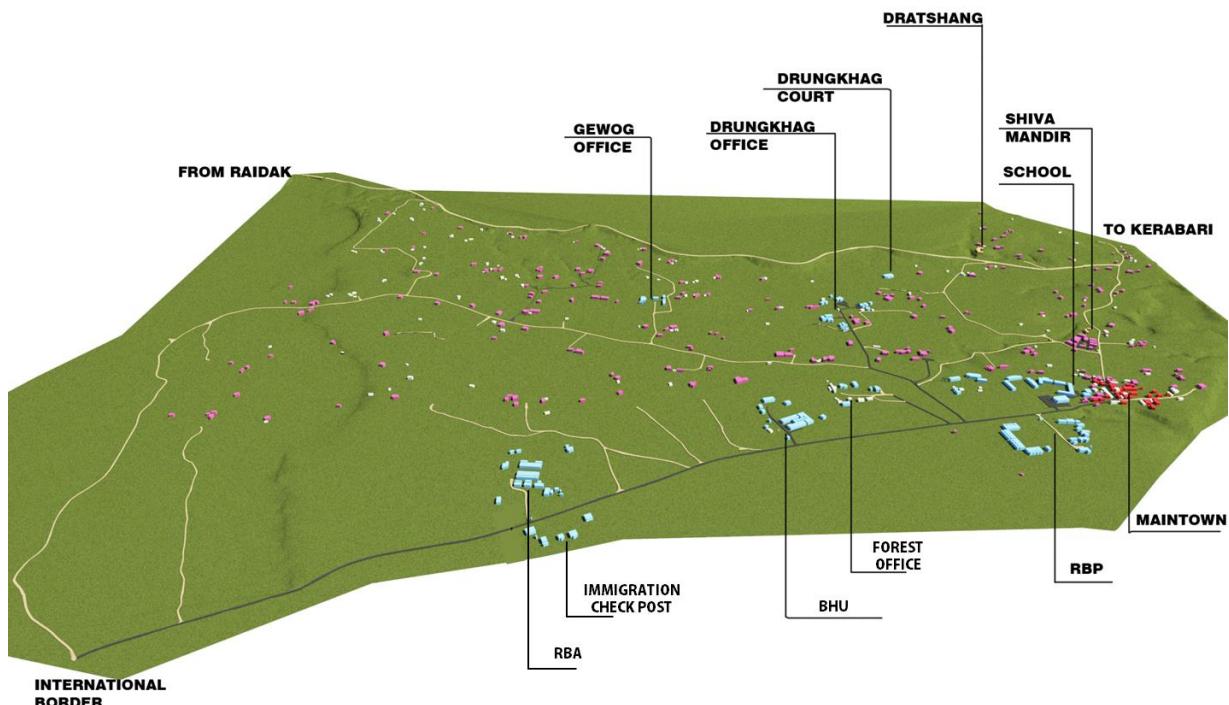


Figure 12: Institutional mapping

2.7 Housing

Almost 53% of households own their house and the remaining are rentals either occupying government quarters or private rental housing. 16.35% (68 HHs) of the total 416 HHs stay in private rentals. While 65.87% households owns land, only 53% owns a house.

The details of the home ownership status of the households are as tabulated below.

Table 3: Status of home ownership in Lhamoizingkha (PHCB 2017)

House Occupation status	Frequency	Percent
Owner occupied	220	52.88
Rented government house	63	15.14
Rented private house	68	16.35
Rent free private house	18	4.33
Rent free govt. house	45	10.82
Other	2	0.48
Total	416	100

2.8 Infrastructure and Amenities

2.8.1 Road and Circulation Network

All the metalled and un-metalled roads and footpaths within the planning boundary were picked in the topographic survey conducted in 2014. The new roads that have come up after 2014 was updated in December 2019. In total, the metalled road accounts to about 7.5 km and un-metalled roads accounts to about 13.3 km in length.

The majority of households in the planning area (96.3%) have access to the nearest road head in less than 30 minutes. However, there are some households (3.7%) that still need to travel more than 30 minutes to reach the nearest road point.

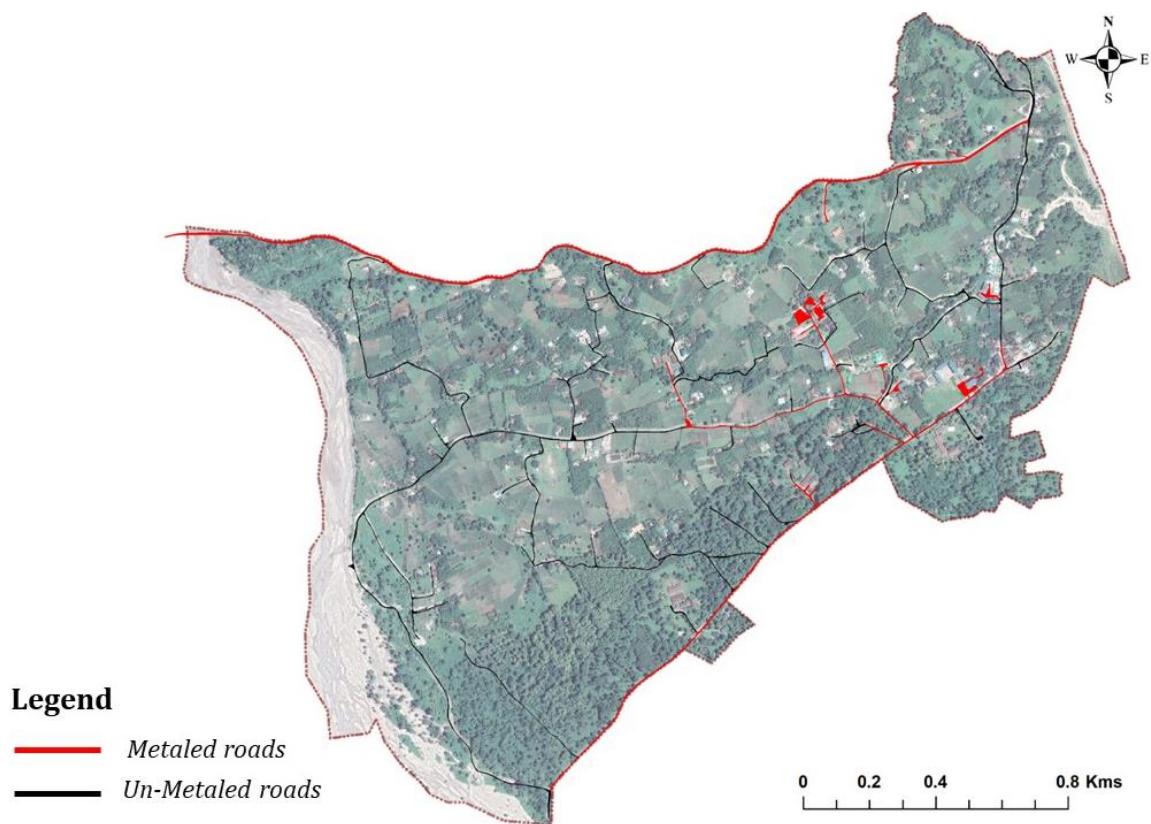


Figure 13: Road Network

2.8.2 Water Supply

Main Source of Drinking Water

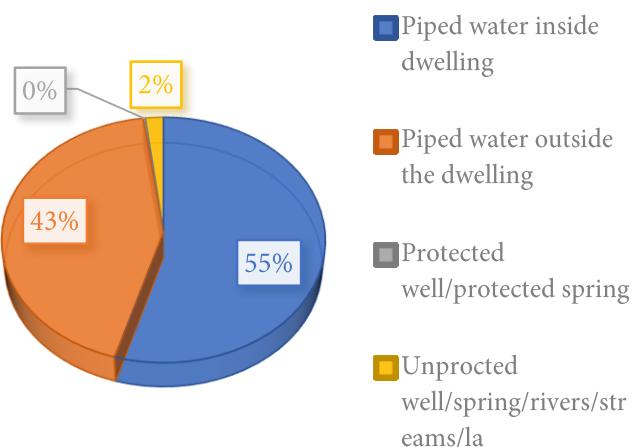


Figure 14: Main source of drinking water

improved sources of drinking water. However, only 85% of the housing unit have reliable sources of water supply³. About 15% lacked a reliable source of water supply according to PHCB 2017. In terms of absolute numbers, 62 households do not have access to reliable sources of water.

The water supply for Lhamoizingkha is from Betiney, which is located about 8km from the area. The location of the source is indicated in the figure below.

The main source of drinking water for most households within the planning area is piped water (inside and outside the dwelling), accounting for 97.8% of the total households according to the PHCB 2017. In addition, 0.2% (1 household) use protected well or protected spring water. With this 98.1 % of the household have access to



Figure 15: Current source of water supply

³ Reliable water supply is defined as the availability of water at least during the critical hours of the day and enough for washing and cooking (PHCB 2017)

2.8.3 Storm Water Drainage System

There is no proper storm water drainage system beyond the immediate vicinity of individual houses. Consequently, storm water often flows to the irrigation drains and it makes its way down to the rivers. Since the topography is relatively flat, the drainage system has the risk of flooding from Kalikhola river, especially during monsoon season. The flood protection works in both rivers is key to the safety of the residents of Lhamoizingkha.

Figure 16 demonstrates the existing drainage system of Lhamoizingkha and it can be seen that the drainages are only within the institutions such as Lhamoizingkha School, Drangpon's residence, near RBP and Forestry area and Dungkhag office. The total length of existing drainage is 2.042 km.

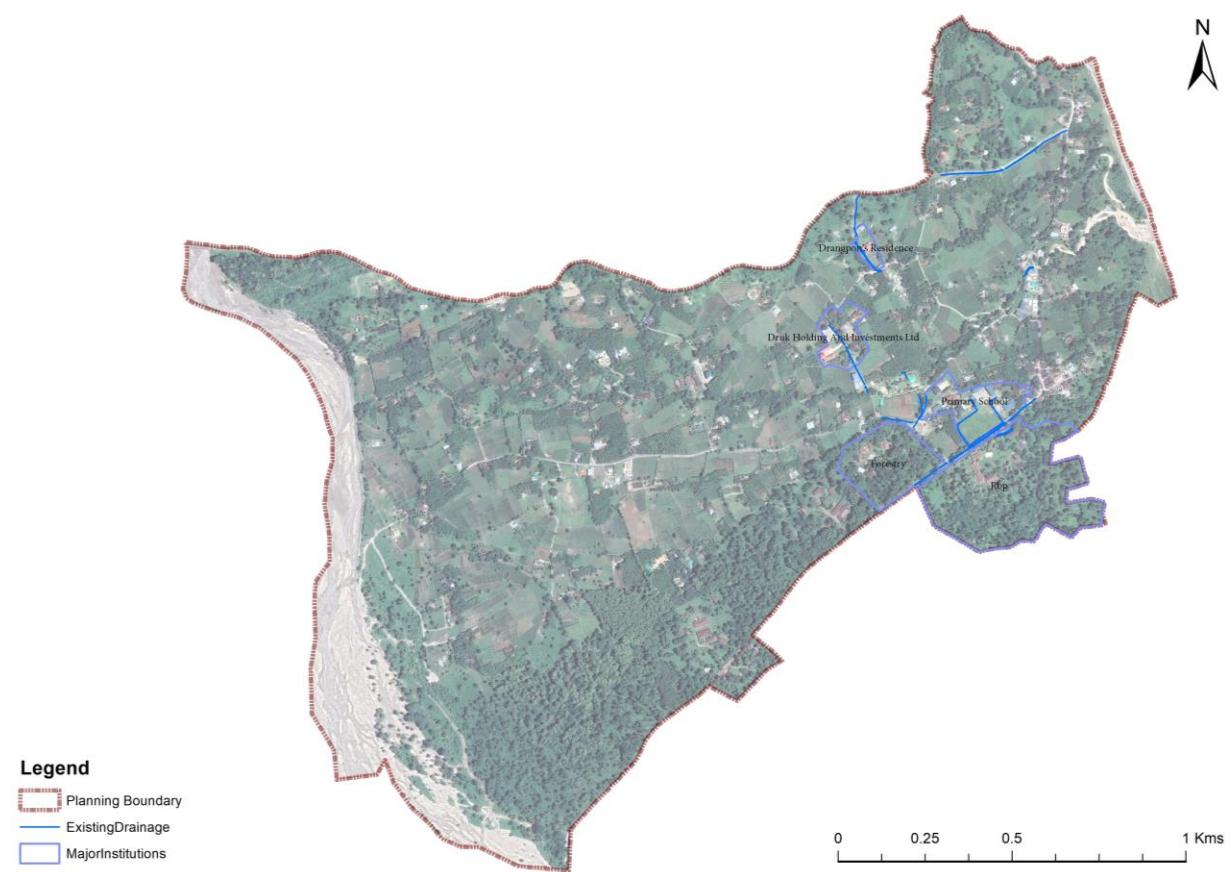


Figure 16: Drainage in Lhamoizingkha

2.8.4 Sewage and Solid Waste Disposal System

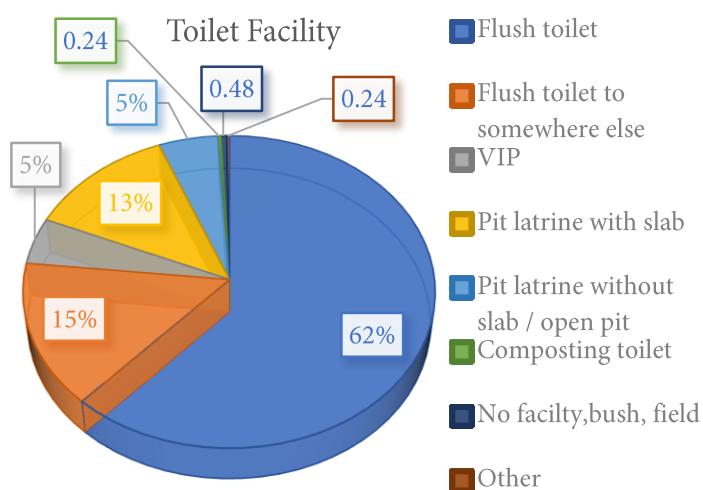


Figure 17: Toilet facility in Lhamoizingkha, PHCB 2017



Figure 18: Existing Garbage disposal pit located near the existing commercial centre

commercial center.

The toilet facility within the planning area is a flush toilet with 61.78% of the household reporting the use of this facility. About 0.7% of households do not have a toilet facility. Additionally, about 30% of the households have toilet facilities that are either ventilated improved pit, pit latrine with slab or composting toilet. In absolute figures 86 households do not have access to improved sanitation facilities.

Solid waste disposal site is not yet constructed for Lhamoizingkha, owing to the low volume of the waste generated. The 12th Five Year Plan identifies the garbage or waste disposal pit in Lhamoizingkha town as an important activity. The local government has identified two tentative location as disposal sites. One is located approximately 4km from Lhamoizingkha towards Raidak close to the Oyster lake and the other one located about 10km somewhere in Chating area.

Currently the waste is disposed off in the garbage pit located near the existing

2.8.5 Power and Telecommunication Services

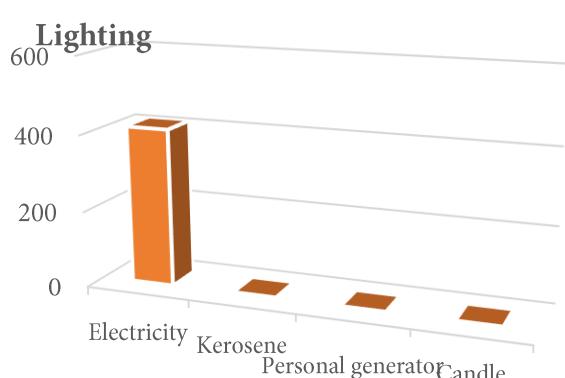


Figure 19: Source of lighting for Lhamoizingkha

Most households in the planning area use electricity for lighting which accounts to 99% while two households still use kerosene. 97.4% of the households use electricity and about 2% use firewood making these two the main source of energy for cooking.

2.8.6 Irrigation Canal

The existing irrigation canal is illustrated in the figure below. The existing canal measuring about 9.81 km caters to the water needs for agricultural produce.



Figure 20: Irrigation canal

2.8.7 Other Services



Figure 21: Existing fuel depot

Fuel depot is located within the planning boundary along the Secondary National Highway.

Other critical services like crematorium and workshop are located outside the boundary but are in close proximity.



Figure 22: Existing Irrigation Canal Network

2.9 Existing Commercial Centre

The existing buildings within the commercial center are mostly semi-permanent and are built with typical vernacular style. The ground floor of the structure is being used for commercial and the first floor for residential. The existing commercial center serves as the market center for settlements in the vicinity and nearby Indian villages.



The existing commercial center is highly congested and is prone to fire. The structures were earlier built on government land. However, His Majesty the King granted Land Kidu to 51 shopkeepers of Lhamoizingkha in the existing commercial center.

2.10 Existing Land Use Pattern

The dominant land use within the planning area is agriculture use followed by institutional and dotted by residential uses.

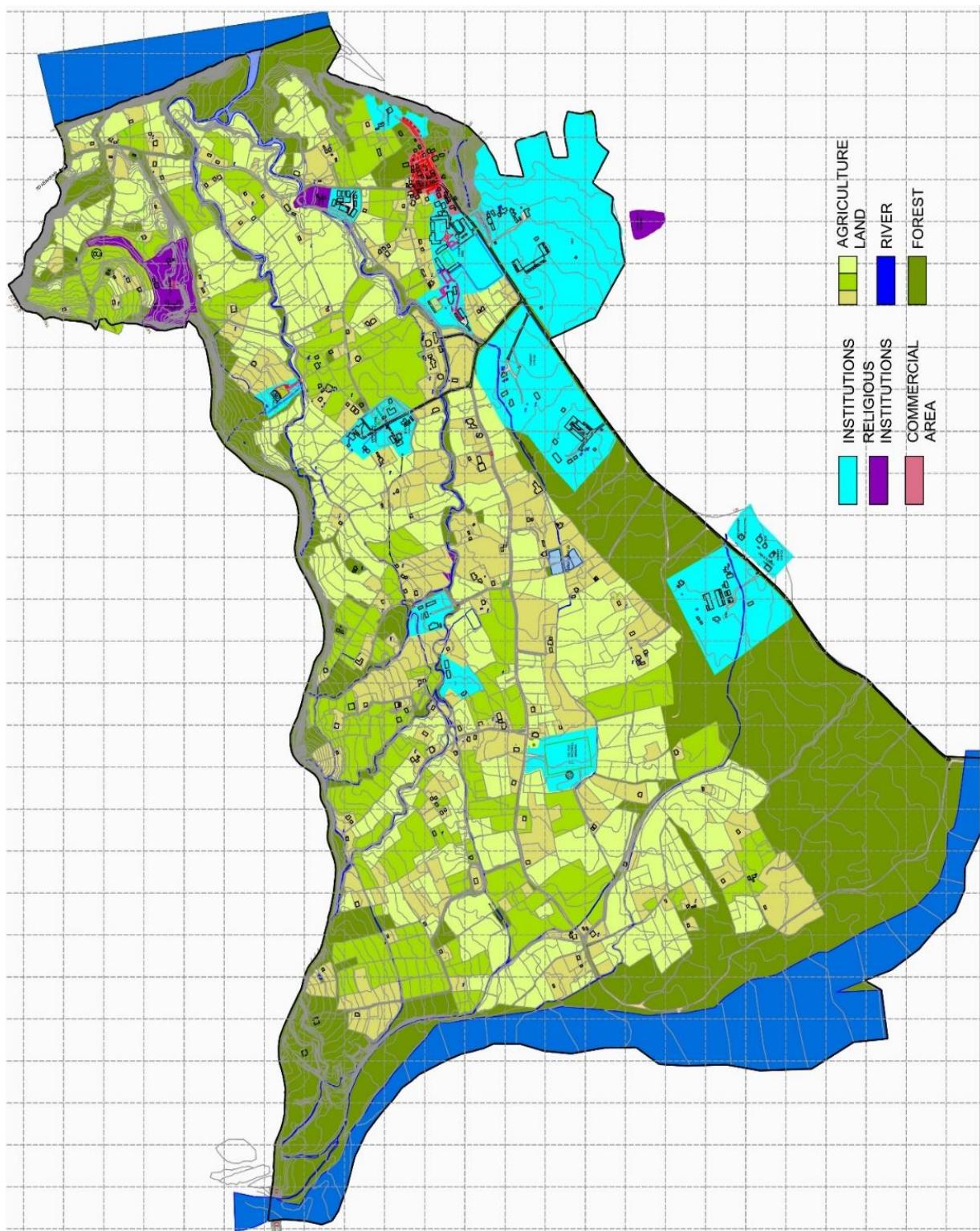


Figure 23: Existing land use

3: ANALYTICAL STUDY

This chapter analyses the existing conditions and identifies the key challenges and implications which are then addressed by the goals and strategies in the next chapter.

3.1 Plot Ownership

There are a total of 888 plots within the planning boundary. About 94% of land is owned privately, out of which 86% are under family ownership and 8% is under individual ownership. Only 3% of total land is registered as government institution and 1% as religious institution.

Table 4: Plot ownership breakup

Land Type	No. of Plots	% of total land
Family Land	763	86
Individual person	72	8
Govt. Institution	24	2.7
Religious Institutions	8	1
Government land	7	0.8
Joint Owners	3	0.3
NA	11	1.2
Total	888	100

3.2 Plot Type

There are eight categories of Land Types in Lhamoizingkha as can be seen in the map below. The majority of the plots are Chhuzhing, consisting 45% of the total with 401 plots. 26% of plots are Kamzhing and 18% are registered as residential land. Only 3% of plots constitute Institutional Land. The F5 plots are not registered under the thram since the owners do not have their census registered in Bhutan as of now.

Table 5: Plot type breakup

Land Type	No. of Plots	Areas (in acres)	% of total
Chhuzhing	401	243.644	45
Kamzhing	229	89.643	26
Residential	163	41.027	18
Commercial	51	0.585	6
Institutional	30	99.356	3.4
Lease	7	0.080	0.8
F5	5	4.975	0.6
Cardamom	2	0.091	0.2
Total	888	479.403	100

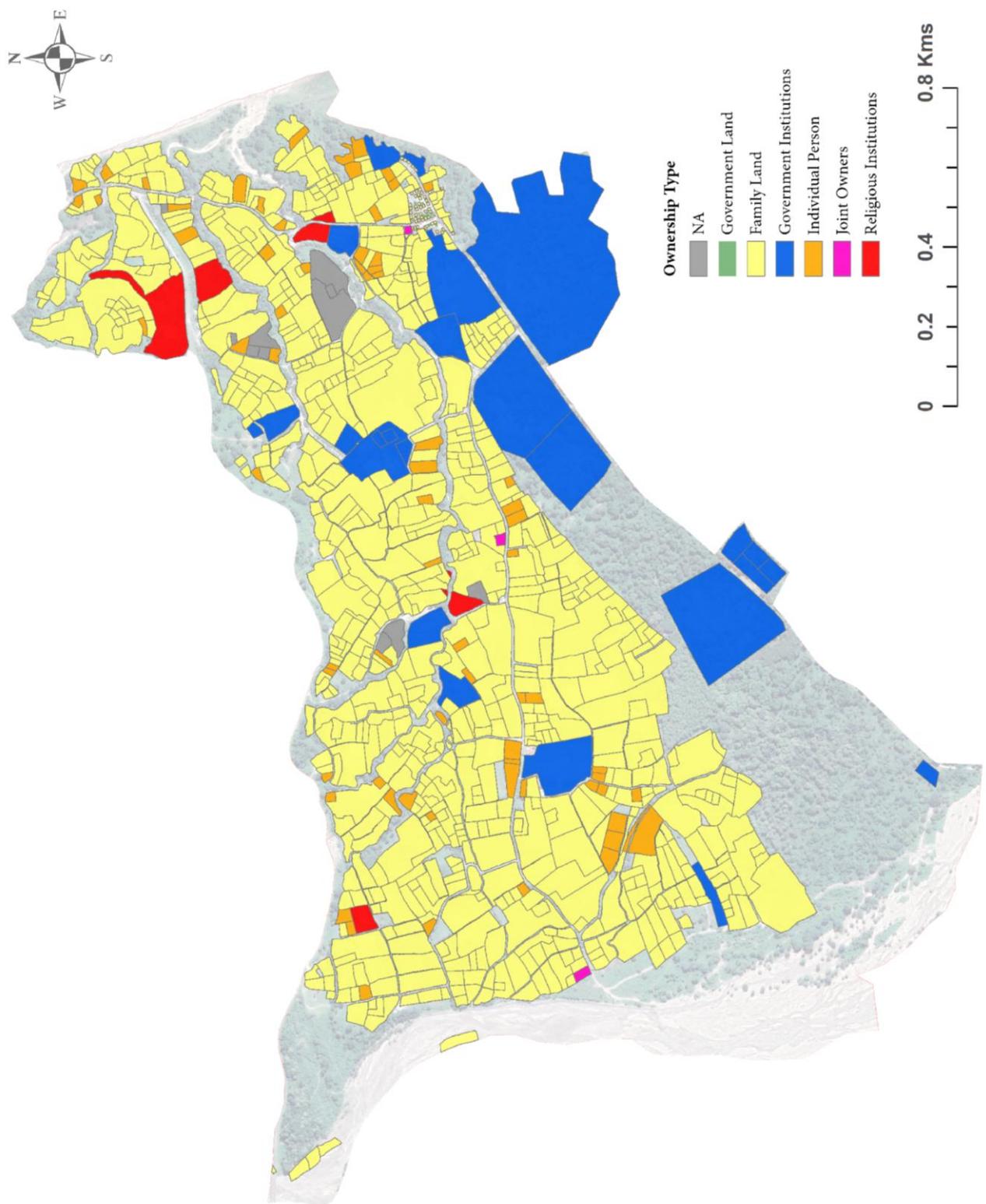


Figure 24: Plot Ownership classification

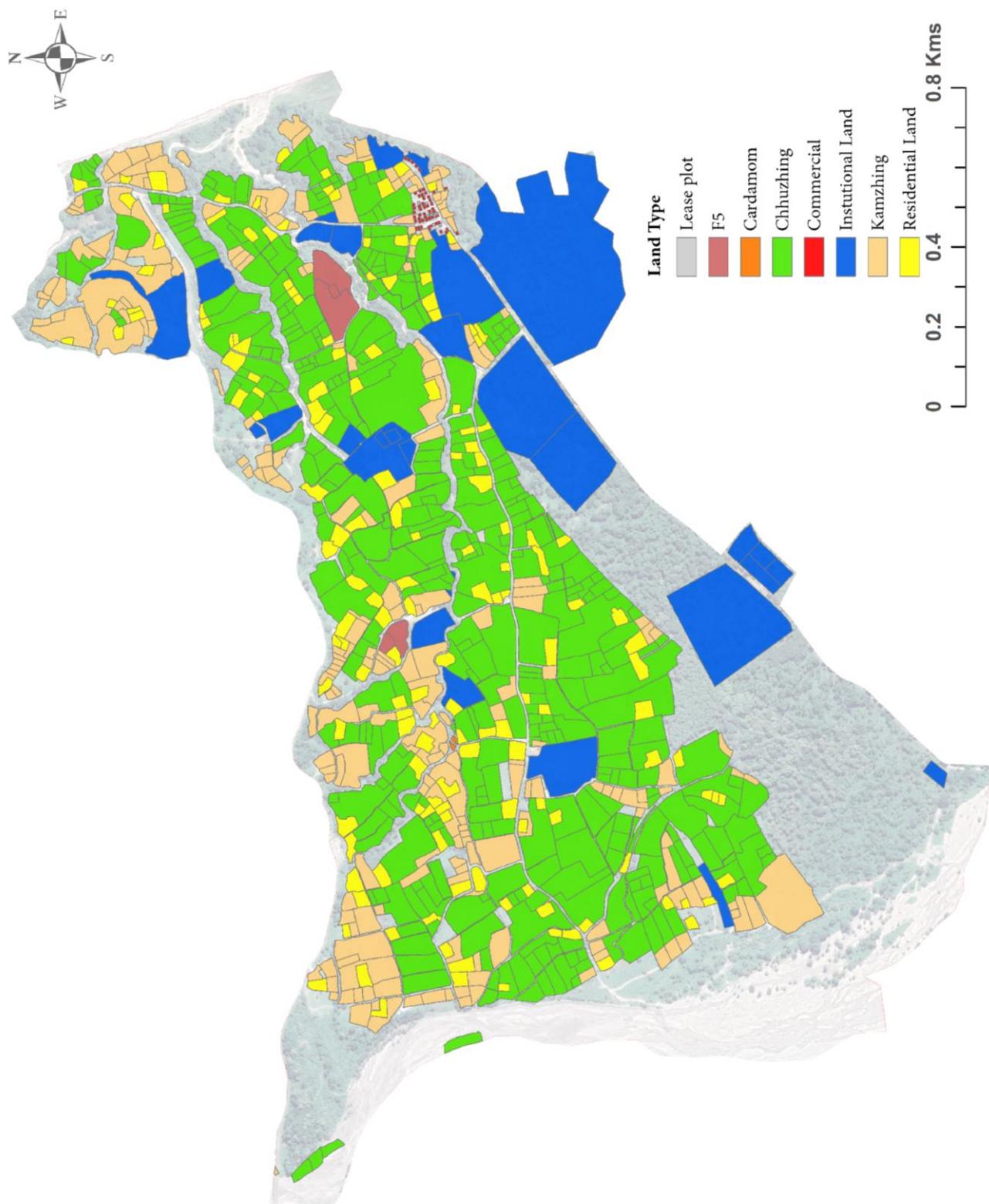


Figure 25: Plot Type classification

Chhuzhing plots account for 243.644 acres of land (45% of the total plots within the planning area) which can contribute 0.8% of rice production to the total National Rice Production of 78016 MT when it only contributes to about 0.5% to the national paddy field. This calculation is based on the rice production standards received from RNR and it is to be noted that the results are true only if all the chhuzhings are cultivated and double cropping is employed.

However, over the decade most of the chhuzhings have been left fallow or are utilized for production of other crops such as areca nut. This change in the land use can be seen in the figure below. The change over the past decade has been worked out from the historical imagery of Google earth.

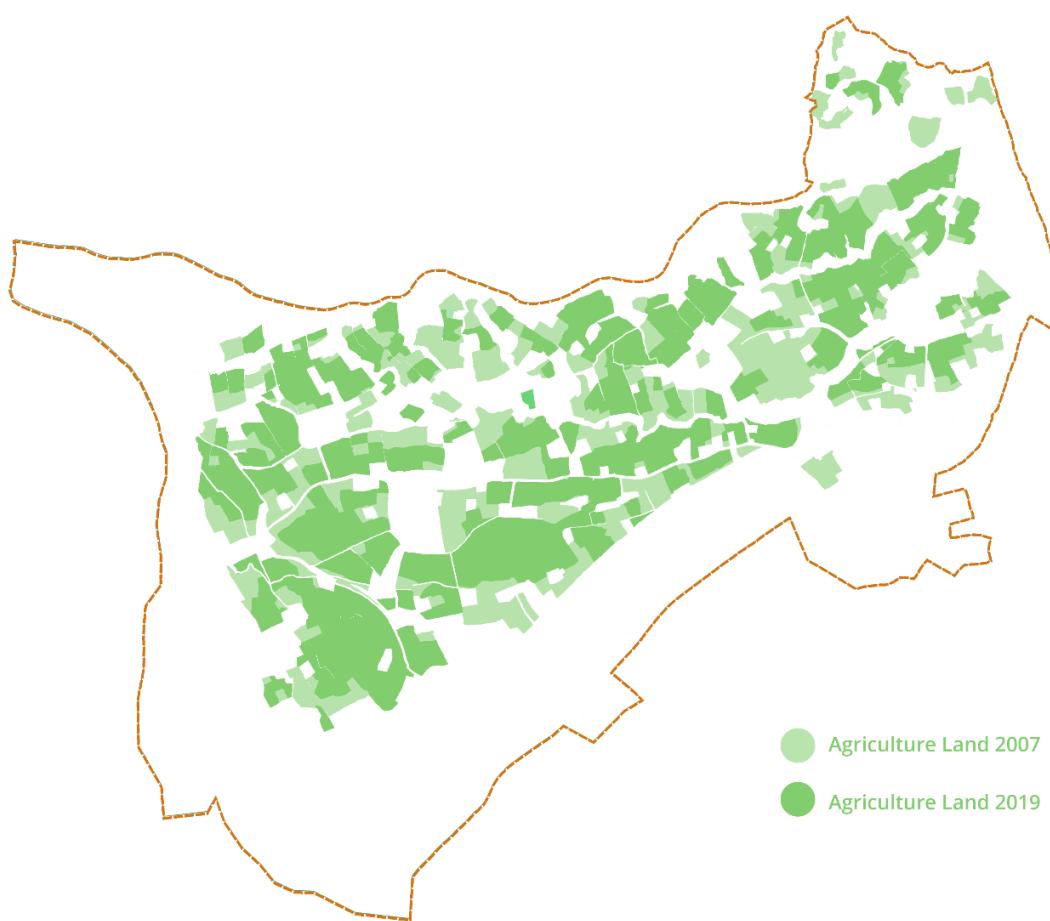


Figure 26: Changes in the land use between 2007 and 2019

It was also found that some of the developable plots are trapped amidst chhuzhing plots. Some of these plots are already built and some have access roads as well. An analysis of these trapped plots was also carried out based on the following criteria;

- Location of plot, whether it is trapped by chhuzhing on all sides or not,
- Development status of the plot, built or vacant,
- Access to road.

A total of 40 plots are classified as trapped plots out of which only 12 plots are vacant. These plots are recommended for substitution so as to maintain contiguous agriculture farms.

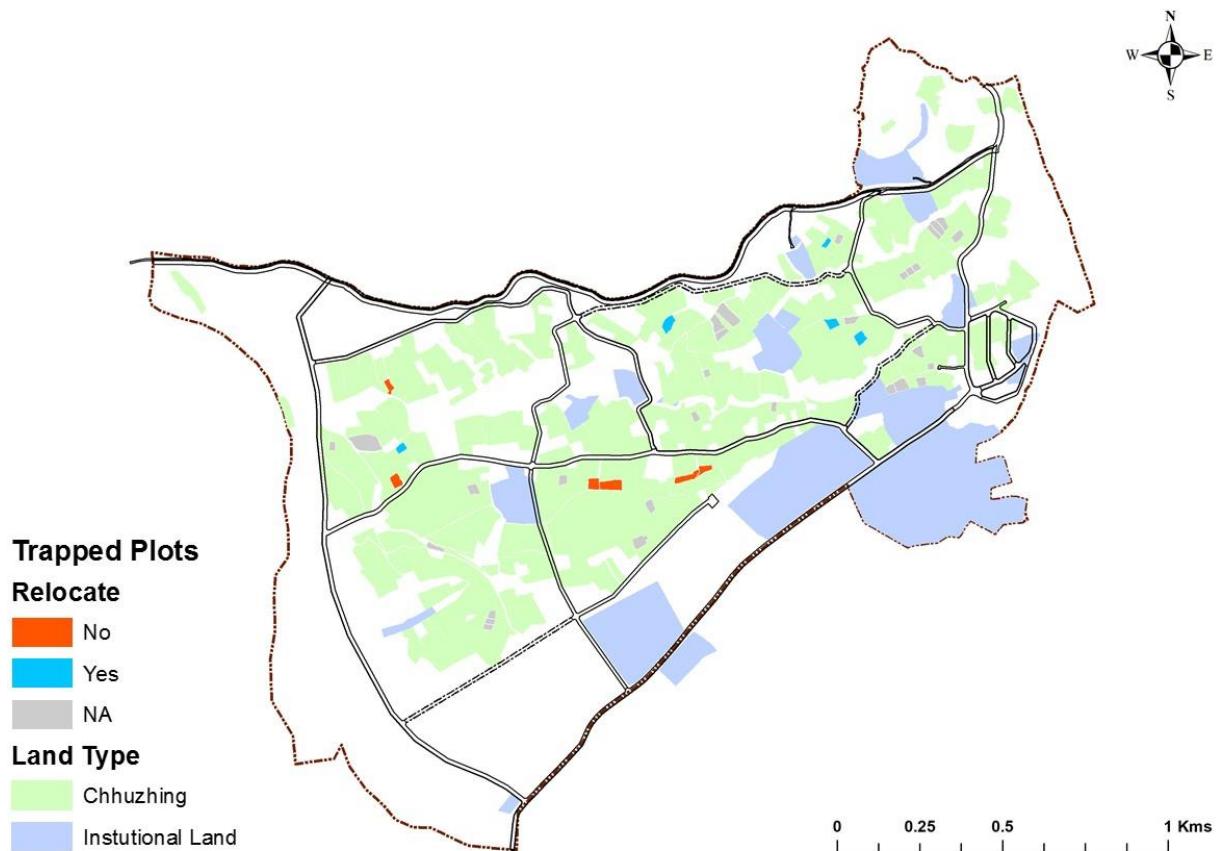


Figure 27: Trapped vacant plots

3.3 Plot Size

The plot size analysis is used to show the location of the undersized plots in the planning area and categories of the land that are undersized. Majority of plots are above the plot size of 13 decimals, which accounts to 80.6% of total plots and 8% (84 plots) are between the plot sizes of 10-13 decimals. About 11% of plots in the planning area are undersized plots which have a plot size of less than 10 decimals. These undersized plots are mostly located in the existing commercial center (58 plots) which includes the kidu plots of shopkeepers.

Table 6: Plot size breakup

Plot size	No. of Plots	% of total
<10 decimals	88	11
10-13 decimals	84	8
>13 decimals	716	81
Total	888	100

Plot size -type analysis classifies the types of plots according to size. This analysis allows the planners and the decision makers to provide planning interventions specific to the plot types. From the analysis, most of the plots identified as having area below the standard size of 10 decimals are commercial plots located in the existing commercial centre followed by chhuzhing. The commercial plots are developable and as for small-sized plots, special regulations are necessary to avoid disproportionate structures.

Table 7: Plot Size-Type analysis

Land Type	No. of small Plots	Area
Cardamom	2	0.091
Chhuzhing	15	1.207
Commercial	51	0.585
Institutional land	2	0.071
Kamzhing	10	0.85
Lease plots	7	0.080
Residential	1	0.089
Gross	88	2.973

3.4 Building Typology

Out of a total of 1016 structures, about 510 buildings are permanent structures, which accounts to 50% of the total, followed by 31% sheds and 17% of semi-permanent structures. Only 2% of total structures are huts.

Table 8: Breakdown of building typology

Building Typology	No.
Permanent	510 (50%)
Semi-permanent	176 (17%)
Hut	19 (2%)
Sheds	311(31%)
Total	1016

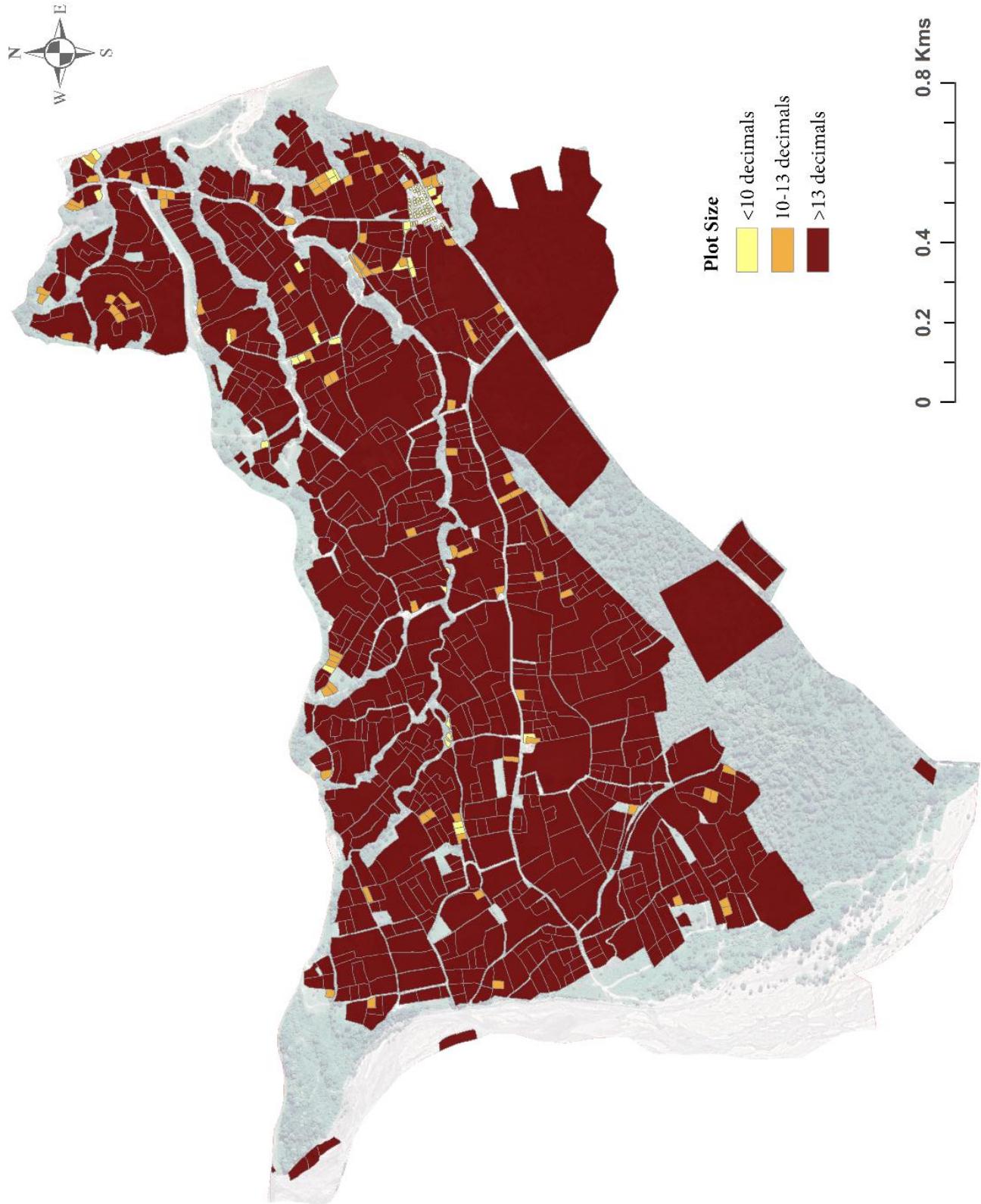


Figure 28: Plot size Classification

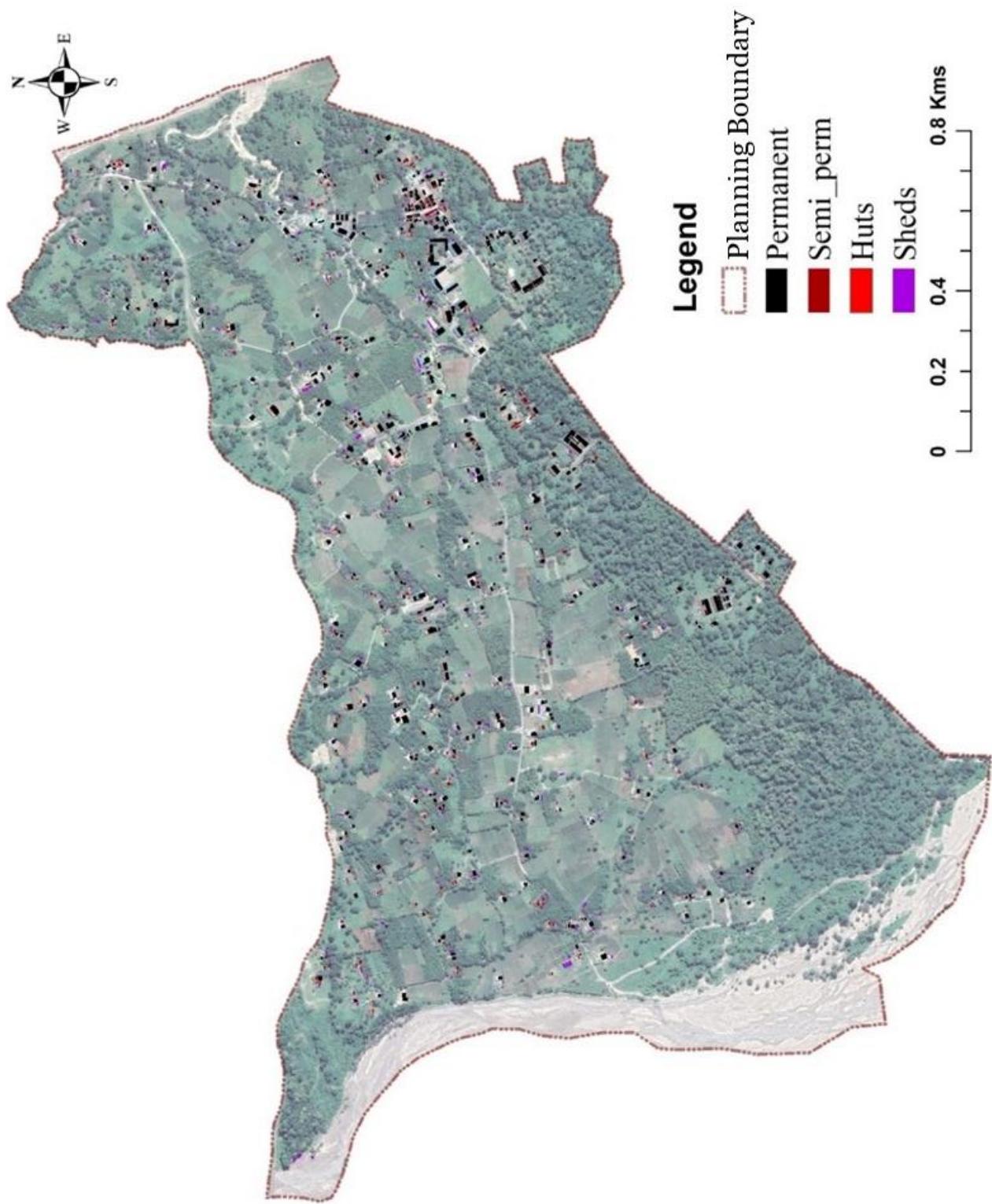


Figure 29: Building typology

Development Trend

Over the past decade there has been a lot of development in the area. The development trend is based on the structures that have come up within the planning area and is generated from google earth maps of 2007 and 2020. These developments are mostly scattered and are along the road networks. The new structures have come up in proximity to the institutional areas. The increase in the built up area can be seen in the following map.

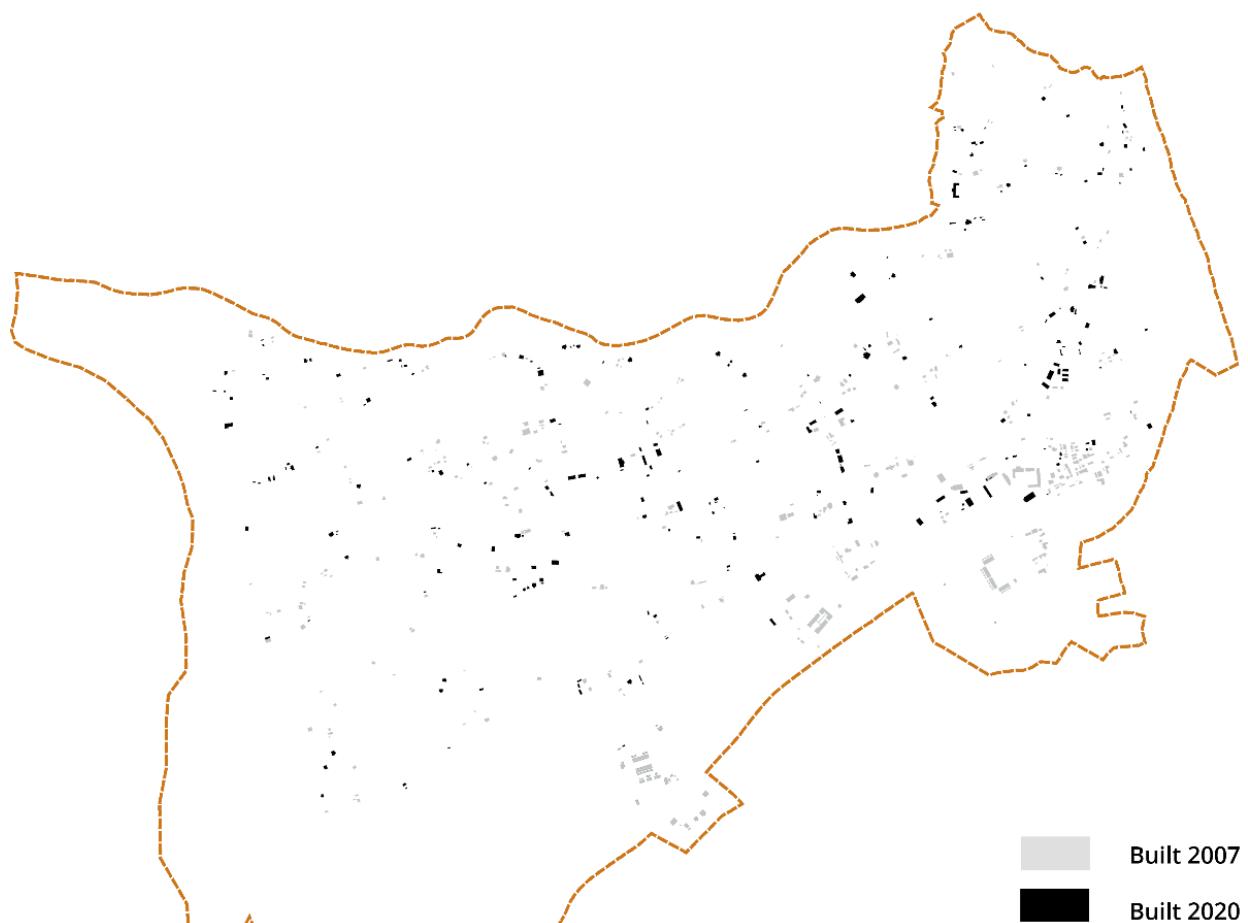


Figure 30: Built up analysis between 2007 and 2020

3.5 Building Height

For the purpose of analysing the building heights, only permanent, semi-permanent and huts have been considered and the sheds were excluded. Based on that, about 81% (570 structures) of total are single storeyed structures followed by 56 double storeyed structures and 10 three storeyed structures. There is 1 structure with four floors, one with a basement plus three floors and a ground floor structure with an attic.

For the purpose of building classification based on height, the structures falling within the existing commercial area have not been picked as these will be demolished and rebuilt as most of the structures are in dilapidated condition and the kidu plots will be consolidated in blocks to make them developable.

Table 9: Break down of building Height

Building Height	No.
G	570 (81%)
G+1 (2)	56
G+2 (3)	10
G+3 (4)	1
B+3	1
G+A	1
NA (Urban Core)	66
Total	705

The table below shows the number of permanent structures constructed on different land type. Upon analysis, it was found that there are 63 structures built on chhuzhing accounting for a total built-up area of 4046 sqm or 1 acre.

Table 10: Built-up analysis on different land types

Land Type	No. of Buildings	Total Built up area (in sq.m)
Kamzhing	66	5168.289
Institutional land	141	16625.789
Residential land	195	14487.100
Chhuzhing	63	4046.692
Null	5	487.420

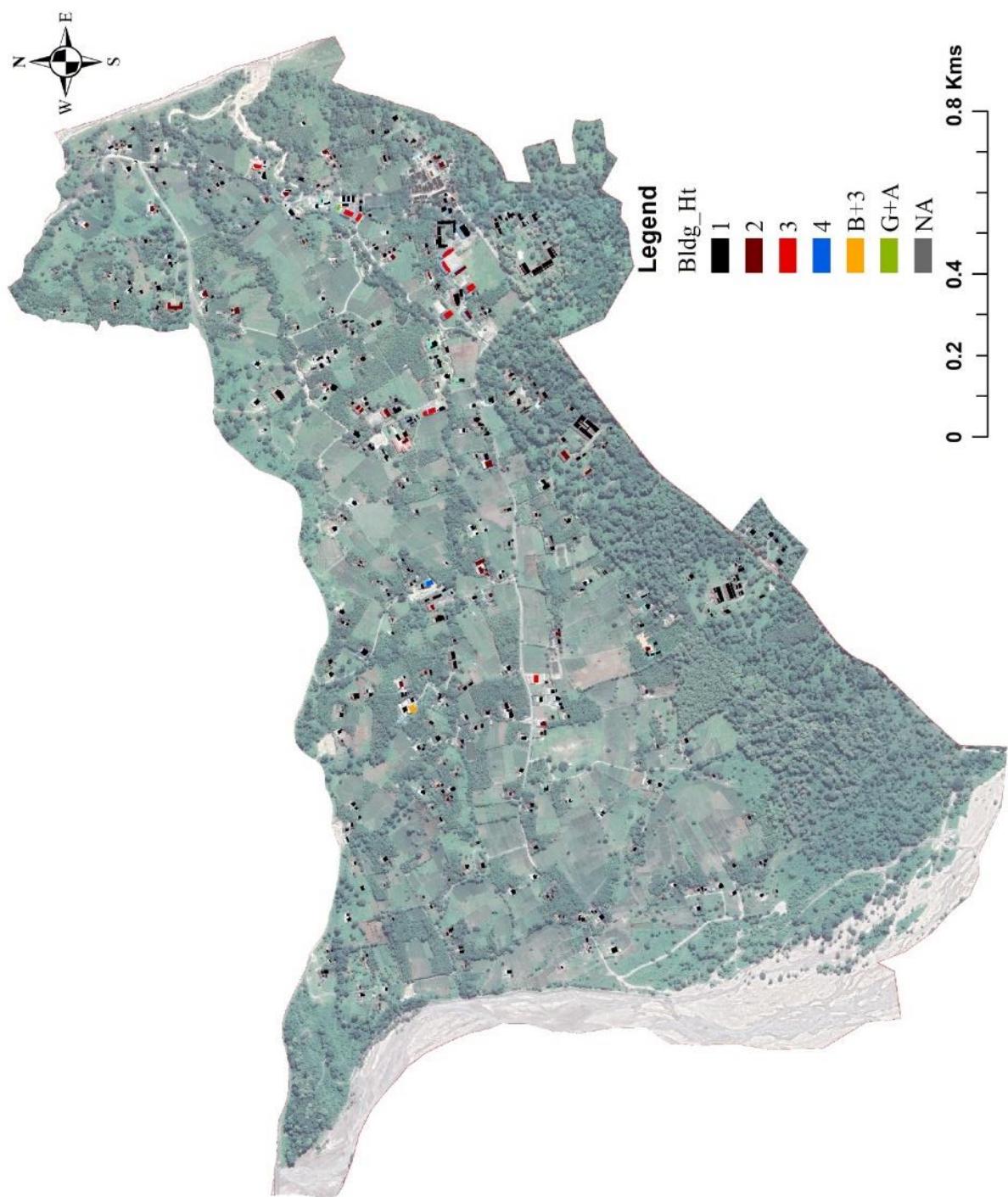


Figure 31: Building Height

3.6 Slope Analysis

The slope analysis studies the surface of the land and groups land parcels under different slope categories. This is useful in order to identify areas that are suitable for various developments or more importantly to help designate appropriate land uses. As per the slope analysis, Lhamoizingkha is a relatively flat land consisting 90% of the area under slope category of less than 10%, and only 1% is within slope range of 30-57%, which are steep slopes along the Raidak-Lhamoizingkha road and ridges along the streams and river. Generally, the areas with flat terrain are considered suitable for development. However, most of the land in Lhamoizingkha falls under Chhuzhing land type, thus restricting certain degree of development. Steep areas along road and stream/river are not suitable for development as disturbance of this slope could lead to landslide and erosion causing damages to lives and properties downslope.

Table 11: Slope distribution in the area

Slope in %	Area in sq. km	Area in acres	Percentage
<10	2.785	688.213	90%
10-20	0.224	55.52	7%
20-30	0.063	15.705	2%
>30	0.015	15.705	1%

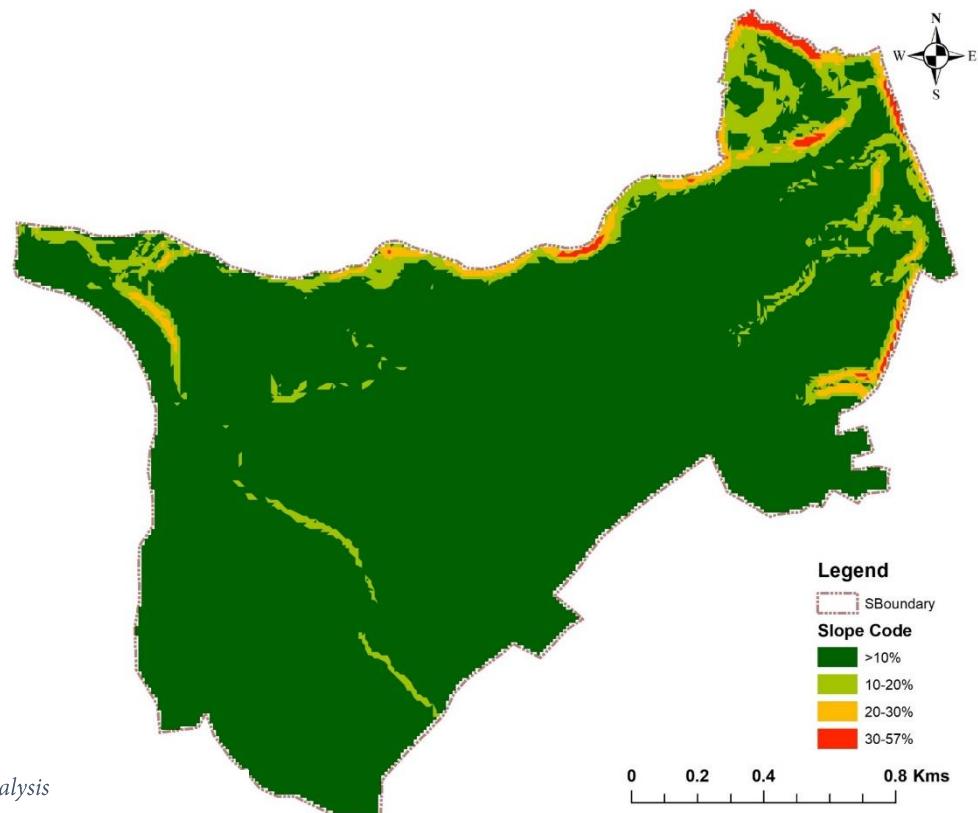


Figure 32: Slope analysis

3.7 Aspect Analysis

Aspect analysis identifies the direction of the inclination of the slope. Such a study is useful to determine the sun direction and therefore the layout of roads and streets which in turn determines the plot depth and the orientation of the buildings. Most of the land in the planning boundary faces east and south. Minimal area faces North and West. East and South facing are considered to be suitable for residential development and agriculture production which needs longer duration of sunlight. Whereas, North and West facing areas can have activities requiring moderate sun exposure.

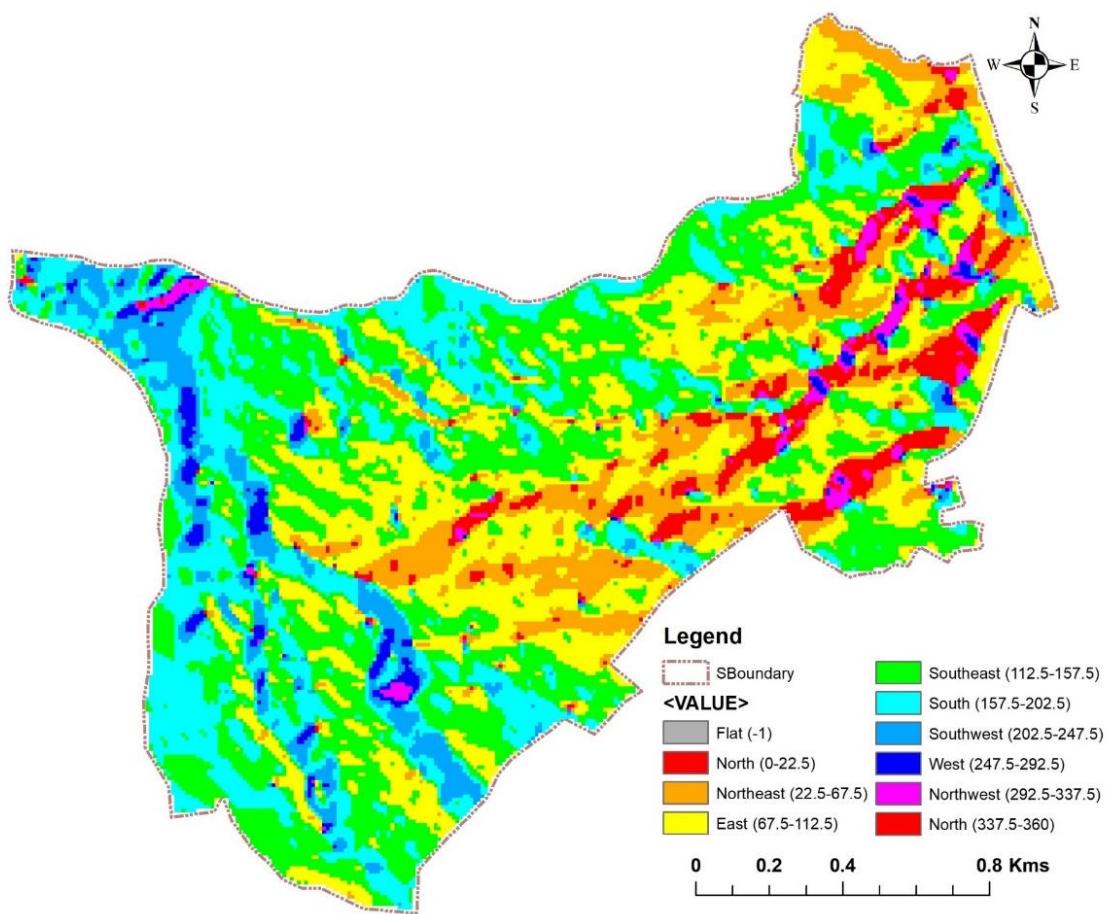


Figure 33: Aspect analysis

3.8 Hydrology Analysis

A hydrology analysis is conducted based on the water flow direction and the level of accumulations. The hydrological analysis is based on the raster data generated from the topographical survey. The Flow Accumulation is used to calculate accumulated flow into each downslope. Areas with a high flow accumulation are areas of concentrated flow and may be used to identify stream channels. These are indicated by the white lines in the map below.

As shown in Map below, the existing drains and streams align with the results of the hydrology analysis. In line with this, the drainage network has to be aligned.

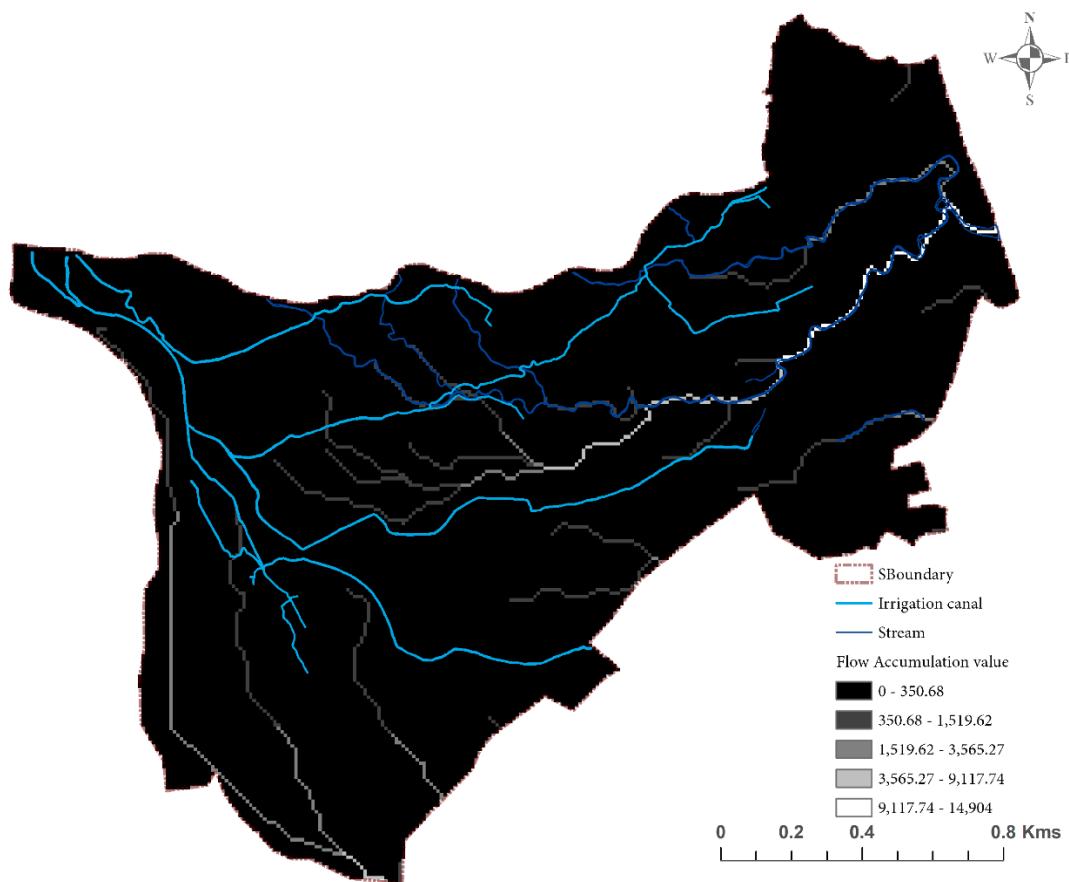


Figure 34: Hydrology analysis

3.9 Geotechnical Aspects

As per the Detailed Engineering & Feasibility Study Report for Lhamoizingkha and Sarpang Flood Protection by Department of Engineering Services, MoWHS, the area is found to be located in the Siwalik rocks comprising an inter-bedded sequence of sandstone, siltstone and clay stones. The sandstones are thickly bedded, medium to coarse grained, micaceous and occasionally feldspathic having salt and pepper texture. A few inter-beds of earthy dark grey to olive green mudstone are also present. Along the right bank of the Sunkosh river, grey colored, coarse to medium grained sandstone, sandstone with pebble beds, siltstone and clay stone are exposed whereas the left bank is constituted of the fluvial material forming terraces at four levels.

3.10 Hazard Analysis (Flood)

Based on the Detailed Engineering & Feasibility Study Report for Lhamoizingkha and Sarpang Flood Protection by Department of Engineering Services, MoWHS, a length of about 5 km river training is to be done along the right bank (territory of Bhutan; left bank is Indian territory) only. This stretch of the river lies in between the boulder stage and meandering stage. The protection works are aligned such that the peak flow velocity is directed towards the midstream, rather than towards the right bank in Sunkosh River as it is at present. This reduces the risk of erosion of the right bank with the protection works, compared to the existing situation.

Based on the study, river embankment was proposed along the right bank in the areas where the degree of bank erosion and inundation problem was remarkable due to the overspreading of flood discharge and damages in the cultivated land. Embankments were proposed to ensure the safe passage of flood waves and maintain the favorable hydraulic condition. These embankments with revetments will protect the surrounding areas from erosion and inundation.

In 2019, a Flood Hazard Assessment for Dagana Dzongkhag was also carried out by Flood Engineering and Management Division, Department of Engineering Services, Ministry of Works and Human Settlement. As per the report, Sunkosh river area (at the base of Hawajorey, Kalikhola Town and Majagong village) under Lhamoizingkha gewog was ranked highest in the risk prioritized areas or hazards in the Dzongkhag.

The report also states that the Sunkosh River has been washing away major river banks of land every year due to scouring. About 1 km of flood protection structures has been constructed till date. However, there are still some critical areas requiring immediate additional flood protection structures in the above-

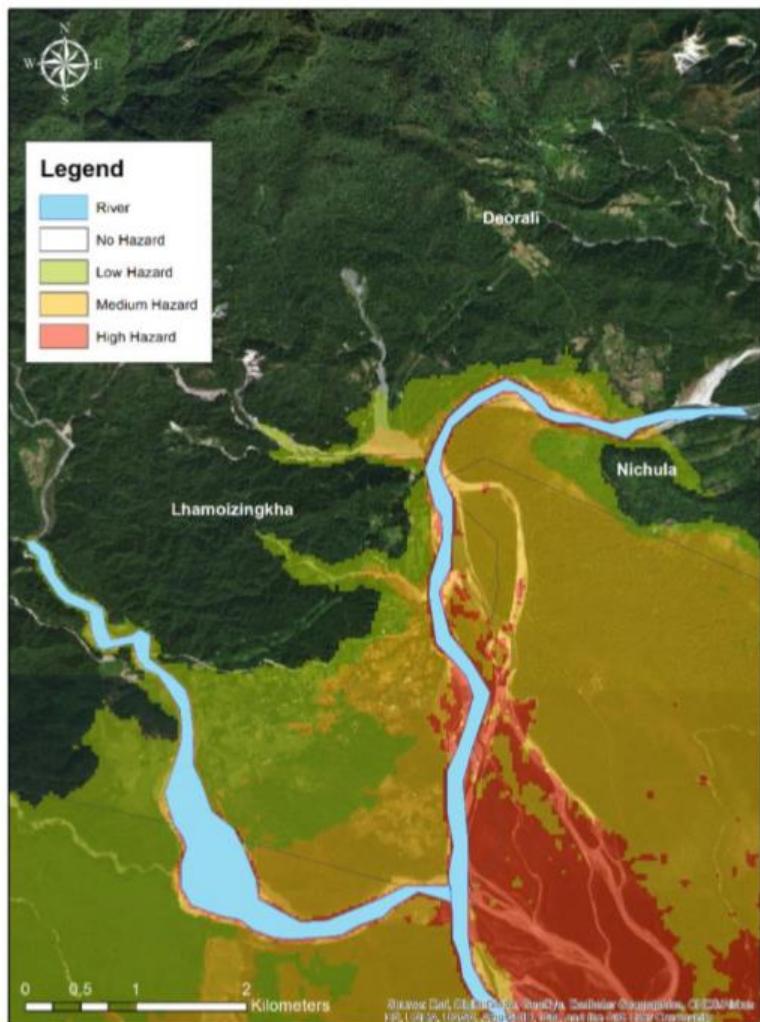


Figure 35: Flood hazard map along Sunkosh river

mentioned areas. The report recommends around 1200m of Flood protection structures along Sunkosh River.

Based on the modelling results the design discharge recommended is 6,051 m³/sec (50 year return period discharge) for Sunkosh River. For flood and bank protection of the constricted portion of the river, the following alternatives were recommended in the report:

- Construction of a series of spurs;
- Construction of revetments along the river bank; and
- Combination of revetments and spurs.

Following the study assessment, a mitigation wall was constructed along the river Sunkosh in two phases. The embankments constructed till date can be seen from the figure below.



Figure 36: Location showing mitigation wall constructed along Sunkosh river

3.11 Land Suitability Analysis

Land suitability analysis is carried out to identify developable land available within the planning boundary. Except for the risk from flooding, Lhamoizingkha has strength in terms of land availability given its favourable topography. However, most of its land is registered as Chhuzhing and is under paddy and areca nut cultivation. The structure plan considers the need for integration of these characteristics against development pressure that Lhamoizingkha may face.

To determine the available developable land in the planning area, Chhuzhing, Irrigation canal, Kalikhola river and buffers of both Kalikhola and Sunkosh rivers and streams have been calculated and deducted from the total planning area as tabulated below. Therefore, out of 779.02 acres, a total of 444.715 acres of land has been identified as developable area in the planning area and 334.305 acres as undevelopable area.

With the consideration of residential density as 80 pph for low density settlement, the carrying capacity of Lhamoizingkha accounts to 14,080 population.

Table 12: Land under undevelopable uses

Deduction	Area (in Acres)
Chhuzhing	243.644
Irrigation Channel	2.959
River Kalikhola	57.4586
Buffer Zone (Kalikhola)	15.271
Buffer Zone (Sunkosh)	5.418
Stream with buffer	19.406
Total Undevelopable Area	334.305
Total Planning Area	779.02
Total Developable area	444.715

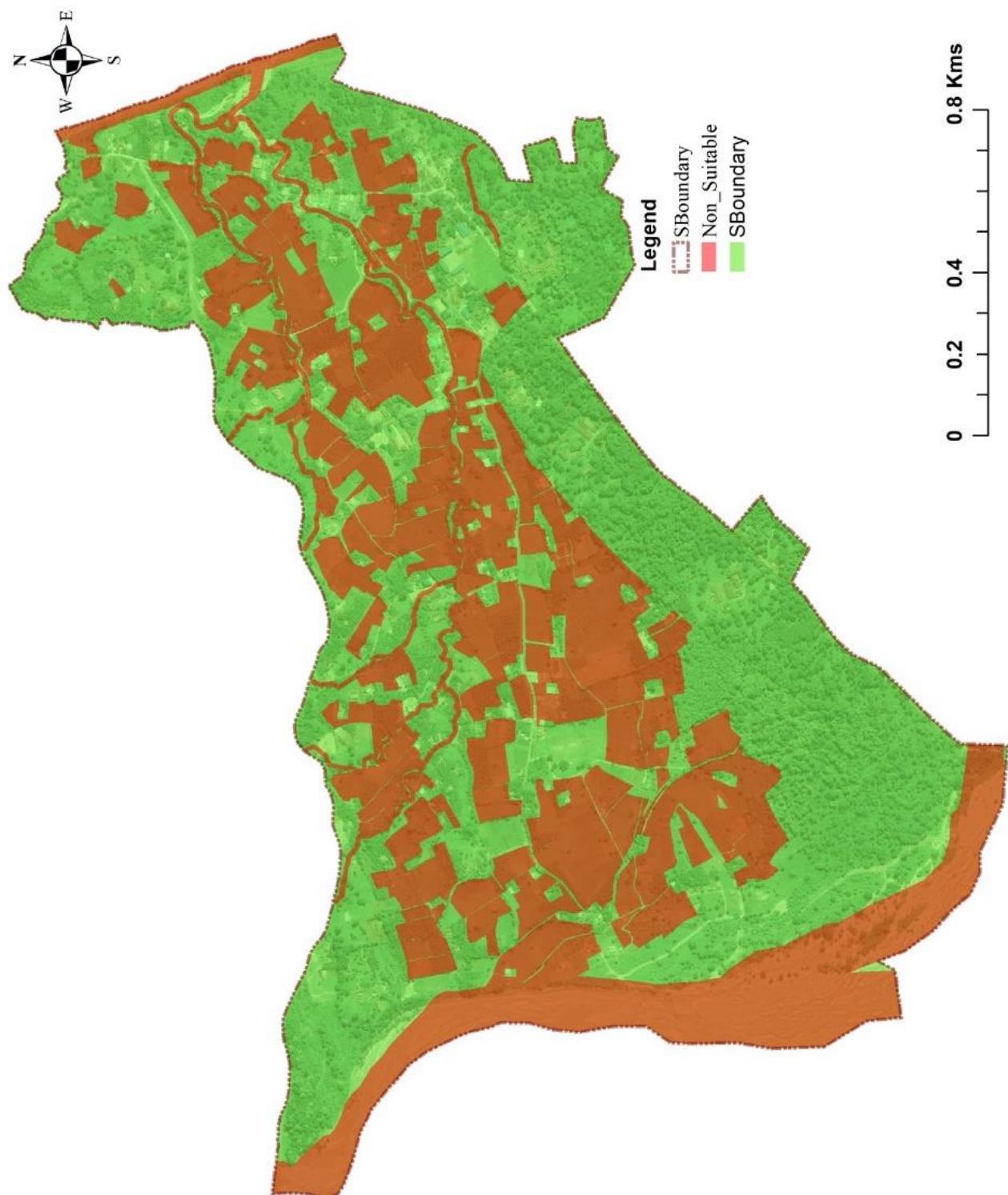


Figure 37: Suitability map of Lhamoizingkha

3.12 Population Projection

Population projection is carried out to know the growth of population over decades and to plan for different services and facilities in the planning area to cater to its present and future projected residents.

The projection is done for two scenarios, Scenario-I is excluding school population and Scenario-II is inclusive of school population. These projections are based on the population data of PHCB 2017. The annual growth rate for projection is based on the projected urban population growth rate of Dagana which is 3.15 %⁴. Additionally, a floating population of 20% of total population is included, to consider people who reside in a given population for a certain amount of time for various reasons such as tourism, migrant labor etc. but are not generally considered part of the official census count.

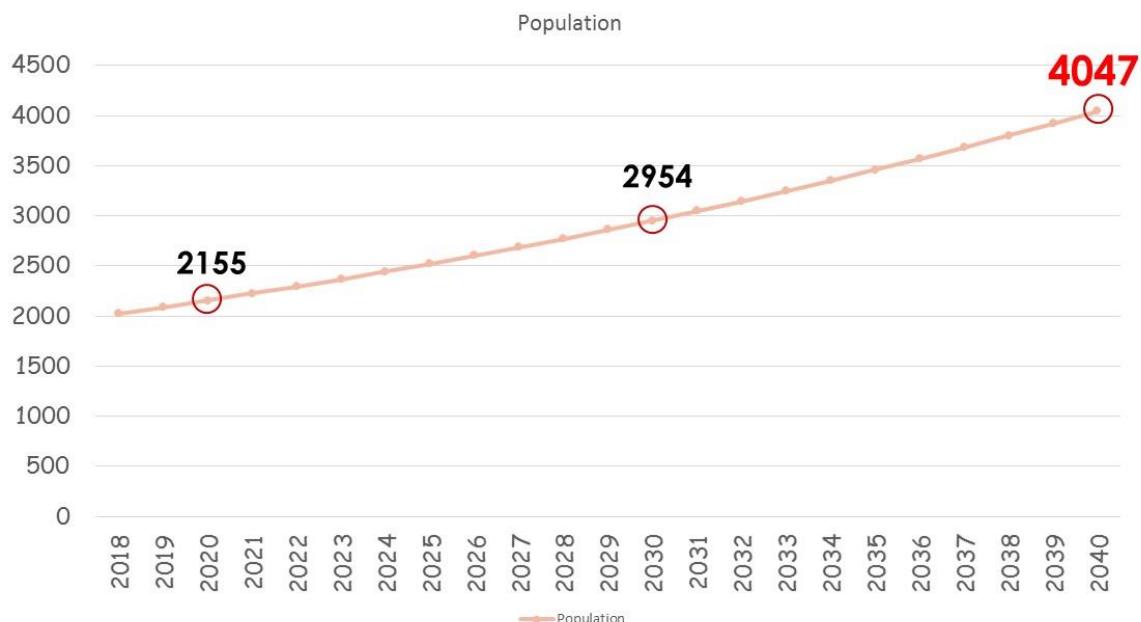


Figure 38: Population projection for Lhamoizingkha

Scenario-I: Without floating population the base population for the year 2020 is 2155 computed from 2017 data with a growth rate of 3.15%. The projected population for 2040 comes to 4047.

Scenario-II: The population projection has been carried out only for the planning area with the consideration of 20% of total population as floating population. The base population for the planning area is 1961 as per the PHCB 2017 and with an additional 20% floating population, actual base population is 2353 for 2020. The population is projected to grow up to 4856 (with a floating population of 20% of total population) by the year 2040.

⁴ Population Projection 2047 (NSB)

Since Lhamoizingkha has many institutional offices like Dungkhag Administration, central school and BHU which are critical for all the gewogs under the Dungkhag Administration, the growth in the population of the other two gewogs is imperative for planning and development of services that will be catering to the catchment areas as well, like the sports complex and other recreational activities.

Table 13: Population data of the three gewogs under Lhamoizingkha Dungkhag Administration

	2005			2017		
	Male	Female	Total	Male	Female	Total
Lhamoizingkha	1436	1218	2654	1423	1334	2757
Nichula	230	244	479	242	192	434
Karmaling	666	649	1315	785	539	1324

While the growth of population for the gewogs of Nichula and Karmaling is very minimal it acts as a catchment population for the services provisioned in Lhamoizingkha planning area.

3.13 Water and Sanitation Requirements

The current water source is from Beteni which is 8km away from Lhamoizingkha. As per the standard per capita water requirement of 135 lpcd, Lhamoizingkha currently requires 0.290 MLD and 0.317 MLD for scenario I and II respectively. By the year 2040, there will be a need of 0.546 MLD with the population of 4047 and 0.655 MLD with the population of 4856.

With the consideration that 80% of drinking water is converted into waste water, currently about 0.232 MLD and 0.253 MLD wastewater is generated for scenario I and II respectively. Additional of 0.436 MLD wastewater will be generated for scenario I and 0.524 MLD for scenario II in 2040.

3.14 Tourism Potential

Lhamoizingkha offers rich ecological experience due to its close proximity to Phibsoo Wildlife Sanctuary. Phibsoo Wildlife Sanctuary (PWS) is the smallest protected area in Bhutan but has one of the richest biodiversity. It is home to all the 8 cat species, Asian Elephant, Guar and endangered Golden Langur. It is the only natural habitat of spotted deer (Chital), wild Sal and Agarwood forest in Bhutan.

Additionally, Lhamoizingkha has a sacred Oyster lake which is believed to be hundreds of years old. According to local folklore, Oysters were once sighted at the lake, therefore it is named as “Khurul” which means “Oyster”. The lake is also known as Lhamoi Tsho. The lake has a unique red fish that is found only in the oceans, as said by local people.

Also riverfront development project along Sunkosh river could offer recreational activities to local and regional tourist from Bhutan and neighboring Indian State.

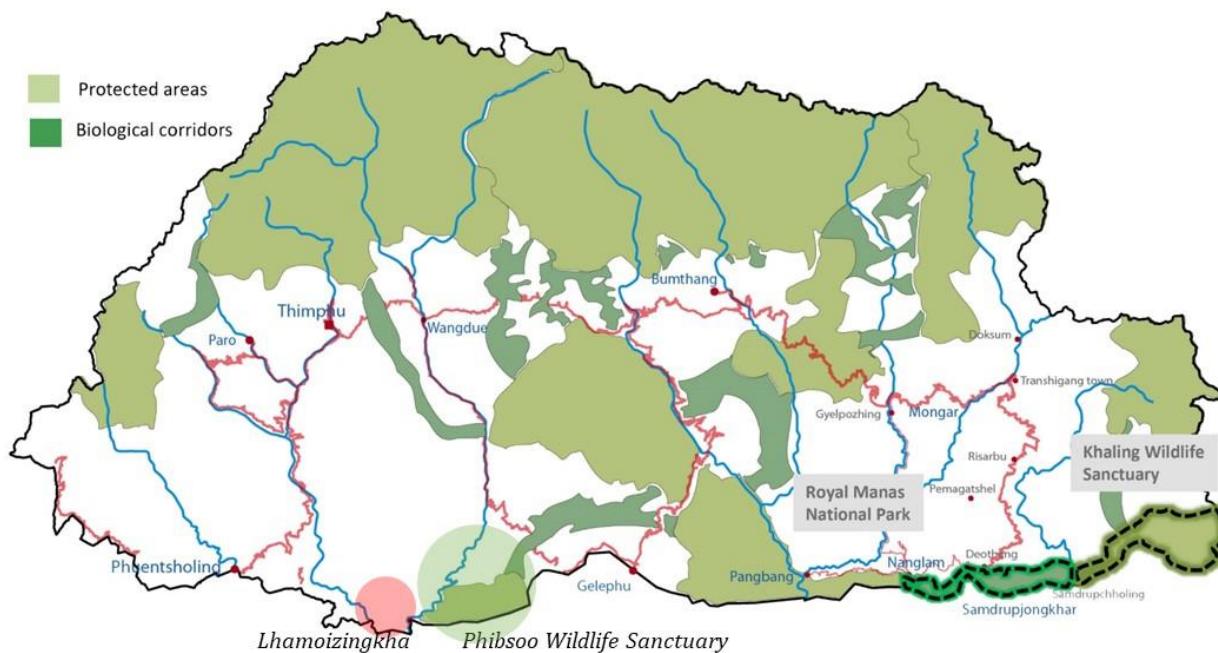


Figure 39: Location of Phibsoo Wildlife Sanctuary

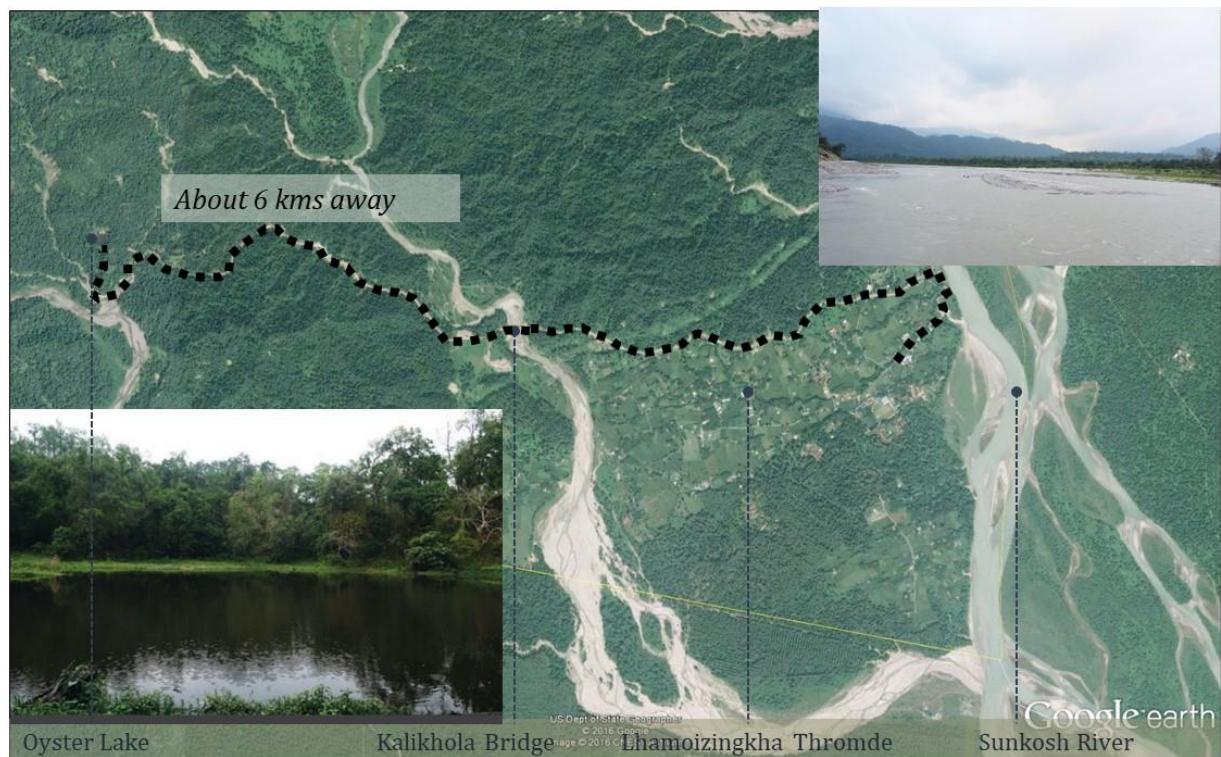


Figure 40: Location of Oyster lake

3.15 Participatory Planning and Focus Group Discussion

Participatory planning is a process by which a community undertakes to reach a given socio-economic goal by consciously diagnosing its problems and charting a course of action to resolve those problems.

Focus group discussion is one of the tools to facilitate public participation. It is frequently used as a qualitative approach to gain an in-depth understanding of social issues. The method aims to obtain data from a purposely selected group of individuals rather than from a statistically representative sample of a broader population.⁵

A focus group discussion was conducted for Lhamoizingkha with participation from Dungkhag and the gewog administration. Four types of analysis tools were used for the discussion, venn diagram, historical matrix, calendar analysis and problem matrix.

3.15.1 Venn Diagram

Venn Diagram analysis is a participatory map which represents the community's analysis of its space. It offers another way to "map" a community, but this one focuses on social relationships rather than physical ones. The Venn diagram looks at how a community is organized, both in terms of its internal organization and its relationships with the larger community beyond its borders.

In this analysis, the Venn is considered as the planning boundary and whatever is inside the Venn is the institutions and agency within the boundary that the participants deems as critical. The major institutions like Dungkhag Administration, Lhamoizingkha gewog administration, BHU grade I, financial institutions, and services like fuel stations are located within the boundary. Other critical services such as crematorium and workshop are located outside the boundary.

⁵ The use of focus group discussion methodology: Insights from two decades of application in conversation. Qualitative methods for eliciting judgments for decision making

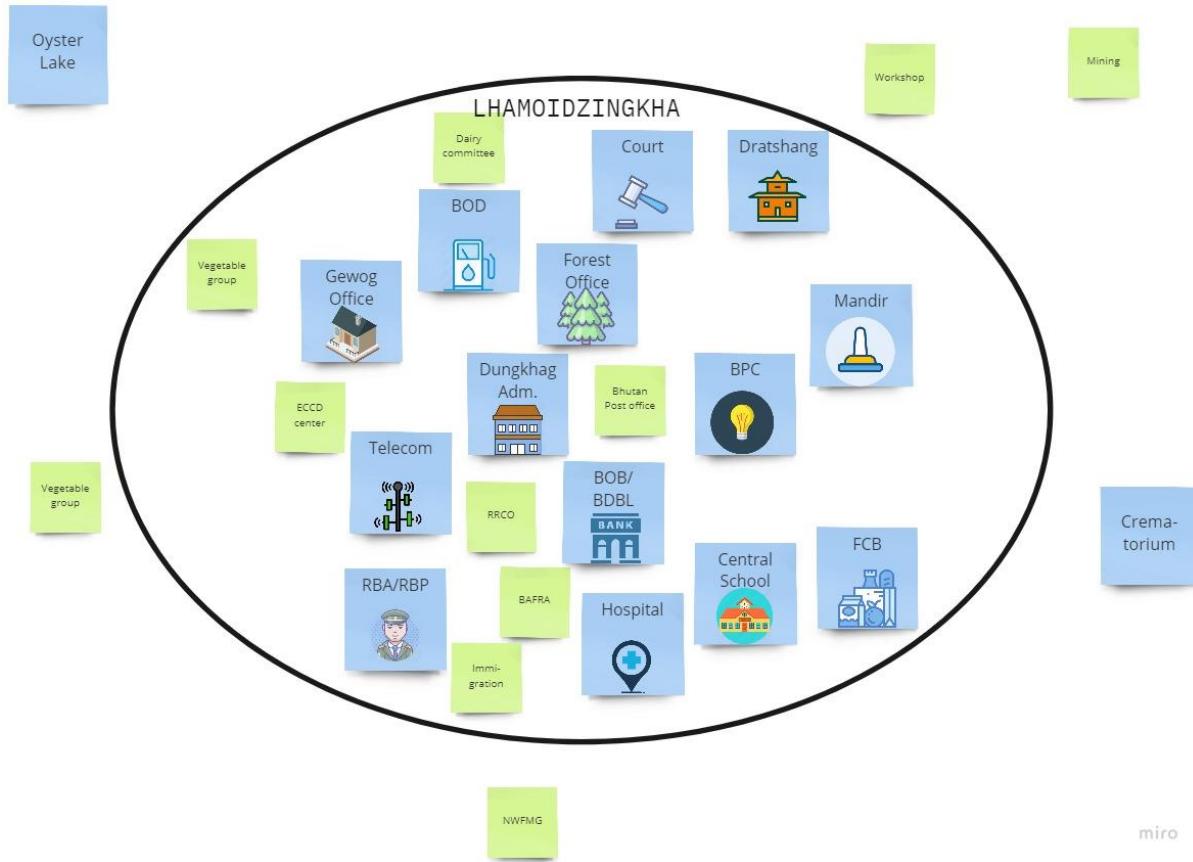


Figure 41: Venn diagram analysis, Focus group discussion

3.15.2 Historical Matrix

It looks into how the situation has changed over time (over several years). The purpose of a historical matrix is to see how certain factors have changed over time and to try to understand how communities adapt their strategies and activities to changing circumstances. Historical matrices are carried out in a very similar way as calendar analysis but one axis is reserved for a time variable. Typically, the time dimension is placed along the horizontal axis. The time increments to be used depend on the type of information that is being sought. If a longer view of things is desired, it makes sense to start at the earliest time period in the memory of villagers participating in the activity.

It is evident from the figure below that the Development in Lhamoizingkha has been gradual. It is also apparent that people are moving into cash crop production from paddy, wheat and maize. Livestock rearing is seen to be decreasing over time with each household on an average rearing 15-20 cattle per household in 1980's to 1-3 cattle per household currently. On a whole, the living standard of Lhamoizingkha is perceived to have improved since 1995.

	1980's	1990's	2000's	2010's	2020's
Population	120 HHs	110 HHs	150 HHs	190 HHs	230 HHs
Development	Irrigation(RWSS), BHU, Forest, Dungkhag Adm., Agriculture farms, Bhutan Post	School upgradation, BPC, Bhutan Telecom, RBA, RBP	Gewog Office, Financial Institutions, Farm roads, Farm mechanization	Highway, GC road, Cremation ground, Dratshang, Upgradation of Mandir, Court, BoD	
Production of Rice	160 acres	160 acres	Decreased by about 60% ↘	Decreased by about 60% ↘	Decreased by about 60% ↘
Production of other crops(Maize, Millet, Wheat)	100 acres	100 acres	Decreased by about 60% ↘	Decreased by about 60% ↘	Decreased by about 60% ↘
Cash crops		Areca Nut	Increased ↑	Chili (2015)	Increased ↑
Clearing of Forest		Maximum afforestation	Maximum afforestation	Deforestation (Highway)	
No. of Cattle	15-20/HH	15-20/HH	7-10/HH	3-5/HH	1-3/HH
Well-Being and living standard		Improved from 1995 ↑	Electricity ↑		miro ↑

Figure 42: Historical Matrix, Focus Group Discussion

3.15.3 Calendar Analysis

Calendars are diagrams that focus on seasonal issues and how things change throughout a year. Calendars have a particular importance in food security, agricultural, and health studies because these often involve important seasonal issues. Calendars also help the team to avoid the seasonality bias which is related to the time of year when the team conducts their study. The calendar allows the team to consider how reality changes during different seasons as conditions change in the community. The horizontal axis of a calendar is the time axis.

It is evident from the figure below that the people are mostly engaged in farming almost throughout the year. The main source of income is from farming, especially from areca nut cultivation, vegetable and paddy cultivation. Some of the major events as expressed by the participants are Tshechu, Oyster lake puja, Dassain and Diwali. Visitors usually come during the winter season as the climate is favourable.

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
POPULATION STAYING IN THROMDE	✓✓✓	✓✓				✓✓				✓✓		✓✓✓
FIELD WORK	✓✓	✓✓			✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	
LAND USE PATTERN	Maize	Maize	Maize	Vegetables	Paddy	Paddy	Paddy	Paddy	Paddy	Paddy	Rice	Rice
INCOME PATTERN		ARECA NUT	VEGETABLES								RICE	
LABOR CONSTRAINTS						✓✓✓	✓✓✓			✓✓✓	✓✓✓	
MAJOR EVENTS		TSHECHU	OYSTER LAKE PUJA								DASAIN & DIWALI	
HEALTH PROBLEMS			VIRAL FLU	FMD (livestock)		MALARIA & DENGUE, WATER BORNE DISEASES (HEAT RASH)						
VISITORS	✓✓✓	✓✓✓	✓✓								✓✓✓	

Figure 43: Calendar Analysis, Focus Group Discussion

3.15.4 Problem Ranking Matrix

Analysing and identifying problems stakeholders share in order to implement adequate improvements and solutions. Problem ranking method helps to quickly get a good idea of what people think are the priority problems or preferences. Problem ranking is probably the easiest method to use and to learn more about commonly shared problems and priorities. The criteria developed out of the ranking can be used for the community action plan of the area.

Some of the major problems as pointed out during the FGD are inadequate solid waste management, diminishing culture and tradition, inadequate health facilities, disaster (flooding), human-wildlife conflicts and trespassing due to porous borders.

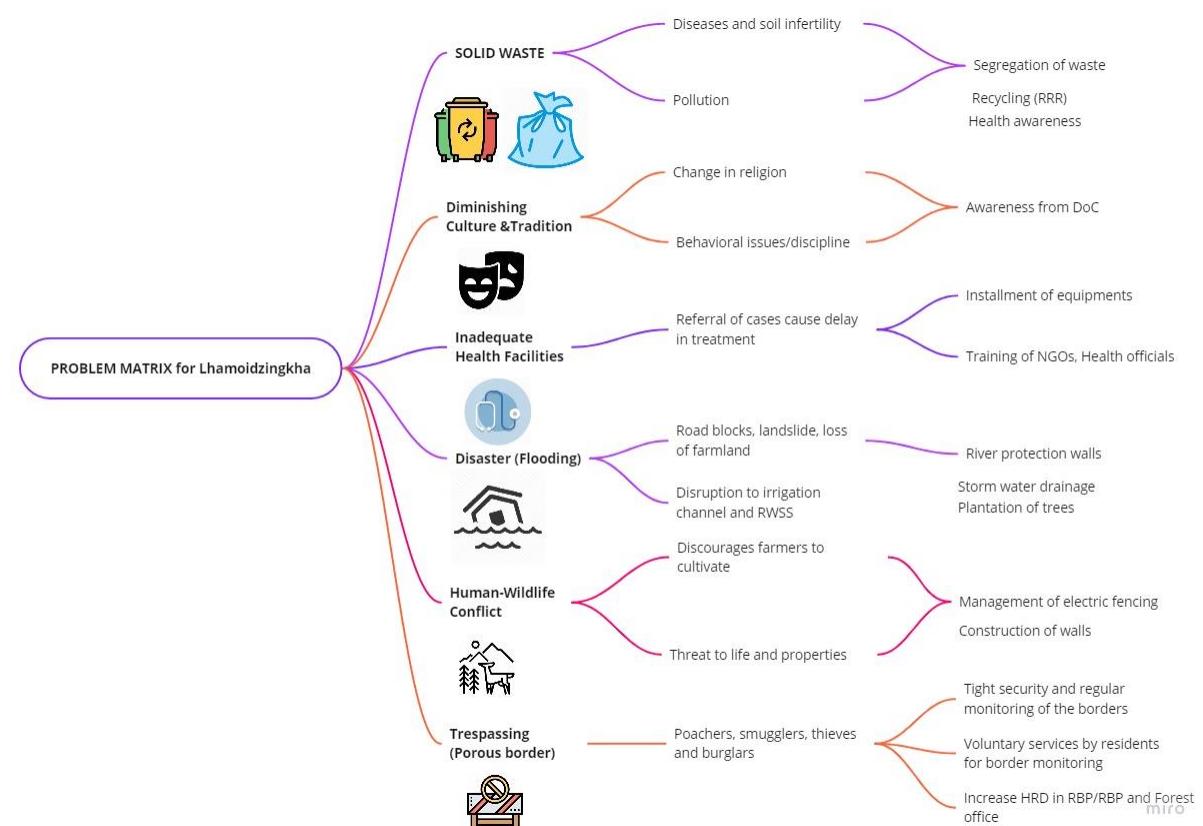


Figure 44: Problem Ranking Matrix, Focus Group Discussion

3.15.5 People's opinion

1. Aspirations

In terms of what they aspire for Lhamoizingkha in future, they said that township development, initiation of Sunkosh hydropower project, development of southern east-west highway and Integrated check post are desired for Lhamoizingkha.

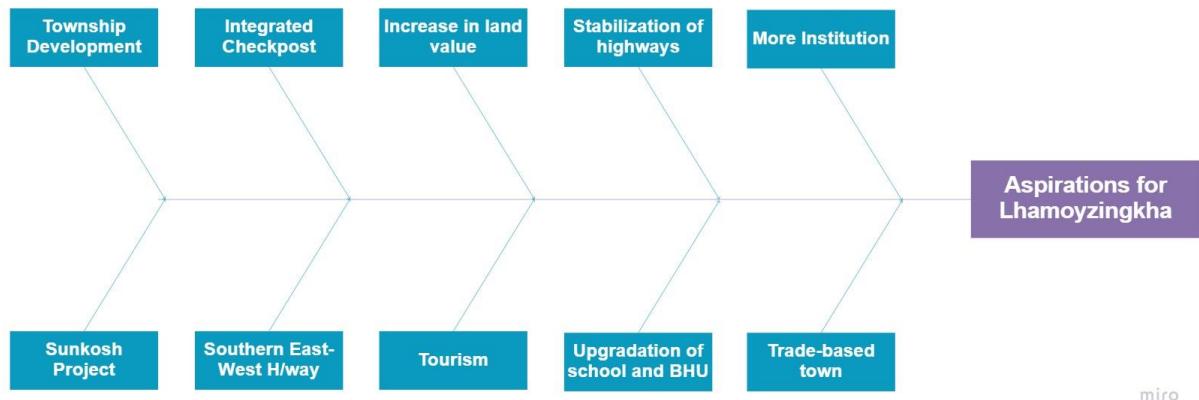


Figure 45: Aspirations for Lhamoizingkha

2. Facilities to be provided in Lhamoizingkha

In terms of services and facilities deemed important for Lhamoizingkha, it can be classified under three major aspects of Institution, Infrastructure and Amenities/Services. The requirements are as listed in the figure below.

Services and Facilities-Requirement

Institution	Infrastructure	Amenities/services
RICBL Institutions required Integrated Checkpost	Cycle tracks Street-lights Sewerage Storm-water drainage	Sports facilities Recreation areas Taxi & Bus stands Vegetable market Public toilets

Figure 46: Services and facilities required for Lhamoizingkha

3.16 SWOT Analysis

The table below indicates the various strengths, weaknesses, opportunities and threats that confront the proposed development for Lhamoizingkha. Such an analysis helps to arrive at a clear course of direction for future development and to take the precautions necessary to negate the perceived threats and shortfalls.

Strengths	Weaknesses
<ul style="list-style-type: none"> • Southern East West Highway passes above the town with fairly good road connectivity to other Gewogs. • Dungkhag Headquarter with Administration office for three gewogs of Lhamoizingkha, Karmaling and Nichula. • Many government and corporate offices. • Wide plain valley • Rich Agricultural practice 	<ul style="list-style-type: none"> • Lack of designated solid waste disposal site and sewerage network. • Unfavourable weather during summer as it is one of the hottest places in the country. • Prone to Flood
Opportunities	Threats
<ul style="list-style-type: none"> • A new gateway to central Bhutan with the opening of Dalbari-Dagapela Highway. • Potential for Tourism. • New trade node for the region. • River front development along Sunkosh river • Economic activity due to the new Secondary National Highway. 	<ul style="list-style-type: none"> • Security Issues • Flood in monsoon season • Encroaching sunkosh river

4: VISION AND PRINCIPLES

4.1 Vision for Lhamoizingkha

Lhamoizingkha is located strategically along the southern belt of Bhutan. The houses are scattered across the planning area except for the highly dense existing commercial center. The area caters to the commercial and other service needs of nearly 4515 people of three Gewogs of the lower part of Dagana. It also caters to the people from near-by Indian villages. The prospects of the proposed southern East-West Highway and Sunkosh Hydroelectric Project in the vicinity are expected to stimulate economic development for Lhamoizingkha and the region. While Lhamoizingkha has its rural characteristics still intact, it is timely to prepare a development plan adopting suitable planning principles, which will guide the physical development in Lhamoizingkha.

The Structure Plan for Lhamoizingkha aims to develop Lhamoizingkha as a vibrant service centre that caters to both the locals and projected population through the various development activities proposed.

The Vision for Lhamoizingkha is “*To create a vibrant service centre that is economically self-reliant, culturally vibrant and ecologically sustainable with livable space for people.*”

4.2 Planning Principles Adopted in Lhamoizingkha

To achieve the vision for Lhamoizingkha planning area, six principles are adopted to guide the proposals for Action.

4.2.1 Accord with Environment

The development of Lhamoizingkha shall respect the natural environment and consider the right of nature to thrive in the urban setting. The natural environment such as flora, fauna, habitats and water bodies shall not be disturbed and conserved to the extent possible, if not it should be harmonised with human activities, thus causing minimal damage to nature.

Balance with nature brings immeasurable benefits to the settlement and its residents in terms of economy, social and ecology. Lhamoizingkha Structure Plan intends to harness the advantages of existing nature and foster balance between urban development and nature. The buffers along the river and seasonal streams, preservation of chhuzhing plots and open spaces will help achieve this principle.

4.2.2 Self-Reliance

Achieving self-reliance in terms of food security and finance is considered very crucial for the settlement. Majority of the people both within the planning area and Dzongkhag at large depend on agriculture and its production for livelihood. The suitable agro-climatic condition

and fertile land for growing different varieties of crops and vegetable makes Dagana one of the major producers of cereal and cash crops in the country. According to Agriculture Statistics 2016, Dagana is one of the six Dzongkhags achieving cereal grain and vegetables sufficiency. Studies have shown that Dagana Dzongkhag has high potential for large-scale fruit production (BCCI, 2013). In the 12th FYP, The Dzongkhag has activities and measures to convert the fallow land for organic farming. The Dzongkhag will promote other high value cash crops such as Kiwi, Avocado and Grapes. The Dzongkhag will also facilitate farmers to take up semi-commercial livestock farming such as dairy, piggery, goat farming and honey production.

In addition, the existing Chhuzhing in Lhamoizingkha should be protected and optimized for agriculture production considering the high target set for the country in terms of rice self-sufficiency. The abundances of agricultural land and given Dagana's climatic conditions and fertile land, priority projects in field of agriculture in the 12th FYP and location of settlement near the border provides opportunity for Lhamoizingkha as a trading market for Agriculture produce. The plan through the proposal of Agro-park will facilitate storage and processing of agricultural produce for the lower part of Dagana.

The climate and rich biodiversity also provide opportunities for potential tourism in the region.

4.2.3 Balanced Movement

For the long-term sustainability of Lhamoizingkha, different modes of transport shall be promoted. All the facilities and services are to be accessible and interconnected. Bike, footpath/pathways are to be promoted and integrated with a network of different hierarchies of road. The flat terrain and size of Lhamoizingkha provide advantages for bicycling and walking.

4.2.4 Sense of Place

The settlement is majorly agrarian with abundance of agriculture land and livestock farming. The development of Lhamoizingkha will need to respect and conserve the existing rich agriculture landscape. Some of the important religious sites such as Shiv Mandir, Palden Choeling Lhakhang, Chortens and Mani Dungkhor need to be conserved and enhanced. Any activities that are incompatible or inconsistent with the local identity shall be restricted.

The development in the area should be guided by Traditional Architecture of Bhutan to embody Bhutanese identity and garner a sense of place.

4.2.5 Conviviality

Lhamoizingkha is a small town with residents from different regions of Bhutan. It is a diverse but connected society, where everyone knows one another. To promote and enhance the community vitality of the area, there is a need for several open spaces where people can gather

and interact. Different spaces are required as per their function and facilities. It is crucial to provide these spaces for harmonious growth of Lhamoizingkha.

4.2.6 Protect Sensitive Zones

The protection of environmentally sensitive areas is of high priority. Preserving sensitive areas often provides an additional benefit of protecting citizens and property against natural hazards. Additionally, protecting natural areas helps meet other community goals such as providing for open space, parks and recreation, and habitat conservation. Development shall be prohibited in the sensitive zones (river and stream buffer, agriculture/paddy field, steep slopes).

4.2.7 Low Impact Development (LID)

With increase in development, the amount of surface area covered by parking lots, roads and rooftops increases as well. Rainfall cannot soak through these hard surfaces; instead, the rain water flows quickly across them—picking up pollutants along the way—and enters storm water drains, which usually empty directly and without treatment into streams and rivers.

LID includes a variety of practices that mimic or preserve natural drainage processes to manage storm water. LID practices typically retain rain water and encourage it to soak into the ground rather than allowing it to run off into and storm water drains where it would otherwise contribute to flooding and pollution problems. LID practices such as natural or man-made swales, depressions and vegetated areas capture and retain water onsite, allowing time for water to soak into the soil where it is naturally filtered. This is not only sustainable, but it will also help manage the micro-climate of Lhamoizingkha.

Vision

To create a vibrant service centre that is economically self-reliant, culturally vibrant and ecologically sustainable with livable space for people.



5: PROPOSALS FOR ACTIONS

A series of actions is proposed in this section with an aim to realize the Vision and principles of the structure plan of Lhamoizingkha. The sets of principles described in the previous section serves as an essential guide for the development of the proposals in this section.

- Proposed Road Network;
- Proposed Off-street Footpath and Bicycle Network;
- Green and Blue Network;
- Irrigation Network;
- Drainage Network;
- Proposed Amenities and Services; and
- Proposed Precinct Plan.

5.1 Proposed Road Network

A network of hierarchical roads is proposed for Lhamoizingkha. The system is designed and proposed with the following primary objectives:

- Provide the most direct access to amenities and facilities,
- Prevent vehicular-pedestrian conflicts,
- Minimal damages to Existing permanent buildings,
- Minimal damages to Chhuzhing to preserve Agriculture practice.

Two categories of roads – primary and secondary are proposed at the structure plan level. There are three primary roads of 12m Right of Way (RoW) within the planning boundary. The 12 m RoW consists of two lanes of carriageway with a bicycle lane on one side and a footpath on both sides. The road entering from India is widened and it connects to Raidak-Lhamoizingkha SNH, passing through the Urban Core. A Bypass Road is proposed along the Kalikhola river to reduce the traffic volume along the road passing through the commercial center and to serve as an alternate route for the heavy vehicles. The road will also act as a river protection measure along the Kalikhola river. It connects the Primary road coming from India to the Raidak-Lhamoizingkha SNH. The road passing through the centre of the planning area is widened and it connects the bypass road to the primary road. This road caters to the traffic from internal secondary roads and distributes the traffic to the primary roads (i.e bypass road and primary road).

A total of seven secondary roads are proposed to reduce the traffic congestion and support the traffic flow of the primary roads. Secondary roads are proposed to have a RoW of 10 m with two lanes of carriageway and 2m wide footpath on both sides. The secondary roads marked grey in the map below are very crucial for the network connecting directly to the primary road and providing accessibility to most of the developable plots. Most of the secondary roads are widened along the existing road and few missing links have also been proposed. The three roads marked in dashed lines are proposed to complete the road loop and could be prioritized based on the requirement and availability of funds.

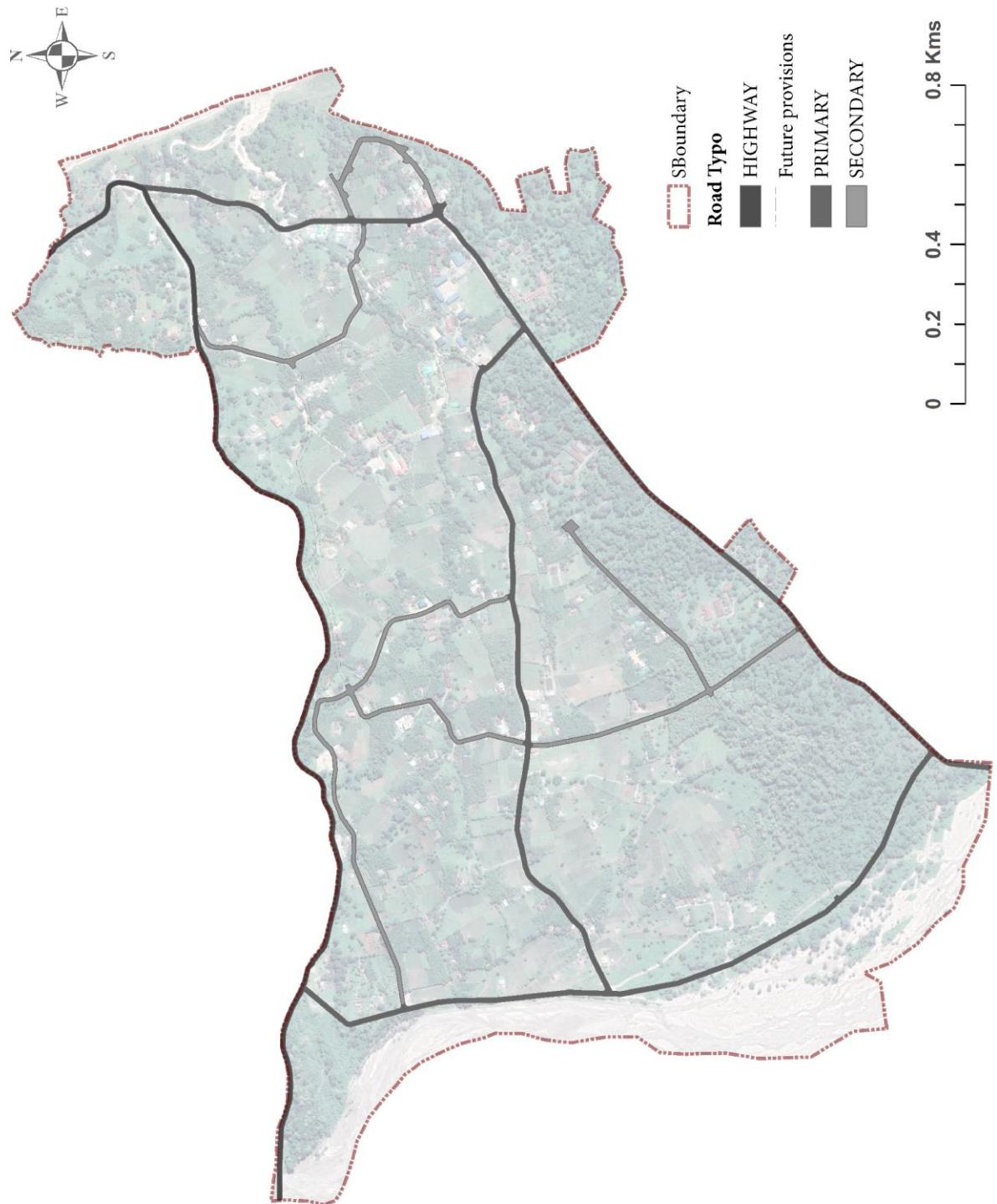


Figure 47: Proposed connectivity plan of Lhamoizingkha

The sections for primary and secondary road are as shown in the figure below and the road design should be guided by the following principles:

- Ensure that the streets have footpaths, parking areas and travel ways clearly marked with legible lines, upright kerb and pavements (colored and textured wherever possible) to ensure the safe passage of pedestrians and vehicles.
- The landscape elements such as street benches, trees and street lights to be oriented and located considering the ‘scenic views’, ‘light and shade based on the climatic condition’, ‘visual continuity of the street and buildings’ and ‘the safety and comfort of the pedestrians’.
- The buildings defining the street should off-set or setback uniformly to enhance visual containment of the street.
- The facades of buildings defining the street should have a high quality of architecture reflecting the local character and also contributing towards the aesthetics of the street.
- Storm Water drainage should be designed along the roads.

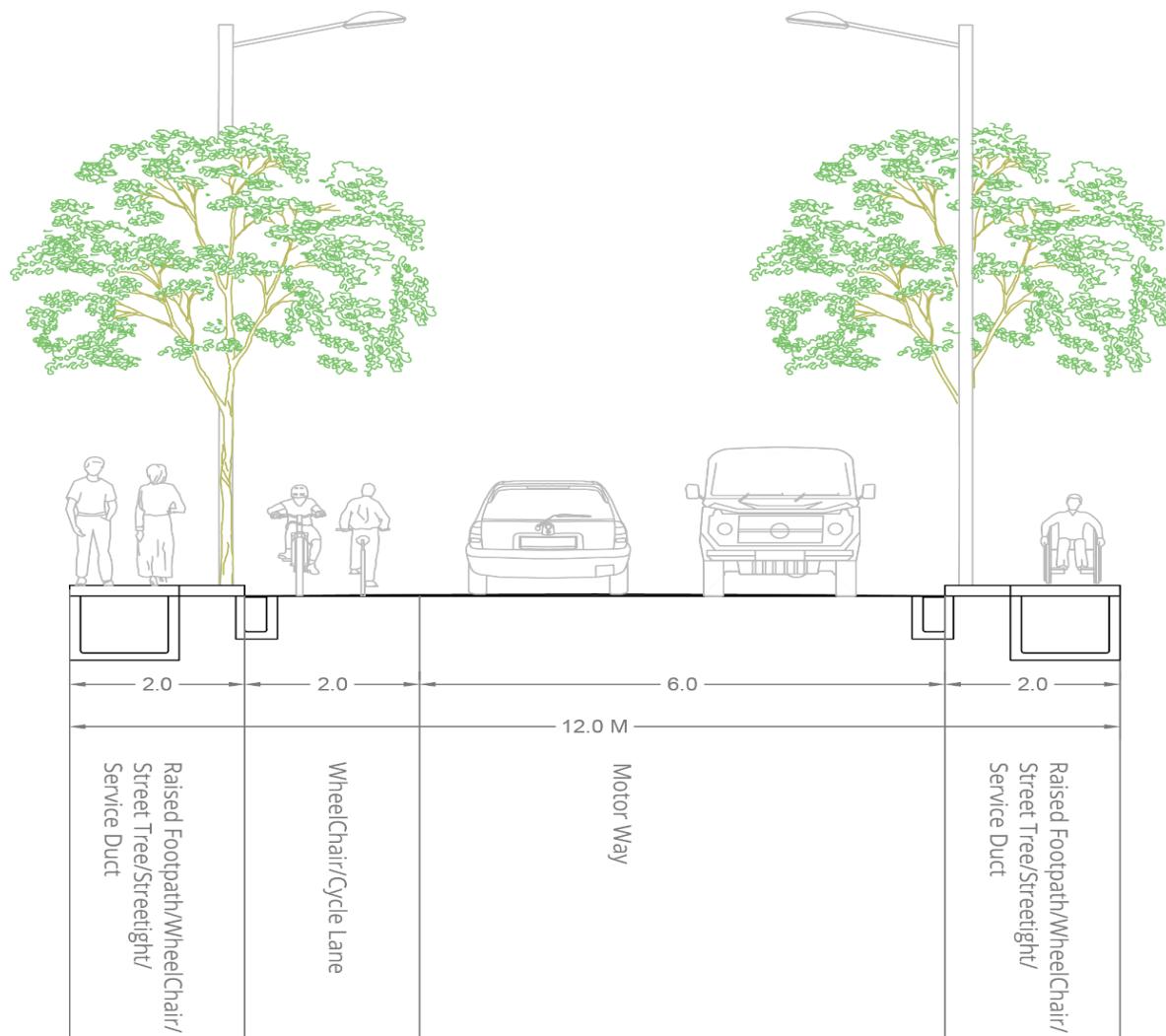


Figure 48: Section of Primary Road

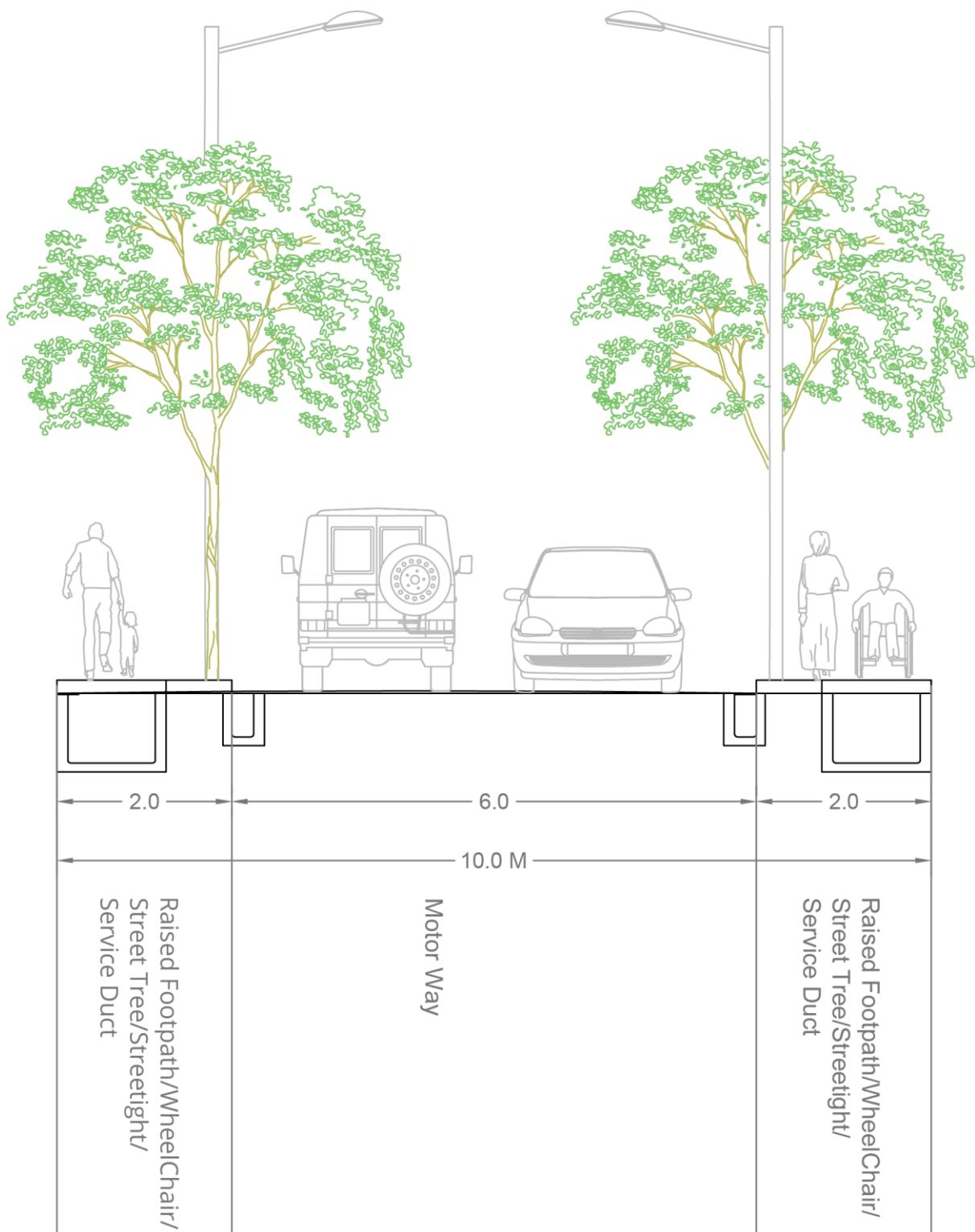


Figure 49: Section of Secondary Road

5.2 Off-street Footpath and Bicycle Network

Apart from the on-street footpath, a system of off-street footpaths and pathways are also proposed. Footpaths are very crucial in connecting the trapped lots surrounded by agriculture fields as these lots could not be provided with road accessibility. The proposed off-street footpaths and pathways are mostly aligned along the Chhuzhing or irrigation canal and are based on the existing footpath system. The network of off-street footpaths aims to conserve the rich existing footpath /pathway network and enhance connectivity between different land uses thus making it more accessible by foot.

Additionally, a network of off-street bicycle routes is proposed which is integrated with off-street footpaths, pathways and road network. The bicycle lane is 2m wide and it passes alongside the seasonal streams and the irrigation canal. The loop of bike network connects several land uses with green and open spaces and will have sitting/resting areas, and viewpoints.

5.3 Green and Blue Network

The open space system in Lhamoizingkha is proposed at two levels, Recreational-1 (R 1) which are the proposed recreational areas and Recreational-2 (R 2) which are open and green spaces. An area of around 5.7 acres from the state land located next to the RBA compound is proposed to be developed as a sports complex having outdoor as well as indoor sports facilities. It will cater to both the residents within the planning area and the nearby settlements.

In addition, Recreational-2 includes parks and open spaces at the planning area level and also the neighbourhood level. These are located at walkable distances and are accessible for social interaction and activities. Most of these green spaces are interconnected by urban green corridors which are a part of the stream buffer. The green space with the corridor forms an urban green space system for Lhamoizingkha. This system not only acts as space for social functionality but also provides habitat for native flora and fauna.

The protected areas viz., agriculture lands, river and its buffer, stream and its buffer will also act as open vegetated area and complement the overall green and blue network. The green space system is supplemented by a bicycle and footpath network, thus allowing people to interact with nature and build stewardship toward nature conservation and sustainability.

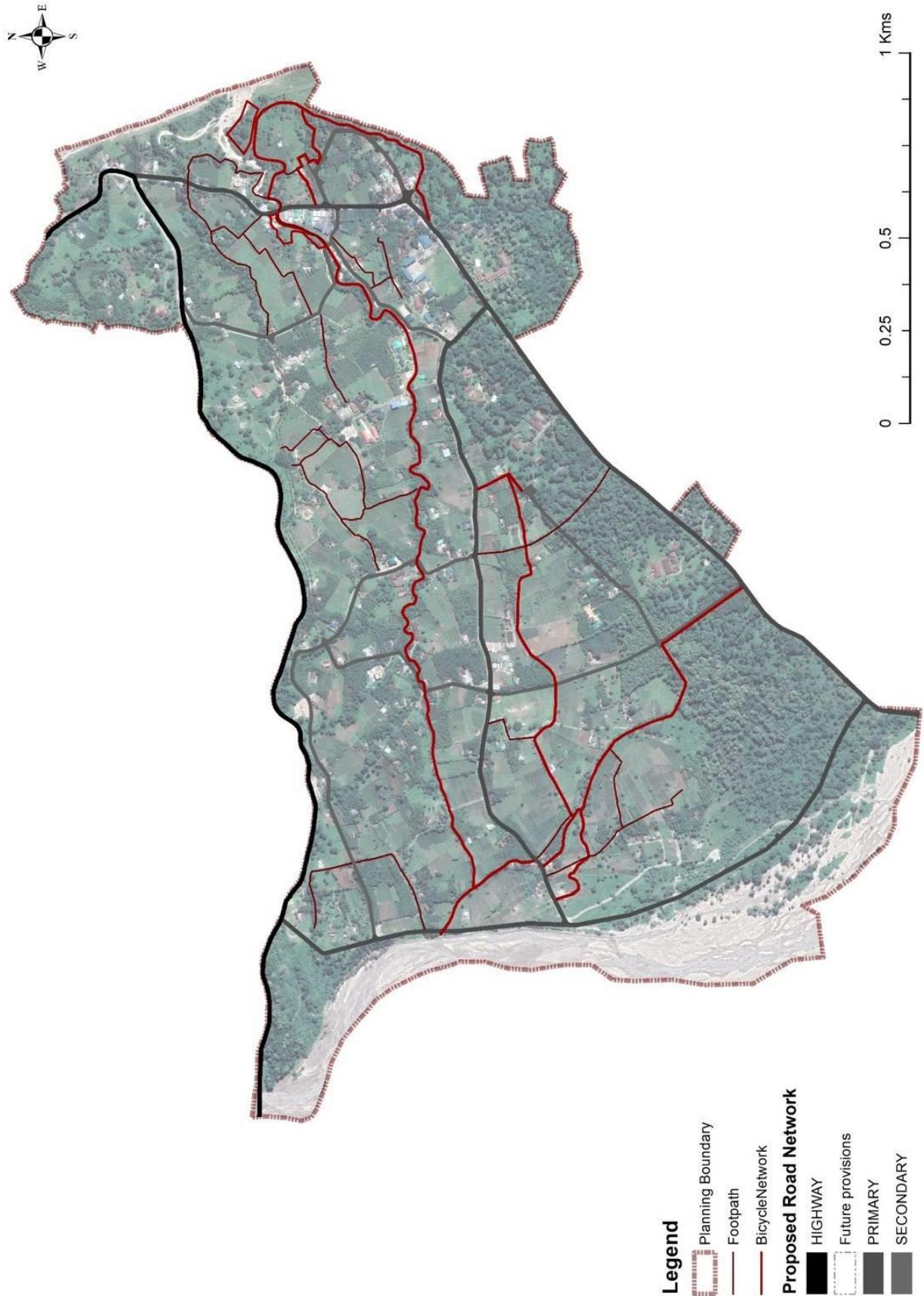


Figure 50: Proposed footpath and bicycle network

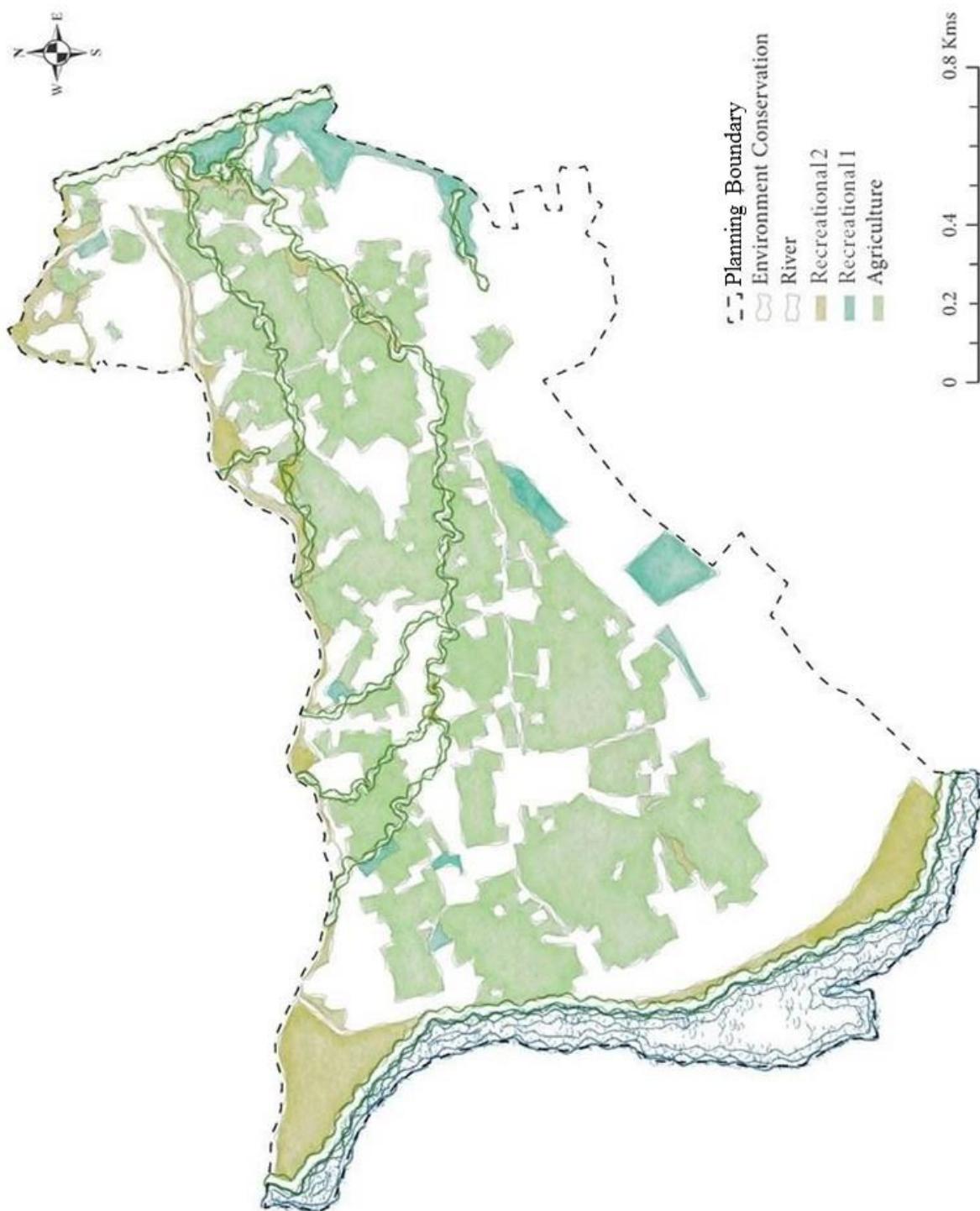


Figure 51: Proposed green and blue network for Lhamoizingkha

5.4 Irrigation Network

Some of the irrigation canals which are affected due to proposals for road widening have been realigned as illustrated in the figure below. The network of irrigation canals will require further consultation and assistance from irrigation channel experts of Ministry of Agriculture and Forests, for detailed design and implementation

5.5 Drainage Network

Lhamoizingkha is located in a sub-tropical climatic region which receives heavy rainfall during monsoon season and hence, there is a requirement of a proper drainage system for storm water, grey water etc. Drainage will guide water flow (from rain or irrigation) into the proper outlet. Poor drainage will cause hydroplaning, weaken and damage the foundation of the structures.

The drainage gradients throughout most of the catchment are relatively flat and the proposed storm water drainage network will need to accommodate the surface water hydrology from the developments. The following strategies are proposed for storm water drainage:

1. Temporary pounding or passing the water through graded surfaces to reduce the speed and filter out litter and pollutants. The storm water network proposed for Lhamoizingkha runs both along the roads and the existing seasonal streams will also act as natural drainage during monsoon.
2. Use water permeable paving surfaces in parking lots and other paved areas to increase natural percolation and onsite drainage of storm water.
3. Design and use natural drainage such as bio-retention in on-site pocket parks and other landscaped areas to filter surface water run-off.

A road drainage system must satisfy two main criteria if it is to be effective throughout its design life:

1. It must allow for a minimum of disturbance of the natural drainage pattern.
2. It must drain surface and subsurface water away from the roadway and dissipate it in a way that prevents excessive collection of water in unstable areas and subsequent downstream erosion.

Furthermore, neighbourhood and community level drainage system have to be designed during LAP preparation based on detailed hydrological analysis.

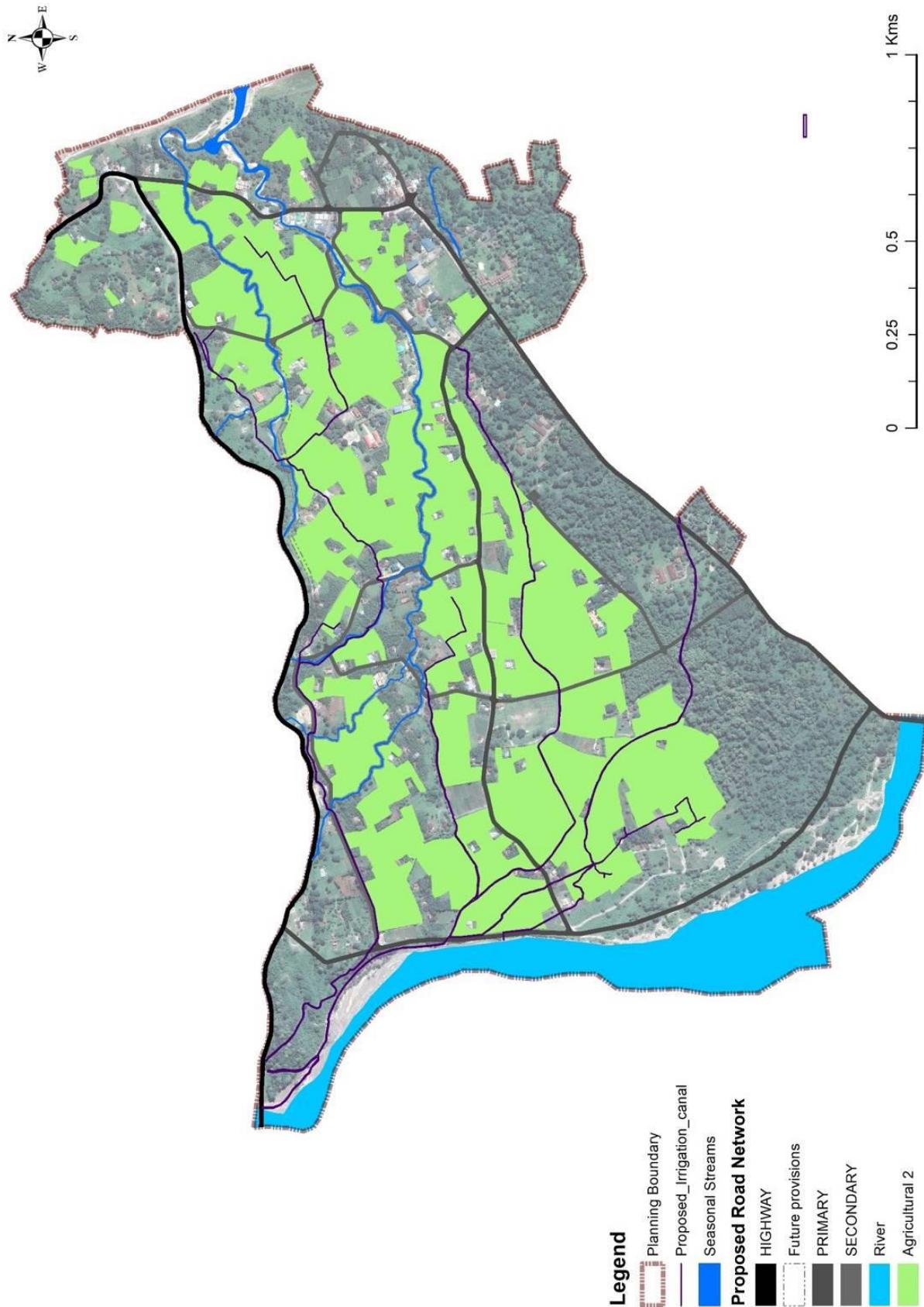


Figure 52: Irrigation network of Lhamoizingkha

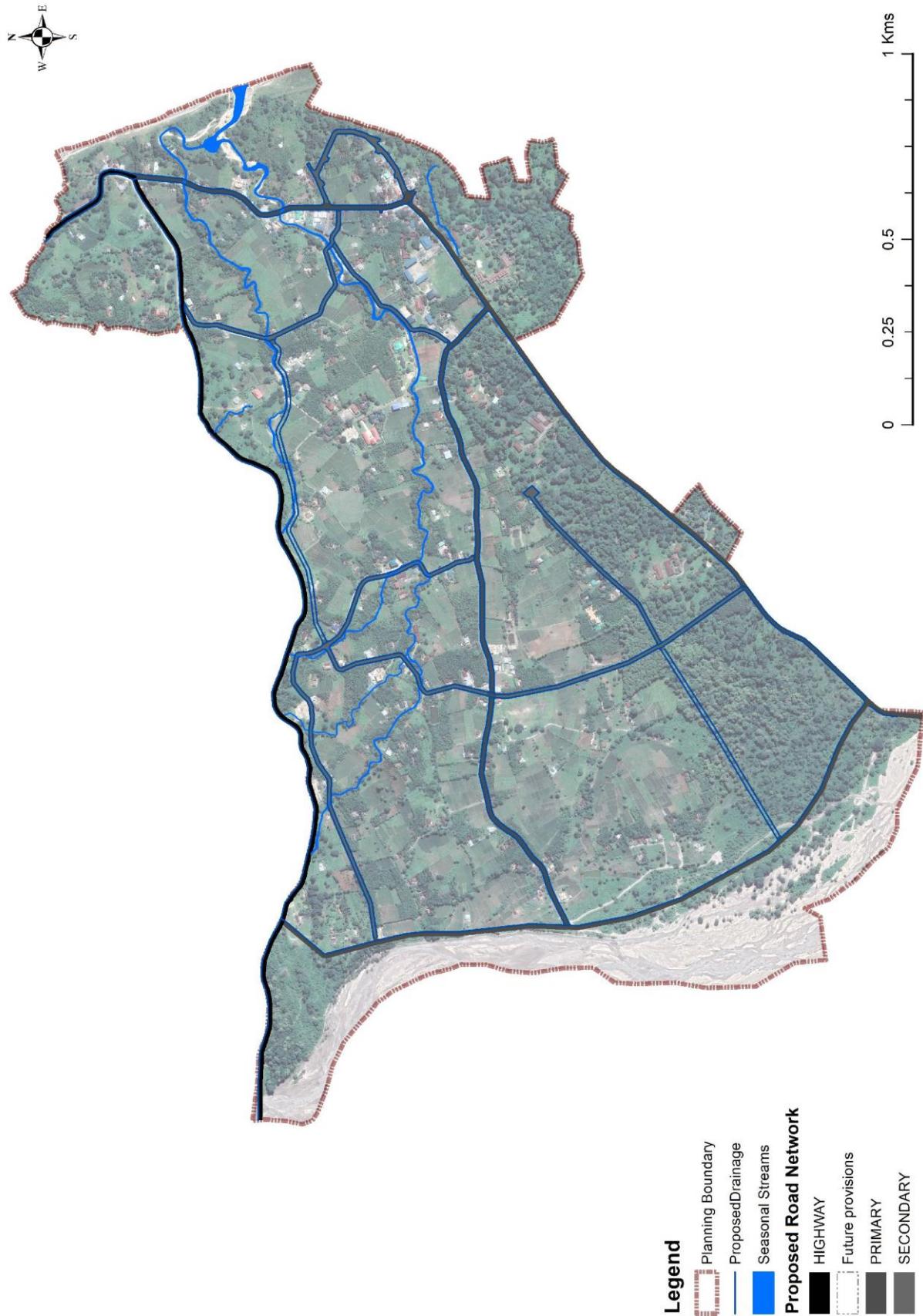


Figure 53: Drainage system of Lhamoizingkha

5.6 Proposed Amenities and Services

Based on the analysis carried out in the earlier sections, the following amenities and services are proposed:

Waste Treatment Plant

One of the major drawbacks of the existing settlement is the lack of sewer network and treatment plant in the planning area. Currently, most of the houses have their toilets connected to septic tanks and some use pit latrines. Therefore, the need for a proper sewerage network and treatment in the area is evident. As per the analysis, around 0.5 MLD of sewer will be generated by 2040. To treat this volume, two sites for waste treatment plants are identified in the area. One treatment plant with an area of 2 acres is proposed near the Kalikhola buffer zone. Another treatment plant with an area of 1.368 acres is identified near the Sunkosh river. These sewer plants are located strategically away from settlement and at the lowest level within the planning area to allow gravitational flow of the sewer into the treatment plant.

Transport Terminal

One of the crucial facilities lacking in the planning area is a Transport Terminal (TT). The proposed transport terminal will provide space for the public transport such as buses, taxis and trucks. The terminal will include offices of transport monitoring and management, traffic control, goods regulation and other services required for operation of the Transport Terminal. The proposed Transport Terminal is located along the bypass road with a reserved area of 1.5 acres of land. The Terminal is strategically located away from settlement and along the primary road connecting the traffic from neighbouring Indian State and the SNH. This will reduce the internal traffic volume within the planning boundary by restricting heavy vehicles, goods carriers and external traffic from entering into the internal road which would in turn reduce air and noise pollution or traffic nuisances in the residential and commercial areas.

Water Supply

The water supply will be through the water flagship project for Lhamoizingkha. The water reservoir for the planning area is proposed in the existing location of water tanks.

Solid Waste Management

As observed in Lhamoizingkha and also pointed out during the Focus Group Discussion, solid waste management is a critical issue. The strategies for waste management includes Segregation at source of collection into recyclable and non-recyclable wastes, degradable and non-degradable; and Provision of compost plants at landfill sites.

According to the spatial planning standards a land area of 50,000 sqm of disposal site is required for a population of 10,000 and has to be in close proximity to the settlement. However,

the catchment radius and the actual land requirement for a settlement has to be defined based on preliminary engineering studies depending on the type of waste treatment selected.

The local government has identified two tentative locations as disposal sites which needs to be endorsed following detailed studies. The location for landfill site should be at a minimum distance of 1000m from settlement area and should be based on the following criteria:

- It should be at locations where suitable buffer zones between landfill site and population are available to minimize the visibility of operations.
- The landfill area having a steep gradient (where stability of slope could be problematic) should not be selected.
- The groundwater table should be deep enough to prevent contamination.
- The irrigation canals should be far from the boundaries of landfill sites to prevent the risk of contamination.
- Landfill areas should be far away from water bodies (rivers, lakes and streams) to prevent contamination to ensure safety of the aquatic life.
- There should not be infrastructure such as power transmission lines, sewers and water supply lines crossing through landfill developmental areas.
- The waste disposal site must be far from residential or commercial areas to reduce the negative impacts (air quality, noise, odor etc.) to the surrounding communities.
- It should be easily accessible by solid waste vehicles in all weather conditions;
- The area should have an access to earth cover material which can be easily handled and compacted.
- Landfill cannot be in: 1) a floodplain, 2) a wetland, 3) a fault zone, 4) areas with high risk of earthquakes, 5) unstable areas, and 6) the immediate area of an airport.

Crematorium

There is a crematorium for Lhamoizingkha located in proximity to the planning area.

Fuel Station and LPG

The existing fuel station is strategically located along the SNH. According to the Spatial Planning Standards, a single fuel station must service a catchment radius of 30 minutes driving from the station and hence there is no requirement of a new fuel station in a time period of 20 years.

Community Hall

A community hall is proposed behind the RBA compound where people can gather and socialize.

Sports Complex

A sports complex having outdoor as well as indoor sports facilities is proposed to cater to the residents and the nearby settlement.

Farmers Market

The farmers market will be proposed within the urban core precinct.

Post, Power and Telecommunication

According to the Spatial Planning Standards, an area of 200-500 sqm. of post, power and telecommunication service is required to cater to a catchment population of up to 15,000. Two sites above the SNH is proposed as a service plot for installation of telecom tower in the future. However, the technical specification and feasibility should be carried out.

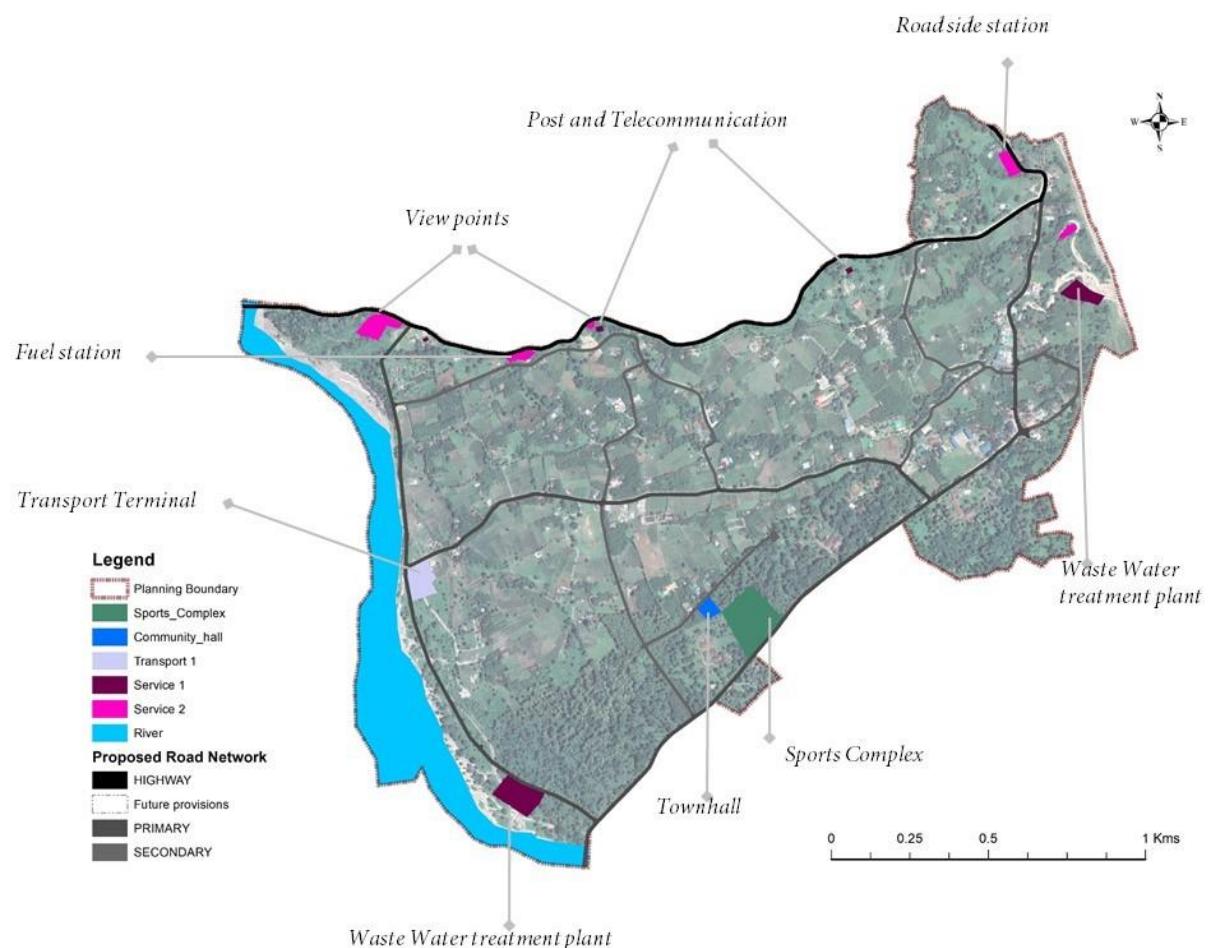


Figure 54: Location of proposed services

5.7 Proposed Precinct

There are a total of 11 proposed precincts within the planning boundary. These are as listed below:

- 1) Urban Core (UC)
- 2) Urban Village (UV)
 - a. Urban Village 1 (UV-1)
 - b. Urban Village 2 (UV-2)
- 3) Cultural
 - a. Cultural 2 (C-2)
- 4) Institutional (I)
 - a. Institutional 1 (I-1)
 - b. Institutional 2 (I-2)
 - c. Institutional 3 (I-3)
- 5) Service
 - a. Service 1 (S-1)
 - b. Service 2 (S-2)
- 6) Transport
 - a. Transport 1 (T-1)
- 7) Industrial
 - a. Industrial 1 (IN-1)
- 8) Recreational
 - a. Recreational 1 (R-1)
 - b. Recreational 2 (R-2)
- 9) Environment
 - a. Environment Conservation(E)
- 10) Agricultural
 - a. Agricultural 2 (A-2)
- 11) Special Zones
 - a. Endowment (EN)

These precincts are designated based on the analysis as stated in the previous sections and study of existing scenarios. Some of the determinants are existing land type, built up scenario, population projection, proposed road network, slope analysis, land suitability analysis and other conditions.

The proposed precinct acts as a guide for the physical development of land over the period of 20 years to become a livable town as envisioned. The proposed precinct intends to avoid use of

incompatible land uses or trade off among the land use as per the individual interest. This also avoids land use conflict and enhances optimal usage of land as a scarce resource.

5.7.1 Urban Core Precinct (UC)

The existing commercial center is proposed as Urban Core (UC). The UC will serve as the main commercial center for the planning area. The permissible uses include commercial activities such as retail shops, restaurants, bars, hotels, vegetable market, local product market and other permissible commercial activities as per the Development Control Regulation of Lhamoizingkha. The Urban Core will have the highest density allowing buildings up to three floors with 60% ground coverage. The 58 kidu plots measuring 500 sq.ft each also form part of the urban core and will be regulated by a differential guidelines as specified in the LAP for the urban core.

5.7.2. Urban Village 1 Precinct (UV-1)

The proposed Urban Village 1 Precinct (UV1) is a medium density and mixed-use development precinct. The permissible activities in the area are small scale commercial activities that cater to the residents in the neighbourhood. The intense commercial activities involving high power voltage, excessive noise, machinery related activities such as furniture making, workshops or others as described in DCR shall not be allowed. The purpose of this precinct is to promote harmonised mixed-use development that would cater basic services to the residents without having to travel to Urban Core for basic necessities such as salt, oil, rice, etc.

5.7.3. Urban Village 2 Precinct (UV-2)

The proposed precinct is medium density with predominantly residential use development. The commercial activity will be very minimal. This precinct is dedicated for providing matrices of housing opportunity to the residents and has the highest potential to absorb the future resident population. The trapped land (those with built up) identified in previous sections are demarcated as UV-2. The detailed permissibility of the precinct is described in the DCR.

5.7.4. Cultural Precinct 2 (C-2)

The aim of this precinct is to conserve the rich cultural built form for future generations and to avoid incompatible uses in the precinct. The Culture precinct consists of Palden choeling Lhakhang and the other religious sites like Mandir, Chorten, Mani Dungkhor will be covered as permissible uses under other precincts.

5.7.5 Institutional Precinct (I-1,2,3)

All the existing institution areas are classified as Institutional Precinct and are classified under Institutional 1, 2 and 3 as follows:

- a. Institutional Precinct 1 (I-1): Educational and training institutes; health service centres.
- b. Institutional Precinct 1 (I-2): Public and other offices.
- c. Institutional Precinct 1 (I-3): Defense and military uses.

A plot located behind the existing RBA compound is proposed as Institutional precinct 2 for town hall which will also function as a community hall for public purpose.

Another plot located along the bypass road is proposed for relocation of check post area. With the proposal of bypass road, the heavy vehicles would no longer need to come up to the existing check post area as they will be diverted and hence the Check post will be relocated for convenience and efficiency.

5.7.6 Service Precinct 1

Service 1 Precinct consist of service area for electric sub-station, water tank and installation of other utility infrastructure for Lhamoizingkha.

5.7.7 Service Precinct 2

Service -2 Precinct consist of fuel station, viewpoints and roadside stations.

5.7.8 Transport Precinct 1 (T1)

The proposed Transport Precinct consists of transport terminal and truck parking located along the 12 m bypass road connecting the primary road to SNH.

5.7.9 Industrial Precinct 1 (I-1/Agro Park)

A dedicated precinct has been proposed as Industry-1 for the agro-based industrial activities. The area is proposed alongside the 12m Bypass Road next to the Transport Terminal. The aim of the precinct is to promote growth of agro based industries in Lhamoizingkha, which is also eco-friendly and compatible with adjoining land uses such as Agriculture precinct (Chhuzhing).

5.7.10. Recreational Precinct 1 (R1)

The proposed Recreational precinct 1 consists of open and buildable public zone spaces such as park, playground, sports complex and other recreational activities. Lhamoizingkha does not have land earmarked for archery. Therefore, an archery playfield is proposed to be located outside the Planning Boundary. Riverfront Recreation to be proposed outside the boundary, in the land reclaimed for flood protection. A sports complex is proposed near the RBA compound.

The view point is proposed to preserve significant views from the site to its surroundings. It is proposed to be used as the picnic spot for the regional tourist and highway commuters.

5.7.11 Recreational Precinct 2 (R2)

The Recreational precinct 2 are green spaces proposed along the stream, river and road

5.7.12 Environment Conservation Precinct (E)

The proposed Environment Precinct consists of buffer zones of river and stream. In this precinct no development shall be allowed other than flood protection structures or activities that will cause minimal damages to the natural environment. Some of the allowable activities are permeable footpath pavement, sit outs, eco-friendly bike pavements and plantations.

5.7.13 Agriculture precinct 2 (A2)

All the existing Chhuzhing in Lhamoizingkha are classified under Agriculture Precinct for conservation and local food security. However, Chhuzhings that fall under the river buffer are classified under environment precinct (E), but are allowed for cultivation. No construction or change of precinct shall be allowed. The existing buildings on the Chhuzhing shall be demolished as per the prevailing rules.

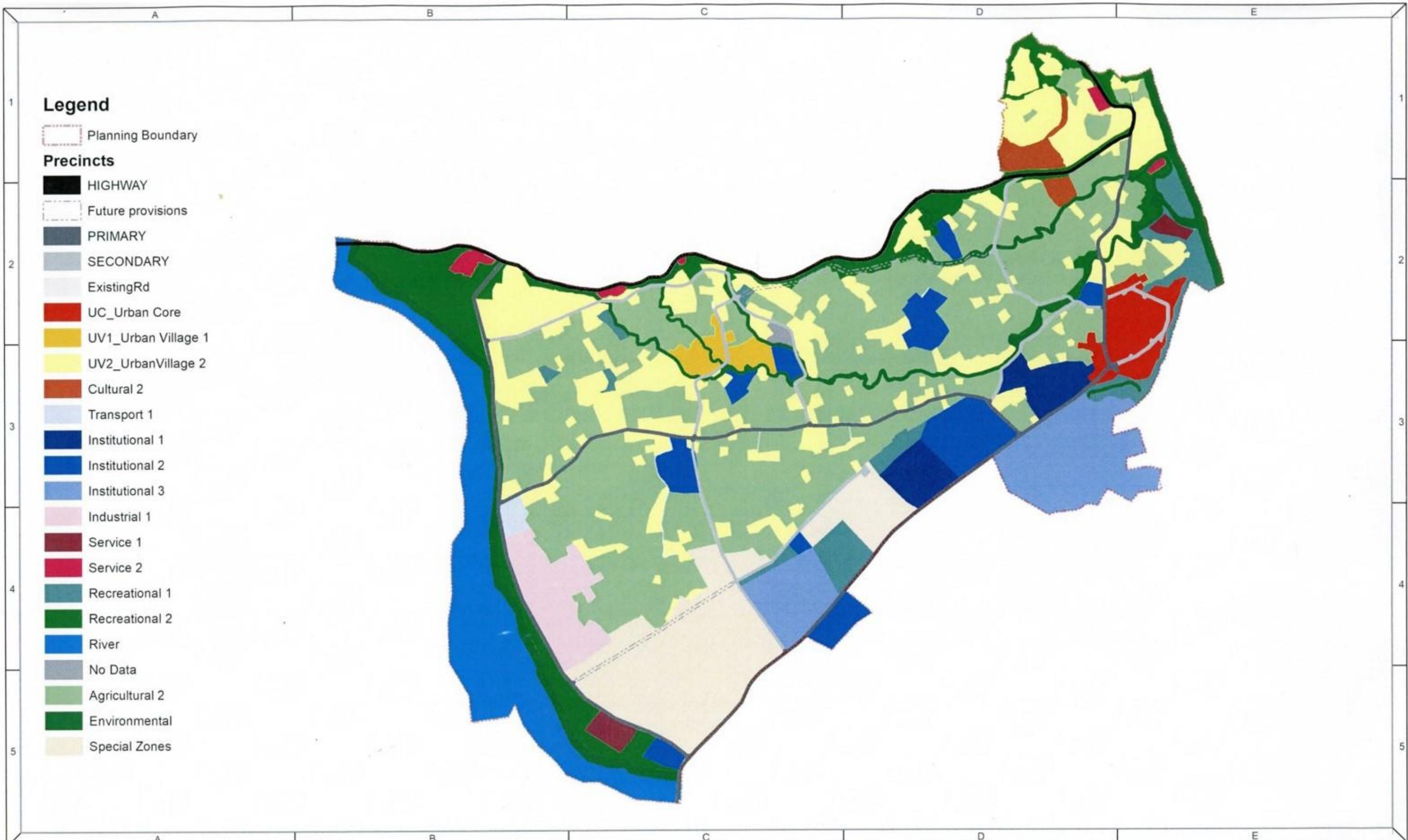
5.7.14 Special Zones-Endowment Precinct

This precinct consists of lands reserved for the future and the use will be defined as per the requirement in the future.

5.7.15 No Data

The plots which are not registered under the thram since the owners do not have their census registered in Bhutan as of now are classified under No data. The Precinct for these plots will be assigned to the nearest appropriate precinct later as and when the case for such plots gets resolved.

Plot LHA-1631 and LHA-1632 currently falls under no data zone.



	LHAMOIZINGKHA	PRECINCT PLAN	SCALE: NTS	N May 2021	Chief Urban Planner, RRPD, DHS, MoWHS	Director, DHS, MoWHS	Hon'ble Secretary, MoWHS	Hon'ble Lyonpo, MoWHS
	STRUCTURE PLAN	Regional and Rural Planning Division Department of Human Settlement Ministry of Works and Human Settlement						

Figure 55: Precinct Plan

6: STRATEGIES FOR DEVELOPMENT

6.1 Local Area Plan

The Structure Plan is a strategic document which guides the development of Lhamoizingkha for next 20 years. Detailed Local Area Plans (LAPs) are required for the implementation of the structure plan of Lhamoizingkha.

Parallel to the structure plan preparation, LAP for Urban Core (UC) is also prepared to guide the development of Kidu plots and the existing commercial center. The Urban Core LAP is prepared in line with the vision of the Structure Plan. In Urban Core, the Kidu plots are reconfigured and consolidated to create buildable plots. Further, land pooling is used for release of land for infrastructure development from private land owners. A separate Urban Core LAP document has been prepared to guide the development of the area.

Similarly, LAPs for other areas should be prepared in time based on the requirement, development pressure and potentiality.

6.2. Mode of Land Mobilization

For the mobilization of land required for the development of infrastructure in the planning area, following land mobilization techniques and rules shall be explored.

6.2.1 Land Pooling and Readjustment

As per the Land Pooling and Readjustment Regulation, 2018 of Bhutan.

6.2.2 Guided Land Development

Guided land development uses the provision of infrastructure as a mechanism to guide urban development. It is done in partnership with landowners who pay for the cost of servicing their land through donation of land for public infrastructure and payment of a betterment levy. This has been applied in Tagtse Action Area Plan.

6.2.3 Easement Right

As per the Land Act 2007, easement right shall be adopted for availing accessibility to services and facilities by/to the plot/s.

6.2.4 Land Acquisition

As per the Land Act 2007, the land shall be acquired for public purpose.

6.2.5 Other Land Mobilization Modalities

Other suitable or feasible land mobilization modalities shall be adopted upon the consensus from the relevant agencies and the stakeholders as per the prevailing rules of the country.

6.3. Coordination with Sunkosh Hydroelectric Project

Sunkosh Hydroelectric project can have potential for further development of Lhamoizingkha. Close coordination between relevant agency/ies and local government will be required as and when the project comes up to meet the requirement of project and capacity of Lhamoizingkha to cater to the project. Inadequate coordination and cooperation may lead to deviation from plan and ensure huge financial and policy loss, beyond repair.

6.4. Coordination with Tourism Council of Bhutan (TCB)

One of the potential economic sectors in Lhamoizingkha is Tourism. However, the development of eco-tourism in Lhamoizingkha will require support from the Tourism Council of Bhutan and other relevant agencies such as the Department of Forest and Park Service and others to promote eco-tourism in Lhamoizingkha.

6.5. Promotion of Lhamoizingkha as a “vacation town”

One of the strengths of Lhamoizingkha is its cool and warm winter, when other parts of Bhutan face harsh winter. It provides a near perfect vacation destination for people from other parts of the country. It also gives access to the nearest Indian town of Barobisa which is less than 100 km away.

6.6. Amenities on the East-West Highway

Roadside station and viewpoint along the highway is provided in the structure plan considering the importance of it to Lhamoizingkha. It will play an important role for Lhamoizingkha to provide commuters on the highway the required highway related services. The roadside station is proposed to showcase their local produce and vitalize the local economy.

ANNEXURE

Annexure 1 Small plots

Sl No	PlotID	Thram	cOwnName	OTDescr	eToS Area (ac)	eToS ExcessArea	fDescr
1	LHA-374	344	Mon Maya Subba	Family Land	0.043	0.003	Cardamom
2	LHA-369	340	Karma Sherpa	Family Land	0.048	<Null>	Cardamom
3	LHA-1995	421	Bir Bahadur Tamang	Family Land	0.02	0	Chhuzhing
4	LHA-1621	344	Mon Maya Subba	Family Land	0.054	0	Chhuzhing
5	LHA-57	932	Ram Kumar Pradhan	Family Land	0.059	0	Chhuzhing
6	LHA-1985	776	Shadev Darnal	Family Land	0.073	0	Chhuzhing
7	LHA-1989	57	Kiran Kumar Darnal	Family Land	0.075	0	Chhuzhing
8	LHA-1272	651	Nar Bdr. Chhetri	Family Land	0.078	<Null>	Chhuzhing
9	LHA-1381	743	Harka Maya Tamang	Family Land	0.082	<Null>	Chhuzhing
10	LHA-1380	742	Sita Devi Tamang	Family Land	0.091	<Null>	Chhuzhing
11	LHA-1464	776	Shadev Darnal	Family Land	0.093	<Null>	Chhuzhing
12	LHA-184	1135	Tshering Lhadon	Individual Person	0.093	0	Chhuzhing
13	LHA-480	414	Chandra Maya Gurung	Family Land	0.096	<Null>	Chhuzhing
14	LHA-1343	711	Sumitra Pradhan	Family Land	0.097	<Null>	Chhuzhing
15	LHA-1273	652	Benita Chhetri	Family Land	0.098	<Null>	Chhuzhing
16	LHA-1340	709	Goma Devi Pradhan	Family Land	0.099	<Null>	Chhuzhing
17	LHA-1465	777	Santa Darnal	Family Land	0.1	0	Chhuzhing
18	8U-89	40	Tula Ram Tamang	Family Land	500	<Null>	Commercial
19	8U-80	30	Chhatra Bahadur Gurung	Family Land	500	<Null>	Commercial
20	8U-66	16	Ratan Singh Chhetri	Family Land	500	<Null>	Commercial
21	8U-85	35	Phurpa Wangzom	Family Land	500	<Null>	Commercial
22	8U-78	28	Dil Maya Gurung	Family Land	500	<Null>	Commercial
23	8U-60	9	Dawa Lhamo Sherpa	Family Land	500	<Null>	Commercial
24	8U-58	7	Pema Tshering Sherpa	Family Land	500	<Null>	Commercial
25	8U-72	22	Lakpa Tashi Sherpa	Family Land	500	<Null>	Commercial
26	8U-75	25	Krishna Bdr. Gurung	Family Land	500	<Null>	Commercial
27	8U-62	11	Krishna Bdr Chhetri	Family Land	500	<Null>	Commercial
28	8U-99	50	Bir Maya Thara Monger	Family Land	500	<Null>	Commercial
29	8U-95	46	Sonam Wangmo	Family Land	500	<Null>	Commercial
30	8U-102	39	Bhakti Kumari Darnal	Family Land	500	<Null>	Commercial
31	8U-71	21	Late Maili Tamangni	Family Land	500	<Null>	Commercial
32	8U-94	45	Nidup Wangmo	Family Land	500	<Null>	Commercial
33	8U-65	15	Late Prithi Bdr. Pradhan	Family Land	500	<Null>	Commercial
34	8U-76	26	Passang Sherpa	Family Land	500	<Null>	Commercial
35	8U-84	34	Yeshi	Family Land	500	<Null>	Commercial
36	8U-96	47	Phurba Gyeltshen	Family Land	500	<Null>	Commercial
37	8U-73	23	Nar Bdr Gurung	Family Land	500	<Null>	Commercial
38	8U-82	32	Tashi Dorji	Family Land	500	<Null>	Commercial

39	8U-68	18	Prem Kumar Pradhan	Family Land	500	<Null>	Commercial
40	8U-91	42	Man Bahadur Waiba	Family Land	500	<Null>	Commercial
41	8U-57	6	Indra Maya Limboo	Family Land	500	<Null>	Commercial
42	8U-101	13	Khina Maya Sunar	Family Land	500	<Null>	Commercial
43	8U-83	33	Sangay Dorji	Family Land	500	<Null>	Commercial
44	8U-100	51	Som Bdr Pradhan	Family Land	500	<Null>	Commercial
45	8U-54	3	Migma Wangchuk	Family Land	500	<Null>	Commercial
46	8U-93	44	Harka Maya Chhetri	Family Land	500	<Null>	Commercial
47	8U-86	36	Om Nath Pokhrel	Family Land	500	<Null>	Commercial
48	8U-88	38	Late Hit Kumari Chhetri	Family Land	500	<Null>	Commercial
49	8U-98	49	Dawa Dorji Tamang	Family Land	500	<Null>	Commercial
50	8U-59	8	Dawa Zangmo Sherpa	Family Land	500	<Null>	Commercial
51	8U-97	48	Bishnu Kumar Gurung	Family Land	500	<Null>	Commercial
52	8U-67	17	Kharga Bdr Mukhia	Family Land	500	<Null>	Commercial
53	8U-87	37	Sancha Kumar Gurung	Family Land	500	<Null>	Commercial
54	8U-69	19	Devi Gurung	Family Land	500	<Null>	Commercial
55	8U-64	14	Artha Man Tamang	Family Land	500	<Null>	Commercial
56	8U-55	4	Uma Devi Pradhan	Family Land	500	<Null>	Commercial
57	8U-61	10	Kalpana Gurung	Family Land	500	<Null>	Commercial
58	8U-77	27	Pema Namgay Sherpa	Family Land	500	<Null>	Commercial
59	8U-74	24	Late Passang Sherpa	Family Land	500	<Null>	Commercial
60	8U-52	1	Dilip Kumar Mukhia	Family Land	500	<Null>	Commercial
61	8U-92	43	Lachi Maya Koirala	Family Land	500	<Null>	Commercial
62	8U-63	12	Heme Sherpa	Family Land	500	<Null>	Commercial
63	8U-53	2	Migma Wangdi Sherpa	Family Land	500	<Null>	Commercial
64	8U-70	20	Prem Kumar Chhetri	Family Land	500	<Null>	Commercial
65	8U-56	5	Aita Singh Subba	Family Land	500	<Null>	Commercial
66	8U-90	41	Prem Kumari Pradhan	Family Land	500	<Null>	Commercial
67	8U-81	31	Late Budhi Maya Sati Tamang	Family Land	500	<Null>	Commercial
68	8U-79	29	Damber Bdr Chhetri	Family Land	500	<Null>	Commercial
69	LHA-1646	891	Shiva Mandir	Religious Institutions	0.029	0	Instutional Land
70	LHA-1645	891	Shiva Mandir	Religious Institutions	0.042	0	Instutional Land
71	LHA-60	28	Devi Gurung	Family Land	0.012	0.002	Kamzhing
72	LHA-390	356	Kalu Ram Tamang	Family Land	0.08	0.02	Kamzhing
73	LHA-757	746	Kishore Pradhan And	Joint Owners	0.084	<Null>	Kamzhing
74	LHA-1270	649	Sabitra Pradhan	Family Land	0.091	<Null>	Kamzhing
75	LHA-1268	647	Radha Pradhan	Family Land	0.093	<Null>	Kamzhing
76	LHA-187	84	Dil Maya Pradhan	Family Land	0.095	0.045	Kamzhing
77	LHA-430	1081	Dhan Bdr. Gurung	Family Land	0.096	0.006	Kamzhing
78	LHA-391	356	Kalu Ram Tamang	Family Land	0.1	<Null>	Kamzhing
79	LHA-2189	971	Ganga Mukhia	Individual Person	0.1	0	Kamzhing

80	LHA-198	91	Mon Bdr Pradhan	Family Land	0.1	0	Kamzhing
81	LHA-2078	<Null>	<Null>	Government Land	<Null>	<Null>	Lease plot
82	pending 101	<Null>	<Null>	Government Land	<Null>	<Null>	Lease plot
83	LHA-2075	<Null>	<Null>	Government Land	<Null>	<Null>	Lease plot
84	pending 106	<Null>	<Null>	Government Land	<Null>	<Null>	Lease plot
85	LHA-2091	<Null>	<Null>	Government Land	<Null>	<Null>	Lease plot
86	LHA-2095	<Null>	<Null>	Government Land	<Null>	<Null>	Lease plot
87	Pending 104	<Null>	<Null>	Government Land	<Null>	<Null>	Lease plot
88	LHA-1972	297	Sherab Gyeltshen	Family Land	0.089	0	Residential Land

Annexure 2 List of forest plantations within and in vicinity of the planning area

List of forest Plantations under Lhamoyzingkha geog that falls within and in vicinity of the proposed town area.

#	Location	Area (Acre)	Coordinates (Decimal Degree)			Species
			Latitude	Longitude		
1	Majigoan,	162.3	26.705233°	89.853080°		<i>Shorea robusta, Tectona grandis, Acacia catechu, Dalbergia sissoo, Bombax ceiba, Terminalia alata</i>
2	Beleter	80.7	26.709063°	89.843625°		<i>Shorea robusta, Tectona grandis, Acacia catechu, Dalbergia sissoo, Bombax ceiba, Terminalia alata</i>
3	Kalikhola	28.7	26.711187°	89.849949°		<i>Shorea robusta, Tectona grandis, Acacia catechu, Dalbergia sissoo, Bombax ceiba, Terminalia alata, Gmelina arborea</i>
4	Daragoan	4.8	26.715494°	89.859160°		<i>Acacia catechu, Dalbergia sissoo</i>
5	Beleter Top	6.3	26.719910°	89.834403°		<i>Shorea robusta, Tectona grandis Bombax ceiba, Michelia doltsopa</i>
6	Sanpang	8.1	26.720674°	89.830654°		<i>Tectona grandis</i>
7	Tintlay	44.3	26.724836°	89.829033°		<i>Shorea robusta, Tectona grandis, Acacia catechu, Terminalia alata, Michelia doltsopa, Chukrasia tabularis</i>
8	Suntalabari	71.1	26.719433°	89.827624°		<i>Shorea robusta, Tectona grandis, Acacia catechu, Terminalia alata, Michelia doltsopa</i>
9	Range Compound	3.2	26.714581°	89.852378°		<i>Tectona grandis, Terminalia alata, Shorea robusta, Toona ciliata, Dalbergia sissoo</i>
10	Sunkosh	9.9	26.717869°	89.860058°		<i>Acacia catechu, Dalbergia sissoo, Aquilaria sinensis</i>

Note: Lhamoyzingkha geog doesn't have any community forest within the proposed town area.


 Forest Range Officer
Lhamoyzingkha Range
 Divisional Forest Office, Dibrugarh

Annexure 3 Minutes of Meeting

MINUTES OF MEETING

1. About the Meeting

The meeting was held in Dasho Drungpa's Chambers, Lhamozingkha, Dagana on 18th November, 2019 and was chaired by Dasho Drungpa and attended by the Drungkhag, Gewog and DHS officials (name list attached).

2. Opening Remarks

Dasho Drungpa welcomed everyone to the meeting. He said that the plan preparation for LhamoiDzingkha had taken quite some time. Dasho also stressed on the importance of planning and talked about the area within the planning boundary and the Kidu plots within the core area.

3. Issues and discussions

Following the presentation, the issues and concerns were discussed as follows:

Sl. no	Agenda	Discussion	Remarks
1	Kidu Plots	<ul style="list-style-type: none">• Dasho Drungpa highlighted that the kidu plots were 500 sq. ft and that making standard plots and giving to the people was not an option. Moreover, the idea for plot consolidation of the kidu plots would also not work given that the people were of different castes and background.• Ms. Tshering Pelden, Urban Planner, DHS clarified that since the Kidu plots are bestowed upon the people by His Majesty and since its His majesty's prerogative, the department cannot do anything with regard to making the plots into standard size, however, DHS can only facilitate development.	<p style="text-align: right;">N X-SA</p>

2	Sunkosh Project	<ul style="list-style-type: none"> • Ms. Tshering sought clarification regarding the status of the Sunkosh Project as it would have implications on the area and its planning. • Dasho informed that the Drungkhag also did not have concrete information if the project would happen or not. But despite the Sunkosh project, Lhamoyzingka by virtue of its location along the highway and the opening of Dagapela-LhamoiDzingka Secondary National Highway, the scope of development is high. 	<ul style="list-style-type: none"> • The plan preparation will happen as it is as the Drungkhag does not have concrete information regarding the Sunkosh Project.
3	Core LAP	<ul style="list-style-type: none"> • Ms. Tshering informed that the Department had completed the LAP and submitted to the Drungkhag. The Drungkhag had then upon request of the department submitted the plan to the NLCS for validation. Upon validation it was found that the number of plots on the ground did not match with the number of plots plotted by the department. This had happened as the moratorium was not strictly imposed by the Drungkhag and plots had been subdivided. 	<ul style="list-style-type: none"> • It was agreed that the Moratorium here on will be strictly imposed and no plot transactions, subdivision or construction will be allowed. If so, the Gup, Land Records Officer and the survey officer shall be held accountable for it.

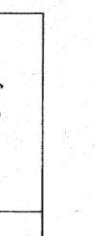
4	Moratorium	<ul style="list-style-type: none"> • The team mentioned that the issues as per the validation report of LhamoiDzingkha LAP is mainly due to the failure to impose and monitor a strict moratorium. The request for issuance of Strict Moratorium had been communicated to the Drungkhag Administration through letters and was also discussed during the meeting on 27th September 2019. The request to strictly impose the moratorium was reiterated freezing all forms of construction activities and transaction/subdivision of land until the revision exercise has been completed. It was further explained that the failure to impose will again result in the same kind of issues and the Department will not be in a position to provide the required Technical assistance. • The Gup sought clarification on the duration of the moratorium. It was informed that the Plan is scheduled to be completed by June, however, the team still did not receive the updated land details. The planning team requested the local governments to keep the team informed of any other major changes within the planning boundary such as construction of roads and other infrastructure development. • Regarding maintenance and renovation of the structures, Ms. Tshering informed that it could be allowed but no major changes should be allowed including extensions.
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5	Data requirements	<ul style="list-style-type: none"> ● Ms. Tshering informed that despite the numerous requests to the Drungkhag for updated land data, the department was yet to receive the updated data. Not having updated land data would have adverse impacts on the plan preparation. It was also observed that the satsabs were given within the Yenlag Thromde boundary, for which the data were not received. ● Other data regarding the forest, livestock, agriculture and the major plans and programmes of the Drungkhag in the 12th Five Year Plan which might have an impact on the plan were also requested. ● Dasho instructed the relevant officials to submit the requested data to the department one week from the date of meeting (by 25.11.2019) 	<ul style="list-style-type: none"> ● The relevant officials would submit the following data: <ul style="list-style-type: none"> ○ Agriculture data (Gup) ○ Livestock data (Gup) ○ Forest data (Mr. Limbu) ○ Major plans and programmes of the Drungkhag within the 12th FYP (Adm. Assistant)
	Miscellaneous	<ul style="list-style-type: none"> ● Dasho Drunpa highlighted that the plan implementation could not happen due to the lack of budget. ● Land Records officer informed that some of the satsab were allotted within the planning boundary to which Dasho instructed that hereon no satsab shall be allotted within the planning period until the moratorium period is lifted off. He also instructed to use the PAVA rates and valuation for the satsab plots. 	 

Attendance Sheet

Title: Consultation Meeting with Dungthang and Geocay Administration
Venue: Dasha Dungpa's office

Date: 18/11/19

Sl. no	Name	Organization	Position	Mobile	Email	Signature
1	Lient Shabu Deij	RBP	OC	17652765	shabud@16p.gov.lk	
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10	Uinkay Wangmo	"	LKA	"	"	
11	Tsheuring Pelden	DTS,MoWTS	U. Planner	"	tsheuringelden@mails.gov.lk	
12	Ngawang Tshomo	"	"	17415888	ngawangtshomo123@gmail.com	
13	Deli Wangmo	"	"	17603894	deli.w@moedu.gov.lk	
14						

Record of Discussion

Agenda: Stakeholder Consultation Meeting for Review of Lhamoizingkha Structure Plan and Local Area Plan for Core

Date: 11th June, 2020

Venue: Lhamoizingkha Gewog Hall

Chair: Dasho Dungpa, Lhamoizingkha

Background

The earlier Structure Plan for Lhamoizingkha was prepared in 2014 and finalized sometime in 2016 through extensive consultative meetings. However, before the structure plan could be put up to the NCCHS for approval, many on ground changes had taken place in terms of land ownership change, fragmentation and construction. Hence, DHS has to take up the review of the Lhamoizingkha Structure Plan in the FY 2018-2019. This meeting is the second consultative meeting for review of the structure plan and is intended to highlight the changes incorporated from the last consultative meeting held in April 2019 and also to feature in some new proposals. The meeting was attended by relevant stakeholders from the Dungkhag, Gewog and other institutions, the list of attendees is attached.

1. Opening Remarks

In the opening remark, the Chief Urban Planner of the Department gave a brief background on the Lhamoizingkha Structure Plan and the need for review. The importance of receiving feedback and support from the stakeholders as well as the public is highlighted for a well-coordinated and planned development of the Yenlag Thromde.

2. Presentation on review of Lhamoizingkha Structure Plan

The presentation highlighted on the following:

- I. Background covering the chronology of events, location and connectivity
- II. Existing scenario covering the site profile, existing institutions, demography, socio-economy, infrastructure and existing connectivity.
- III. Analysis covering land ownership, land type, plot size, analysis of trapped land, building typology, built-up analysis on different plots including built-up on chhuzhing plots, analysis of slope, hazard, hydrology and suitability. It also covered the population

projection, tourism potential, the results of Focus Group Discussions (FGD) and SWOT (Strength, Weakness, Opportunity, Threat) analysis.

IV. Planning proposals covering the vision and principles, road network, off street footpath and bicycle network, green and blue network, irrigation and drainage network, proposed amenities and services, proposed precinct plan and Development Control Regulations (DCR).

V. Issues related to buffer of international boundary, relocation of check post along the proposed bypass road, trapped kamzhing land within the built up area.

3. Discussions and Deliberation

The meeting discussed and deliberated on the following:

Sl.No	Subject	Discussion	Remarks/Actions
1	Institutional land	<p>Dasho OC, RBP enquired if the institutional land will be retained as it is in the Structure Plan to which the planning team mentioned that the existing land registered as government institutions are maintained as it is in the plan. However, there might be instances of readjustments of land boundary during LAP preparation. The members were also informed that land pooling is still the most preferred form of land mobilization modality applied for the implementation of LAPs and the readjustment of plot will be carried out while preparing the LAPs.</p> <p>The possibility of reserving small institutional plots within the planned areas so as to reduce the response time during emergencies was also raised. The planning team informed that for the Core LAP, by virtue of its proximity to the current RBP compound, it is within reasonable emergency response distance but for the other areas, permissible usage could be incorporated within the DCR for private plot developments.</p>	

2 Safety Consideration	<p>Dasho OC also enquired if safety in terms of making Lhamoizingkha crime free zone has been incorporated in the plan. To this the planning team responded that the physical consideration for safety in terms of provisioning of open spaces next to residential uses and the requirement to maintain boundary walls at eye level in the DCR will ensure passive surveillance. Further, the Plan may not specifically provide for the layout of surveillance cameras but such services can be laid along/below the footpath.</p> <p>On the provision of fire related safety, the planning team mentioned that the PLAN proposes for service ducts within the road right of way and the fire service division can be provisioned in the UV1 precinct.</p>	<p>Future need to be considered in the endowment precinct</p>
3 School up gradation or bifurcation	<p>The Principal of the Central school pointed out the changes effected on the school's plot boundary. The Central school currently has classes from PP up to 10th standard and has an area of about 8 acres. He pointed out that in the event of upgrading the school in the near future, the current area is not adequate. The planning team confirmed that the school boundary towards the Core LAP had to be readjusted a little but there was no impact on the overall holding size (no reduction in registered area). The proposal to extend the current school boundary is also not feasible since it is surrounded by private chhuzhing/kamzhing plots. Future proposals for a separate primary school could be carved out from the Endowment area if the need arises.</p>	<p>The structure plan has two hierarchies of proposed road, i. Primary road of 12m RoW (Right of Way) and secondary road of 10m RoW. Apart from a new bypass road (along the banks of Kalikhola river) and few secondary roads proposed as missing links, most of the other roads are widened from the existing ones. It was pointed out that the road layouts could be improved to make it straight given Lhamoizingkha's favorable topography.</p> <p>The planning team reiterated that the roads were proposed along the chhuzhing</p>

		<p>boundaries previously in an effort to conserve chhuzhing which resulted in a meandering road network in the plan. However, with the objective of ensuring an effective transportation system the roads network has been enhanced but some stretches could not be straightened due to the presence of the permanent structures.</p> <p>Dasho Dungpa also mentioned that there is not much scope for further straightening as the existing roads are already built. Further, he pointed out that roads on actual ground will not be as crooked as shown on a small scale map.</p>	
5	Alternate route for heavy vehicle (bypass road)	<p>It was mentioned at times more than 80 heavy trucks coming from India to the mining sites ply through the Core Town. This is undesirable for the core area both from the perspective of pollution and the traffic congestion. The issue of traffic was also raised as part of safety concerns of the residents. In the previous discussion too, the local government suggested the alignment of the bypass road along Sunkosh bank as an alternate route for heavy vehicles but it conflicted with the proposed riverfront development. The PLAN thereby proposes an alternate route along the Kalikhola river and Dasho Dungpa expressed his support as the bypass road will serve two purposes, diverting the heavy vehicles from the core area and function as a river embankment.</p>	<p>Unanimous endorsement for the proposed bypass along Kalikhola as it will serve dual purpose.</p>
6	Provision for a plant and animal quarantine station	<p>There was a concern on the location of the Bus/Taxi terminal very far from the Core town. It was explained that the allocation of the transport hub along the proposed bypass road will serve the future needs of the community the best. However, a bus/taxi pickup/drop zone will be identified within the Core area.</p>	<p>Taxi/bus stop incorporated with the Core LAP</p> <p>Dungkhag Administration to look into the allocation of land from the Endowment area based on the instruction/approval of the government with regards to agencies needs and prioritization.</p>

7	Plot allotment for financial institutions	There was a question on the allocation of land for financial institutions in the PLAN preparation. It was reiterated that the current planning practice does not allow for the reservation of land for financial institutions. However the PLAN does facilitate the provision of financial services in the permissible usage of UV1/UV2 precincts of the private plots.	
8	Chhuzhing and its cultivation	<p>The PLAN proposed for an uncompromising conservation of existing chhuzhing as an agriculture precinct in lieu of fulfilling the common national interest. However, it was reported that the chhuzhing on site are mostly converted to areca nut plantation due to the constant threat of wildlife invasion.</p> <p>The planning team responded that though chhuzhing conservation and its usage are mandates of other agencies, the PLAN is facilitating for the local food sufficiency and the protection of the cultural landscape formed by the chhuzhing. However, further deliberation/discussion with other relevant agencies will be carried out to perceive the plans and programs for the agriculture precinct and sort out the access road ROW before putting up to the National Committee for Human Settlement (NCHS) for approval.</p>	<p>Need to co-ordinate and discuss with other agencies (NLCS and MoAF) to sort out land use and access road ROW.</p>
9	Relocation of Check post	<p>With the proposed bypass road, the need for the relocation of the existing check post area was also highlighted. The current integrated check post consists of five agencies namely: 1. Police, 2. Immigration, 3. Customs, 4.BAFRA and 5.Forest. However, it was highlighted that the future proposal must take into consideration the needs of BNCA and the clearing agents too. Land allocation to look into the other check post area to get the optimum standard size for the integrated check post.</p>	<p>To check Samtse and other entry check post for area allocation standards.</p>
10	International boundary Buffer	The proposed buffer along the international boundary will function as an overlay and will be maintained till the proposed bypass road. The wastewater treatment plant and the proposed check post area will fall within the buffer area.	

4. Presentation on review of Local Area Plan for Lhamoizingkhha Core

The presentation highlighted on the following,

- I. Background covering the chronology of events, planning boundary for the Local Area Plan and the need for review.
- II. Observations covering the observations as per the validation report

5. Discussion and Deliberation

Sl.No	Subject	Discussion	Remarks/Actions
1	Installation of ATM in the core by BDBL	BDBL Manager raised his concern regarding the installation of an ATM in one of the buildings located in the core area. He further added that the cost of installing an ATM is high and if the structure is dismantled during the time of implementation, it would be wise to halt its ATM service to the core for the time being.	The team clarified that the building is a permanent structure and does not fall under the allotted kidu plot, hence the BDBL's management could proceed with its installation.
2	Construction/Extension of Buildings in the Core	Dasho Dungpa mentioned that there are a few upcoming constructions that have been noticed by the Dungkhag Administration which upon verification, have not sought the prior approval from the concerned agencies. He further added that the constructions have to adhere to the existing rules and regulations. The planning team stressed that the review for the plan came up as the moratorium was not strictly imposed and the Department will not be in a position to take up review of the plans again.	The Dungkhag Administration iterated that the applications for constructions are firstly put up to the Gewog Administration and then forwarded to the Dungkhag Administration, hence requesting the Gewog Administration to refrain from entertaining any constructions until further notice.
3	Ease of Construction on the 500 sq. feet sized plots	The stakeholders raised their concern regarding the ease of construction on the 500 sq. feet sized plots which as per the standards would be difficult for the residents to construct and avail the minimum required space within the buildings, eventually obstructing the implementation of the plan.	Dungkhag Administration to make awareness on the proposed amalgamated plots and facilitate the combined construction process. Owners have to look for their own

	<p>The planning team clarified that the 500sqft plots have been clubbed together to facilitate construction on small size plots and a separate DCR which allows for 100% coverage with full commercial usage will be adopted for the core. It was pointed out that the kidu plots due to its very minimal size was not feasible for land pooling and hence all the road and service network requirements were made from the other plots within the core. Therefore, to propose individual construction with the required setback consideration will increase the pooling percentage of other plot owners which is not viable nor advisable. The agreed pooling percentage for Lhamoizingkha Core LAP is 27%.</p>	<p>designer to plan their construction in line with the proposed planning parameters.</p> <p>The Kidu/leased plots were reconfigured so as to NOT club together more than 8 owners and obtain better lighting/ventilation and streetscape.</p>	
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6. Closing Remarks

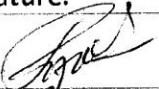
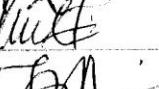
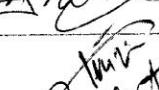
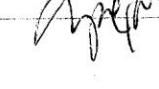
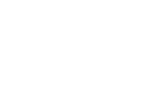
The Dungkhag administration requested the need to finish the planning process as the 1 year moratorium period is coming to an end. They also highlighted the difficulties of putting on halt the developmental activities with people getting impatient with the waiting period. The planning team put forth the ‘Way forward’ for both the Structure Plan and the Core LAP.

- For the overall Structure Plan, after the consultative meeting with the relevant agencies, the structure plan will be put up to the NCHS for approval after which it will be released for implementation. Thereafter, the Dungkhag Administration will need to prioritize the activities and come up with detailed infrastructure drawing proposals for implementation work. For the implementation and preparation of the LAPs (apart from the Core), the Dungkhag Administration will have to prioritize and carry out the preparation either in-house or seek Ministry’s guidance and technical backstopping.

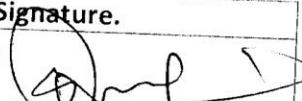
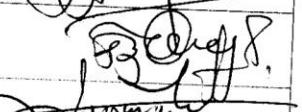
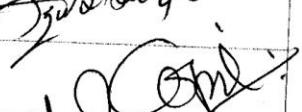
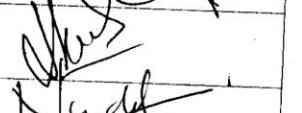
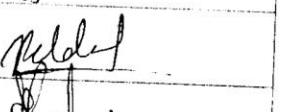
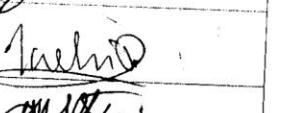
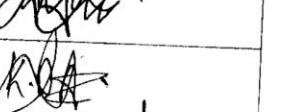
- On the Core LAP, since it was already approved earlier, the PLAN will be released at the earliest upon minor review and verification. The Dungkhag Administration will then have to request NLCS for validation of the plots before the actual implementation process.

The planning team acknowledged the difficulties faced by the local government in implementing the moratorium but requested them to be more vigilant since unauthorized changes on ground would impact the plan and all the time and resource thus spent will be in vain. Further, due to the current COVID19 situation public meeting/consultation could not be carried out. Hence, the Dungkhag Administration is requested to contact and sensitize the community of the provisions of the plan and send in the comments. As there's still some time for the NCHS meeting, any valid feedback and comments will be vetted for incorporation in the plan. The department will make concerted effort to seek the approval of the Structure Plan within the moratorium period.

ATTENDANCE /REGISTRATION FOR THROMDE MEETING ON DATED 11/06/2020 AT
LHAMOIZINGKHA GEWOG.

Sl.#	Name	Department.	Signature.
1.	Kintey Dorji	Dungkhag	
2.	Singa Dorji	Gup Uygl	
3.	Chuney Dorji	BPL	
4.	Jigme Wangchuk	Forest (DOFPS)	
5.	Dorji Phuntsho	Immigration	
6.	Gewando Dorji	Dungkhag	
7.	Gembu Dorji	BAFRA/Monk	
8.	Seray Wangdi	RNR	
9.	Dorji Gyeltshen	Telecom	
10.	Sonam Dukpa	Tshogpa Lengzha	
11.	Kishor Kr. Rai	Wetlock - III chuk	
12.	Ricky Rinchen Waiba	Tshogpa, Lhingkha	
13.	Sonam Choyay	GAO, Chingkha	
14.	Thinley Dorji	Principal	
15.	Bhola Nath Dahal	Drangpon	
16.	Laxman Koraia	Mawgmi	
17.	Makesh Lepcha	Dungkhag	
18.	THAMOIZINGKHA GEWOG	Swingopanig	
19.	Lobsang Chophel	BDBC	

ATTENDANCE /REGISTRATION FOR THROMDE MEETING ON DATED 11/06/2020 AT
LHAMOIZINGKHA GEWOG.

SI.#	Name	Department.	Signature.
20.	Dr. Chimi Dorji	Lhuentse Hospital	
21.	Pema Rindher	Drugthas CR	
22.	Capt. Shashi Dorji	RBP	
23.	Gopi Lal Majhi	Gewog caretaker	
24.	Phurba Sherpa	RNR, caretaker	
25.	Noobu Wangdi	DHS, MOAWHS,	
26.	Aurita Gurung	DHS, MOAWHS	
27.	Tshering Pelden	"	
28.	Tibchan Sharma	"	
29.	Prem Kr. Gurung	Driver	
30.	Tashi Doma	RRPD	
31.	Hanka Nath	Driver	
32.	Kalita Bhutal	RNR	
33.	Tashi Yangzom	CC.	

SECTION B

LHAMOIZINGKHA

DEVELOPMENT CONTROL REGULATION

2020

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1: INTRODUCTION

1.1 Introduction

These Development Control Regulations have been formulated as part of the Lhamoizingkha Structure Plan. They support the aims of the plan through the introduction of regulations and procedures. The jurisdiction of these Regulations includes the area under the Lhamoizingkha Structure Plan. The local government shall implement these Regulations.

2: ADMINISTRATION

2.1 Title, Commencement and Jurisdiction

These Regulations shall:

- a) be called the Lhamoizingkha Development Control Regulations 2020 (LDCR 2020).
- b) Extend to the Lhamoizingkha Planning area.
- c) Come into force with effect from the date of their notification by the Royal Government of Bhutan.

The provisions in the BBR 2018 and the Traditional Architectural Guidelines of Bhutan shall supplement the LDCR 2020.

2.2 Applicability

- i. These regulations shall be applicable from the date of their notification by the Royal Government of Bhutan. The regulations shall be applicable to all development in Lhamoizingkha Yenlag Thromde unless otherwise stated.
- ii. Any action taken or developments permitted under the regulations or Building Rules, existing prior to these regulations coming into force, shall be deemed to be valid and continue to be so until alterations are made to such structures or sites.
- iii. If there is a conflict between the requirements of these regulations and those of any other rules or byelaws, these regulations shall prevail.

2.3 Interpretation

Unless the context otherwise requires, the terms and expressions not defined herein shall have the same meaning as indicated in the following legislations:

- i. Urban Area and Property Regulations 2003;

- ii. The Land Act 2007;
- iii. The Local Government Act 2014 (Amendment);
- iv. Building Code of Bhutan 2018;
- v. Bhutan Building Regulations 2018; and
- vi. Traditional Architecture Guidelines.

2.4 Delegation of Power

The Implementing Authority may delegate any of the powers, duties or functions conferred or implemented upon or vested in the Implementing Authority to its officers or designated committee of officers generally or specifically in writing and may impose certain conditions and limitations on the exercise of such powers as it may deem fit.

2.5 Discretionary Powers

The implementing authority may exercise its discretion in conformity with the intent and spirit of these regulations, in order to mitigate any demonstrable hardship or to sub-serve public interest in the following ways:

- i. Decide on matters where it is alleged that there is an error in any order, requirement, decision and determination, interpretation made by it under delegation of powers, while applying these regulations.
- ii. Interpret these regulations in various contexts of or in situations where more clarity is required. Under such circumstances the implementing authority's decision shall be final and binding.
- iii. Decide upon the nature and the extent of concessions in respect of marginal distances, room heights, etc. that can be granted in cases of proven hardship for reasons which are to be recorded in writing. However, such relaxation shall not affect the health, safety and hygiene of the inhabitants of the building and the neighborhood and the structural stability of the building. Provided further that while granting such relaxation, as above, the authority may impose conditions as may be necessary. These may include a payment of deposit and its forfeiture for non-compliance, payment of a premium amount and other obligations, etc.
- iv. No concessions shall ever be made in respect to F.A.R or additional floors.
- v. Decide on the fine or compounding charges to be made applicable in cases of developments where non-adherence to these regulations is detected.
- vi. Authorize the erection of a building or the use of premises for a public services undertaking or a public utility purpose where such an authorization is reasonably

- necessary for the convenience and the welfare of the public, even if such erection or use is not permitted as per these regulations.
- vii. Determine and establish the location of zoning boundaries in cases of doubts or controversies.

All matters stated above may be decided by a committee designated and authorized by the implementing authority. When issues arise that are not covered within these regulations, the implementing authority shall refer the matter to the competent authority.

2.6 Relations to other plans or regulations

The LDCR should be read in conjunction with the provisions of the Structure plan and the BBR 2018. If there is any inconsistency between this LDCR and other regulations, the LDCR prevails.

2.7 Definition

Accessory Use

A structure that is not the main use on a plot. A garage is an accessory use to a house and a storage shed is an accessory use to a commercial building.

Attic

The space within the confines of the roof structure, above the ceiling or the top floor which is constructed and adopted for storage purposes, lift machine room, water tanks etc.

Basement

The floor below the ground level

Building

Any structure for whatsoever purpose, and of whatsoever materials constructed and every part thereof, whether used as human habitation or not including foundations, plinths, walls, columns, floors, roofs, chimneys, plumbing and building services, fixed platforms, verandas, balconies, cornices or projections, part of a building or anything affixed thereto. However, structures of a temporary nature like tents, hutments, etc. erected for temporary purposes or for ceremonial occasions, with the permission of the Implementing Authority, shall not be considered to be "buildings".

Building Height

The permissible number of floors. This is inclusive of the ground floor and will be determined from the ground floor level. In addition to the precinct regulations, the height of buildings shall be governed by the “Bhutanese Architecture Guidelines 2014.” and by the overall allowable building heights.

Commercial Building

A building or part thereof primarily used for commercial purposes such as shops, stores, departmental stores or markets, for display and sale of goods or merchandise, including office, storage and service facilities incidental thereto located in the same building.

Community

The people living in a particular place and usually linked by common interests.

Community Facilities/Services

Facilities/services used in common by a number of people, including schools, health, recreation, police, fire, public transportation, community center, etc.

Competent Authority

Shall mean the Department of Human Settlement, Ministry of Works and Human Settlement or a successor Department responsible for spatial planning in the country.

Demarcation

The marking of the Site Plan at the actual location, on the ground, by the Implementing Authority in the presence of the owner and adjacent plot owners, if any.

Density

A measure of the intensity of occupants or use and measured in units per area. Units are commonly referenced in plots, dwellings, rooms or people per area.

Development:

- the construction or placing of a building or other structure on, over or under land;
- a change in the use or intensity of use of a building or land;
- the subdivision of land or the consolidation of plots;

- the excavation of land;
- the removal of soil or vegetation from land; and
- the deposit or stockpiling of soil or material on land.

Dwelling Unit

A shelter consisting of residential accommodations for one household.

Existing Use

Authorized use of a plot of land, a building, or a structure existing before the commencement of these Regulations.

Floor

The lower surface in a story on which one normally walks in a building. This does not include a mezzanine floor. The floor at ground level with direct access to a street or open ground/ land shall be called the ground floor. The ground floor shall also be counted as a floor in defining the number of floors and referred to as the ground floor. All additional floors shall be numbered sequentially starting with 1.

Floor Area

The total area of the floor including the area of walls.

Front

The area of land or side of building facing the primary road.

Household

The socioeconomic unit which often coincides with the basic kinship unit of a society. Usually several related persons living together in a form of shelter and sharing food and other basic resources.

Implementing Authority

The government body responsible for governance, implementation and additions/corrections of these Regulations.

Infrastructure

The basic physical networks, including water supply, sewage disposal, electricity, circulation, street lighting, storm water drainage, and telephone.

Jamthog

The space within the confines of the roof structure, above the ceiling or the top floor which is constructed and adopted for storage purposes, lift machine room, water tanks etc.

Plot Coverage

The percentage of building area to the total area of the plot. Also referred to as lot coverage. If half of the lot is covered by a building the lot coverage will be 50%.

Occupancy Certificate

An official document issued by the Implementing Authority certifying that the building is safe and fit for occupancy.

Open Space

A parcel of public land set aside to retain land, water, flora, fauna, historic or aesthetic features in their natural state; scenic or open condition; parcel size to be based on the surface area necessary to maintain the integrity of the unique site characteristics. Open space provides recreational areas for residents and helps to enhance the beauty and environmental quality of neighborhoods.

Parking Space

An area, enclosed or unenclosed, covered or uncovered, sufficient in size to park vehicles with space for their movement. Parking spaces may be served by a driveway connecting them with a street, or alley, and permitting ingress or egress of vehicles.

Permit

A valid authorization in writing by the Implementing Authority to carry out development or a work regulated by the Regulations.

Planning Certificate - certificate that states the type and intensity of development which are allowed.

Right of Way (ROW)

An area reserved for road carriageway, central verge, footpath, roadside drains, avenue plantations and utilities.

Road/Street

Any expressway, highway, boulevard, street, lane, pathway, alley, stairway, passageway, carriageway, footway or bridge, whether a thoroughfare or not, over which the public has the right of passage or access or have passed and had access uninterruptedly for a specified period, whether existing or proposed in any scheme.

Setbacks

The distance between the plot boundary and the building outer edge, or the distance between buildings within a plot.

Site Plan

The up-to-date legal plan of the plot showing all boundaries, their dimensions, the total plot area, angles in degrees of corners, abutting legal roads and required setbacks issued by the competent authority.

3: PROCEDURE FOR OBTAINING DEVELOPMENT PERMIT

3.1 Development Permit

No person shall change the use of a land or carry out development or erect a building or carry out additions and alterations or civil construction activity without obtaining a written permit from the Implementing Authority. Development permit shall be issued only to the legal owner of the land/plot. The following developments do not require a development permit:

- a) a minor utility installation on a road;
- b) repairs or routine maintenance to a building;
- c) alterations to a building, other than a heritage building or a structure in a heritage precinct which:
 - i) do not affect the external appearance of the building;
 - ii) do not add built-up area to the building and
 - iii) do not alter the use of the building;
- d) emergency works undertaken by local government, a public authority or a utility service provider in the exercise of powers conferred by law in force;
- e) gardening;
- f) required in order to comply with a notice issued under the National Environment Protection Act;
- g) a temporary structure for construction purposes;
- h) external lighting normal to a building of the type;
 - i) a crop support or protection structure associated with horticulture;
 - j) excavation, including wells, in the ordinary course of agricultural operations and
 - k) works and temporary structures relating to an event on land, where that event is approved by the local government.

3.2 Procedure for Obtaining Development Permit

A person or body intending to carry out layout development as defined in these Regulations in or over a land and/or subdivide land or to erect a building or carry out additions and alterations

to a building or to carry out development within the limits of the jurisdiction shall obtain prior permit for the same from the Implementing Authority by providing all the required information in the prescribed forms, formats and plans prescribed under these regulations and as may be amended from time to time by the implementing authority.

The application shall be signed by the legal owner of the plot or authorized signatory. The applicant shall submit signed plans and drawings along with the application and pay the requisite scrutiny fees, development charges, betterment charges, and other charges and dues if any to be levied under these Regulations and as decided by Implementing Authority based on prevailing rules and regulations.

3.3 Documents and Particulars to be furnished with the Application

It shall be incumbent on the person/body whose plans have been approved, to submit amended plans, if any, for deviation leading to increase in built-up area, building height or change in plans, he proposes to make during the course of construction of his building work, and the procedure laid down for plans or other documents hereto before, shall be applicable to all such amended plans.

The following particulars and documents shall be submitted along with the application:

Table_ 1: Documents and particulars to be furnished with the Application

Sl.no	Land Development	Building Development
1	Copy of the Land Ownership Certificate issued by the implementing authority.	Copy of the Land Ownership Certificate issued by the implementing authority.
2	Copy of the Site Plan drawn to scale, showing: i) the boundaries and dimensions of the plot, set back lines and the access road; ii) levels of the plot, and the location of drains, septic tank and soak pit; and iii) location and dimensions of existing buildings, trees and car parking spaces.	Copy of the Site Plan drawn to scale, showing: i) the boundaries and dimensions of the plot, set back lines and the access road; ii) levels of the plot, and the location of drains, septic tank and soak pit; and iii) location and dimensions of existing buildings, trees and car parking spaces.
3	Copy of Planning Certificate substantiating “Use Conformity”.	Copy of Planning Certificate substantiating “Use Conformity”.
4	Three copies of the proposed layout plan drawn to a readable scale showing all the details of the development.	Three copies of the proposed layout plan drawn to a readable scale showing all the details of the development.
		Three copies of the detailed drawings showing the plans, sections and elevations of the proposed building to a scale of 1:100 showing all the details.
5	Certificate of Architect or Planner who prepared the plans and drawings.	Certificates of Architect and Engineers who prepared the plans and drawings.

6	Copy of No Objection Clearance from relevant Authority wherever applicable.	Copy of No Objection Clearance from relevant Authority wherever applicable.
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Notes:

1. All the drawings shall be prepared in the metric system only.
2. The applicant shall sign all forms, plans, sections or written particulars or cause them to be signed by his authorized signatory and registered Architect and Engineers.
3. One copy each of plans and documents shall be returned, on approval, to the applicant duly signed by the Implementing Authority or authorized officer.

3.4 Scrutiny, Services and Amenity Fees

The permit for carrying out development shall be granted by the Implementing Authority only on payment of Scrutiny Fees for processing the submitted application, service and amenities fees for execution of works as decided by the Implementing Authority based on prevailing Rules and Regulations. These fees and maintenance charges may be revised by the Implementing Authority from time to time.

3.5 Grant of Development Permit

On receipt of the application for Development Permit, the Implementing Authority after making such inquiry as it thinks fit may communicate its decisions granting or refusing permission to the applicant as per the provisions of the regulations. The permit may be granted with or without conditions or subject to general or special orders. The development permit shall be in the prescribed form and it should be issued by an officer authorized by the implementing authority. Every order granting permit subject of conditions or refusing permission shall state the grounds for imposing such conditions or for such refusal.

Grant of Development Permit shall mean acceptance by the Implementing Authority of all the requirements of these Regulations excluding the following:

- i. Easement rights.
- ii. Soil bearing capacity of the respective plot.
- iii. Variation in area from recorded areas of a plot or a building.
- iv. Structural reports and structural drawings.
- v. Soundness of material specifications used in construction of the building.

3.6 Security Deposit.

To ensure compliance with these regulations and the directions given in the sanctioned plan and other conditions, a security deposit shall be charged at the rates prescribed by the implementing authority from time to time for the due observance and performance of the conditions of the development permit. The amount shall be deposited on request before the issue of "Development Permit".

- i. The amount of security deposit shall be paid only in the form of a demand draft.
- ii. The security deposit shall be refunded without interest within one year after grant of the occupancy certificate, on written request from the applicant.
- iii. The security deposit shall be forfeited either in whole, or in part, at the absolute discretion of the implementing authority for breach of any of the provisions of these regulations and conditions of the "Development Permit ". Such forfeiture shall be without prejudice to any other right of the implementing authority.

3.7 Rejection of Application

If the plans and information given do not contain all the particulars necessary to deal satisfactorily with the development permit application, the application shall be rejected.

3.8 Expiry and Revocation of Permit

A development permit expires if the development that it authorizes is not started within a period of 12 months. The local government may in its discretion grant an extension of the period for one additional period of 12 months.

The local government may revoke a development permit that was issued in error. No person shall claim for loss and expense arising out of the revocation of a permit if:

- a. the plans and documents submitted in connection with the application for the development permit were false or misleading;
- b. the applicant knew or ought to have known that the proposed development does not comply with the Plan; or
- c. the applicant participated in illegal or improper actions in connection with the application.

3.9 Suspended/Cancelled/Revoked due to Change of Ownership

Development permit granted under these regulations shall be deemed to be suspended/cancelled/ revoked, in cases of change of ownership, unless the 'original' owner who applied for, and obtained the development approval submits a letter to the implementing authority about the change in ownership giving details of the transaction and the new owner submits an application duly attaching copies of all the official records of such a transaction and an undertaking that he accepts the transfer to himself, of all the responsibilities and liabilities of the previous owner that relate to the development on the site.

3.10 Liabilities and Responsibility of the Applicant

Notwithstanding the development permit granted under these regulations, a person/body undertaking any development work shall continue to be wholly and solely liable for any injury or damage (direct or indirect) or loss whatsoever that may be caused to anyone in or around the area during such construction and no liability whatsoever in this regard shall be cast on the implementing authority. Neither the grant of development permit nor the approval of the plans, drawings and specifications shall in any way absolve the applicant of the responsibility for carrying out the development in accordance with the requirement of these regulations.

3.11 Demolition / Reconstruction of Dangerous/ Unsafe/ Dilapidated Buildings

Wherever it is necessary to demolish a dilapidated/unsafe structure in the interest of public safety, such demolition shall be carried out by the applicant wherever so directed by the implementing authority. However, if the same is to be reconstructed, it shall be done in conformity with these regulations with due approval from the implementing authority.

3.12 Temporary Permit

Applications for temporary permits need not be submitted through the registered professional and will be applicable only in the developable area as earmarked in the Plan. A scrutiny fee shall be paid as decided by the implementing authority. The maximum validity of the temporary structures is 1 year after the implementing authority accords development permit. The proponent can apply for the renewal of the temporary permit on the expiration of its validity which will be verified by the implementing authority. This temporary permit shall be permitted only for:

- i. In the case of private premises - temporary sheds to be used for storing construction material / as watchmen's cabin during construction phase,
- ii. On public roads, highways - temporary sheds to be used for storing construction material/as watchman's cabin/ workmen's shelter during construction/ repairs/ maintenance of public roads.

3.13 No Objection Clearance from Referral Authorities

The proposal submitted shall be in conformity with other acts/regulations and shall, wherever applicable submit the NOC, from the respective authorities for conformity with their regulation and standards.

3.14 Development Undertaken on Behalf of the Government

The Office-in-Charge of a government department shall inform the implementing authority in writing of the intention to carry out development for its purpose along with the plans of proposed development or construction.

- i. All the development undertaken on behalf of the government shall strictly conform to these regulations.
- ii. Any government proposal, which is not in conformity with the Structure Plan and these regulations should have prior approval from the competent authority

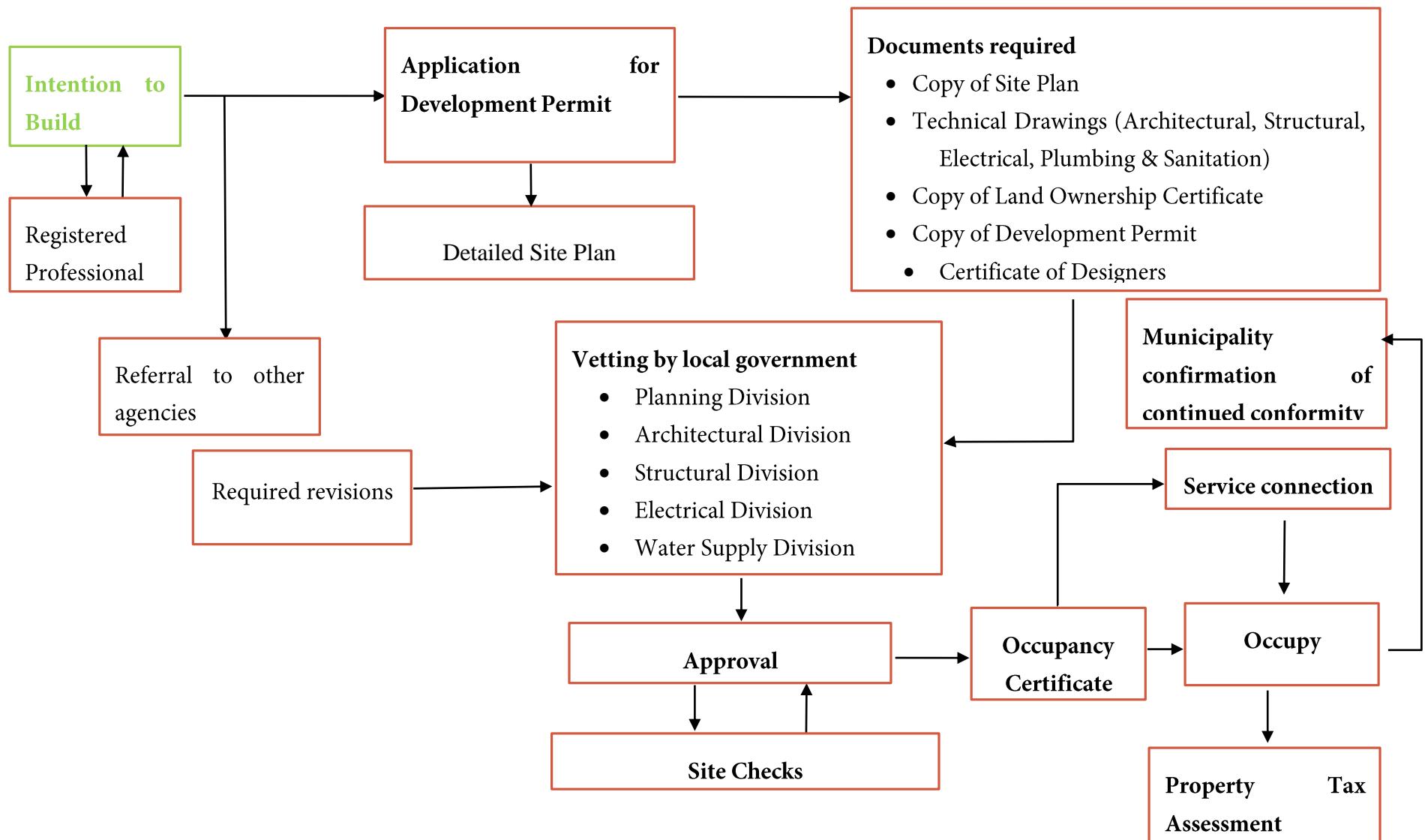


Chart 1: Chart showing procedure for obtaining development permit and completion of building construction

SECTION-4: PROCEDURE DURING DEVELOPMENT/ BUILDING CONSTRUCTION

4.1 Temporary Service Connections

An applicant with a certified copy of development permit may apply to the respective agencies for temporary connection of services like electricity, water and sewerage. The use of a public street/road or a public place for loading and unloading and stacking of materials of construction and construction equipment shall not be allowed.

4.2 Documents at Site

The applicant shall keep the issued development permit along with the necessary documents such as a copy of the approved drawings and specification on the site during construction.

4.3 Commencement Certificate

No applicant shall carry out any further work after any of the inspection stages without an inspection and clearance by the implementing authority. On receipt of the progress report certifying that the work has been executed as per the approved plan, it shall be the duty of the implementing authority to inspect, verify and endorse the report.

4.4 Inspections

Developments shall be subject to routine/periodic inspections by the implementing authority or persons/bodies authorized by the implementing authority. The implementing authority may, at any time during erection of a building or the execution of work or development, make an inspection without giving prior notice of its intention to do so. In the event of deviation(s) from the approved plan, including quality control or any of the conditions noted in this section, the implementing authority shall have the full authority to stop construction.

4.5 Inspections at Various Stages

The following shall be the recognized stages for progress verification in the erection of a building or the execution of a work, which shall be verified and approved by the authorized engineer/ building inspector from the implementing authority for carrying out further construction work as per the sanctioned plan:

- i. Site layout
- ii. Foundation
- iii. Plinth
- iv. Ground storey,

- v. First storey. Second storey and on each successive storey,
- vi. Before roofing.

A person/body who is empowered/responsible under these regulations shall give to the designated officer of the implementing authority at least four working days' notice in writing of the time at which the work will be ready for inspection. This shall be called the progress certificate, which shall be duly filled-in and kept with the owner/architect and produced at the time of each inspection to be scrutinized and signed/endorsed by the building inspector, before the commencement of the next stage of construction.

4.6 Deviations during Construction

Alteration in the approved development and/or building plan shall require prior approval from the implementing authority. Notwithstanding anything stated in the above regulations it shall be incumbent on the person whose plans have been approved to submit revised plans for deviations he/she proposes to make during the course of construction of his/her building work and the procedure laid down for plans or other documents here to before shall apply to all such revised plans.

4.7 Occupancy Certificate for Buildings

The applicant shall obtain occupancy certificate from the implementing authority prior to occupancy or use of the completed development/building. Occupancy certificate should be renewed after every year.

The application for the occupancy certificate shall include:

- i. In case of any change from the approved plans, (which is permissible within these regulations), a completion report in the prescribed form along with three copies of the 'as built' drawings endorsed by the registered architect/engineer. It shall also be incumbent on every person who is engaged under this DCR to supervise the erection or re-erection of the building, to endorse this completion report. One copy of the 'as built' drawings shall be stamped and returned to the applicant after inspection and approval by the implementing authority.
- ii. A copy of the progress certificate containing all the comments and endorsements of the building inspector at every stage of inspection. In case of occupying the building or part thereof without obtaining occupancy certificate, the security deposit shall be forfeited. On receipt of the application, the building and its premises shall be inspected by the implementing authority to verify that the work has been completed as per the approved drawings, or if there is a change, permissible within the regulations, approve

and endorse the ‘as built’ drawings submitted along with the completion report. The inspection team shall consist of authorized architects and engineers from the implementing authority. Based on this inspection report, the occupancy certificate shall be issued.

4.8 Issue of Occupancy Certificate

The authority issuing occupancy certificate shall ensure that:

- i. Proper hygienic and sanitation facilities have been provided as per standards and are located as per approved plan.
- ii. Domestic drains (to collect the rainwater) have been constructed as per standards and as per the design directions approved.
- iii. The completed portion of the building/dwelling unit applied for occupancy is fit and safe for such.
- iv. Construction debris around the building, and/or on the abutting road, and/or adjoining property is cleared by the applicant.
- v. The applicant has permanently displayed the full postal address (house number, street name and zone) outside the main entrance to the building and each unit has been given an individual number or letter.
- vi. The trees as per the design are planted on site or a suitable deposit has been collected by the implementing authority.
- vii. The parking spaces are properly developed and the layout of parking is provided as per the approved plans. Signboards indicating the entrance, exit and location of parking spaces for different types of vehicles are permanently erect and maintained at an appropriate prominent location.
- viii. The completion report endorsed by the implementing authority procured and submitted by the owner.

4.9 Permanent Service Connections

The occupancy certificate shall not be issued unless the required information is furnished by the owner and the structural designer/architect concerned. Permanent connections will only be given to services like water, sewerage, electricity and telephone by the respective agencies after the occupancy certificate has been issued.

4.10 Change of Building or Premises Uses

The applicant shall apply in writing to the implementing authority for conversion of approved building or premises uses to other uses or activities. Permission for change of use shall be given

only if the building use conforms to the precinct category schedule, structural safety of the building and other relevant clauses of the regulations.

4.11 Confirmation Inspections by Referral Authorities

Developments sanctioned through special conditions/appeals shall be liable for inspections by the special authorities or the implementing authority for revalidation of the development permit.

4.12 Safety on Site

All construction sites must be organized in a manner that the safety of all persons, on the site, at all times is assured. Special care must be taken that no person is electrocuted, that no one falls, or that no one is burnt, or that no material falls on a person or property.

4.13 Child Labour

It is incumbent that the applicant or his site in-charge sees that no underage workers, or children, are present on the construction site, either as employees, guests, or as dependents of legal employees.

4.14 Protection of Adjoining Public Properties

No construction activity in any site shall damage any of the public properties located adjoining the site, or use these properties for activities like storing of construction materials.

4.15 Development without Prior Approval

If a development requiring the written permit of the implementing authority under the provision of these regulations or other rule, regulation or by-law is done by a person without obtaining written permit, it shall be deemed to be unauthorized. The implementing authority shall at any time, by written notice, order the same to be removed, pulled down or undone.

If the requisitions contained in the order are not carried out by the person or owner within the given period of time, the implementing authority shall remove or alter such work and the expenses thereof shall be paid by the person or owner as the case may be.

In cases where development has already started/commenced on site for which development permit in writing is not obtained from the implementing authority, but where this development on site is in accordance with the provisions of these regulations, the development permit for such work on site without the prior permit may be granted by the implementing authority on the merits of each individual case. For such development works, an additional amount shall be charged on the entire land area or total built up area as per the following rates, over and above the regular charges / fees.

4.16 Regularization Fees for Developments without Prior Approval

- a) Payment of 100% of the cost of the deviated construction and regularization of the deviation, if no application was made but the construction is as per the Rules.
- b) Payment of 50% of the cost of construction and removal of the deviation, if no application was made and the construction is not as per the Rules.
- c) Payment of 50% of the cost of the deviated construction and regularization of the deviation, if an application was made and the construction is as per the Rules.
- d) Payment of 25% of the cost of the deviated construction and removal of the deviation, if an application was made but the construction is not as per the Rules.

SECTION-5: PLANNING REGULATIONS

5.1 Precinct Sanctity

The Precinct Schedule has been formed to facilitate an easier functioning settlement. Different precincts have different land uses, in attempts of preventing the conflict in land uses. The Lhamoizingkha Structure Plan has a total of 11 precincts with sub-precinct of different land uses. These precincts have been designated in response to the existing development trends of Lhamoizingkha Thromde.

1. Urban Core

a. *Urban Core (UC)*

A precinct of trade and commerce.

2. UV Urban Village

a. *Urban Village 1 (UV-1)*

Medium density mixed-use.

b. *Urban Village 2 (UV-2)*

Medium density residential.

3. I Institutional

a. Institutional Precinct 1 (I-1)

Educational and training institutes; health service centres.

b. Institutional Precinct 1 (I-2)

Public and other offices.

c. Institutional Precinct 1 (I-3)

Defense and military uses.

4. C-Cultural

a. Cultural Precinct 2 (C-2)

Palden Choeling Lhakhang.

5. S Service

a. *Services Precinct 1 (S-1)*

Utilities such as Water & sewage treatment plants, electric substations, etc.

b. Service Precinct 2 (S-2)

Services such as Automobile workshop and servicing, fuel station, etc.

6. Transport

- a. Transport Precinct 1 (T-1)
Bus terminal; bus stand; taxi stands; parking spaces.

7. Industrial

- a. Industrial Precinct 1 (IN-1)
Light, non-polluting industries (including noise pollution).

8. Recreational

- a. *Recreational Precinct 1 (R-1)*
Games, sports and recreational activities.
- b. *Recreational Precinct 2 (R-2)*
Open and green spaces.

9. Environment

- a. Environment Precinct (E)
Forests, steep slopes, rivers and streams, disaster prone areas, no development permitted.

10. Agricultural

- a. Agricultural Precinct 2 (A-2)
Chhuzhing and protected landscape areas, no development permitted.

11. Special Zones

- a. Endowment Precinct (EN)
Uses to be defined in future based on needs.

Table_2: Precinct schedule showing precinct characteristics and uses permissible

Precinct	Uses permissible	Special conditions
Urban Core Precinct (UC)	<p>High density mixed use and commercial development</p> <p>Shopping centers, food courts, cinema halls, hostels, lodging and boarding houses, hotels, tourism and recreation-based facilities, commercial centers, public buildings, auditoriums, office buildings, public utilities and facilities, banks, art galleries, exhibition halls, bars, discotheques, parks, gardens, playgrounds.</p>	<p>The Urban core will have the highest density allowing buildings up to three floors with 60% ground coverage.</p> <p>Residential quarters may be located on the upper floors but preference may be given to commercial and retail uses on the ground floor.</p>
Urban Village Precinct (UV-1)	<p>Medium density mixed use and commercial development (neighborhood level), public utilities and facilities</p> <p>1</p>	<p>This precinct will have buildings up to two floors with 50% ground coverage.</p> <p>Institutional uses in a minimum of 1000 sq.m plot may be permitted.</p>
Urban Village Precinct (UV-2)	<p>Predominantly residential uses, ¼ of overall plinth area of the house may be allowed for local level retail shops and services.</p> <p>2</p>	<p>This precinct will have buildings up to three floors with 50% ground coverage.</p> <p>Institutional use may be permitted on a minimum plot size of 1000 sq.m</p> <p>Resorts, Hotels with boarding and lodging facilities in a minimum of 2500sq.m plot may be permitted.</p>
Cultural Precinct (C-2)	<p>Places of religious, cultural and historical significance along with the immediate surroundings.</p> <p>Chortens, Lhakhangs, and mandir</p>	<p>Spiritual & religious structures & places. Chortens, Mani Walls, Lhakhangs, Prayer Wheels, Monasteries & activities related to enhancement/protection/conservation of heritage structures and/or precincts and permitted/undertaken by appropriate authority on behalf of the National Commission for Cultural Affairs.</p>
Institutional Precinct (I-1,2,3)	<p>Medium Density development</p> <p>Local, National and International Institutions Educational, training, cultural and government institutions, public libraries, Museums, Art galleries, Diplomatic Enclave, government offices</p>	<p>This precinct will have buildings up to three floors only with 35% ground coverage.</p> <p>Residential and other activities incidental to the main institutional use, provided only 10 % of the site should be used for such activities.</p>

Precinct	Permissible uses	Special conditions
Service Precinct 1(S-1)	Public utility, public facility, services buildings, water treatment plant, sewage aerobic & mechanical plants, electric substations, go-downs and vehicle workshops, Bus terminal, Taxi stand, Truck parking, stores incineration plant, farmer's market.	This precinct will have buildings up to two floors with 25% ground coverage.
Service Precinct 2 (S-2)	Services such as Automobile workshop and servicing, fuel station, etc	This precinct will have buildings up to two floors with 50% ground coverage.
Transport Precinct (T-1)	Bus terminal, bus stand, taxi stand, parking spaces.	Bus terminal, bus stand, taxi stand, parking spaces.
Industrial Precinct (IN-1)	Light, non-polluting industries (including noise pollution).	Residential dwelling only for industrial workers and other public utility service staff, working within the industrial premises (subject to N.O.C. from authorities such as the National Environment Commission (NEC)/ Dept. of Trade and Industry Provision for onsite sewage treatment plant within the premise
Recreational Precinct 1 (R-1)	Open space precincts of public assets like parks, gardens, recreational and sports facilities, Open parkways, children's playground, rock garden, water fountains, amphi-theatres, gazebos, trellis, outdoor cafes, information kiosks, public toilets, and recreational landscape elements.	No construction will be allowed in this precinct except for infrastructure related to sports and recreational facilities in the designated area. Special attention should be given to public safety especially through provisioning of adequate lighting, elimination of blind spots, safe infrastructure design, and universal accessibility to public amenities like toilets and pathways.
Recreational Precinct 2 (R-2)	Open and green space precincts	No construction will be allowed in this precinct except for infrastructure related to sports and recreational facilities in the designated area.

Environment Conservation (E)	<p>Activities related to environmental enhancement and protection to be encouraged.</p> <p>Natural reserve and sanctuary, river basin, streams, rivulets, avi-fauna, fauna breeding places, unique flora and biomass preserves.</p> <p>Activities related to environmental enhancement/ protection and permitted/undertaken by or on behalf of the National Environment Commission.</p> <p>Existing structures with an approval may be retained.</p>	<p>These areas are environmentally fragile in terms of slope and flood hazard and hence no construction will be allowed. Existing structures may be retained with prior approval, but new construction and extension of old structures will not be permitted.</p> <ol style="list-style-type: none"> 1. No development or construction shall be permitted within thirty meters of the edge of the watercourse or the edge of the gullies of Sunkosh and Kalikhola river and major stream. 2. No development or building construction shall be permitted within fifteen meters of the edge of all natural rivulets and natural drainage channels
Agriculture (A-2)	Agriculture	<p>As a matter of principle, buildings and infrastructure will be prohibited.</p> <p>Exceptions, only for agricultural purposes, include small-scale buildings and infrastructures as well as linking paths.</p>
Endowment (EN)	No construction will be allowed in this precinct (Reserved for future use as per the need)	In the meantime it shall be maintained as it is.

5.2 Setbacks and Plot Coverage

The minimum setback to be maintained and the maximum plot coverage permissible shall be as specified in the Precinct schedule provided both the conditions are fulfilled.

5.3 Maximum Building Height

The maximum building height, expressed in terms of the number of floors permissible shall be as specified in the precinct schedule. It is defined as the vertical distance measured from the established grade at ground to the finished roof surface.

Table_ 3: Precinct schedule showing requirements for plot coverage, building height and setbacks

No	Precinct	Min size (Decimal)	Plot coverage (%)	Max. Height (Floors)	Minimum setback (m)	Compound wall Ht. in m
1	Urban Core	NA	60*	3*	3* in the front, 2m each on the rear and sides	0
2	Urban Village 1	10	50	3	3m on 3 sides and 5m on one side	0
3	Urban Village 2	13	50	3	3m on 3 sides and 5m on one side	1.5
4	Cultural 2	As per Department of Culture Guidelines				
5	Institutional 1,2,3	-	35	3**	3m on 3 sides and 5m on one side	1.5
6	Service 1	-	-	-	-	-
7	Service 2	-	25	3	3m on 3 sides and 5m on one side	1.5
8	Transport 1		25	3	-	-
9	Industrial 1		20	3(Not higher than 12m)	-	-
10	Recreational 1	-	20	2	-	-
11	Recreational 2	-	-	-	-	-
12	Environment E	-	-	-	-	-
13	Agricultural A-2	-	-	-	-	-
14	Endowment	-	-	-	-	-

*Note 1: Differential guidelines for small plots in urban core (coverage, height and setback) -In view of extremely small plot size (kidu plots of 500 sqft), 100% coverage with no setback requirement and height up to G+1 is permitted. However, the buildings must be constructed on combined plots and the owners within a single block are encouraged to hire the same architect/designer

** Note 2: Three-storey for Institutional precinct is subject to submission of master plan.

Note 3: Plot Coverage - The maximum plot coverage shall be within the setback rules as prescribed in this regulation.

Note 4: Projected Balconies- Cantilevered balconies (not enclosed) projecting up to 1.5 m into the setback area from the ground floor external wall face shall be permitted. Projections beyond 1.5 m may be permitted provided they do not extend into the setback areas and they are structurally safe. Such projections/ structures shall not cover the septic tanks. In case of commercial buildings cantilevered balconies shall be allowed only at the rear.

Note 5: Parking Areas- All permitted proposals within the respective precincts shall provide plot level parking spaces as per the parking standard mentioned in Table 4

Table_ 4: Parking requirements standards

Description of use in the Building	Number of Vehicle Parking Space Required
Residential space	Residential unit with total area less than 60 sqm: 25% cars & 75% 2 wheelers. Residential unit with total area between than 60 -90 sqm: 50% cars & 50% 2 wheelers. Residential unit with total area equal to or more than 90 sqm: 1 car space for every 90 sqm.
Public Halls, Community Centers, Exhibition centers	One car space for every 30 sqm of public floor space or part thereof.
Restaurant, bars, café& eateries	One car space for every 15 sqm of public floor space or part thereof.
Shopping centre (over 450 sqm clear retail floor space)	One car space for every 20 sqm of clear retail floor space or part thereof.
Commercial use	One car space for every 30 sqm of clear retail floor space or part thereof.
Offices	One car space for every 30 sqm net usable office floor area.
Theatres & Cinemas	One car space for every 10 fixed seats for public accommodation or part thereof.
Hotels & Guest House	One car space for every 30 sqm of clear retail floor space or part thereof.
Warehouses	One car space for every 100 sqm usable floor area
Vehicle services & repair workshop	Five car space per service/repair bay

5.4 Guidelines for Developments on Small Plots

This sets specific and enforceable rules regarding the design for small lots, including differential minimum setback requirement, plot coverage. No Sub-division of plot shall be allowed for undersized plots. However, consolidation of plot can be carried out in consultation with the Dzongkhag Administration. The list of small plots is annexed in the report of Structure Plan.

Table_ 5: Guidelines for Development on Small Plots

Plot (Decimal)	Size	Setback (m) for isolated plots	Setback (m) for consolidated plots	Max. Plot Coverage	Max. Building Height (floors)
2-4.5	1.2 m	on all sides	a) 1.2 m on front and rear sides. b) Zero setback in between the plots. c) Plots at both the ends shall maintain 1.2 m setback on one side.	NA	2
4.5-7	1.5 m	on all sides	a) 1.5 m on front and rear sides. b) Zero setback in between the plots. c) Plots at both the ends shall maintain 1.5 m setback on one side.	60%	3

5.5 Pre-existing Non-Conforming Use types

A lawful use of land existing prior to the adoption of the Lhamoizingkha Structure Plan which does not conform to these Regulations, shall be permitted to continue, subject to the condition that no extension, modification of the buildings, or intensification of the non-confirming use shall be permitted. A change proposed in the existing building shall be permitted only if it is intended for changing the use to one that is permitted as per these Regulations.

SECTION-6: BUILDING REGULATIONS

6.1 Architectural Design

As per the Traditional Architecture Guidelines.

6.2 Circulations Space Requirements

Same as Building Code of Bhutan 2018.

6.3 Light and Ventilations Requirements

Same as Building Code of Bhutan 2018.

6.4 Artificial Lighting and Mechanical Ventilation

Same as Building Code of Bhutan 2018.

6.5 Ventilation Shaft

Same as Building Code of Bhutan 2018.

6.6 Fire Safety

Same as Building Code of Bhutan 2018.

6.7 Porch

Same as Building Code of Bhutan 2018.

6.8 Septic Tank

Same as BBR 2018.

6.9 Roof and Site Drainage

Same as BBR 2018.

6.10 Access for the Disabled

Same as Building Code of Bhutan 2018.

6.11 Structural Control

Same as BBR 2018.

6.12 Water Supply and Sanitation Control

Same as Building Code of Bhutan 2018.

6.13 Electrical Installations Control

Same as Building Code of Bhutan 2018.

6.14 Telephone

Same as Building Code of Bhutan 2018.

6.15 Attic

Human occupancy of the attic spaces shall not be permitted.

6.16 Basement

Excavation of ground for construction of basement shall not be permitted, provided, partial basements which become necessary to bring the building plinth level to the street level may be permitted. However, human occupancy of such basements shall not be permitted.

6.17 Minimum Floor Space of Rooms in Residential Buildings

Same as Building Code of Bhutan 2018.

6.18 Painting

Building color as per the color code prescribed for Dagana Dzongkhag in the Building color code of Bhutan 2014.

6.19 Water Requirement

The water requirement is as given in **Error! Reference source not found.** and **Error! Reference source not found..**

Table_ 6: Water for Institutional Needs (as per IS: 1172-1963)

Sl. no	Institutions	Water requirements (Liters per head per day)
1	Hospitals (including laundry)	
a)	No. of beds exceeding 100	450 (per bed)
b)	No. of beds not exceeding 100	340 (per bed)
2	Hotels	180 (per bed)
3	Hostels	135
4	Nurse homes & medical quarters	135
5	Boarding schools/colleges	135
6	Restaurants	70 per seat
7	Airports	70
8	Bus stations	70(could be reduced to 25 where bathing facilities are not provided)
9	Day School/Colleges	45
10	Offices	45
11	Factories	45(could be reduced to 30 where no bathing rooms are required)
12	Cinema, Concert halls & theatres	15
13	Garden, Sports ground	3.5 per sq.m
14	Animal/Vehicles	45

Table_ 7: Water Requirements for Domestic Purpose (as per IS: 1172-1963)

S.No	Description	Amount of water in litres per head per day
1	Bathing	55
2	Washing of Clothes	20
3	Flushing of W.C.	30
4	Washing of House	10
5	Washing of utensils	10
6	Cooking	5
7	Drinking	5
Total		135

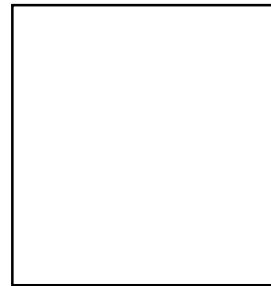
ANNEXURE

Annexure 1 Application for Construction of Building

(Please type or write in clear block letters, use additional sheet if necessary)

To

The Drungpa,
Drungkhag Administration,
Lhamoizingkha.



1. Name of applicant:

Passport Size Photo

2. Sex: Male () Female ()

3. Date of Birth:(dd/dd/yyyy)

4. Citizenship Identity Card No.

5. Permanent Address:

6. Present Address:

7. Postal Address:.....

8. Contact details:
(residence):.....

Telephone No.

Telephone No. (office):.....

Fax No.:.....

E-mail address:.....

9. Land ownership:

- Government Allotment (Allotment order no & date)
- Purchased from the open market (Registration no & date)
- Allotted under Kasho (Copy of Kasho to be attached)
- Inherited/exchanged/gifted (Details of previous owner to be attached)
- Subdivided (Approval letter no & date)

10. Plot details: Plot No.:..... Area: sqm Dimensions:

Declaration: The information supplied in this application form is correct to the best of my knowledge and if there are any discrepancies, I shall be personally responsible for the same and I am prepared to face any disciplinary or legal action against me.

Date: Place:

Signature:

For official use only

Noting of the dealing officer with regard to land holdings, building construction, etc.

Recommended () Not recommended ()

Name & Signature of the Dealing Officer:

.....Signature of Drungpa.

.....Remarks (if any):

Annexure 2: Application for Occupancy Certificate

To

The Dasho Dungpa,
Lhamoizingkha Dungkhag Administration.

Dasho,

I hereby certify that the addition/ alteration/ construction of building on Plot/Thram No.on.....Lam in.....town has been completed on, according to the approved building plan/ drawings, vide permit no. dated.....

The work has been completed to our best satisfaction. Workmanship and all the materials (type and grade) have been used strictly in accordance with the approved documents/ drawings and relevant standards, codes of practice and specifications. Provisions of this DCR and BBR 2018, conditions or orders issued thereunder have not been transgressed/ violated in the course of the work.

The building is fit for use for which it has been added /altered/ constructed. The necessary 'Occupancy Certificate' may be issued.

Signature of the Owner:

Name & Address:.....

Telephone No. (residence):

Telephone No. (office):

Fax No.:

E-mail address:

Dated:

Annexure 3: Occupancy Certificate

To

.....
.....
.....
.....

Sir/Madam,

With reference to the application dated....., regarding the addition/
alteration/ construction of building on plot/Thram no.....
on.....Lam, inThromde has been inspected on
..... and found that the building is **fit / not fit** for occupation.

Instruction / Remarks (if any):

Dungpa.

Official Seal

Dated: