



THIMPHU THROMDE

Annual Report

2021-2022

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Thimphu Thromde



thimphuthromde



Annual Report

2021-2022





VISION

An exemplary Thromde (Municipality) in the region that is culturally vibrant, progressive, safe and livable.

MISSION

To provide affordable, equitable, efficient municipal services and facilities.

To promote Bhutanese socio-culture, economy, environmental image and financial sustainability of the Thromde.



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552

*Applications received for new waterline
connection*

236

*Households provided new water metre
connections*

211.54 Litres per Capita per Day

*Water supplied per capita from the 5 WTP
and 3 bore holes*



23,239 sqm

Potholes repaired and roads resurfaced



5570

*Streetlight poles in Thimphu
Thromde*

642

Streetlight poles installed



2021-2022



671

Households connected to sewerage system

218

*Connections to sewerage system possible
from Sewer Network Projects executed*

314

Vacuum tanker services rendered



54 metric tons per day

Average total waste dumped at landfill



1997

*Applications for Occupancy
Certificates received (New and
Renew)*

at a glance...

Agency Profile

Led by the Executive Secretary, Thimphu Thromde has eight divisions and nine services and sections which are all focused on catering seamless and efficient services to the residents of Thimphu Thromde. In the past year, Thimphu Thromde has also developed several apps in our efforts to allow the public to avail Thromde services easily. This is in addition to the 10 services which are already available online through G2C.

Thimphu Thromde also has an elected council (Thromde Tshogde) which consists of the Thrompon and seven Thuemis. Thuemis are elected members who represent the seven demkhongs (constituencies) in the Thromde Tshogde. The Thrompon serves as the Chairperson and the Thuemis represent the city's seven demkhongs. As the highest decision making body of the Thimphu Thromde, the Thromde Tshogde convenes four months a year. A key responsibility of the Thromde Tshogde is to endorse the annual budget as well as the annual activities, plans and programmes of Thimphu Thromde which have been endorsed by the Management.

Staff Strength



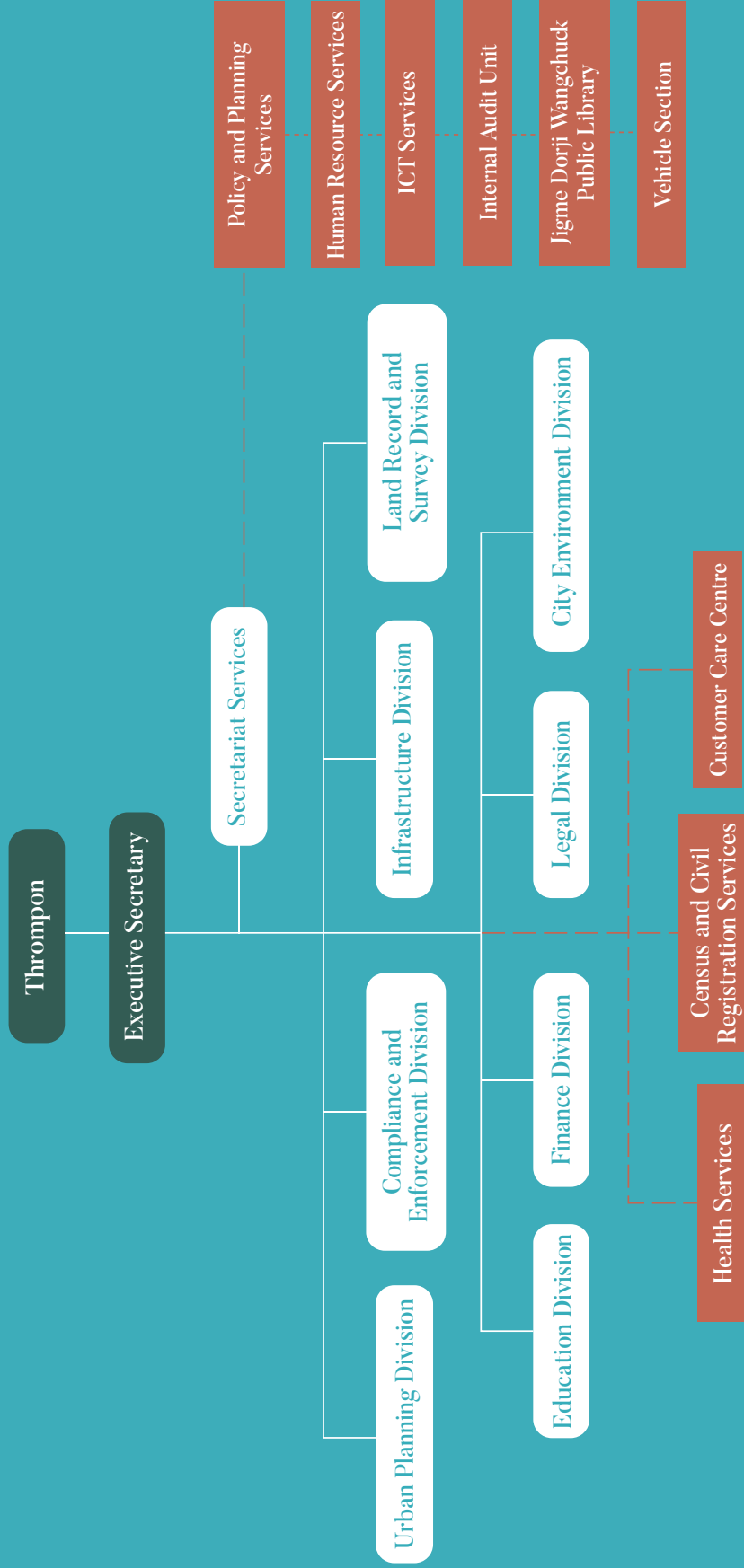
586 Employees

181 Civil Servants

44 Contract employees

361 Workforce

Organogram





View of Thimphu Thromde taken from Jakargongma

To Improve Livability, Safety and Sustainability of Human Settlements



Four-lane Road from Chubachu to Jungshina

Connecting Northern Thimphu to the urban core is enshrined in the Thimphu Structural Plan but this was shelved because of the slow development in the North. However, in 2020, this Four-lane Road Development Project, worth Nu 400 million, was taken up to ease the growing traffic and to capitalise on the window of opportunity presented to us by the pandemic. This project was designed with the vision to use only locally sourced materials and more importantly, as a way to offer job opportunities to our citizens who have been affected by the pandemic. We are happy to share that the project has employed more than 700 Bhutanese and 30 private counterparts including contractors, suppliers etc.

Taking up a project of this gravity, in a year disrupted by the pandemic and restrictions, however, wasn't without challenges. Despite the hindrances, the 3 km road development, which started in May 2020, took 20 months to complete and the road is equipped with a 2.5 km wheelchair-friendly footpath as well as 100 street light poles to ensure safety of the pedestrians and commuters at night.



Streetlights and wheelchair-friendly footpath



Retaining wall construction in 2020



Four-lane Road from Taba to Dechencholing

The four-lane road from Taba to Dechencholing, constructed with a budget of Nu 79 million, measures 1km in length. The construction completed in June 2022 and has 31 street light poles as well as wheelchair-friendly footpaths. With the completion of this road, the North of Thimphu is now connected to the Urban Core with a four-lane road starting from Dechencholing until Chubachu.



Four-lane road from Taba to Dechencholing

Junction Improvement and Road Development



Flyover Bridge Junction

The narrow roads for four widely used junctions near the Flyover Bridge, Jigme Losel and Druk School and Swimming Pool were widened to ensure ease of traffic and to reduce congestion. Bigger hume pipes were also

installed to improve the stormwater drainage system and to reduce flooding during the monsoon season.



Swimming Pool Junction



Previous condition of Zamtok Lam SW

As part of this project, Zamtok Lam SW was also widened, blacktopped and HDPE cable ducts were installed along the stretch. The total cost of the project was 60.9 mil and it completed in December 2021.



Blacktopped Zamtok Lam SW



Drain reconstruction in Gida Lam

Gida Lam - Changidaphu

A poor drainage system that constantly overflowed and ruined the roads, Gida Lam was in grave condition causing havoc to the residents living nearby. To improve these conditions, the reconstruction of drains with slabs and steel grating as well as the reinstatement of roads in Gida Lam started in December 2021 and completed in July 2022 with a budget of Nu 14.08 mil.



Previous condition of the road



Road condition after reinstatement

Dondrup Lam - Norzin



Surface run-off due to increased waterflow

Picture Courtesy of Kuensel

The heavy monsoon rain flooded Dondrup Lam behind the Norling Building. The strong surface runoff was caused as the increased water flow exceeded the capacity of the huge pipes. Waste and construction debris dumped by the people also exacerbated the blockage. Cross drainage works were carried out and larger huge pipes were installed costing Nu 1.44 mil. The entire stretch of Dondrup Lam has also been blacktopped.



Installation of huge pipes



Blacktopped Dondrup Lam

Dechencholing Road Collapse

The road culvert in Dechencholing collapsed due to fast running water eroding the existing RRM wall. Rectification works were carried out and hume pipes were installed to stabilise the road. The cost for rectification was Nu 4.7 mil.



Installation of hume pipes and reconstruction of road

Jungshina Bridge

A 7m wide and 16m long bridge is being constructed in Jungshina to connect North Thimphu to the Urban Core. This bridge, worth Nu 18 mil, is being constructed after developing the four-lane road from Chubachu to Jungshina to ease congestion as the existing bridge is only two-lane.



Construction of Jugshina Bridge



Olakha Overpass

An overhead footbridge, the first of its kind in Thimphu, opened to the public in December 2021. Costing Nu. 4.6 mil, the 5.4m high and 24m long earthquake resistant footbridge was constructed along the expressway in Olakha.

The high volume of vehicular and pedestrian traffic at the intersection made it the ideal location for the pilot project. Similar projects might be carried out in other intersections after assessing the success of this project.

The heavy monsoon in 2021 caused continuous landslides along the Langjophaka-Lungtenzampa highway. This severely impacted the safety of the Thromde workforce who were residing near Dechen Zam. For their safety, semi-permanent houses were constructed for Nu 5 mil in Langjophaka, accommodating 15 households.

Semi-permanent Houses



Semi-permanent houses after construction



Semi-permanent houses under construction



Boulder wall above S Doebum Lam

Boulder Wall

The area above S Doebum Lam, near the Flyover bridge, was a previously neglected area with overgrown weeds and plants but it will now be turned into a multi-tiered garden landscape. It also features a dry stack boulder wall which is a new design being piloted in the hopes to uplift the overall aesthetics of the landscape and to avoid the usual RRM or concrete wall.

The boulder wall, constructed with Nu 1.89 mil, measures around 80m in length. After the landscaping and plantation, it will complement the open space and riverfront as well as the traditional Bazam on the other side.

This much-needed facelift was started as a way to avoid the constant rockfalls that disrupt the footpath as well as the main road.

Community Service Centres

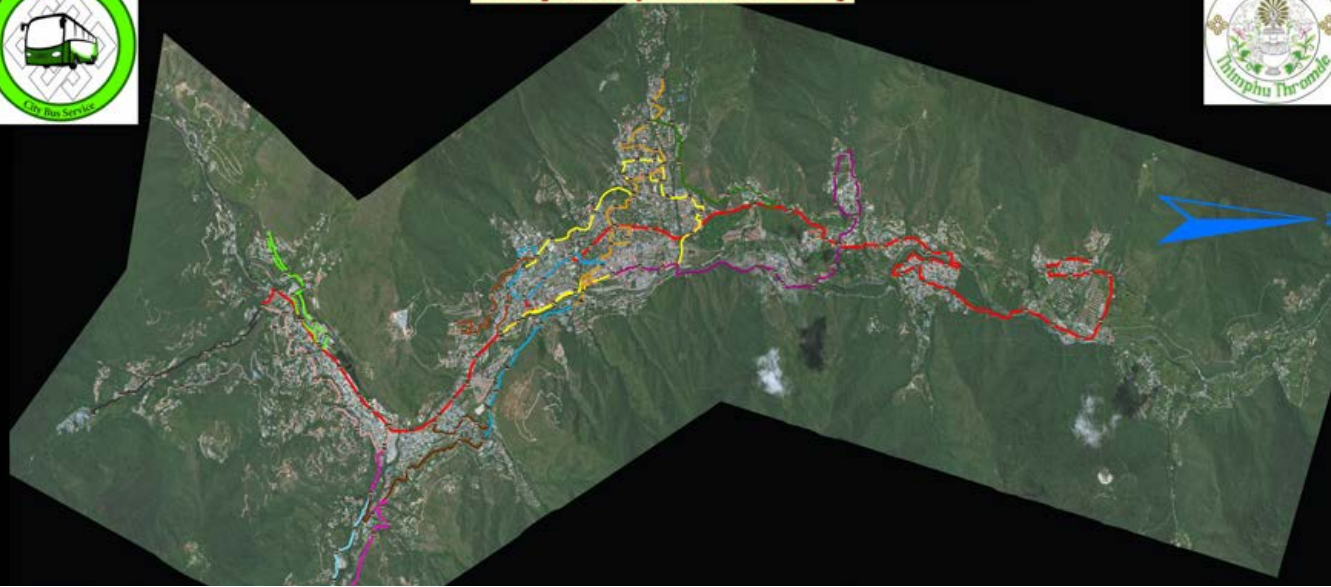
Two Community Service Centres were constructed in Jungshina (Nu 16.7 mil) and Babesa (Nu 14 mil) with 18 units each. They were handed over to the Royal Bhutan Police on 29 April 2022 and will serve as the Police Stations for the respective jurisdictions. Both the Centres are equipped with all the necessary facilities including detention centres.



Jungshina Community Service Centre (Police Station)



Babesa Community Service Centre (Police Station)



Revised city bus routes

Reviving Public Transport

The rapid urbanisation of Thimphu and the ever-increasing migrant population means there is a growing demand for efficient public services and infrastructure such as transportation. The present city bus system has not been able to keep up with the expansion of Thimphu city with limited buses attempting to cover large areas. Ridership has also remained low as it is only confined to those who can't afford other alternatives.

Recognising the significance of public transportation for balanced development, a long-overdue revision of the city bus route was initiated by the Urban Planning Division. The proposed transit model consists of trunk routes and subsidiary routes with a total of 168 stops. We are providing an affordable alternative to help connect a large part of the society to the services and to each other whilst also making travelling more efficient and convenient. These routes also include 4 supplementary routes that will connect Hongtsho, Debsi, Ngabiphu and Chamgang to Thimphu Thromde.

27 new buses were also procured and inaugurated in November 2021. These buses are equipped with Smart Card Validators, GPS as well as CCTV cameras. The Smart Card system was launched to ensure swift and reliable

payment and to help the City Bus Services control revenue leakage. Using a Smart Card is also more affordable compared to paying cash. In addition to regular cards, we also have cards for students, persons with disabilities and senior citizens to provide concessions. The Smart Card validators have now been installed on all 45 buses.

A mobile app Gakyid Ride: City Bus Services was also launched in November 2021. It provides information on city bus service including route, schedule, fare and live location of the buses. The app was developed to make information on city bus service conveniently available to promote the use of public transportation as a desired alternative for commuting. In addition to the above, the app also has provision for the public to provide feedback.

Starting April 2022, the City Bus Services also began running night services until 10:30PM (previously 7:30PM) to help low-income workers avail cheaper transport services after working late.





Inauguration of the 27 new City Buses

Buses equipped with GPS, smart card validators and wheelchair ramps



Different types of smart cards



Minister of Information and Communications and Thimphu Thrompon testing the smart card validators



Two of the three CCTV's in the city bus



Construction of Bus Shelters

To provide the commuters with a space for transit and protection from the weather, bus shelters with an estimated budget of Nu 2.75 mil has been constructed in 8 locations across the city: Dechencholing (near Parizampa Junction - 1 and below Dechencholing HSS - 1), Pamthso, Jungshina, Lungtenphu, Babesa (opposite Ford showroom - 1 and opposite Xpress Car wash - 1) and below Babesa PS.



Temporary bus terminal in Ngabiphu



Bus shelter in Lungtenphu

2040 Integrated Strategic Vision" with an aim to create vibrant, functional, and livable "green" cities. It focuses on providing attractive public transport services and facilities for pedestrians, with a view that public transport and walking may become the dominant mode in the core areas.

Implementing the City Bus Service is a part of this policy, which now includes a fleet of 70 buses. However, people are increasingly opting for personal cars exacerbating the traffic situation and worsening the conditions for public transport. The RGoB, through the implementing agency Thimphu Thromde, now wishes to introduce a high-quality bus priority service on a key corridor in Thimphu City. The proposed interventions are also intended to mitigate the problems of increasing congestion, noise and air pollution, improve safety, and encourage modal shift.

The primary objective is to assess the technical, economic, financial, environmental and social viability of the introduction of a high-quality bus priority service along the trunk route from Babesa to Dechencholing and the pedestrianisation of Norzin Lam.

Therefore, the Bhutan Green Transport Project contract for consultancy has been signed with a budget of USD .975 mil and it commenced on 30 March 2022. It is funded by KWBPF and administered by RGOB and World Bank. They are currently conducting a study on feasibility of establishment of Bus Rapid Transit System in Thimphu City.

Bhutan Green Transport Project

Bhutan's urban areas are experiencing rapid growth in population, as well as in vehicle ownership. Thimphu is the largest urban centre in Bhutan with a population of 127,864, accounting for 17% of Bhutan's overall population.

The Royal Government of Bhutan (RGoB) has set out its policy for urban transport in a guiding document known as "Bhutan Transport

Drop-off Centres

The Drop-off Centres (DOC) are temporary storage facilities that store segregated wastes in separate compartments (wet, dry, household hazardous and other). Nine DOCs were constructed, with a budget of Nu 64.37 mil, across the city and they are a convenient solution for citizens who are not able to meet the regular waste collection schedule.



Her Majesty The Gyaltsuen graced the inauguration of Dangrina DOC

Picture courtesy of Her Majesty The Gyaltsuen Jetsun Pema Facebook page



DOC awareness conducted for the public

We hope the DOC encourages the public to be mindful and responsible for their waste by not engaging in illegal dumping and littering of waste. Several awareness programmes were also held for the public in all the DOC's as well as with over 350 participants from the National Institute for Zorig Chusum, Technical Training Institute Thimphu, Draktsho Vocational Training Centre for Special Children & Youth, and the Faculty of Traditional Medicine Hospital by the Thromde Thuemi's and the City Environment Division.

The nine locations of the DOCs are: Chubogang, Tshalumaphey, Lungtenphu, Changbangdu, Changzamtog, Mothithang, Bebena, Jungshina and Dangrina.

Waste Collection Vehicles

Thimphu Thromde received 17 compactor trucks, 24 containers, three container carriers and one bulldozer in April 2022 from the Government and the people of Japan under the project of Improving Solid Waste Management, a project worth Nu 330 mil. We hope that the arrival of these trucks, designed especially for Bhutan by Toyota Tsusho enhances and elevates municipal solid waste service delivery going forward.

We are also appreciative to JICA Bhutan Office for their constant support and commitment throughout this project.



Inauguration of waste collection vehicles





Inauguration of the waste collection vehicles in April 2022

The Government and People of Japan donated 17 compactor trucks, 24 containers, three container carriers and one bulldozer to Thimphu Thromde



Vegetable Sheds

13 vegetable sheds (5 medium and 8 minor) were constructed across Thimphu Thromde for a cost of Nu 85 mil. By constructing vegetable sheds in different localities, the aim is to reduce the congestion in the Centenary Farmers Market and also for localities to remain sufficient by not having to rely on the core area for basic necessities.



Vegetable shed in Lungtenphu

A 2 storied (with a Jamthog) vegetable shed is also being constructed in Babesa for Nu 42 mil. It is expected to complete by September 2022 and will provide ample opportunities for vegetable, fruits and meat vendors to sell their products. It will also be a convenient outlet for the people in the locality who would otherwise have to travel far for a farmers market.



2 storied vegetable shed under construction in Babesa

Sewage Treatment Plant (STP)

After the construction of the 1 Million Litre per Day (MLD) STP in Jungshina, wastewater of households from Pamtscho, Upper Samteling, Beben and Jungshina will be connected to the STP where it will be thoroughly treated and discharged into the environment.

The Treatment Plant cost Nu 47 mil to construct.



1MLD STP under construction



STP nearing completion

Water Treatment Plants (WTP)

Ngabiphu

To augment the supply of drinking water in South Thimphu, a 2 MLD WTP with a budget of Nu 56.94 mil is being constructed in Ngabiphu, near Royal Thimphu College. An office and staff quarters are also being constructed for the WTP employees.



Transmission line from the WTP to the Gabjakha tank is also being laid for a budget of Nu 15.27 mil. Water from the Gabjakha tank is distributed to Serbithang and parts of Babesa area, where the residents will be receiving safe and treated drinking water following the completion of the Treatment Plant. This WTP will also help to address the acute shortage of drinking water in the Depsi area.



2 MLD WTP in Ngabiphu under construction

Chamgang

Construction for a 3.5 MLD WTP with a budget of Nu. 79.99 mil has also started in Chamgang to provide treated water to the community above and around Semtokha Dzong and parts of Semtokha E4 zone. The project is expected to complete by February 2023.

Both the Treatment Plants will use the existing water source from Chamgang and Ngabiphu which has been supplying untreated water to the respective areas.



Laying the foundation for 3.5 MLD WTP in Chamgang

Water Connectivity

Lubding

The water pipes providing water to the Lubding community not only covers a long distance but is also laid in difficult terrain. The increasing problem of ice formation during the winter season used to cause water shortage in the community.

However, this water transport issue has now been resolved and no cases of ice formation nor complaints for water shortage were received in the winter months of 2021-2022. A total of Nu 5.2 mil was spent on this project.

Changzamtog

There is erratic supply of drinking water in the Upper Changzamtog area owing to lack of sufficient supply from the main water source to the reservoirs as well as the topography of the area.

To address this shortage, a new water mainline network has been laid from the Chamgang WTP to increase the water supply to the reservoirs in Changbandu. This will ultimately separate the water mainline network for Upper and Lower Changzamtog area and help reduce the irregular water supply to Upper Changzamtog. Similarly, the water distribution network in some critical areas at Motithang is also being rectified.

Revival of Fire Hydrants

17 fire hydrants in Taba and Langjophakha were revived and made functional. Reservoir tanks with a capacity of 30 m³ were also constructed in Taba, Motithang (on the way to Sangaygang) and Semtokha (next to the old bridge) to cater to various locations in case of water shortages. 21 nos. fire extinguishers were also distributed to the parks, Memelakha landfill and crematorium.



Coronation Park Revamp

With the rising popularity of Coronation Park, it was necessary to revamp several areas to make the park safe and also sustainable for the users. In 2021, the damaged parts of the fun stations were replaced and the ground was leveled ensuring no uneven surfaces are left; shock-absorbent materials like sand around the fun station were raised from 4 to 6 inches, and the fun stations were properly edged with tyres.

In 2022, hardscape maintenance is being carried out for the viewing deck, footpaths, outdoor taps and fountains. The continuous exposure of the viewing deck to the heat and rain has resulted in the timber warping which has weakened the deck posing risk to the users. So, the replacement of the deck with concrete and metal railings was completed by the end of June 2022. Maintenance for the footpath, outdoor taps and water fountain will start in August 2022.



Before and after of the viewing deck



Before and after of the fun station

CCTV Installation

9 CCTV cameras were also installed in Changlimithang Park due to the increase in cases of property vandalisms, crime and illicit activities like drug abuse, smoking, drinking and open burning. The CCTV's can help monitor the park for any unusual activities as well as help to inculcate a sense of responsibility and accountability for the park visitors. The installation was completed in November 2021 and cost Nu 1 mil.



CCTV at the Coronation Park



Changangkha Recreational Park



Marshy ground before it was levelled

The development of Changangkha Recreational Park started in 2020 in a phase-wise manner beginning with conceptual design and architectural drawing followed by cost estimation. As the park is located within the premises of the 3 water tanks at Changangkha, we relocated water pipelines and what was previously a marshy ground has been levelled by backfilling the area with additional soil for landscaping and lawn development. As the area is marshy, French drains with stone aggregates have also been constructed for a proper drainage system. These activities were carried out by engaging about 157 laid-off tourist guides affected by the pandemic. Currently, wheelchair-friendly toilets, boundary wall, gates and amphitheatre are under construction.



Ground after it was levelled



French drain construction



Boundary wall construction



Wheelchair-friendly toilet construction



Overall Maintenance Carried Out

Roads, Drainages and Footpath - Maintenance cost of Nu 20.5 mil

Laying Hume Pipes



Lungtenphu

Changzamtog

Olakha



Drains



Changzamtog



Changzamtog

Footpaths



Olakha



Road and Drain



Babesa

Retaining Wall



Babesa



Semtokha



Water - Maintenance cost of Nu 4.1 mil

Expenditure for chemicals used at the Water Treatment Plants - Nu 1.6 mil

Customer complaints attended - 369

Breakdown of main waterline:

Dodeyna - 3

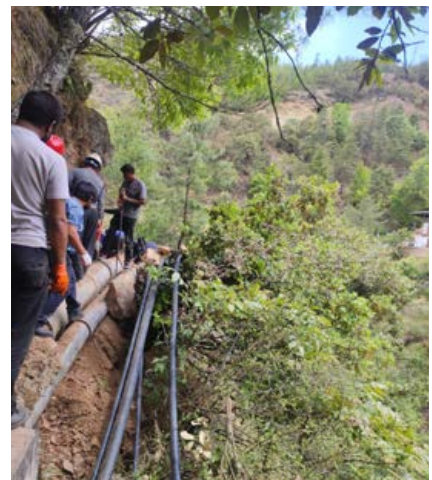
Chamgang - 5



Breakdown of Dodeyna main water line



Landslide washing away water lines



Breakdown of Chamgang main water line



Landslide washing away water lines



Sewer - Maintenance cost of Nu 3 mil

Approximate blockages attended - 1640

Sewer manholes raised and lowered in:

Changzamtog, Motithang, Babesa,
Taba, Jungshina, Pamtsho, Kawajangsa,
Changangkha, Zilukha and Changidaphu



Raising and lowering of manholes in various locations



Night view of Thimphu Thromde

Picture courtesy of Ngawa Tehnze Namgyel

TTPay launched in September 2021



To Enhance Transparent, Effective and Efficient Public Service Delivery

Digitising Services

Increasingly, people seek for quick and efficient service delivery. One way we have been able to achieve this is by digitising our services. Some of our services are already available online through G2C but this year we enhanced our services by developing 2 apps: TTPay and TT Waste. It is important for us to provide the public with a seamless customer service and experience and although both the apps are in its initial stages, it leaves plenty of room for improvement and innovation in the future.

TTPay

The TTPay app, launched in September 2021, is a payment app that the people can use to pay their water bill and property tax. During the pandemic, where interactions were discouraged, the TTPay app was crucial in allowing people to pay their bills at a time of their convenience from the comfort of their own homes.

TT Waste

Launched in June 2022, the TT Waste app can be used to track the waste collection vehicles in real time and reduce the time people spend waiting for the garbage trucks. The app also has information on the waste collection schedules, how to segregate waste for the drop-off centres and also has room for any feedback or complaints regarding waste management.

Funded by JICA Bhutan Office, the app was developed by Druk Infinity who also installed the android consoles in the waste collection vehicles.

We hope the TT Waste app as well as the opening of the drop-off centres and the new garbage trucks all make a contribution in alleviating the waste management issues within Thimphu Thromde.

Both the apps can be downloaded from the google play store and the iOS App Store.



TT Waste launched in June with JICA Bhutan Office



Asset and Revenue Management System (ARMS)

ARMS is a new management system developed to maintain all the information regarding assets owned by Thimphu Thromde whilst also managing the revenue generated by Thimphu Thromde. It comprises digitised taxpayer information, digitised property information, revenue processes, revenue assessment, and collection including taxes, fees and charges.

Automated Water Metre Reading System

In an effort to make Thimphu a smart city, Thimphu Thromde is piloting the Automated Water Metre Reading System project in Upper Motithang. This will help to address the numerous challenges we currently face from reading the water metres manually such as, unclear view of the metre causing errors leading to revenue loss and metres installed in inhospitable environments etc. By digitising the water metre reading system, we hope to be able to improve the efficiency and quality of services, optimise water supply and reduce wastage, distribute bulk water equitably and more.

Notifications Issued

Non-adherence to and lack of knowledge regarding existing rules and regulation severely hampers us in being able to provide efficient services to the public. Hence, the following notifications were issued throughout the year to seek compliance and cooperation from the public:

- Prohibiting owners from selling/ displaying their products beyond the premises of the shop.
- Application for Occupancy Certificates being handled directly by the Building Inspectors and the fee of Nu 150 was discarded.
- Discontinuing the collection of security deposits of Nu 50,000 for building

approval. Security deposits collected so far from building owners were also refunded.

- Uniformity in existing and future roof color: green roof for residential buildings and red roof for institutional buildings.
- Regularising existing and future Jamthogs for use as independent units i.e, residential, store, office etc. but not as entertainment centres.
- Unauthorised constructions and deviations from approved drawings were imposed a penalty of Nu 20,000.
- Construction waste aggregating on footpaths and roads were imposed a penalty of Nu 10,000.
- Approval of stilt floors for plots on level lower than or above the access roads.
- Encroachment on state land through illegal structures were imposed a penalty at the prevailing PAVA rate and subsequently, demolitions were carried out on such illegal structures.
- Reminders for property owners to pay the annual land tax.



Demolition of illegal structures encroaching on state land following notification



City Addressing System (CAS)

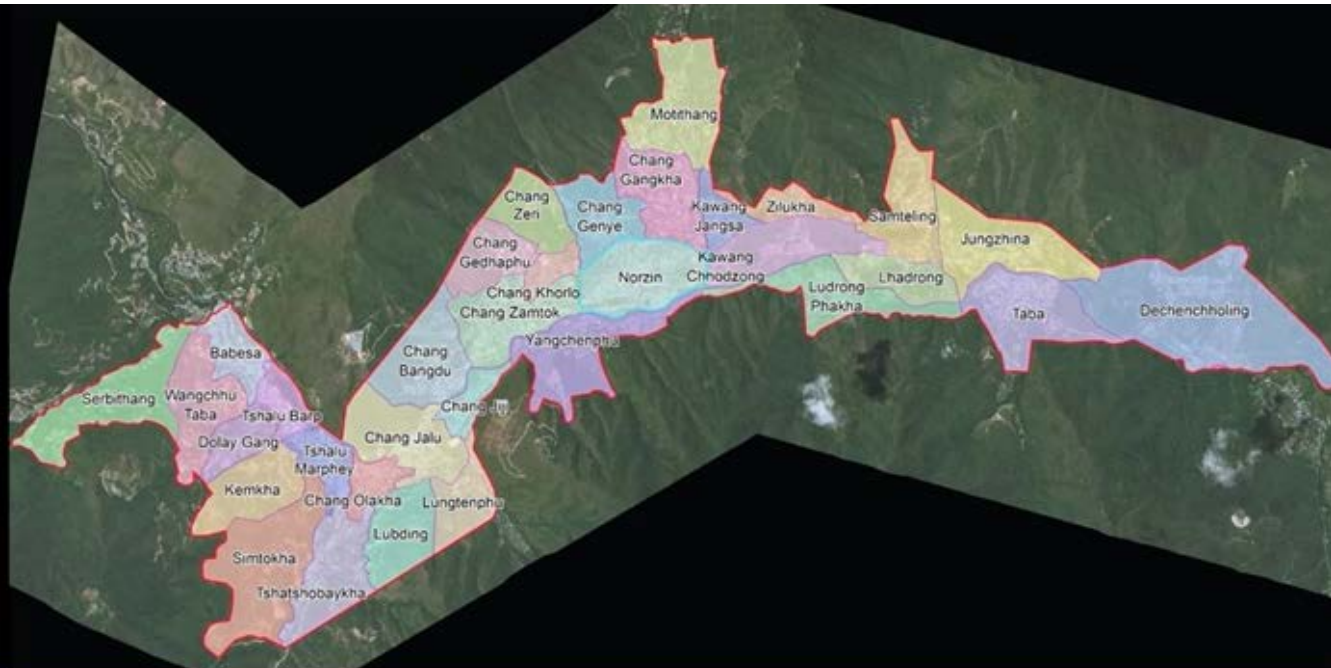
Owing to its size and ongoing rapid pace of urban development, the need for city addressing in Thimphu is critical for efficient functioning. The brunt of a poorly designed system is borne by the Government as well as the citizens which was alarmingly felt during the COVID-19 lockdowns. The challenges of linking people to the services and vice versa took immense effort and resources despite which the facilitation still could not be optimised.

The task to come up with a more effective system was initiated in November 2021 as part of the pledge made by the newly elected Thrompon, Ugyen Dorji. CAS is fundamental and specifically relevant for use in today's digital environment. This is accomplished by adopting efficient means to locate and reference properties as spatial significance plays a major part in decision-making process and service

delivery. Addresses are determined based on the "street-house" concept. This concept elaborates on the regulations to identify and designate streets based on which buildings are numbered.

The system will make the city more user-friendly, enhance emergency service delivery, increase municipal revenues and improve management in terms of planning, monitoring, taxation, maintenance and service delivery.

As of July 2022, the data has been uploaded to Google Maps as well as Open Street Map, where the entire dataset can be accessed by the public making it more accurate. The GIS team have also started handing out building numbers to the owners.



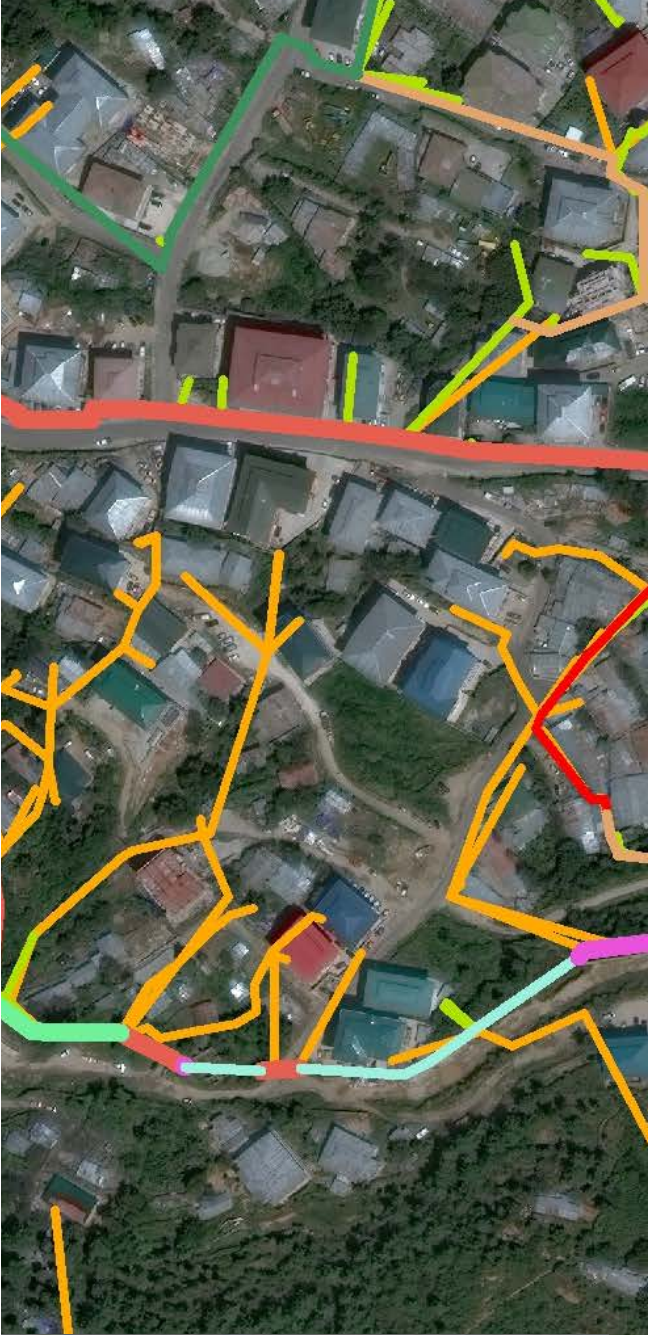
Thimphu Thromde divided into different localities

Digital Topography Base Map

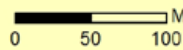
To keep up with the accelerated pace of development, it is critical for Thimphu Thromde to adopt new approaches that enhance the level of service provided to meet the increasing demand of the citizens. It has become evident that the majority of Thromde services provided have spatial significance. In the midst of dwindling human resources and funds, the availability of spatially accurate data and information could bring about significant improvement.

The GIS Section under Urban Planning Division developed the Topography Base Map of Thimphu Thromde from high resolution satellite imagery during the lockdown in 2020. These are a set of several thematic layers of features generated from terrestrial surveys or by processing satellite images which is essential in understanding the physical landform within the Thromde boundary. The Digital Topography Base Map of Thimphu is instrumental in managing public facilities i.e. sewer network, road network, garbage collection etc. It can also be used to maintain inventories of spatial features, managing resources, planning, administration and providing services.

By November 2021, a water supply network survey for Changzamtog locality was also completed. The Map was developed with a budget of Nu. 4.4 mil and has since been used by several agencies within and outside Bhutan to help develop stormwater and water distribution networks, for research purposes and more recently for the review of the Thimphu Structure Plan and more.



Water Supply Network



Legend

- Reservoir
- Pump

Pipeline

15 mm	40 mm	65 mm	100 mm
20 mm	50 mm	75 mm	110 mm
25 mm	60 mm	80 mm	150 mm
32 mm	63 mm	90 mm	200 mm
			210 mm



The image is an aerial photograph of a residential area in Changzamtog, overlaid with a complex water supply network. The network is represented by thick, colored lines in shades of pink, orange, yellow, green, and cyan. These lines trace paths through the neighborhood, often following roads and winding around a large, irregularly shaped pond or reservoir in the lower-left quadrant. Several circular nodes are placed at key points in the network: a cluster of three light blue nodes in the bottom-left corner, a single light blue node at a central junction, and a vertical column of four yellow nodes along the right edge. The background shows a mix of residential buildings with grey roofs, green trees, and a paved road on the right side.

Water Supply Network for Changzamtog

Distant view of Thimphu Thromde taken
from Dodeydra Shedra



Carbon Neutral, Climate and Disaster Resilient Development Enhanced

Ecosystem-based Adaptation Project

The project "Building Climate Resilience of Urban Systems through Ecosystem-based Adaptation (EbA) in the Asia Pacific Region" is being implemented in the four municipalities of Thimphu (Bhutan), Kep (Cambodia), Phongsaly and Oudomxay (Lao PDR) and Mandalay (Myanmar). The project is funded by the Least Developed Countries Fund of the Global Environment Facility. The project aims to reduce the vulnerability of poor urban communities in the Least Developed Countries of Asia Pacific to climate change impacts using EbA. The UN Environment's Regional Office for Asia and the Pacific (UNEP-ROAP) is the project's implementing agency and execution is done by the respective governments.

There are several activities to be implemented under the EbA project which are discussed in the subsequent paragraphs.

1. Riverbank Protection

The riverbank near the crematorium in Hejo was identified as a flood-prone area after conducting a flood risk assessment of Thimphu Thromde in 2017. To protect the riverbank, flood-resilient trees were planted along the river stretch from the crematorium in Hejo to the traditional Bazam in Tashichho Dzong. This is expected to stabilise the slopes along the river, acting as a natural buffer against flooding whilst also increasing water retention. It also adds aesthetic value to the area promoting the concept of a clean and green environment. The total cost of the project was Nu 1 mil.

Site of riverbank protection project near Hejo crematorium





2. Slope Stabilisation

With a budget of Nu 15 mil, a hybrid treatment has been designed for the unstable slope in Zilukha. Structural measures such as grouted anchor bolts are being placed and drainage holes are being provided at regular intervals to reduce water pressure. At the base, a 3 metre high gabion fascia is also being constructed. After completion of anchor installation and gabion walls, an erosion control mat will be placed at the slide surface to prevent surface erosion. A biotic soil media will then be applied to enable vegetation growth. The location of the parent rock and the slide mass interface will be filled to prevent sub-surface accumulation of water. The project started in May 2022 and is due to complete in August 2022.

3. Rainwater Harvesting

As a pilot project, a rainwater harvesting system has been designed and installed at Bebena Park under Thimphu Thromde. The rainwater harvesting structures are proposed for urban vegetable gardens, green spaces, and low-income housing having limited access to water. Bebena Park is currently using the

community water source and the water is not enough for managing the park with an area of 5117.7 sq. m, especially to keep the lawn and the plants green. Therefore, a rainwater harvesting system was proposed with a storage capacity of 46.3 cu. m based on the estimated water demand. The system consists of gutters, filters, downpipes, 3 surface storage tanks and an underground tank. This rainwater harvesting system will also have a dual purpose of serving as a fire hydrant if there are any fire incidents in the area and it can also cater to the community if there are any water shortages.

The installation was carried out from April-June 2022 and cost Nu 0.74 mil.



Rainwater harvesting storage system





4. Livelihood Improvement

One of the major outputs of the EbA project is to determine ways to enhance the livelihood, especially for the low-income and vulnerable groups through the promotion of a variety of activities. As part of the project component, urban agriculture has been initiated for the Thimphu Thromde workforce in informal settlements and also for the local communities in private plots. Since the beneficiaries have limited education, urban agriculture was seen as an option that could help them improve their livelihood. Hence, two training sessions were carried out on oyster mushroom cultivation and composting. The Thromde workforce living in the informal settlements in various locations was also provided with high-quality seeds to enable the vulnerable section of the population to practise climate resilient agriculture. The workers were given areas nearby their campsites to practise urban agriculture. Vegetable seeds were procured from the National Seed Centre, Paro. Distribution in informal settlements started on 16th April 2022. Tools like spades, hoes, and rakes were also distributed.



Distribution of tools and seeds to Thromde workforce

4.1 Composting

The area available for household gardens is small in many locations, so the use of organic composts could help increase the yield. Moreover, the preparation of composts is also fairly simple, called the Takakura method. With the training, the participants became aware of how household wastes can be used productively. By the end of the training, the participants learned about the materials needed for composting as well as the process.



A participant preparing compost

56 participants took part in the training and they were from the informal settlements located at Dechencholing, Taba, Pamtsho, Motithang, Changangkha, Changjiji, Babesa, Semtokha, Serbithang and Ngabiphu (RTC).

4.2 Oyster Mushroom Cultivation

During the field assessments, some of the communities in the Dechencholing area were interested to learn about mushroom cultivation as a means to diversify livelihood. Therefore, Thimphu Thromde approached the National Mushroom Centre to provide training on oyster mushroom cultivation. The three-day training was attended by 12 participants and they learned how to cultivate oyster mushrooms from hay. This training will be replicated in other locations.

The total cost of both the training was Nu. 0.1 mil.



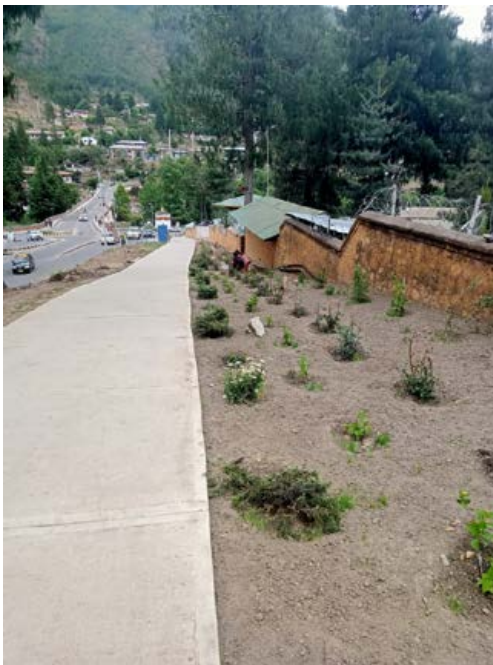
Training for Oyster mushroom cultivation



Dzongchen Lam beautification plan

Dzongchen Lam

A commonly treaded path on Dzongchen Lam from Lungtenzampa Bridge to Memorial Chorten has undergone major renovation to create wide wheelchair-friendly footpaths that goes along both sides of the road. Site development work is also underway to create a mini-park. The budget for this project is Nu 5 mil.



Dzongchen Lam footpath and plantation



Ground levelling near Dzongchen Lam

Beautification

- Plantation of evergreen plants along Doebum lam to delineate zebra crossing.
- Plantation of rose creepers on the wall below Thimphu Primary School.
- Creation of micro-garden near Mother and Child Hospital on both sides.



Doebum Lam plantation

Cherry Blossoms in Ozone Park



Students at Zilnoen Namgyelling Primary School



To Improve Quality of Education and Skills

Infrastructure Development and Maintenance

Proper infrastructure and adequate space are essential in making schools a desirable and conducive place of learning for students. Significant investment has been made in construction and maintenance of permanent and semi-permanent classrooms, toilets and sports grounds, procurement of critical equipment such as furniture, computers, projectors etc. This was especially critical in 2022 with the drastic increase in admission of external transfer students.

With the increase in the rush of admission to schools in Thimphu Thromde, it became essential to accommodate the rising number of students. Therefore, 10 semi-permanent classrooms were constructed in 5 schools (Zilukha MSS - 3, Loselling MSS - 1, Rinchen Kuenphen PS - 3, Changzamtog MSS - 2 and Jigme Namgyel LSS - 1) in 1 month. The constructions, costing Nu 12.5 mil, were completed within 1 month and handed over to the schools in June 2022.



Construction of semi-permanent classrooms in various schools



Other Developments

To fulfil the infrastructural needs as Dechencholing HSS upgrades to a Bhutan Bacculaureate School, Nu 47 mil was spent on constructing 9 temporary classrooms, a staffroom, a healthroom and male and female toilets. Under this budget, major maintenance works were also carried out in classrooms, toilets, basketball court, footpaths and halls.

An integrated academic block is under construction in Dangrina PS and Changzamtog LSS with a total budget of Nu 75 mil and Nu 67 mil respectively. Both the academic blocks are expected to complete by January 2023. Additionally, a 10 classroom block was completed and handed over to Changzamtog LSS in May 2022 and it was constructed for Nu 11 mil.



Completed 10 classroom block in Changzamtog LSS

Construction of 18 classrooms as well as improvement of old structures are being carried out at Yangchenphug HSS for Nu 50 mil and it is expected to complete by September 2022.

ICT labs were also constructed in 10 schools across Thimphu Thromde with a total budget of Nu 45 mil. The constructions were completed within June - December 2021 and handed over to the schools.

Professional Development

To build the capacity of the staff within schools, leadership skills workshops were carried out for Principal and Vice Principals, Adm. Assistants, Counsellors, Store Incharges and NFE staff within Thimphu Thromde.

Professional Development programmes have also been carried out throughout the schools individually on a needs-based basis funded by Thimphu Thromde.

Motivational Awards for Students

To acknowledge the hard work and achievements of the students in the BHSEC and BCSE exams 2020, Thimphu Thromde awarded Sonam Tshomo from Mothithang Higher Secondary School with a cash reward of Nu 50,000 for placing 1st in the BHSEC Arts Stream, Tshering Chodron from Yangchenphug Higher Secondary School with a cash reward of Nu 40,000 for placing second in the BHSEC Arts Stream and Rigzay Lhamo from Lungtenzampa Middle Secondary School with a cash reward of Nu 30,000 for placing second in BCSE. They were also awarded a Certificate of Academic Excellence.

This year, highly excelling students who placed 1st, 2nd and 3rd, nationally, in their respective streams as well as those who place 1st in various subjects will also be awarded cash prizes.



Handing over the Motivational Award prizes to Principals



Students at Lungtenzampa MSS



ThimThrom Sherig Award 2022 at Lungtenzampa MSS

Open Gym in Motithang



To Enhance Health and Nutrition of Thromde Residents

Thromde Health Centre - Changjiji

The Thromde Health Centre (THC) in Changjiji has been extended with an additional two rooms to cater to more residents in the locality as well as to decongest the JDWNRH. The THC is now able to perform antenatal care and immunisation programmes. The extension cost Nu 1.4 mil and was completed in July 2021.

Training Programmes

Throughout the year, the Thromde Health Section also organised trainings for 160 health staff and school health coordinators with a total budget of Nu 0.83 mil on the following topics:

1. Medical Education
2. Mother and Child Health and Integrated Management of Childhood Illness
3. Awareness on Infection Control and Sanitation
4. Quantification of Drugs and Non-drugs and Store Management

Extended Thromde Health Centre in Changjiji



Third Elected Thimphu Thrompon Ugyen Dorji



To Strengthen Democracy & Decentralisation

Local Government Elections

In April 2021, the residents of Thimphu Thromde elected Dasho Ugyen Dorji from Jungshina-Kawajangsa Demkhong as the new Thrompon (Mayor).

There are seven Demkhongs within Thimphu Thromde and each Demkhong, except Mothithang, also elected a Thuemi (Community Representative), in April 2021. In June 2022, a Thuemi for Mothithang Demkhong was elected as the seat had remained vacant since the Local Government elections in 2021.

The Thromde Thuemis along with the Thrompon and the Executive Secretary as the Member Secretary make up the Thromde Tshogde (Council); it is the highest decision-making body and convenes four times a year. One of the main responsibilities of the Council is to endorse the annual budget as well as the Thromde plans and programmes.



The only female Thuemi, Pema Yangzom of Mothithang Demkhong elected in June 2022



First Thromde Tshogde convened in October 2021

Namgyel Khangzang Chorten raised to ground level in
Changbangdu



To Preserve and Promote Culture and Traditions

Dem Lhakhang - Thai Pavilion

The Dem Lhakhang in the Thai Pavilion Complex is being constructed by the National Housing and Development Corporation Limited (NHDCL) following a Tripartite MoU between the Zhung Dratshang, NHDCL and Thimphu Thromde, who is serving as the Patron for the project.

The Dem Lhakhang consists of 2 floors and a Jamthog; the first floor will have a choekhang (hall) with a capacity for 200 people, followed by the Dem Lhakhang on the second floor and the Chador Lhakhang in the Jamthog.

The total duration of the project is 24 months and the construction started in February 2021 with a budget of Nu 23.9 mil.

Dem Lhakhang under construction at the Thai Pavilion



Revival and Restoration of Religious Sites

The Namgyel Khangzang Chorten and Lu-bum Phodrang in Changbandu, which was previously below ground level, was dismantled and reconstructed in the same location raising it to ground level.

The Mani Dangrim in Olakha has also been given a facelift. The revival project includes constructing a boundary wall, paving the footpath, re-roofing the chorten, and shifting of the mani-dungkor.

Both the projects were completed in June 2022 and cost Nu 0.82 mil.



Relocated mani-dungkor in Olakha



Paving of footpath



Revived Mani Dangrim in Olakha



Traditional Gate of the Supreme Court





Reconstruction of Traditional Gate - Supreme Court

Whilst constructing the four-lane road from Chubachu to Jungshina, the gate, wall and guard house of the Supreme Court were taken down to pave way for the new road. Hence, the Traditional Gate of the Supreme court as well as the guard house and walls were reconstructed from January-March 2022 with a budget of Nu 17.9 mil.

Construction of Gate - Lungtenzampa MSS

A traditional entrance gate as well as a boundary wall and chan link fencing were constructed at Lungtenzampa MSS for Nu 4 mil. The construction completed in May 2022.



Traditional entrance gate



Boundary wall and gate

ONGOING PROJECTS

<i>Sl No</i>	<i>Project Name</i>	<i>Budget (Nu)</i>	<i>Contractor</i>
1	Infrastructure development - Taba - Dechencholing Demkhong	41.8 mil	M/s P Gyeltshen Construction Pvt. Ltd.
2	Infrastructure development - Kawajangsa - Langjophakha Demkhong	33.7 mil	M/s Tob-den Construction Pvt. Ltd.
3	Infrastructure development - Bebena - Samteling Area	44.4 mil	M/s P Gyeltshen Construction Pvt. Ltd.
4	Infrastructure development - Semtokha - Babesa Demkhong	42.3 mil	M/s Tobden Construction Pvt. Ltd.
5	Infrastructure development - Upper Jungshina	4.34 mil	M/s Tobden Construction Pvt. Ltd.
6	Provision of streetlights - Chang Jalu and near Taba Lhakhang	3.2 mil	Pel Yoen Construction
7	Construction of stormwater drains, sewer lines and retaining wall - Semtokha - Babesa Demkhong	6.1 mil	M/s Trashiyangse Tongjang Construction
8	Construction of drain and resurfacing - Changangkha, Mothithang and Norzin Demkhong	3 mil	M/s Tob-den Construction Pvt. Ltd.
9	Construction of drainage system - Motithang and Changangkha Demkhong	6.8 mil	M/s Kipchu Construction
10	Balance work of water supply distribution network - Samteling LAP	13.2 mil	M/s G. D. Construction
11	Providing and laying transmission line from RTC WTP to Gyeptakha Tank and laying 90mm HDP pipe from Gyeptakha Tank to Old Highway	19 mil	M/s CT Construction

Sl No	Project Name	Budget (Nu)	Contractor
12	Providing and laying water distribution network - Changzamtog and Motithang	21.8 mil	M/s Tashi Yangkhil Dendup Construction
13	Development of four-lane road from Taba-Dechencholing Bridge	79 mil	M/s P Gyeltshen Construction Pvt. Ltd.
14	Development of Changbangdu ring road	29.5 mil	M/s OST Construction Pvt. Ltd.
15	Resurfacing of road and construction of drains within Thimphu Thromde - Package 2	23.1 mil	M/s P Gyeltshen Construction Pvt. Ltd.
16	Construction of retaining wall at Kawajangsa & fixing of chain-link fencing, PCC coping on retaining wall at Golf area	5 mil	M/s CGyel Construction
17	Construction of Changangkha park	8.57 mil	M/S Phuntsho Construction
18	Construction of Crematorium pyres - Hejo	2.3 mil	M/s Yoenang Specialized Firm
19	Slope stabilisation - Zilukha	15.7 mil	Norzang Builders
20	Construction of Jungshina bridge	18 mil	Dash Group Construction
21	Construction of 3.5MLD WTP - Chamgang	79.9 mil	EW Construction Pvt. Ltd.
22	Construction of RCC framed vegetable shed and site development - Babesa	42 mil	M/s Gayjur Construction Pvt. Ltd.
23	Construction of 10 classroom block and site development - Changzamtog MSS	64.5 mil	M/s NTT Construction Pvt. Ltd.
24	Construction of 18 unit classroom and improvement work - Yangchenphug HSS	48 mil	Jigme Dorji Construction Pvt. Ltd.
25	Construction of integrated academic block with site development - Dangrina PS	62.2 mil	M/s Gayjur Construction Pvt. Ltd.
26	Bhutan Green Transport Project	USD 975 ,000	SUNJIN Engineering and Architecture Com. Ltd. with GDC Consulting

