

SUCCESS STORY
UNDER
GENERAL SCHEME (FY-24-25)
WEST JAINTIAHILLS DISTRICT

INTRODUCTION:

Jowai town is the headquarter of the West Jaintia Hills district of the state of Meghalaya and is the host of all the heads of important governmental offices and establishments, educational institutions, hospital, banking institution etc. Myntdu river is one of the major river encircling Jowai town on three sides excluding the northern part of town. Localities in the catchment of Myntdu river are Mooralong, Lumpariat, Mookyrdup, Tyndowapung, Ladtalaboh, Caroline colony, New hill, Moosalynkat, Salaroh, Mynthong, Chutwakhu, Khimusniang, Iawmuchiang, Mission compound, Tpep-pale, Chah tngit, Moo-chu riaw, Um changpung, Chillingraij, Umchang-iar, Iongpiah, Loomionkjam, Dulong, Panaliar etc.

Spring is a vital resource in Jowai town, supporting the town's ecosystem, cultural and economy of the local communities. For centuries, they have relied on these springs for drinking water, irrigation and as sites of spiritual significance. In Jowai town there are numbers of perennial springs. Most of the springs are used for domestic purposes and other activities. However, there is a particular spring not only used for domestic purposes and other activities but also for religious purposes i.e. Umliksan which is located in Chillingraij locality, people who practice indigenous religion (Niam-tre) believe that this water could heal their sickness. While entering this spring people remove their shoes as it is considered as sacred water, these springs also act as a major source of water contributing to the Myntdu River.

However, with time many important springs faces threats from climate change, pollution, over-extraction due to population growth and urbanization so there is an urgent need to protect the spring sources and at the same time to educate the populace regarding springs and springshed development activity in order to safeguard the spring for future generation.

Rainwater harvesting has emerged as a crucial solution to combat water scarcity in Urban area. This sustainable practice not only conserves water but also replenishes groundwater, making it a lifeline for communities across the urban area. These initiatives will helped recharge the town aquifers, regulate groundwater levels, as Jowai town is the main catchment area of river Myntdu.

The Soil and Water Conservation Department through the General scheme, Conservation Work in Urban had taken up some of the major spring source for development and at the same time had conducted discussion with the various Rangbah Shnong regarding springshed development and other activities.

Success stories of RCC Roof Top Rainwater Harvesting System

1. Project Area: Dongmihsngi Locality

2. Name of Project: Conservation Works in Urban Areas.

3. Total Project Cost: Rs 2,97,300.00

4. Type of Structure: RCC Roof Top Rainwater Harvesting Storage Tank, two chamber filter tank of three layers filter media, Polyvinyl chloride (PVC) Pipe of 2.5 mm in diameter, CPVC 3x4 inch.

5. Benefitted Beneficiaries: Dongmihsngi Dorbar Chnong and Dongmihsngi SSA LP School

6. GPS Coordinates- Latitude - 25.449692°

Longitude -92.202433°

The Dongmihsngi Locality is situated in Jowai, the district headquarter of West Jaintia Hills under Thadlaskein block district in the state of Meghalaya. The locality is inhabited by the Pnar community with 360households and a population of 1800approx. Majority of the people living here are entrepreneurs, owning businesses like food stall, tea stall, grocery shop and some are government servant, teacher, daily wages labourer etc.

Dongmihsngi SSA LP School is located adjacent to the building of the community hall where the structure is constructed. The school consists of Grades from class Nursery to class Five (5). The enrollment of students in the school is about 70 students approx. The source of Drinking Water in the school is Tap Water and the school is also providing and prepared mid-day meal within the school premises.

Water supply through the PHE department though, available but inadequate due to the increase number of students enrollment every year hence, could not cater to the daily requirements. The Office of the Dorbar shnong Dongmihsngi sees that there is a strong need to harvest and store the excess rain water, decides to seek assistance from the office of the Divisional Soil & Water Conservation Officer. As Dongmihsngi falls under urban area, a plan was prepared to initiate different intervention that will address the issue holistically and uplift the living conditions of the people especially the students.

So, during FY2024-25, under the General Scheme, Conservation Work in Urban Areas, the following innovative were taken up to address the issues:-

A rainwater harvesting system comprises components of various stage- transporting rainwater through pipe, filtration and storage in tank for reuse. The overflow from the storage tank will be use for ground water recharge.

- In this project, the catchment of a water harvesting system is a roof made of reinforced cement concrete (RCC) which directly receives the rainfall and provides water to the system.
- Construction of an underground RCC rooftop rainwater-harvesting storage tank measuring 14 feet (length) × 7 feet (breadth) × 9 feet (depth).
- Coarse mesh at the roof to prevent passage of debris.
- Installation of Polyvinyl chloride (PVC) pipe 2.5 mm in diameter and 16 m long Channels all around the edge of a sloping roof to collect and transport rainwater first to the two chamber filter tanks and then to the storage tank.
- Semi-circular gutter of PVC material is prepared by cutting the pipes into two equal semi-circular channels. This gutter is fixed to the edge of a roof to carry away the rain water. The size of the gutter due to high intensity rain in the project area is make of 10% oversize.
- Installation of PVC conduits 2.5 mm in diameter and 20 feet in length to carry rainwater from the rooftop area to the harvesting system.
- A valve is installed to ensure that runoff from the first spell of rain is flushed out and does not enter the system.
- The rainwater is collected first in a two-chamber filter tank, with a length and breadth of 4 feet x 2.5 feet respectively, which is of three layers of filter media. The filter unit is filled with pebble and coarse river sand from Myntang river added with gravel in a three layers system separated using mesh wire.
- After the rainwater passing through the two chambers filter tank. The filter rainwater is passing through the PVC Pipes and store in the underground Rainwater Harvesting Storage Tank.
- Installation of 3x4 inch CPVC pipelines for pumping the water from the main storage tank to the rooftop Sintex tank, ensuring water supply to the school and Dorbar chnong facilities.
- The average annual Water holding capacity of the Rainwater Harvesting Storage Tank is estimated to be about 25000 litres annually (approx.). This is will more than enough for the school to cater the water need for daily requirements and the Dorbar shnong to utilize the water during the Dorbar shnong programs and function like social gathering events, Christmas and New Year celebration.
- Installation of rooftop rainwater harvesting systems at Dongmihsngi Community Hall not only assured supply of potable water for students but also

instilled values of sustainability and responsible water management from a young age. Furthermore, it reduced operational costs for educational institutions by lowering dependence on external water supply.

Operation & Maintenance (O & M): For the purpose of O & M of the project the locality had taken it upon themselves for the repairing of wear and tear, etc.

The initiative as taken up by some of the Dorbar shnong

1. Collection of a minimal sum from the beneficiaries monthly for the purpose of cleaning and maintaining of the rooftop rainwater harvesting systems.
2. Community cleaning drive of the asset created is taken up every six months or as and when required.

Conclusion:

As our state continues to face water challenges exacerbated by climate change and population growth, these initiatives can serve as inspiration for addressing water scarcity in urban area and enhancing community resilience. By promoting policies, incentives and community participation, rooftop rainwater harvesting systems cum ground water recharge structure can be scaling up to achieve sustainable water management and ensure water security for all. Rooftop rainwater harvesting systems cum ground water recharge structure not only conserves water but also fosters environmental stewardship and strengthens community bonds, paving way towards a water resilient future. By providing an assured supply of potable water, the project will significantly improve the quality of life for residents, reducing their dependency on expensive water tankers and ensuring access to clean water for daily needs.

**Photo of RCC Rooftop Rainwater Harvesting Systems at Dongmihnsngi
Community Hall - Water Conservation Work in Urban Areas**



Before Construction



During Construction



After Construction



After Construction

Success stories of spring source management.

7. Project Area: Loompyrdi Iongpiah Locality

8. Name of Project: Conservation Works in Urban Areas.

9. Total Project Cost: Rs 4, 60, 390

10. Type of Structure: CC Facewall, CC Flooring (2 nos), CC retaining wall, RCC Facewall.

11. Number of Benefitted Households: 150 nos

The Loompyrdi Iongpiah Locality is situated in Jowai, the district headquarters of West Jaintia Hills under Thadlaskein block district in the state of Meghalaya. The locality is inhabited by the Pnar community with 165 households and a population of 1115 approx. Majority of the people living here are entrepreneurs, owning businesses like food stall, tea stall, grocery shop and some are government servant, teacher, daily wages labourer etc.

The main sources of drinking water in the locality are from springs located in various corner or part of the locality. These springs play a significant role in supply drinking water to the residents of the locality especially during the lean season. The other water supply for the residents of the locality is through the PHE department. Water supply through the PHE department though, available but inadequate due to disrupted services and a poor connection hence, could not cater to the daily requirements. Moreover, with the increase in the number of households, the water needs have also increased manifold and lacking of functional piped water supply, means the people have to buy the required need of water especially during lean season from other sources through the water tanker supplier.

Um-Iongpiah spring source is community owned and located at the foot of the hill of Loom Mooliksoo. This is one of the oldest spring in the locality and have a religious significant among the believers of indigenous faith called 'Niam-tre'. According to legends, storytelling by various elders of the locality this particular spring not only used for domestic purposes and other activities but also for religious purposes. A very popular folktale story about the spring i.e Um Iongpiah is that, Um Iongpiah is water where the Grandmother name Beipun Rangkit a fairy used to bath in the water source during the night. Beipun Rangkit is considered sacred by the people who practice indigenous religion (Niam-tre). They believed that this water could heal their sickness. While entering this spring people should remove their shoes as it is considered as sacred water. Also in this Drinking Water, spitting and mistreat is not allowed, at the same time the gate should never be closed day and night. If closed, the water will turn into red colour. It needs to cover beetle leaves (Siang pati), so that the water will be re-purified.

Out of 165 households in the locality, 150 households are depending on this spring for a source of drinking water. Which means 90% of the people living in the locality depends on this spring for supply of drinking water. The approximate spring discharge is recorded to at 11.1 LPM. During the rainy season the surface runoff from the upper drainage enters the spring chamber and contaminated the water source. Hence, the Office of the Dorbar Shnong Loompyrdi Iongpiah decides to seek assistance from the office of the Divisional Soil & Water Conservation Officer.

So,duringFY2023-24, under the General Scheme, Conservation Work in Urban Areas, the following innovative were taken up to address the issues:-

- a. Construction of protection walls to prevent runoff from the hills from enters the spring, thereby mudding the water.
- b. Construction of barrier in order to protect the spring water from contaminated by stray animals.
- c. A major concerning issue as reported by the people in their fear that the old loose boulder protection wall behind the spring will burst any time as sign is showing and such an event will lead to the spring being totally destroyed and covered up by earth rendering the people without their major water source. These fear had make the Dorbar shnong to approach the office for needful intervention.
- d. Through this project Construction of proper drainage for waste water to flow was also taken up, solving the long standing issue of water stagnation.

A total of 150 Nos. of household in the locality benefits from the project and an additional household from the nearby locality like Dulong, Loomiongkjam, Panaliar, also benefits from the project, since the location of the spring is in the centre between this three localities of Jowai town. The source can supply drinking water around 12-13 hours a day. During winter time people started to fetch water from 2:00 am in the morning.

Photo of Lompyrdi Iongpiah - Water Conservation Work in Urban Areas



Before Restoration



During Construction



After Construction

Project Area: Tympang Iawmusiang

1. **Name of Project:** Conservation Works in Urban Areas.
2. **Type of Structure:** Spring Chamber, CC Drain, Fencing, RCC Footpath, Grill.
3. **Total Project Cost:** Rs. 4,14,510
4. **Number of Benefitted Households:** 115 nos

Wah chor Spring situated in the foot hill. The Wah chor spring is a life source used to be the life source of water supply to the people of Iawmusinag Jowai and the innumerable numbers of shops in the Iawmusiang market. The people from all over the locality and collect water from the spring for the various household need. However, with the construction of a PWD road leading from DC point upto Lad Wahnangbah the spring source was totally destroyed and the spring water is diverted deep underground. This has caused an uproar among the people of the locality and the various shopkeepers from all over the town.

The Dorbar Shnong Tympang Iawmusing sees that there is a strong need to revive the spring as the people reside in the locality faced big problems with safe drinking water. Hence, the Dorbar Shnong decides to seek assistance from the office of the Divisional Soil & Water Conservation Officer and a scheme was prepared to initiate different interventions that will address the issue holistically and uplift the living conditions of the people.

So,duringFY2023-24, under the General Scheme Water Conservation Work in Urban Areas, the office took steps to address the issues and adopt innovative measures in order to increase the discharge and at the same time to providing safe drinking water to the one hundred fifteen households who are residing in the nearby spring.

Process of construction: The following actions were undertaken in order to achieve objectives:

- 1.** After carefully studying the area the sources from where the water exude was located and after digging to about 8 feet the main water sources was located and a spring chamber was constructed in the area.
- 2.** Fencing net and gate is constructed around the spring chamber to prevent stray animal from entering in to the area and for the people from throwing garbage near the spring.

3. Since the spring chamber is not easily approachable a RCC Footpath is constructed for that purposed and in order to improve walking condition for the people especially the womenfolk's and children during the rainy season.

4. Proper drainage and protection wall in and around the spring chamber was constructed in order to prevent runoff water and drainage water from sipping in to the spring chamber.

A total of 115 approx Nos. of household in the locality benefits from the project and an additional many shopkeepers benefits from the spring since it are located in the market area. The approximate spring discharge recorded during lean period is around 9.5 LPM.

The features of the structures constructed are as follows: -

- Spring Chamber: 1 No.
- CC Drain: 1 No.
- RCC Footpath: 1 No.
- Fencing: 1 No.
- Grill: 1 No.

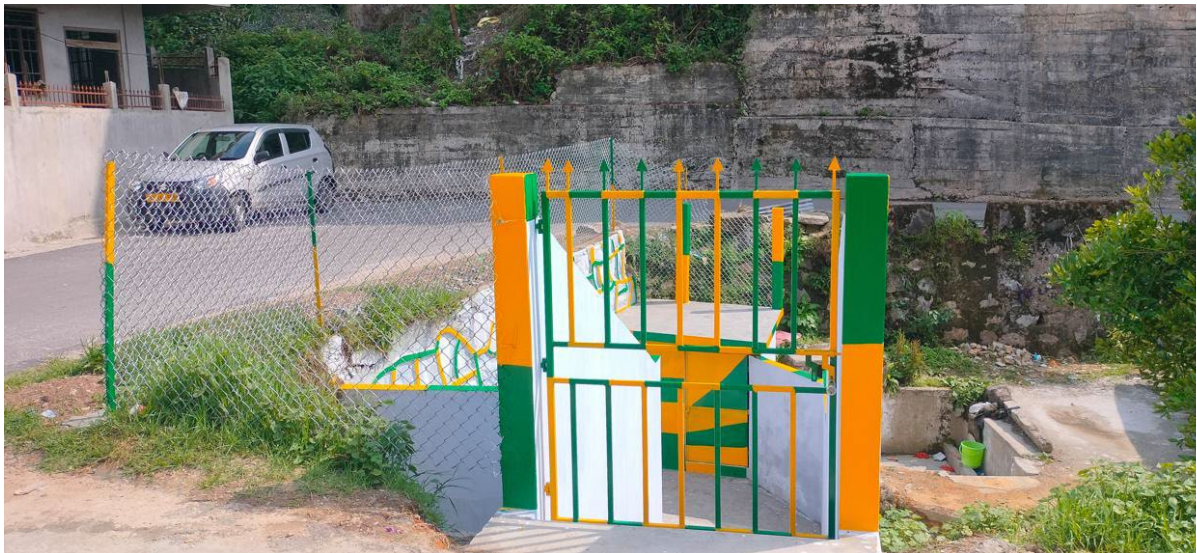
Photo of Tympang Iawmusiang - Water Conservation Work in Urban Areas

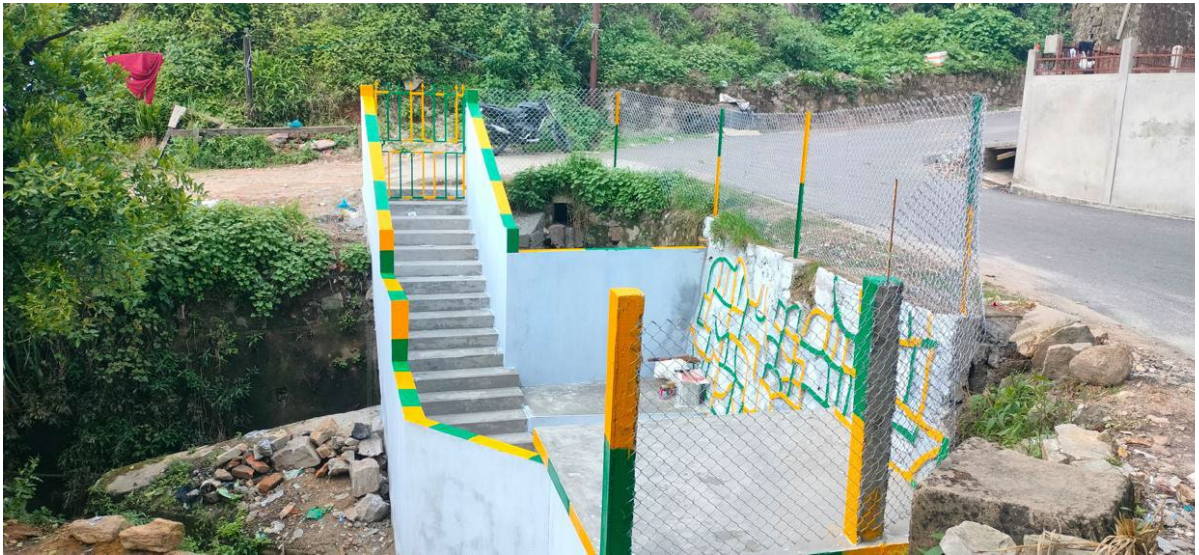


Before Construction



During Construction





After Construction

Operation & Maintenance (O & M): For the purpose of O & M of the project the locality had taken it upon themselves for the repairing of wear and tear, etc.

The initiative as taken up by some of the Dorbar shnong

2. Collection of a minimal sum from the beneficiaries monthly for the purpose of cleaning and maintaining of the water source.
3. Community cleaning drive of the water source is taken up monthly or as and when required.

Conclusion:

These interventions have proven to be very beneficial for the locality as a whole who has been struggling with water shortage considerably, but now it is pleasing to witness the people getting reliable water supply throughout the year. Residents of the locality expressed their happiness and gratefulness to the Department with the success of the project, the residents of the locality through the project had been aware about the importance of protecting the springshed area in order to ensure un-interrupt water flow in the spring chamber, the people taking active steps to protect their catchment areas and are carrying out regular tree plantation drives. It is worth mentioning that, the Headman of the project areas are fully content and extremely grateful to the Government for helping them addressing the water issues in their community through the simple but effective intervention.

Success stories of spring source management.

Project Area: Lumpariat Locality

The Lumpariat Locality is situated in Jowai, the district headquarters of West Jaintia Hills under Thadlaskein block. Though, abundant in water in the form of springs the locality has always struggled with water problem and bear with this issue for many years as the locals could not access the spring water due to the distance and steepness of the spring's location. Water supply through the PHE department though, available but inadequate due to disrupted services and a poor connection hence, could not cater to the daily requirements. Moreover, with the increase in the number of households, the water needs have also increased manifold and lacking of functional piped water supply, means the people especially young girls and women has to spend at least 30 mins walking to and fro from their home to the spring to get a pot of water especially during winter season, time of which they could spent in studying or other productive works.

The Spring source is privately owned and located at the foot of the hill. The approximate spring discharge is recorded to at 25.2 LPM (Litre per Minute) during Winter and 45.5 LPM during summer and most of the time, the water overflows and get wasted. Hence, the owner, along with the Office of the Dorbar Dong Lumpariat sees that there is a strong need to harvest and store the excess water, decides to seek assistance from the office of the Divisional Soil & Water Conservation Officer. As Lumpariat falls under urban area, a plan was prepared to initiate different intervention that will address the issue holistically and uplift the living conditions of the people.

So, during FY 2023-24, the office took steps to address the issues and adopt innovative measures in order to tapped the excess water and at the same time lessen the burden of the people especially the womenfolk's and children.

A total of 38 Nos. of household in the locality benefits from the project and an additional 10 Nos. benefits from the nearby locality benefits indirectly as they can use the water harvested below for washing purposes.

Name of Project: Water Conservation Work in Urban Areas.

Total Project Cost: Rs 1,16,000

Type of Structure: Virgin Plastic (Sintex), Concrete Water Storage system

Number of Benefitted Households: 38 nos

The features of the structures constructed are as follows: -

- Pipe = 50mm width and 191m length (From source to water storage tank located downhill)
- Plastic Storage tank = (3nos) 2,000 litres Storage Capacity
- CPVC pipes: 20mm, 187 Mtr, (Connected from the main storage tank to the storage tank at the community Hall)
- 2 HP Electric Submersible Water Pump = 1 No.
- Overhead Water Tank = 1 No. 2000 litres.

Operation & Maintenance (O & M): For the purpose of O & M of the project the locality had taken it upon themselves for the repairing of wear and tear, etc.

The initiative as taken up by some of the Dorbar shnong

4. Collection of a minimal sum from the beneficiaries monthly for the purpose of cleaning and maintaining of the water source.
2. Community cleaning drive of the water source is taken up monthly or as and when required.

Conclusion:

These interventions have proven to be very beneficial for the locality as a whole who has been struggling with water shortage considerably, but now it is pleasing to witness the people getting reliable water supply throughout the year. Residents of the locality expressed their happiness and gratefulness to the Department with the success of the project, the residents of the locality through the project had been aware about the important of protecting the springshd area in order to ensure un-interrupt water flow in the spring chamber. taking active steps to protect their catchment areas and are carrying out regular tree plantation drives. It is worth mentioning that, the Headman of the project areas are fully content and extremely grateful to the Government for helping them addressing the water issues in their community through the simple but affective intervention.

Photo of Lumpariat - Water Conservation Work in Urban Areas



Springtap Chamber



CPVC pipe



Water Storage Tank



Washing Platform



**Water Conservation Cum Distribution
Work**



Submersible Water Pump



CPVC Distribution Pipeline



CPVC Distribution Pipeline



Overhead Storage tank at Community Hall Outlet Water Tap

Acknowledgement



OFFICE OF THE DORBAR SHNONG LUMPARIAT

JOWAI - 793150.

West Jaintia Hills District, Meghalaya

Under Section 26 of Jaintia Hills Autonomous District Council (Establishment of Blocks and Village and Election, Appointment, Powers, Functions and Jurisdiction of the Dolah/Sindar and Wabeh Shnong), Act, 2015.

No: _____

Date: _____

Dated - 04/11/2022

To

The Divisional Soil & water Conservation Officer,
Jowai Territorial Division,
West Jaintia Hills District, Jowai.

Subject: - Urban Area Water Storage Cum Distribution Work 2021-2022.

Sir,

With reference to the above subject, we would like to sincerely express our gratitude to the Soil and Water conservation Department, Government of Meghalaya in the Soil and Water conservation Division, West Jaintia Hills District, Jowai for the Construction works of the water storage cum Distribution under the Urban Area scheme 2021-22.

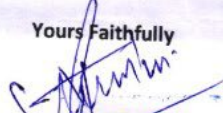
Sir, in this regard, we would also like to remind your good office that due to non-availability of a suitable area of land for the purpose of storage in bigger spacious area, we are content with the smaller area and we also appreciate your brilliant idea of drawing water from 3-decade old drinking well and stored in 3 water tankers and 1 in the Community Hall as the plot of land available with us fits the 3 tankers + a small washing platform with a roof top covers.

Once again, a "Big Thank you Sir" for all the works done in the best interest of our local residents.

Finally, we also appreciate the idea of having a committee to control and manage the supply of water.

With our love and regards

Yours Faithfully


J. K. RYMBAL
Wabeh Chnong
Lumpariat, Jowai

 Lumpariat, Jowai
West Jaintia Hills District -793150

 (1) 9856487411
(2) 9863105107

General Scheme – Water harvesting works / Farm, Ponds, etc

Financial Year 2024-25

Construction of Spring Chamber

Under the General Scheme of the Department, Water Harvesting Works in the project area at Umyuduh Nongtidiang, Nangbah village has been identified to construct Spring Chamber to collect and store water for drinking purpose and also protect emerging ground water from contamination.

Earlier, prior to construction of the spring chamber, the spring was located near a drain and was openly collected by the community which was devoid of any roof protection and animals also frequent the spring which may lead to contamination. The spring caters to 4 localities including Umyuduh Nongtidiang and about 300 households especially during the lean period.

After construction of the spring chamber along with the boundary wall, the community have been able to collect clean and quality drinking water every day.

Name of beneficiary	Location	C&RD Block	GPS Coordinates		Amount (Rs.)
			Lat	Long	
Nangbah Community	Umyuduh Nongtidiang	Thadlaskein	25.521658	92.251972	1,84,660

Operation & Maintenance (O & M): For the purpose of O & M of the project the locality had taken it upon themselves for the repairing of wear and tear, etc.

The initiative as taken up by some of the Dorbar shnong

1. Collection of a minimal sum from the beneficiaries monthly for the purpose of cleaning and maintaining of the water source.
2. Community cleaning drive of the water source is taken up monthly or as and when required.

Conclusion: These interventions have proven to be very beneficial for the locality as a whole who has been struggling with clean and free contamination of the water sources from the stray animals, unhygienic drainage channel. Residents of the locality expressed their happiness and gratefulness to the Department with the success of the project, the residents of the locality through the project had been aware about the importance of protecting the spring shed area in order to ensure uninterrupted water flow in the spring chamber. Taking active steps to protect their catchment areas and are carrying out regular tree plantation drives. It is worth mentioning that, the Headman of the project areas are fully content and extremely grateful to the Government for helping them address the water issues in their community through the simple but effective intervention.

**Photo of Spring tap Chamber at Umyuduh Nongtidiang, Nangbah Village, West
Jaintia Hills**



BEFORE CONSTRUCTION



DURING CONSTRUCTION



AFTER CONSTRUCTION



AFTER CONSTRUCTION



AFTER CONSTRUCTION



AFTER CONSTRUCTION