

Springshed Development work at Lumkyntung Village (Umtyngar)

About the Village:

Lumkyntung, a village of Laitkroh block, East Khasi Hills District is a village with a population count of 347 and a household number size of 63. The total area of the village is about 1.15 square kilometres. The village has a total number of 6 springs which the community is dependent on for drinking and consumption with farming and mining as the key sources of livelihood

The spring in the area is located at geographical E° 25.454935 N° 91.821689 at an elevation of 1790m. The spring at Lumkyntung is a fractured spring. The spring is being discharged mainly from joints/fissures in the area, in which it follows a natural course through voids or weaknesses in the bedrock.

Methodology:

The survey team were tasked to gather all the necessary information, by strategically approaching the interviewees door-to-door. The surveyors are required to use the prepared questionnaires and most importantly their verbal and communication skills to retrieve data and info which is the key ingredient for the plan to be prepared.

Objectives:

The objectives of the survey are as follows:

- To prepare the Water Security Plan of the village
- To estimate the daily/weekly household consumption of water for all HH activities including drinking, washing, bathing etc.
- Identification of potential recharge sites of selected springs
- To understand the demand and supply gaps within the community

The village of Lumkyntung even though it is blessed with abundant and adequate drinking water and with a household count of 63 with 347 occupants, the village is at a disadvantage in terms of water availability. High-water consuming activities, population growth, deforestation, exploitation of natural resources, pollution etc. are the factors which negatively contributed to the amount, distribution and availability of water. Based on the Water security plan, the village is found out to be a water Deficit.

Average Household size	5.5	
Average Water Consumption per HH per day	167.23	litres
Average Water Consumption per capita per day	30.53	litres
Annual Total Water Availability	971	Lakh litres
Net Total Water requirement of (human + cattle + agriculture) Annually	1883	Lakh litres
Water Balance Annually (Total water availability - Total water requirement)	(-) 912	Lakh litres

Geology of the Area

Lithology

The quartzite of the Shillong group of rocks is mainly encountered in almost all the exposures. The quartzite is highly weathered to a depth of 8m. The subsurface rocks are bedded, folded, faulted and heavily jointed. The quartzite mainly comprises of fine to medium grained quartz, feldspar, biotite and muscovite.

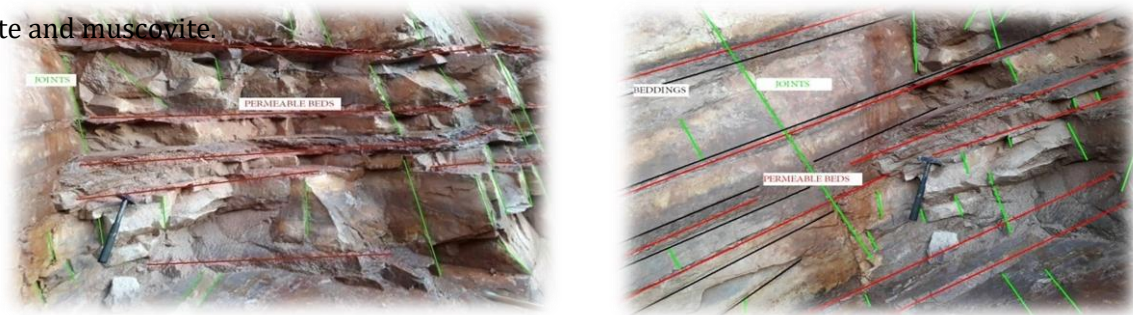
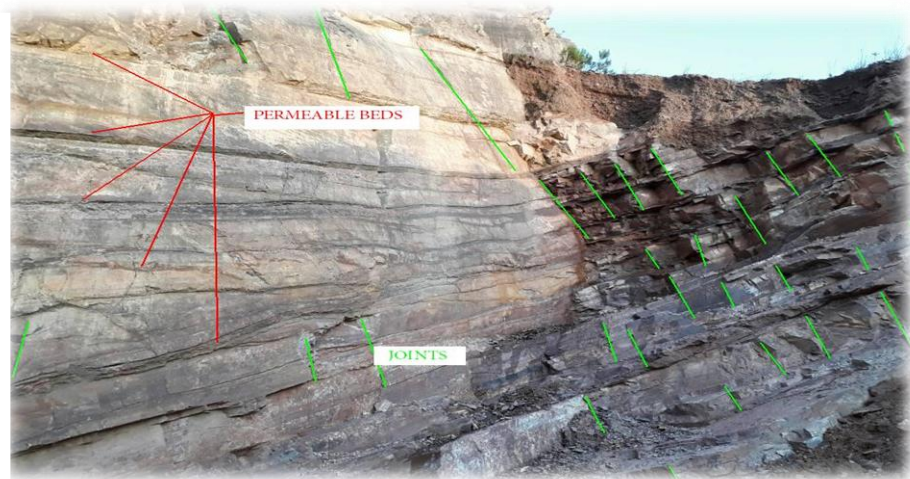


Fig a-c: Beddings, Joints and Weathered bedding Joints in Quartzites



Proposed Recharge Site at Lumkyntung Village



Recharge Structure:

Depending on the geological pattern and the type of soil, followings are the interventions taken up for rejuvenation of springs at Lumkyntung villages

1) Trenches



2) Afforestation



3) Dugout pond



4) Peripheral Bund

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Peripheral Bund



Fencing gate made of bamboo to protect the entry of cattle which may destroy the catchment area



5) Capacity Building:



6) Springtab Chamber:



Hydrograph comparing Spring Discharge of 2016-2017 and 2017-2018

