

1. Village Profile

Village Name	Kil Kurungumedu	Mel Kurungumedu
Panchayat	Hulical	Hulical
No. of households	15	5
Population	45	20
Community	Kurumba	Kurumba
Institutions in the village (if any)	Not any	Not any

2. Water supply and demand

Village Name	Kil Kurungumedu		Mel Kurungumedu	
	Monsoon	Summer	Monsoon	Summer
Seasons				
Average daily water demand of the household (Liters per day)	180	180	200	200
Average daily water demand of the village (Liters per day)	132*15 =1980	104.6*15 =1569	105*7 =735	97*7 =679
Average daily water supply in the village (Liters per day)	1250	900	800	800
Average daily <u>shortfall/surplus</u> in water supply in the village (Liters per day)	Shortfall of 730	Shortfall of 669	Shortfall of 65	Surplus of 415

3. Water Storage facilities

3(a). Water Storage facilities in a household in the village

Households harvesting rain water at home	No
Average water storage capacity in a household (in liters)	100 approx.
Maximum storage capacity in a household (in liters)	200

3(b). Water Storage facilities in the village

Kil Kurungumedu:

Sand Filter of 10,000lt capacity. It is not in use for the past 20 years. There is less spring discharge, and no enough water to efficiently use the sand filter. The quality of water is clean when it comes from the sand filter, but now there are leakages and need to be de-silted as well.

Mel Kurungumedu:

Sintex tank of 1000lt capacity which is placed 250m from the village.

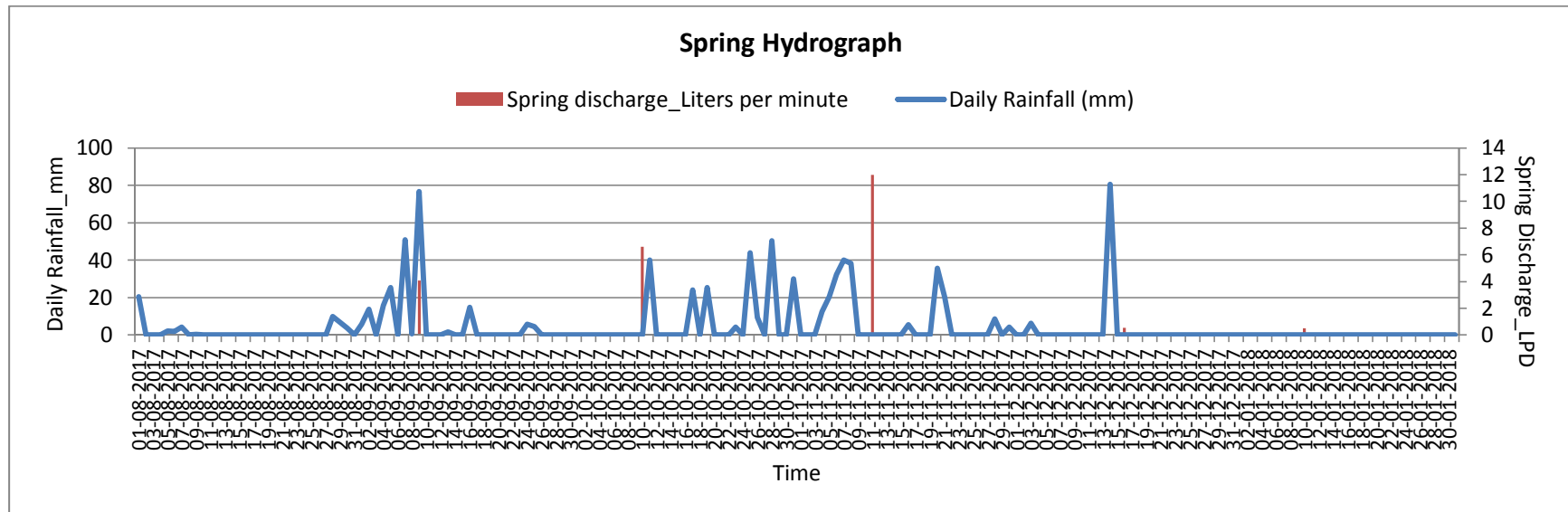
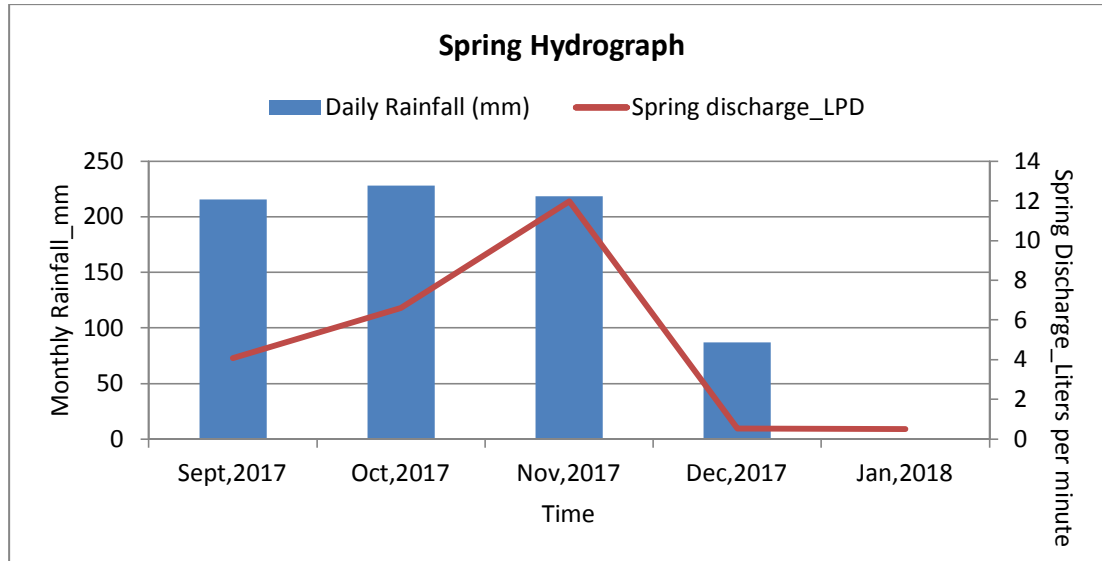
Kurungumedu villages | 2017
Water Security Plan

4. Water Resources

S No.	Name of the water resource	Source ID (if any)	Type of resource (Spring/Open well/wetland/Bore well/stream)	Dimensions of the water resource (Spring-length, width, depth; Well-total depth)	Seasonality	Springshed/catchment area (Acres)	Land ownership	Land-use pattern of the watershed area	Geology of the watershed area
1	Gellathikundi	HUL007	Spring	12*4*1	Perennial	1	Private	Sholai	Depression
2	Bangala spring-2	HUL010	Spring	3*4*3	Seasonal	2	Private	Sholai	Red soil, Depression spring
3	Estate road	HUL015	Spring	0.5*0.5*0.2	Seasonal	5	Private	Tea estate	Laterite and charnokite rocks, Fracture spring
4	Karadipallam / Muneeshwaran stream	HUL006	Stream	3*2*3	Perennial	3	Private	Tea estate, Sholai	Stream, charnokite rocks

S No.	Name of the water resource	Source ID (if any)	Type of resource (Spring/Open well/wetland/Bore well/stream)	Users of the water from this resource (People/Wildlife/School/Anganwadi/PHC/resort/private estate/community toilet etc.) List all	How is the water delivered from the source? Describe	Which storage infrastructure is used? Give code from section 2.	State of sanitation near the source (toilet, waste dumps, OD, etc)	Water Quality issues (in different seasons)	Other issues (In different seasons)	Long term prospect (Will it remain perennial)
1	Gellathikundi	HUL007	Spring	Community, Livestock, Wildlife	Pipeline	Directly accessed from pipeline	Nothing	Nothing	Nothing	Yes
2	Bangala spring-2	HUL010	Spring	Wildlife	Open structure	NA	Nothing	Nothing	Nothing	Yes
3	Estate road	HUL015	Spring	Livestock, Wildlife	Open structure	NA	Nothing	Nothing	Nothing	Don't know
4	Karadipallam / Muneeshwaran stream	HUL006	Stream	Other villages, Livestock, Wildlife	Pipeline	NA	Nothing	Nothing	Nothing	Yes

5. Spring Hydrographs



6. Discussions and Interventions

These following interventions were discussed at common village meetings facilitated by Community Resource Person from Keystone Foundation who regularly monitors the water resources for its discharge and water quality from September, 2017 till March, 2018. These interventions were agreed by the villages, some of which have already been implemented under Village Water Security Plan by community and Keystone.

Name of the water resource	Source ID	Interventions	Expenditures (Rs)	Status
Gellathikundi	HUL007	1. To de-silt and repair check dam	Community contribution	Done by Community
		2. Replace and relay existing pipeline	Pipeline cost =Rs 25,000	Done. Material cost borne by Keystone. Labour by Community
		3. Water storage structure for the village	Sintex tank and basement cost =Rs 8,000	Done by Keystone
Karadipallam stream or Muneeshwaran river	HUL006	Pipeline from check dam in Karadipallam stream to Kurungumedu villages to access water from the stream.	Pipeline cost = Rs 2,50,000	Planned, to be leveraged with Panchayat and FD

Discussion 1 : Nov, 2017
Source : Gellathikundi (HUL007)
Intervention : To work on Gellathikundi spring source and ensure better water distribution to the village.
Total expenditure : Rs. 40,000 approx.

Interventions	Reason (benefits)	Expenditure (Rs)
1. To de-silt the check-dam around the spring source.	There are leakages in the spring-box, and it has not been de-silted for a long time. De-silting helps for better water percolation, it also removes the built-up silts and accumulated materials.	Labour cost Community contribution
2.Spring box repair and lid, wall to prevent run off from mixing with the spring-water	Dried fallen leaves in the check-dam blocks water flow by stagnating it in the tank. Covering the tank helps to prevent leaves and other contaminants from falling or mixing into the spring-box. In addition, a net filter could strain small contaminants from blocking the flow of water into the pipeline from the tank. <u>Water supply at source:</u> <i>Before removing dried leaves-1lt in 5.16sec; 16,744lpd</i> <i>After removing dried leaves-1lt in 15.5sec; 5,574lpd</i>	Iron-net covering, small net filter, and construction of wall =Rs 7,000 (approx)
3.Replacing and relaying new pipeline	To reduce leakages, and improve the water distribution mechanism in the village. <i>Water supply in monsoon (11th Nov,2017) at different points in between the source and the village:</i> <u>At source</u> - 1lt in 15.5sec; 5,574lpd <u>At estate bungalow</u> -1lt in 49.3sec; 1,752lpd <u>At village</u> -1lt in 63.2sec; 1,367lpd	Pipeline cost Rs34/m of 3/4" pipe *550m =Rs 18,700 Rs42/m of 1" pipe *100m =Rs 4,200 Additional pipeline materials =Rs 2,000
4. A water storage structure for the village.	To repair the sand filter, and instead use it as a storage structure. OR Sintex tank	Mason charges Rs 650/day*2 masons*3 days = Rs 3,900 Additional labour = Rs 800 Sintex tank and basement for the tank (Capacity=1000 l) =Rs 6,000 + Rs 2,000 =Rs 8,000

Discussion 2 : Jan, 2018
Source : Karadipallam stream or Muneeshwaran River (HUL006)
Intervention : Pipeline from check dam in Karadipallam stream to Kurungumedu villages
Total expenditure : Rs 2,70,000

Interventions	Reason (benefits)	Expenditure (Rs)
Pipeline from check dam in Karadipallam stream to Kurungumedu villages to access water from the stream.	To ensure adequate, and uninterrupted supply of water irrespective of monsoon to both the villages.	Pipeline cost Rs80/m of 1.5" pipe *3000m =Rs 2,40,000 Additional pipeline materials =Rs 10,000 Storage tank (approx material cost for 10,000liters of storage capacity) = Rs 20,000 OR Sintex tank (Capacity=1000 liters) =Rs 6,000*2 for each village =Rs 12,000
	<i>OR</i>	
Pipeline from check dam in the Karadipallam stream to Mel-Kurungumedu village where water gets stored in a GLR. The stored water will be distributed to other downstream villages from here.	Panchayat and Forest Department has been jointly planning to provide uninterrupted water supply to five villages in the downstream of Karadipallam. Water supply to Kurungumedu villages is part of a bigger plan where water from Kadadipallam stream is piped to three other villages in the downstream. The benefitting villages are Mel Kurungumedu, Kil-Kurungumedu, Sadaiyankombai, Chinnalankombai, and Annaipallam.	Pipeline cost <i>Undetermined</i> There are plans to provide 5" huge pipelines from Karadipallam check-dam till Mel Kurungumedu village. The size of pipelines to be reduced gradually from 5" to 1.5" to ensure good flow without air gaps in higher elevations.

General Discussions : Nov-March, 2018
Village : Kurungumedu villages

These interventions did not seem feasible to solve the water scarcity problem in the villages.

1. To have a permanent structure around Bangala spring-2 (HUL010) to tap water from the spring for domestic use by the village people.
Expense: Cost for a concrete structure is Rs 10,000 approx.
Status : Not viable. The perennial source is downstream to both the villages; it is not viable to pump water from the source to these villages. A near to the source fell, eventually spring discharge has reduced.

2. Spring that starts at Hulical mund feeds Karadipallam stream. Water from the stream is piped, and stored in large check-dams by estates. It leaves insufficient water to villages downstream. Two such villages are Kil Kurungumedu and Mel Kurungumedu who do not have any other alternative water sources to tap. Thus, Keystone suggested people from both the villages for an agreement with Parkside estate to pump water from the estate check dam.
Expense: Cost of pipeline, motor, motor room, and storage tank would come to Rs. 2,58,700.
Motor expenses 1HP Mahendra Open-well Submersible motor (Head 110 feet) = Rs 9,000; Panel box = Rs 1,700
Motor room (approx material cost for a room of $L*B*H=1.5m*1m*1.5m$) = Rs 18,000; Relevant Electric polls and wiring would be needed.
Storage tank (approx material cost for 10,000liters of storage capacity) = Rs 20,000
Pipeline cost Rs80/m of 1.5"pipe *2500m =Rs 2,00,000; Additional pipeline materials =Rs 10,000
Status : Not agreed by both the communities and the estate. There is more hesitance form community than the estate.

3. People from Kurungumedu villages are hesitant about using water from the check-dam. Keystone once again suggested an open-well in the estate wetland from where water could be pumped to the villages. The ownership of which could be transferred to the panchayat who takes care of its operations and maintenance. A storage tank in Pillurmattam would enhance better pumping and distribution to both the villages.
Expense: Cost of digging an open-well pipeline, motor, motor room, and storage tank would come to Rs. 2,76,700.
Cost of digging an open-well (approx. 10feet of $L*B*H$) =Rs 20,000
Motor expenses 1HP Mahendra Open-well Submersible motor (Head 33.5 m) = Rs 9,000; Panel box = Rs 1,700
Motor room (approx. material cost for a room of $L*B*H=1.5m*1m*1.5m$) = Rs 18,000; Relevant Electric polls and wiring would be needed.
Storage tank (approx. material cost for 10,000liters of storage capacity) = Rs 20,000
Pipeline cost Rs80/m of 1.5"pipe *2500m =Rs 2,00,000; Additional pipeline materials =Rs 10,000
Status : The estate is not willing to share water with the community, and moreover the community is not interested to take water from the estate, but instead from Karadipallam stream.

7. Maintenance and Intervention

Operations to ensure regular equitable water supply to every household in respective villages

- Locking the sintex tank at night to store water
- Opening the water outlet from the sintex in the morning so that all families can fetch water from a common point
- In case of shortage of water, deciding on quota of water each family can take with a given timings

Maintenance to ensure

- Removal of leaves/blocks from the pipeline coming from the spring box
- Cleaning of sintex tank once in two months
- Checking pipelines for leakage and repairing it as and when need arises
- Monitoring of discharge from the spring and water quality by a person from the respective village

8. Other agencies and village institutions

- None

9. Finances

- There are no saving groups in both the villages
- There are no pump-operators appointed for the villages, and people from respective village turn pipe valves and attend to any problems in the pipeline, other water infrastructures.

Annexure

A1. Maps

- Habitation
- Surrounding area
- GPS location of water resources, GLR
- Catchment area

A2. Photos from the field