

### 1. Village Profile

Village Name	Mallikopaiyur	Karapanai
Panchayat	Aracode	Aracode
No. of households	22	6
Population	50	20
Community	Irula	Irula
Institutions in the village (if any)	Primary Health-care Centre	Nil

### 2. Water supply and demand

Village Name	Mallikopaiyur		Karapanai	
	Monsoon	Summer	Monsoon	Summer
Average daily water demand of the household (Liters per day)	328	328	300	300
Average daily water demand of the village (Liters per day)	5,786	7,285	1,800	1,800
Average daily water supply in the village (Liters per day)	11,000	2,000	2,000	1,000
Average daily <u>shortfall/surplus</u> in water supply in the village (Liters per day)	Surplus of 3715lpd	Shortfall of 3786lpd	Surplus of 200 lpd	Shortfall of 800 lpd

### 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)	120
Maximum storage capacity in a household (in liters)	200

#### 3(b). Water Storage facilities in the village

Mallikopaiyur : Village Ground Level Reservoir (Lat- 11.45789°N; Long- 77.00098°E; Altitude 1172m)

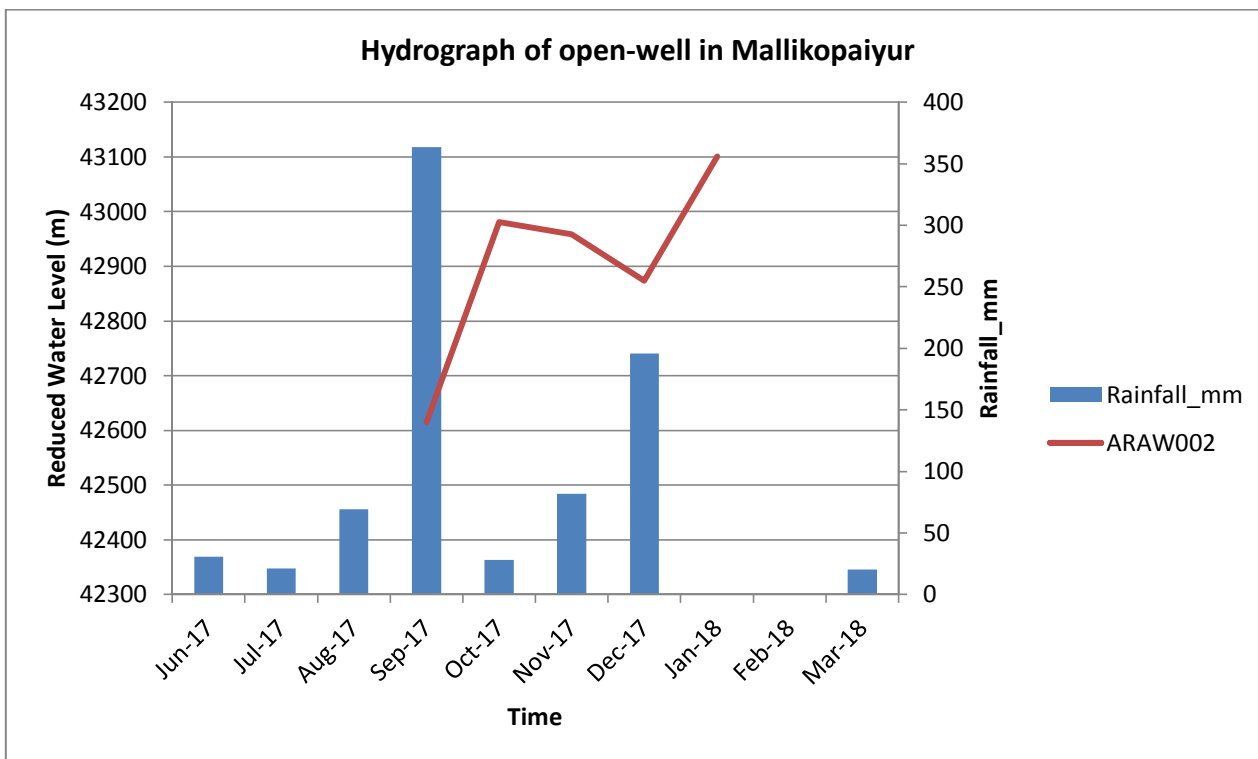
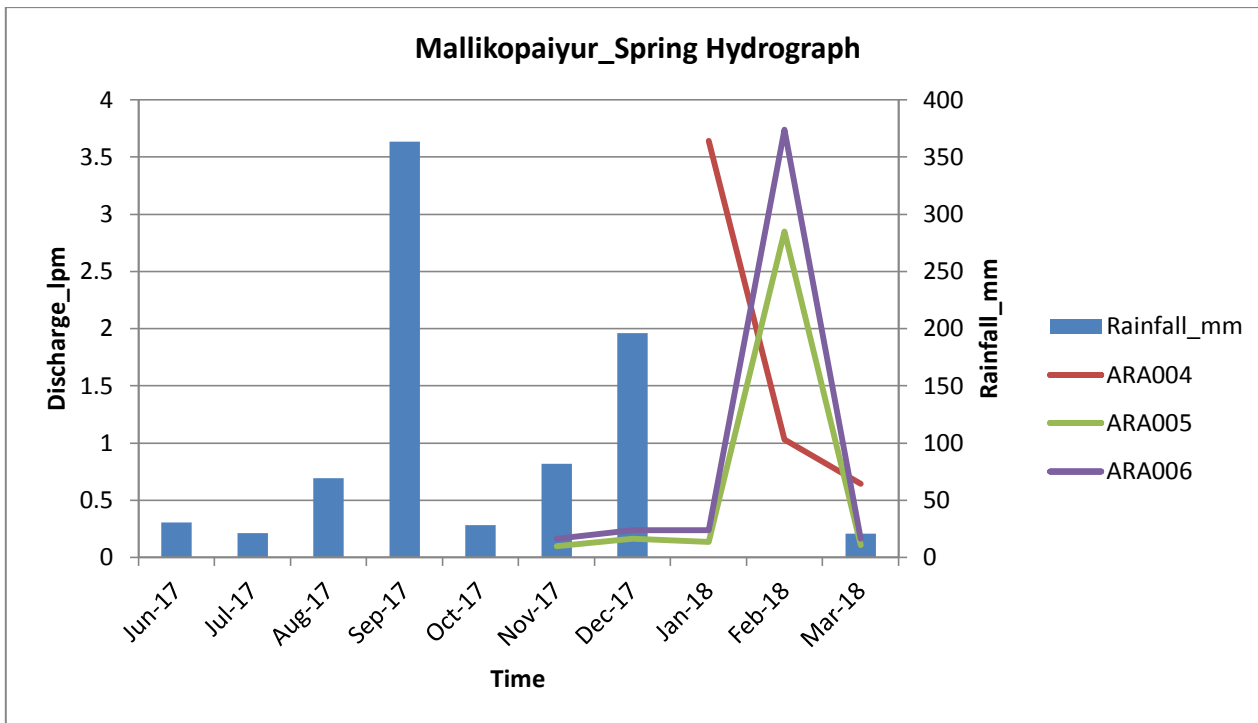
Karapanai : Ground Level reservoir

**4. Water Resources (Provide details of all water resources)**

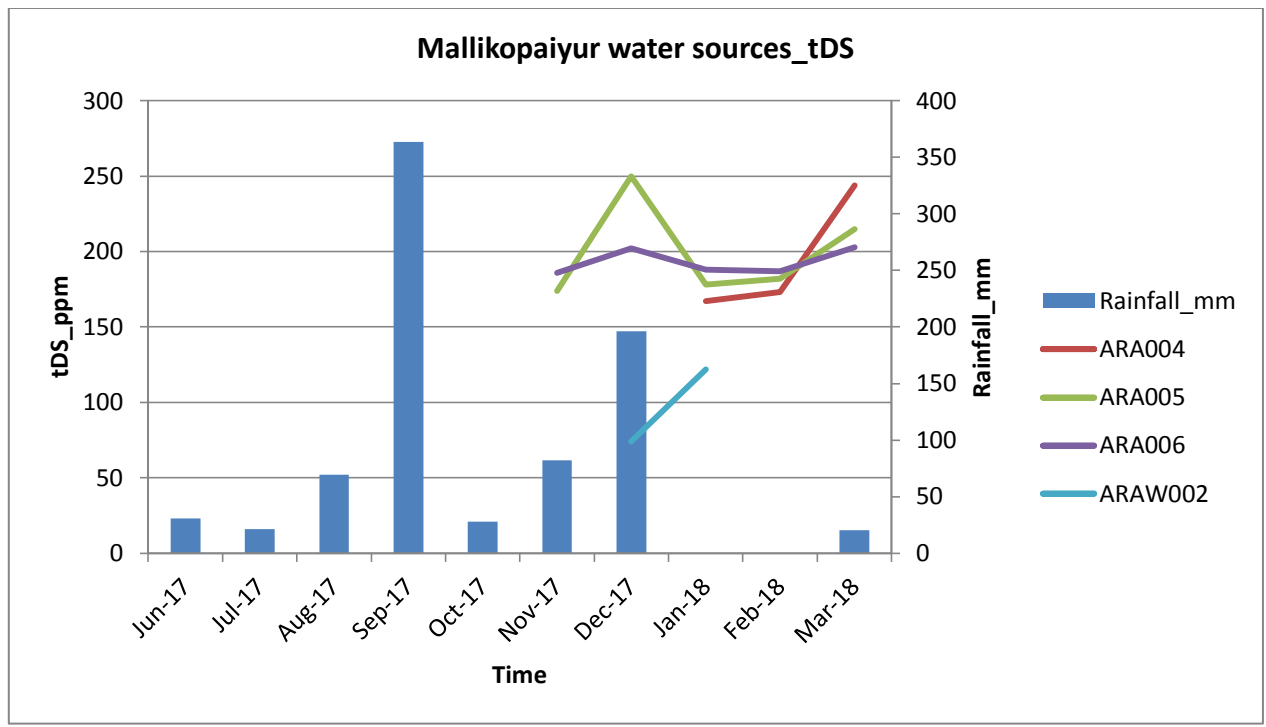
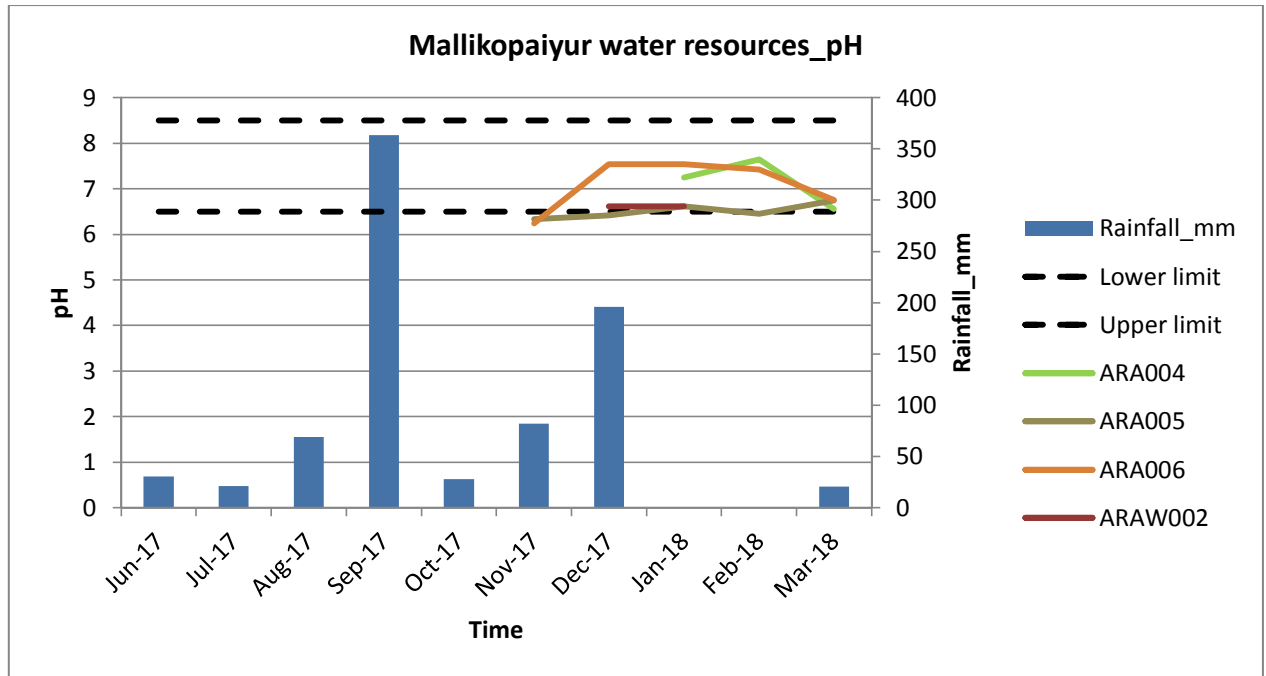
S N o.	Name of the water resource	Source ID (if any)	Type of resource (Spring/ Open-well/ wetland/ Bore well/ stream)	Dimensions of the water resource (Spring-length, width, depth; Well- diameter, total depth)	Seasonality	Springshed/catchment area (Acres)	Land ownership	Land-use pattern of the watershed area	Geology of the watershed area
1	Pannaikadavu	ARA004	Spring	Don't know	Don't know	DNA	Forest	Forest	Don't know
2	Kodappaalai1	ARA005	Spring	1*1*1.5	Perennial	100	Private	Coffee estate, open defecation site for 3 HHs	Depression spring
3	Kodappaalai2	ARA006	Spring	1*1*1	Perennial	100	Private	Coffee estate, open defecation	Depression spring
4	Kolikodagu	ARA017	Spring	1*1	Perennial	50	Private	School, Drainage, Coffee estate	Depression spring
5	Neramadu	ARA043	Spring	2*2*1	Seasonal	60	Private	Coffee estate, fallow land	Depression spring
6	Karappanai bavi	ARAW002	Open-well	2.5*7	Seasonal	16.6	Panchayat	Coffee estate	NA
7	Kerkerabavi	ARAW007	Open-well	2*9	Perennial	70	Panchayat	Coffee estate, fallow land	NA

S N o.	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/An ganwadi/ PHC/resort/private estate/community toilet etc.) List all	How is the water delivered from the source? Describe	State of sanitation near the source (toilet, waste dumps, OD)	Water Quality issues (in different seasons)	Long term prospect (Will it remain perennial)
1	Pannaikadavu	ARA004	Spring	Don't know	Don't know	Nothing	Nothing	Less discharge during summer; won't go dry
2	Kodappaalai1	ARA005	Spring	Community, livestock, agriculture, wildlife	Pipeline	Nothing	Nothing	Less discharge during summer; won't go dry
3	Kodappaalai2	ARA006	Spring	Community, livestock, agriculture, wildlife	Manually	Nothing	Nothing	Less discharge during summer; won't go dry
4	Kolikodagu	ARA017	Spring	Community, livestock, agriculture, wildlife	Pipeline	Drainage	Nothing	Discharge only in monsoon
5	Neramadu	ARA043	Spring	Agriculture, livestock, wildlife	Storage tank	Nothing	Nothing	Don't know
6	Karappanai bavi	ARAW002	Open-well	Community	Don't know	Nothing	Nothing	Less discharge during summer; won't go dry
7	Kerkerabavi	ARAW007	Open-well	Community	Don't know	Nothing	Nothing	Less discharge during summer; won't go dry

5a. Spring and Well Hydrographs



5b. Water Quality



## 6. Discussions and Interventions

These following interventions were discussed at common village meetings facilitated by Community m Keystone Foundation who regularly monitors the water resources for its discharge and water quality from October, 2016 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
Mallikopaiyur village		To de-silt the village GRL.	Rs 2,000	Planned
		To take trenches in the spring-shed regions.	Rs 3,000	Planned
		Two farmers from the village have shown interest to plant commercial crops along with shola saplings in their respective fallow lands.	Rs 20,000	Planned There were no enough saplings at Keystone nursery.
Kodappaalai 1 and 2	ARA005 and ARA006	To get a covering for spring-box, and to plant shola saplings in the spring-shed region.	Rs 1,700	Limited saplings planted. There were no enough saplings at Keystone nursery. Labour by community
Pannaikadavu	ARA004	To repair the pipeline from the source to the village GLR.	Rs 1,500	On-going Material cost borne by Keystone. Labour by community.
		To have a stone structure around the spring.	Rs 3,600	Planned Minimal cost to be borne by community
		To get a covering for the spring-box.	Rs 1,500	Done Material cost borne by Keystone. Labour by community.
Karappanai bavi	ARAW002	To get a covering for spring-box, and to plant shola saplings in the spring-shed region.	Rs 1,700	Done Material cost borne by Keystone. Labour by community.
Kerkerai bavi	ARAW007	To get a covering for spring-box, and to plant shola saplings in the spring-shed region.	Rs 1,700	Done Material cost borne by Keystone. Labour by community.

<b>Discussion 1</b>	: November, 2017
<b>Source</b>	: Kodappaalai 1 and 2 (ARA005 and ARA006)
<b>Intervention</b>	: To get a covering for spring-box, and to plant shola saplings in the spring-shed region.
<b>Total expenditure</b>	: Minimum of Rs 3,500

Interventions	Reason (benefits)	Expenditure (Rs)
To get a covering for the well.	To prevent water from getting contaminated with dry leaves, worms.	<b>Covering for well</b> =Rs.1,500 for wire mesh per source
To plant and grass species shola saplings above the water-shed region.	It would help in increasing the water table, thereby recharging the water-shed region.  <i>Status: Planted 10 shola saplings in spring-shed regions of Kodappaalai springs. There are no enough plant saplings at Keystone nursery.</i>	<b>Cost of saplings:</b> Shola saplings (10*20) = Rs200 per source Minimum cost of wetland grass species is Rs 300 per unit

<b>Discussion 2</b>	: November, 2017
<b>Source</b>	: Pannaikadavu (ARA004)
<b>Intervention</b>	: To repair the pipeline from the source to the village GLR, to construct a stone structure around the spring, and to get a covering for the spring-box.
<b>Total expenditure</b>	: Rs 6,600

Interventions	Reason (benefits)	Expenditure (Rs)
To repair the pipeline from the source to the village GLR.	To reduce water leakages and to free air-gaps to ensure uninterrupted flow of water.  <i>Status: Work in progress. People migrate outside the village for contract works. The repair work happens when they are available in the village.</i>	<b>Cost of cupling and union</b> Rs 1,500
To have a stone structure around the spring.	To protect the spring source.	<b>Stone Structure</b> =Rs.300/day wage*2people*6days =Rs.3,600
To get a covering for the spring-box.	To prevent water from getting contaminated with dry leaves, worms.	<b>Covering for spring-box</b> =Rs.1500 for wire mesh

<b>Discussion 3</b>	: November, 2017
<b>Source</b>	: Kerkerabavi (ARAW007); Karappanai bavi (ARAW002)

**Intervention** : To get a covering for open-well, and to plant shola saplings in the spring-shed region.

**Total expenditure** : Minimum of Rs 4,400

Interventions	Reason (benefits)	Expenditure (Rs)
To get a covering for the well.	To prevent water from getting contaminated with dry leaves, worms.	Covering for well =Rs.2000 for wire mesh
To plant and grass species shola saplings above the water-shed region.	It would help in increasing the water table, thereby recharging the water-shed region.  <i>Status: There are no enough plant saplings at Keystone nursery. Wetland grass species are available and to be planted in the next monsoon of 2018 in the region.</i>	Cost of saplings: Shola (10*20)= Rs200 Minimum cost of wetland grass species is Rs 300 per unit

**General Discussions** : June, 2017 - March, 2018

**Village** : Mallikopaiyur, Karapanai

The following are the planned interventions in respective two villages that were discussed collectively in community meetings held commonly for the two villages.

- To de-silt the village GRL.  
Expenses : Material cost comes up to Rs 2000  
Status : Planned to execute according to people's availability in the village.
- To take trenches in the spring-shed regions to store water run-off, thereby improving ground water table.  
Status : Planned to execute by next monsoon in 2018 and the work pace depends on people's availability in the village.
- Two farmers from the village have shown interest to plant commercial crops, and other shola plants in their fallow lands.  
Status : There are no enough plant saplings at Keystone nursery.  
*Cost of saplings:*  
 Shola (10\*20)= Rs200; Vetiver (20\*20)=Rs400; Vasambu (20\*20)=Rs400; Korapullu (20\*20)=Rs400; Baigae (2\*35)=Rs70  
*Restoration of fallow lands:*  
 Coffee (1000\*10)=Rs10000; Silver oak (1000\*10)=Rs10000; Jamun (100\*20)=Rs2000;  
 Baigai(100\*35)=Rs3500; Athimaram(50\*20)=Rs1000

## 7. Maintenance and Intervention

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

- Storing spring water from a private estate in the village GLR and accessing water from it.
- During peak summer, when there is water shortage issues, opening the water outlet from the GLR in the morning and/or evening, so that all families can fetch water from a common point(s).
- In case of shortage of water, deciding on quota of water which each family can take with a given timings.

Maintenance to ensure

- Protection of water sources such as springs and open-wells in and around the village to be self-reliant than to entirely depending on sources located in private estates for water. Regular de-silting, eco-restoration activities like planting shola saplings and digging trenches to store rain water run-off in the spring-shed regions ensure efficient recharge of ground water.
- Cleaning of GLR tank once in two months
- Checking pipelines for leakage and repairing it as and when need arises. Community members take turns repair the pipeline.
- Monitoring of discharge from the spring, wells and their respective water quality by a person from the respective village

## 8. Other agencies and village institutions

- Non-functional Primary Health Care Centre in Mallikopaiyur.

## 9. Finances

- There is a savings group in the village run by women.
- The main source of water to the village is from a spring source located in a private estate, from which there is regular supply of water through gravity to the village. Hence, there is no pump-operator for the village.



**Annexure**

**A1. Maps**

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

**A2. Photos from the field**