

# A Case study on water use efficiency in Shetpally

by Amit Renu (OT Code: A54)

## **An Introduction to Shetpally:**

Shetpally is a village located 55 KM south of Nizamabad district situated in Telangana. Situated at an elevation of 528 meters above mean sea level, Shetpally village is a plain area without much topographical intricacies. The general slope is towards North North East bounded by a local river draining into Pocharam dam. The edaphic nature is characterised by black soil at riverine regions which slowly gives way to red soil towards village side. The natural vegetation mostly consists of moist deciduous, dry deciduous and tropical thorn type.

## **Water resources of Shetpally:**

The sources of water for agriculture, household and other usages include the following:

- Rains
- Tanks
- Bore wells
- Rivulet flowing at the northern flanks of the village.

Wells as source of water is ruled out due to very low water table in this area.



Fig: Agriculture at Shetpally

## **Status of water resources:**

1. **Rains:** Shetpally lies in a semi arid region and receives rainfall just about 100 cm annually. Added to it is the vagaries of monsoonal regime which sometimes exhibit severe inter-annual variations.
2. **Tanks:** There are two community ponds in Shetpally, the water of which is mainly used for irrigation in the adjoining fields. The health of these ponds depends on the annual amount of recharge received from the monsoonal rains.
3. **Bore wells:** Bore wells are the prime source of irrigation in Shetpally. In absence of any other significant alternatives there are abundant numbers of bore wells in this area. They are used for extracting water for both irrigation and drinking water supply.
4. **Rivulet:** Due to its non-perennial nature the rivulet flowing at the northern edges of village is useful only of limited use to irrigate adjoining agricultural fields only.



### **Present Usage:**

Agriculture is the prime economic activity of this region and most of the water pumped out of bore well is used to irrigate the fields. The demand for water in agricultural activities is huge because of the type of crops i.e. Rice, sugarcane and maize are major crop grown in Shetpally. Out of these rice and sugarcane cultivation requires abundant supply of water. All these demand is met through pumping out the ground water through the bore wells. Due to evaporative losses the ground water subsequently gets lesser amount of recharge. This leads to gradual decline in ground water level.

The Household usage including drinking water supply is the second largest consumer of ground water. The bore wells are used to fill the three water tanks at Shetpally which are then used to supply water to households.

In absence of provisions to close the flow of water from water supply points, most of the water is wasted as shown in the adjoining figure. Almost all water supply points are devoid of tap fittings.



Fig: An unregulated water outlet at Shetpally

As a result, the present water usage remains unsustainable and poses a great threat to the aquifers of this region.

### **Suggestions:**

To make the water usage more efficient so as to avoid man made drought conditions and that the future agricultural and household demands are met, following action points could be taken up:

1. Regulate the flow of water by equipping the unregulated water outlets with tap fittings.
2. A related point of action as identified by the villagers themselves would be to take up the work of digging more percolation points. This could possibly be coupled with work taken up under MNREGS.
3. Prevent over usage of water in agricultural fields
4. Sensitizing the villagers to regulated use of household water.

### **Adopting best practices (Lessons from Ankapur)**

Not far from Shetpally lies the village of Ankapur. The village is best known for its efficient agricultural practices which can be conveniently and effectively adopted in Shetpally as well. Apart from above action points certain on-field activities can easily help in conserving agricultural water use.

1. The farms in Ankapur are terraced so that the water flow from one field to another is facilitated through gravity. The general slope in Shetpally is from South to North. Thus, a similar approach could be adopted here as well. This will not only conserve water but also save power as a common tank (filled by borewell) could be used to irrigate many fields.



Fig. A field with subsidiary channels



Fig. Common Tank for irrigation

2. After the levelling subsidiary channels could be developed to regulate water flow so as to ensure that water reaches the right field only.



Fig. Water flow regulation

3. Drip irrigation could be used as it is being used at Ankapur. However, Drip irrigation could only be implemented after the levelling and subsidiary channel development without which it could be costly.

The bedrock of sustainability in Shetpally lies in its water use efficiency. This would need not only infrastructural but also behavioural changes. The looming water crisis, which has the potential of affecting both the household and agricultural economy, could only be resolved through a balanced, equitable and participative use of limited water resources in which grass root level people and functionaries have to take the first initiative.