

A very simplistic view of science and water cycles.

Rain falls on the ground and starts to flow. Rain seeps into the soil, where water stays still or slows, and through the roots of plants and trees. And from here to the weathered zone below, to gather in smaller saturated pockets, and in fractures and lineaments. From **surface**, to **sub-surface** to **shallow** aquifers and then into **deep aquifers**.

With **deep borewell exploitation** compounded by its own high pressure/low pressure zones, **the flow from shallow aquifers** into the deeper lineaments and fractures **is enhanced**. Water will always find the lowest point. Open wells go dry, as do shallow borewell's as deeper borewells are dug. **When the water** in deep lineaments and fractures **dries, deserts will replace our crops**.

As shallow aquifers dry quicker, **soil moisture also evaporates faster**. As sub-surface moisture dries, **grasses, bushes and, finally, smaller trees die** out. In the absence of soil cover, **the albedo affect kicks in** as direct sunlight warms the soil **and repels rain clouds**. With **more agriculture, run-offs reduce** from 30% to <10%, and **evapotranspiration increases** to >80%. In such an environment, **Watershed technology now has little scientific basis**. **Farm ponds and open tanks only accelerate evaporation**.

If people want to start talking water, they need to start top-down and bottom-up interventions and practices, simultaneously.

You need to **reduce ground water extraction** through **community borewell's** and **shared borewell's** and a **moratorium** on new bore wells. You have to do **deep bore recharge**, and you need to **plant trees** - hedge plantations, orchards so that at least **30% of lands are under biomass**.

You need to start **composting** and adding this back to increase soil organic content, creating nano reservoirs of soil moisture. Alongside you need to **reduce chemicals and synthetic pesticides-based cropping** that destroy soil organisms and poison the food and water chain. You have to look at **crop water budgeting** and **grow those crops or only as much as your community water budget allows.**

Water is not just a product optimised through technology; it's **life**. To save it, we need to think totally out of the box: **instead of focusing only on water**, can the focus expand to include **livelihoods** and **soil-less agriculture?**

And to get people invested into the idea of water, we need to start talking of **water equity** and **water shares** owned by each household.

All water (surface, or ground, is ultimately, made of rain water. Rain water is easily quantifiable. 1 acre mm of rainfall = 4000 ltrs. Sonapura village, in Chikballapur district, for eg, comprises of just 98.52 acres, say 100 acres. With an average of 500 mm of rainfall, Sonapura receives 20 Crores litres of rainfall. Assuming that 50% must be allowed to flow as a common right (the right of the river to flow), that still leaves 10 Crores litres of water as a community resource. Though there are only 53 resident households, there are totally 93 land owners, with the rest leaving in adjacent villages or in Bengaluru. Say, 100 households. That's 10 Lakhs litre-share per household, including the landless.

Whether people actually own this or not is not material. But if this knowledge translates into a sense of ownership, then we will have started on a journey of understanding water as a common good.

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