



News from IEI's Asian Regional Initiative in Bangalore (India) – March 2018

The year has begun with our renewing our commitment to promoting sustainable energy-services – to reach the un-served, and to improve the efficiency of delivery to current consumers.

Over the years, we have been researching alternative ways by which improved (technically and economically efficient and cleaner) energy services can be delivered. One set of options that we have explored extensively is generating fuel from the wastes of economically-viable activities in farming regions. In a few cases, we have designed and undertaken field projects through which the ideas were demonstrated. While energy needs can be met, other basic needs – particularly food and livelihood – are also addressed, and conventional energy resources are conserved. Abstracts of some reports – for example, <http://iei-asia.org/IEI-Bangalore-CleanCooking-RuralDevelopment-Report.pdf>, <http://iei-asia.org/IEI-Bangalore-DairyWaste-SustainableElectricity-DemonstrationReport.pdf>, <http://iei-asia.org/IEI-Bangalore-CropWaste-CookingFuel-DemonstrationReport.pdf> are available at this web site.

While we had used our applied research to implement these projects, we gained important insights along the way – precautionary measures that should be taken, solutions to problems, and the most effective operational practices. There is much valuable experience with other groups, some of whom we have already partnered with, and others in diverse parts of India and other similar developing countries, whom we are now approaching. At this juncture, we want to focus on sharing our accumulated information and learning, so as to facilitate adaptation, implementation, and replication.

One of the most difficult hurdles in the path to sustainable development is the availability/accessibility of adequate supplies of water. Water is scarce, essential for the survival of humans, animals and plants, and also needed for energy generation and several other productive purposes; more importantly, there is no alternative for this precious natural resource, so that shortages and worse - dwindling supply, can cripple life itself.

But solutions for bolstering water-supply do exist: for example, rejuvenating abandoned/dried deep-wells (discussed in the September'17 newsletter), accumulating water in ponds/lakes newly-dug or revived (through de-silting/dredging) often with joint (community) endeavour (discussed in the December'17 newsletter).

This newsletter has more stories from our state (Karnataka, in south-west India) on efforts made to “harvest” water. These include farm-based collection ponds and also trenches dug into neighbouring hillocks to channel water for settlements. These directly enable improved water-access and can also improve groundwater levels.

In some of the largely drought-prone regions of north-Karnataka, farm-based ponds have become a lifeline for farmers. The costs of creating the depression for the collection-pond may be met from the State-Government-sponsored scheme for farmers (*Krishi Bhagya*)



and/or through the schemes of local non-governmental organizations who, in turn, are supported by larger donors. (For example, the **Deshpande Foundation** sponsors earth-moving equipment available through their *Neer Sinchana* scheme, funded by the Tata Trust). However, observing the benefits derived from the improved accessibility of water, farmers even take bank loans for constructing collection ponds.

Figure 1 (courtesy Vishwanath Kulkarni) shows such a pond, in Navalkund. The water accumulated in the farm ponds is used not only

for irrigating existing farm lands, but also for feeding cattle and utilizing fallow lands.

Villages and hamlets (settlements of a few families each) located in hilly regions depend for fresh water on the streams flowing down the hills. In recent times, some of these streams dwindle down to a trickle during the summer months and even deep wells bored to extract groundwater yield too little to support farming. Some families have tried to solve the problem, with the help of water-conservation experts' advice, for example, the people of two hamlets (Karki and Makkikoppa, Thirthahalli *taluk*) in Shivamogga district (western Karnataka). They have collectively dug trenches into the hillsides, channelling water into collection-ponds at the foot of the hills. **Figure 2** (courtesy Chandrasaha Hiremalall) shows one such trench. Nearly 500 ponds of various sizes have been dug into the sides and base of the hillocks. These not only collect water, but also the silt that would otherwise block the flow of the streams; they are also improving the rainwater percolation and thereby, the groundwater accessibility.

