Building capacities for the transfer of knowledge

The digital divide is not just an accessibility issue; it also an issue of equity and usability by all. Most importantly it is the large levels of illiteracy among the rural population, which prevents them from accessing ICT initiatives. Unless these underlying issues are effectively addressed by emerging ICTs no convincing change would come about and ICTs would be yet another way of marginalizing the already marginalized.

Vivek Vaidyanathan observes, "At an individual level, ICTs can improve access to shared employment networks, provide livelihood information and facilitate essential services like transportation, health care and education. Illiteracy should not be perceived as a constraint for increasing ICT related developments. Rather ICT growth ought to be explored as a possible means of mitigating problems arising from illiteracy."

Which brings us back to issues of equity. Unless there is equal and unbiased access available to all sections of society, little can be achieved. Development practitioners who aim to set up ICT programmes need to include certain components as pre intervention strategies. Information needs assessment, stakeholder mapping, appraisal of equity and gender issues, social and environment impact assessment are some of these.

ICTs must also be relevant to target groups. Prof. Prithviraj, Pondicherry University, says, "ICTs must speak the language of the local communities as their ownership and participation is vital for ICTs to be successful." Additionally, women seem to remain largely beyond the scope of such centres. Saswati says, "Women need to be encouraged to visit VICs and enabled to get hands on experience with the technology. This can lead to enhanced knowledge and empowerment for them. There is also a need to make ICT centres hubs of activity, and make them multi-functional, educative, in fact an integral part of rural life." This inclusiveness is particularly significant in the light of the establishment of the Mission 2007, which aims to bring connectivity to 600000 villages of India.

ICTs are necessary to bring remote regions of rural India onto the national developmental map and enable the regions to align themselves with the larger national socio-economic development plans that are already underway.

Prof Prithviraj remarks, "In order for ICTs to benefit the remote, the marginalized and the truly needy, there have to be different last mile (final leg of delivering connectivity from a communications provider to a customer) attempts at educating the beneficiaries. If it means going to the field to educate the farmer about the services on offer, then that is what has to be attempted."

It is also important to determine the aspirations that the community has with regard to ICTs. Accessibility without bias at affordable rates and within easy reachable distance is what will make ICTs really beneficial to everybody. As Velu says, "ICTs, as we understand them can help us get jobs, get educated and so much more. But there are disparities in who gets the benefits. In our village, entry of dalit children into VICs is still taboo."

Until Velu and his children, and more like him can enter VICs without let or hindrance ICTs will be elitist tools that only the already privileged will have access to...

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Raised bed farming

Reviving traditional technology

Balasubramaniam

70 per cent of India's population is dependent on agriculture but less than two per cent of government budgets are spent on agriculture. Small farm holders comprise 90 per cent of India's farming community, most of whom are also dry land farmers with no irrigation facility. They are not able to afford the cost of fertilizers, fuel and energy at commercial rates. Additionally, repeated crop failures owing to pest attacks and vagaries of climate, leaves them heavily indebted.

In order to address some issues faced by small farm holders, Agrarian Development Institute for Sustenance and Improved Livelihood (ADISIL), a Madurai based NGO, with the

support of Svaraj, has revived an innovative, traditional technology, i.e. raised bed farming. Raised bed farming is the practice of using complex terraces of elevated earth to grow vegetables, it is done simply by forming a bed of topsoil that lies about 6 inches to 10 inches above the rest of the ground. Generally this bed is 3 feet wide and 8 feet to 10 feet in length.

This practice, while it had fallen into disuse, is known to have the potential to promote sustainable agriculture and address food security.

The raised bed technology experiment was conducted in Jari Usilampatti village in Kallupatti

block of Madurai district in Tamil Nadu among a group of 20 women farmers, all of whom were landless dalits. The women took responsibility for the project and ½ acre of land was leased from a local landowner for trial cultivation on the understanding that 25 per cent of the profit from sale of vegetables would be given to her. The landowner also accepted to supply water for the raised beds.

No of families: 200, largely dalits
Average landholding: 1 acre
Main occupation: casual labour and agriculture
Literacy level: 45 per cent
Cost of cultivating ½ acre: Rs. 8,000/-

ADISIL provided technical support for the project. Organic farming principles were applied and the beds were manually prepared by the women with the help of small tools. They collected biomass from around the village and applied it to the beds. The mixture of garden soil and biomass resulted in rich humus.

20 beds were cultivated with ladies finger, cluster beans, brinjal and tomato on a rotational basis. Between beds of 4ft breadth, 20 ft length and 2 ft height, two ft pathways were made for watering and tending to the beds, as well as collecting vegetables. The vegetables chosen were those that yielded crops over a short term (45-60 days) with a chance of doing three or four cycles in a year. Chinna Karpiah, a participating farmer says, "The advantage in this method of farming is that thought it involves some effort and expense in the initial period, we can reap the benefits in the subsequent years without additional expense, and less efforts."

This provided protection against crop loss. In the event of one crop loss, the plants were capable of yielding for several more. After the cultivation the women were able to harvest cluster beans several times over. The vegetables were used by the women for their household consumption as well as for sale. This served the dual purpose of providing nutrition and livelihood security. Padma, one of the participating women farmers says, "Through this method, with minimum investment we get to eat tasty and nutritious vegetables and earn a reasonable income. My children are so happy because they get to eat vegetables everyday."

Enthused by the success of the technology, the manager of a local bank initiated a dialogue between ADISIL and TADCO. As a result, a loan of Rs. 4, 00,000 with a subsidy of Rs. 1, 25,000 has been granted to upscale the project.

The technology

Raised bed farming technology involves preparing beds that are higher than the surrounding soil as well as small enough to work on without stepping on them. The maximum recommended width for the bed is four feet, whereas length can be determined depending on the farmer's needs. Beds of width greater than four feet can be subdivided into sections which are accessible from either side through planks or stepping stones.

While it is not mandatory for raised beds to have bunds, it is beneficial to have them as they help retain water, prevent soil runoff and help microbial activity. Since the crop units are small in size tractors and power tillers are not required for tilling the soil. The technology is women friendly and conventional farmers use this method as well to raise the crop saplings like paddy, ragi, tomato and other saplings.

The main benefit from cultivating on raised beds comes from improved soil conditions. Soil compaction can reduce crop yields up to 50 percent as water, air and roots have difficulty moving through soil compressed by tractors, tillers or human feet. Farmers can avoid this problem completely by creating narrow beds which do not need any of these and can be managed with smaller tools. Organic matter and silt from lake beds can be applied gradually to the soil thus preventing bogging down of the soil.

Narrow beds also help to conserve water. It is possible to use watering systems that ensure water reaches only where it is needed. Canvas soaker hoses, perforated plastic sprinkler hoses and drip type irrigation disperse water in a long, narrow pattern well suited to raised beds. They also reduce disease by directing water to the soil instead of wetting leaf surfaces as with overhead irrigation.

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