

## Looking Back, Thinking Forward!

### Women and landless people's access to irrigation, the Khudawadi experience

Seema Kulkarni

Irrigation policies and interventions until recently never demanded distinguishing between different categories of water users. The thrust of their work was to make more water available for agriculture as per the geographical patterns and chronological schedules. There was obviously little concern over which particular communities and social groups need access to water. It was a matter of even less concern as to which households benefit from such huge public expenditure leaves alone which members of the household. This process had therefore totally eliminated any opportunity for women to claim rights on water

Society for Promoting Participative Ecosystem Management (SOPPECOM) is an organisation actively working in the water sector for over a decade now. It has been involved in action research programmes related to sustainable resource use practices, equitable distribution of water, formation of water users groups for decentralised management of water etc. The underlying perspective and strategy that link all these efforts together can be broadly described as the biomass based production strategy. This alternative strategy is primarily based on:

- a) Primary biomass productivity as its starting point and sustainable enhancement of that productivity;
- b) The critical role played by resource assessment, matching resource availability to needs and strategic use of limited external inputs to optimise the sustainable productivity gain by appropriate technological choice;
- c) Creating equitable access for the rural poor and disadvantaged sections, especially women, to the biomass production facilities (including water and land/wasteland) and biomass product as well as local materials and renewable energy sources;
- d) Taking account of non-farm livelihood activities that are possible;
- e) Creating institutional arrangements and conditions for assistance and cost recovery which would provide incentive for primary productivity enhancement, optimal use of external resources, access to productive resources for the rural poor and disadvantaged sections, especially the women; and
- f) making possible a transition to an energy self-reliant, dispersed industrial system of production and livelihoods. Thus, the strategy does not stop at agriculture or primary production alone; on the contrary the full realisation of the strategy would take place only if it is accompanied by value addition through dispersed industrial production. This is especially true for sections that are landless, agriculture labourers, artisans and women who are mostly out of the purview of land-based production systems.

SOPPECOM's primary thrust is on the principle of sustainable productivity enhancement and equity. Within SOPPECOM equity is seen as a matter of minimum assurance to all of water required for livelihood needs irrespective of their ownership of land. Minimum water

assurance is here seen as a right that vests in people by virtue of their right to an adequate livelihood, and not by virtue of the land or other assets that they own. In the conventional approach, water rights are tied to and enjoyed through land rights. In contrast, the consensus around the concept of equitable access to water in SOPPECOM is based on a separation between the two. Although there is a tradition of natural equity of a minimum water assurance among landholders (especially when they belong to traditional peasant castes usually these concepts do not extend such assurance very easily to the landless or to women. Special efforts are often needed to bring such disadvantaged groups within the ambit of minimum water assurance as a right of equitable water access.

SOPPECOM along with Maitreyi a Mumbai based women's group and Women's Studies Unit of Tata Institute of Social Sciences made such an effort in Southern Maharashtra in a village called Khudawadi.

Khudawadi village in the drought-prone Osmanabad district in Marathwada region is situated at the tail end of the Kurnur Medium Irrigation Project. It never received its share of water till a water users' association (WUA) was formed in the village in 1992. In fact this 'deprivation' of not getting water irrespective of being within the command was the main driving force for the people to come together, to form the WUA and take over the water distribution and management. SOPPECOM, which has done pioneering work in PIM in Maharashtra, helped the local people in establishing the WUA, and it has been functioning well for the last 5-6 years. This forms the backdrop of the whole programme in Khudawadi.

Here the organisation worked at three levels

- Establishing water rights for the landless and the women
- Providing support through capacity building for productive use of water
- Institutional arrangements for sustaining and defending the established rights.

## Establishing Water Rights

### Water Users' Association

The Kurnur Medium Irrigation project on the Bori river is about 8-9 kms away from Khudawadi. The Khudawadi minor, a 5.95 km long canal, runs through Khudawadi village and it is supposed to irrigate about 270 ha of land with a break-up of 81 ha in Kharif, 94.5 ha in Rabi and 94.5 ha in summer or hot weather. The dam has a live storage of 32,281 TCM with an irrigable command of 2964 ha.

SOPPECOM, had a dialogue with some of the farmers from Khudawadi village around 1991. Some of the initial meetings with the farmers indicated that there was a definite need to organise the landholders around this issue. Although the irrigation project was completed in 1968, the data till 1993 shows that the canal had not been able to irrigate more than 40-50 ha of land. There are about 260 landholders in the command of the Khudawadi minor, most of them are small and marginal farmers owning on an average about 1 to 1.5 ha of land.

Farmers sensed a lot of insecurity because of the Irrigation Department's (ID) unplanned and irregular water rotation system and inequity in distribution of water. As a result of this they could not make a cropping plan beforehand. This situation convinced the farmers the need to organise into a WUA. A formal registration of the WUA under the Co-operative Societies Act was done in 1992.

After the joint inspection of the physical system carried out on 25th of July 1993 and after the necessary repairs in the system were completed the ID did the handing over of the system to the WUA in 1994.

After the WUA took over the water distribution and management of the canal from the Irrigation Department, its first year of actual operation started in November 1995. This was a bad year in terms of monsoon. However, the ID made a positive discrimination because of the WUA and released water only to Khudawadi Minor. Though the ID released only a small quantum of 23 MCFT (Million Cubic Feet) and not the full quota, the WUA managed it very efficiently and could irrigate about 100 ha of land in one season. This was a record of sorts. Apart from being able to expand the irrigated area, the WUA managed a full recovery of the water fees and a total audit of the water use, something the ID had not been able to do in years.

## Equity Innovations

From the very outset members stated that a guarantee of assured water to every member was necessary, and that every member should have equitable access to water. Many discussions were held with the members of the WUA as to how best to operationalise the principle of equity. After much deliberation (and some resistance) it was agreed that each landholder during the time of registration of the WUA would be treated as one family and each family would get water for 1 ha of land.

The other important equity innovation on the part of the WUA was the allocation of a 15% water share to the landless families of the village. In fact it was around this right that the whole programme in Khudawadi village evolved. The processes involved in evolving this understanding is dealt with a little later.

## Paryayi Vikas Sanstha -- An organisation of the landless

The allocation of 15 percent of its water quota by the WUA set the environment for change. Very often such innovative equity decisions remain in principle alone. It was therefore decided to make a very conscious effort to translate this into an established right. The issue here was not just one of asserting a right over a resource but also one of giving a positive meaning to this right.

It should be mentioned here that the demand for a share in the water did not come from the landless group. It was initiated by SOPPECOM as part of its commitment to equity. SOPPECOM put different options before the WUA and the final outcome of the allocation of 15 percent share of water to the landless was a suggestion that came from the members of the WUA themselves. One of the reasons why the WUA agreed to this sharing arrangement was that SOPPECOM had made this conditional for its involvement in the formation of the WUA.

During the initial discussions with SOPPECOM when setting up the WUA, it agreed to earmark 15% of the water the WUA would receive from the Irrigation Department for the landless and women in the village. Along with this was the question of what the landless and women would do with the water if they do not have access to land. One option was to make available the private wasteland, nearly 100 ha, from which the owners do not get anything much. After much persuasion and reassurance, six owners having about 10 ha of contiguous wasteland, though initially reluctant and apprehensive of losing ownership, agreed to lease their wasteland on a lease of 15 years to the landless and women's group and entered into a written agreement on a stamp paper to this effect.

There were various issues that had to be tackled. There was the issue of what should be produced on this land using their share of water. The men were interested in horticultural

cash crops like grapes, but it was found difficult on various counts like the initial capital, market fluctuations, risk, the high levels of skills required, and importantly the fact that the only land that was made available to the landless by the WUA was fallow lands outside the command. The men gradually lost interest and it became a landless women's programme of a plantation that would give them employment opportunities as an immediate gain and fodder, fuel and some cash income after about 10 years when the trees could be cut on a rotational basis or so.

About thirteen landless families became members of the newly registered society which was called the Paryayi Vikas Sanshta or PVS.

Another component of the programme was women's intensive cultivation of small plots, the size of 10 gunthas (one guntha is 0.01 ha or an acre) along with a share of water offered by one farmer. This was based on the ideas of Shri S. A. Dabholkar of Prayog Parivar, an informal network of experimenter-farmers, who was propagating an innovative concept of sustainable, intensive cultivation of small plots using low external input sustainable (LEISA) agricultural techniques. SOPPECOM was interested in taking up this experimental programme since it could meet the needs of landless and women provided they got access to land and water.

Sharing of the produce, the return owners get for their land was another issue. In the usual arrangements landowners are in a dominant position because they control land and water. However in the new situation the landless and in this case the women were in a better position as they controlled the water. Finally it was decided that the land owners and women's group would enter into a produce sharing arrangement under which 40% of the produce would go to the land owners, 40% would go to the women and 20% would remain with the women's group (Paryayi Vikas Sanstha -- PVS) as a collective fund. The women's group it was agreed would pay no rent for the land that was leased in.

Financial resources for lifting water, for wages to be paid to the women for the time they invest until the development of the wasteland, came from a SOPPECOM-Maitreyi project with the financial support from the Canadian International Development Agency under its Small Projects Environment (SPEF) for four years. The women took up various activities like nursery, soil and water conservation work in the wasteland, planting and maintenance of trees, soil development and in-situ composting, cultivation of different crops in the small plot, setting up a water system for both the small plot and wasteland, etc.

The programme also had other spin-off effects. One, the women started a Self Help Group (SHG) which met some of their credit needs and brought the women together as a cohesive group. In fact these women formed the nucleus of the PVS. The women collectively took up a goat rearing scheme under the Integrated Rural development Programme (IRDP) based on fodder from the 10 ha wasteland -- as a result of the soil and water conservation works and protection from open grazing -- and now own Rs. one lakh worth of goats, and one acre of agricultural land (which they bought) and a permanent shed for the goats, also repaying the loan regularly. Here access to water was the starting point.

## **Institutional Arrangements**

### **Understanding between the WUA and PVS**

As mentioned earlier, the members of the WUA had decided on an equitable sharing of water and as per this understanding all the families who own land within the command of Khudawadi minor would get access to water as per the norms fixed by the WUA. Several discussions were held with the members of the WUA to evolve a consensus regarding the

operationalisation of this principle of equity. After much deliberation (and some resistance) it was agreed that each landholder (who has land against his name in the village land records) during the time of registration would be treated as one family and each family would get water for 1 ha of land.

The other issue that came up for discussion was with regard to the sharing of the additional water the well owners would get because of the recharge from the canal water. If there is no sharing of this additional water, then it is very obvious that only the well owners would benefit from the recharge. Different options were explored -- should the WUA tax the well owners for the use of this additional water? Should the recharge be estimated and the well owner receive that much less water from the canal? Should the additional water be pooled together and made available to those who do not have wells? There was a lot of debate on this issue. SOPPECOM members strongly put forth the point that when so much public money is being invested for the formation of a WUA, then the WUA too had an obligation to ensure equitable and productive use of this resource. The well owners also seem to have made their own estimations about the possible recharge and came to the conclusion that on a minimum there would be about 15 percent recharge of the canal water. This seems to be one of the immediate reasons, apart from their commitment to equity because of the initiative taken by SOPPECOM in this regard, for them agreeing to allocate 15 percent of the canal water to the landless in the village. Of course, this 15 percent would be a proportionate share, as the quantum of this 15 percent would depend on the quantum of water the WUA would receive from the ID each year. Though the ID is supposed to supply 70 MCFT of water to the WUA as per the MoU signed by the ID with WUA, this allocation would change as per the water available in the Bori dam. For example, if the dam fills only partially, then the water quota to the WUA would also be reduced accordingly. The decision to allocate 15 percent of water to the landless in the village has also been recorded in the minutes register of the WUA.

## **Agreement between PVS and the owners of the wasteland**

Khudawadi village does not have any gairan or community land. Hence, the landless group had to initiate a discussion with the owners of wastelands and work out some produce sharing arrangements. Landowners whose wasteland was closer to the canal were approached. Eight to ten such farmers were identified and a discussion was initiated. Initially there was a lot of reluctance on the part of the landowners as they feared that the tenancy laws would apply and they would finally lose ownership over their own land. When they were assured that nothing of that sort would happen and that nothing would be done to their 7/12 record (village land record), they agreed to have further discussions on the matter. Soon they started bargaining for a better deal. Some landowners insisted on a land lease as per the traditional practice prevalent in the area, which meant that the PVS would have to pay a fixed annual rent per acre. (The prevalent rent at that time was approximately Rs. 1000 per year per acre for grazing lands).

This was discussed with the women who decided to reject these offers for various reasons. First of all, if most of the project money were to be spent on paying rent for land, then very little money would be available for developing the land. Secondly, the demand was not for land ownership, but for a land lease for a period of 15 to 20 years. In that case, at the end of the lease period, the owners would in any case get back their lands and that too developed and productive land.

Women then decided to sit together and come out with a concrete offer to the landowners. Apart from the landless women, people from a few other social organisations also came together to discuss a fair deal or agreement that could be worked out between the owners and the landless.

The main points that emerged out of these meetings were:

- A legally valid agreement or a memorandum of understanding to be made on a stamp paper.
- No rent would be given to the landowner but the productive land would remain his.
- Of the net produce, 40 percent would go to the owner, 40 percent to the landless and 20 percent to the association of the landless for maintenance of the land during the lease period.
- The lease would be for a minimum period of 15 years.
- Produce sharing of timber, fuel, fruit would start from the seventh year onwards; however fodder will be cut and given from the first year itself.

These terms were discussed with several landowners. Here was a situation where the landless women were totally geared up for some activity, but the landowners could not accept the terms. It was December 1994 and there was still no consensus. To sustain the women's interest a plant nursery was initiated. It gave the group some time to sustain the dialogue with different landowners while continuing with an economic as well as a training activity. This proved to be a good decision, since it provided a forum for the women to discuss diverse issues.

From January 1995 onwards efforts were concentrated on discussing the offer with the landowners to find out whether they were willing to lease out land on the terms set by the group. After several rounds of discussions, some six farmers -- all from the shepherd community -- agreed to give the landless women a total of 10 ha of land. The farmers agreed to most of the terms set, but insisted on being given a share in the fodder from the very first year as they normally used these lands as grazing lands. It was, therefore, agreed to cut and give a 40% share in the fodder to the owners from the first year itself. Although cutting the fodder and giving it would mean a free service to them, the objective was to prevent free grazing on the land. The agreement was signed on 1<sup>st</sup> April 1995. Development of the wasteland started in May 1995.

## Capacity Building for Meaningful Use of the Resource rights

### Development of 10 ha

The ten-hectare wasteland, taken up by the landless and women's group for development on a produce sharing arrangement and a long-term lease of 15 years from the individual owners, falls outside the command of the Khudawadi minor. Prior to this, the owners had used this land primarily as grazing land and no cultivation had been done on this land for the last 20 years or so. Continuous free grazing and extensive run-offs have depleted the soil cover of this land. The land is owned by the members of the shepherd (*dhangar*) community who are also farmers. There is very little natural vegetation on this land. Seed/root stock of different grasses is almost negligible leaving the land barren and dry for most part of the year. It is estimated that there are about 100 ha of such privately owned wastelands in Khudawadi village.

This 10 ha land, owned by six farmers, is contiguous and is made up of a few small hillocks. The land is stony, undulating, with very little soil cover and highly degraded.

By early May the contour survey of the 10 ha plot was completed. The women using the 'A-Frame' method did plotting of points along the contour lines. The women's group was trained to use the A-Frame. In fact, the women, with the help of one technical person, completed the entire contour plotting.

As a first step in developing this wasteland it was decided to take up extensive soil and water conservation works. It would provide employment to the group and also would minimise the soil and water run-off. The group also decided to restrict the plantation activities to a smaller

area in the first year, as there would not have been enough water to sustain the plantation on a larger area. Prof. S.A. Dabholkar, one of the consultants to the project, was of the opinion that instead of going in for large-scale plantation in the first year, efforts should be made to prepare trenches and pits as well as to initiate the process of preparation of fertile soil (known as the nursery soil) by collecting and composting different categories of biomass such as dry leaves, mature green leaves, fresh sprouts and twigs. This nursery soil could, then, be used for plantation in the subsequent years. He also suggested that certain species like the glyrecidia (high in nitrogen content) should be planted extensively. This would serve not only as a live fencing but periodic cuttings of this plant could also give a lot of leaf matter to improve the nitrogen content of the soil.

There were consultative meetings between the women and members of the SOPPECOM team to decide on the kind of soil and water conservation works that would be useful for the land. With the use of the contour map of the plot, a broad development plan was prepared and locations for bunding and trenching were marked on the contour map. These were slightly modified when the actual soil and water conservation works were carried out.

Weekly meetings held with the women were very crucial in taking decisions about the development of the land like the positioning of the bunds/trenches, the type of bunds/trenches essential to arrest soil and water run-off, etc. Their involvement in decision making not only benefited the entire physical development works, but it also helped in increasing their participation in the larger programme, essentially in making them feel that it was their programme and that they have to carry the programme forward for the next 15 years.

It has to be mentioned here that, though a lot of efforts were made to involve the landowners in the planning process, there was little interest and initiative from their side. Hence, a live interaction between the two groups - the women's group and the landowners - could not be maintained during the project period.

### **Innovative techniques used -- skills internalised by women**

A-frame method: This is a method to mark the contour lines on a piece of land through a simple wooden frame in the shape of the alphabet 'A'. A string, with a heavy object at its end (for example a stone) is tied from the centre of this frame. The string would be at the centre on one contour line and would tilt on either side if the A-frame is kept on a slope. The women were trained to mark the contour lines by this method. The contour markings were rechecked at different points by the dumpy level until the required accuracy was attained. The women did the entire marking of the 10 ha plot by using the A-frame method.

Poly-drip method: Many new ideas or experiments done elsewhere regarding plantation methods were discussed in the meetings with the women. 'Baliraja' - a Marathi magazine on agriculture - was regularly read and discussed in the group meetings. One or two girls from the group who could read and write often brought in new topics for discussion. One interesting idea that emerged from these discussions was that of poly-drip method of watering the plants. In this method, sand is filled in a polythene bag of 1 litre capacity. A couple of holes are made at the base of such a bag. It is then kept in a small pit just on the slope so that the water poured in the bag gradually percolates to the root zone of the plant. At the base of the pit, a mulch of decomposed grass and leaf matter was put and the bag was placed on the mulch. This method was used for about 400 saplings. It is a very low cost water saving technique and the water gets supplied to the root-zone of the plant.(See photograph at the end of the section)

*Mulching:* When Shri Dabholkar visited the plantation area, he suggested certain measures to improve the plantation. For example, to improve the root zone development of the plants he suggested that the soil under the roots of the grasses could be collected and along with dry leaves and grasses put it in three layers around the saplings. According to him each plant, growing in a square foot area, would require 4 litres of such fertile soil (See photograph at the end of the section).

*Pruning:* One-third of the new growth of the plants was pruned every six months, which gave a good bushy growth to the plants. This pruned leaf matter was used as mulch for the soil.

*Monitoring biomass growth:* The women also got trained in taking measurements of trees using different methods. The most important point here is that they saw the importance of taking these measurements to make an assessment of the type of inputs that have gone into the plantation programme and the type of output that they can see in the form of standing biomass.

## Water system

Providing a water system for 10 ha wasteland plot at Khudawadi has been a major challenge by the fact that the plot is located on a hillock with steep slopes characterised by heavy undulation and presence of boulders and stones. The site posed several difficulties restricting the transport of materials for construction of water facilities, laying of pipe lines for water conveyance, etc. The choice of technology options therefore had to be innovative to overcome difficulties and also to bring down the costs so that if the innovative options are successful, appropriate, they can be replicated widely in similar situations.

It was quite clear that water could be made available at the top of hill only by lifting water from the canal. From the annexed contour plan and sections it would be evident that due to disposition of canal at a fairly long distance from the plot and steep rise from the base of the hill to the wasteland plot, the pumping energy for the lift would have been quite significant.

It is rather difficult to draw any definite conclusions about the overall biomass strategy on the basis of such a small scale and short duration pilot project as was attempted in Khudawadi. In fact projects of this nature should have a minimum time period of about 5 years to attain its full potential. However, on the basis of the experience, data and processes generated by the pilot project one can definitely say that the pilot project does indicate the potential of such a strategy to meet at least part of the livelihood needs of the rural poor. What the project has achieved could be described as the bottom line with enough scope for optimisation. Probably better results could have been possible with a little more organisational and technological inputs. The pilot project did help in bringing to the forefront some of the issues which are important for both taking up similar projects and for evolving a strategy for its generalisation. Some of these issues are discussed below.

## Intensive Cultivation on Small Plots

Ten guntha (0.10 ha) or small plot intensive cultivation by women was taken as one of the project components in Khudawadi with the idea that it can generate an independent source of income for women provided they get access to water and land. In Khudawadi, as mentioned earlier, the WUA agreed to give water to the landless and women. One of the ways to make use of this water by the women was to go for this small plot intensive cultivation. The second important aspect of this component was that it would help the women enhance their skills and understanding of primary production and thus become a training opportunity for the women.

It was also thought that through this the women can get access to an important resource, that is knowledge and skills, and in the alternative development approach, which characterises the Khudawadi efforts, they would play an important role. Thus, it is also one of the ways to empower the women.

The approach used in the 10 guntha cultivation can be broadly called as the Prayog Parivar (PP) approach. PP is an informal network of experimental farmers pioneered by Prof. S A Dabholkar. This approach emerged from the efforts of Prof. Dabholkar to enhance learning capabilities of farmers with little formal education. The term prayog literally means experiment and parivar here signifies a loose knit family sharing similar concerns and a zest for learning through experimentation. It is a process of experimental learning through which the participants discover their own potential and that of nature's resources as being crucial in fulfilling their livelihood needs and much more. In this approach there is continuing communication and dialogue between scientists and the farmers.

As mentioned earlier, the main emphasis of this experiment, as done in Khudawadi, was to develop skills among the landless women in improving the productivity of small plots by using green manure, recycled wastes and other methods. This, it was hoped, would enhance productivity and ensure food security to their families or alternatively can also produce for the market and get cash income. Apart from the land, a minimum irrigation facility of 1000 litres of water per day per plot was also assumed in the experiment and in the case of Khudawadi this water would come from the 15% water share of the landless and women.

In the course of the three year period of the project it was also expected that some of these women would develop leadership qualities and the expertise to guide other families in replication of techniques for early establishment and yield improvement of different foodgrain crops, fodder and fuel species, etc. A team of women equipped with knowledge and skills for bioresource development could therefore emerge at the end of the project period - - a team of 'barefoot technologists' on the lines of the concept of barefoot doctors!

## **Outcomes and areas of concern**

### **Water as the starting point**

Very often, especially in conventional thinking, land is seen as the only critical resource in the form of a means of production in the rural areas. As a result conventional thinking concentrates on land productivity and often talks of productivity per acre or ha. In the approach suggested here, water also occupies an equally important place and is seen as critical a resource as land. Water is not just another input like chemical fertilisers or pesticides. It is also a means of production without which primary production is impossible. It is also critical from the point of view of sustainable enhancement of biomass productivity and this potential of water is not often recognised. Studies show that if limited quantities of water and nutrients are used in a sustainable manner, then the biomass productivity is directly proportional to the water utilised by plants. In vast tracts of drought prone regions, which constitute a major part of Maharashtra, water is the main constraint in sustainable productivity enhancement.

Access to water is the starting point of the alternative biomass based development strategy, which underlines the pilot project that was taken up in Khudawadi. The limited experience generated so far indicates that if the people get access to certain assured quantum of water, then they are much more willing to make equitable arrangements for water sharing. This is especially true in areas where water comes as a new resource and the concept of private property relations in water is not strong. In the case of landless also, if they get access to water then there are different ways by which they can make arrangements locally to get

access to land in some form or the other. In the case of Khudawadi also, this checks out to be true as the starting point of the intervention in the village was water. The formation of the WUA had created a favourable situation in the village, as they felt confident that they would finally get their share of water from the Bori dam. And this was possible because of the intervention of an external agency like SOPPECOM

A new approach of taking the private wasteland on a produce sharing arrangement was adopted In Khudawadi. This is quite different from the usual approach of taking agricultural land on a share cropping arrangement. Often in any discussion on equitable water distribution, more specially when there is a talk of giving water to the landless and women, doubts are expressed and questions are raised as to what would the landless do with the water. The Khudawadi pilot project, by taking private wastelands on a produce sharing arrangement has opened up one more avenue for the landless to use their share of water.

It should be noted here that the pilot project also brought forward the limitation of the strategy adopted in Khudawadi of taking private wasteland on a produce sharing arrangement. Because of the exclusive reliance on this strategy and not pursuing other ways of using the water quota allocated to the landless, only a very insignificant portion of the 15 percent water quota of the landless was actually used. The wastelands are situated at a considerable distance and height from the canal and it requires lot of investments (and also time) to make the water available to the wasteland. The situation is going to be the same in most parts of Maharashtra.

As pointed out in a review meeting of the core group, held towards the end of the project, the option of making agricultural land available to the landless could have been actively pursued. In fact, many farmers, who were not in a position to irrigate all their land with the water from Khudawadi minor had expressed their readiness to give part of their agricultural land to the landless for share cropping. This would have helped the landless to exercise their right over the 15 percent water quota at the earliest. This is very important if the water right to the landless had to have any meaning. This would probably have helped in initiating a broad based movement of the landless around the water right and facilitated a more widespread use of the water share in a lesser time period with lesser investments. The sole emphasis on taking wastelands on a produce sharing arrangement, in a way, foreclosed other options (like share cropping with a produce sharing arrangement in favour of the landless using their water right as an instrument of bargain), which could have brought a larger section of the landless population together around the water right. Since the majority of the landless could not benefit from the water right (and from the project), they got disinterested and in the process the few landless and women who became part of the project got isolated in the village.

However, on the other hand, if exclusive emphasis was given to the option of taking agricultural land for share cropping, then there was the danger that the women from the landless families would have been totally excluded from the water right as the men from landless families would have cornered the benefits of sharing cropping arrangements. Taking up the wasteland for development did help the women to come to the forefront. Thus, the lesson learnt from the programme was that there is a need to pursue both the options simultaneously.

## **Institutional issues**

At every stage, beginning from making the institutional arrangements to implementing them, the landless group faced tremendous resistance in the village and this could be overcome because of the support given and negotiations carried out by external agency like SOPPECOM-Maitreyi. In these types of programmes the external agency would have to withdraw some time or the other. Then the question is whether the initial understanding and

arrangements would hold even after the withdrawal of the external agency. The core group was seized of this problem right from the beginning and tried to take certain steps to see that the rights of the landless group would be protected and honoured. One such step was to insist that all the agreements should be in writing. The second step was to organise a support group consisting of the respectable persons within the village. That was one of the reasons why a few respectable individuals from the village were also made members of the Pariyayi Vikas Sanstha - organisation of the landless. A third step was to take the problems faced by the landless and women's group to the village by holding village meetings and resolving these issues and problems through wider consultations within the village.

Though the WUA passed a resolution in one of its initial General Body meetings regarding the allocation of the 15 percent water quota to the landless, the WUA was little resistant in making a formal agreement with the Paryayi Vikas Sanstha regarding the 15% water share. For two years the women and the landless group (and also SOPPECOM-Maitreyi personnel) had to push for getting the formal agreement done. Finally, towards the end of the project period, the WUA did give a written assurance to the PVS that water would be provided to sustain the plantation.

In the initial phase due to the presence of an external support group, the programme developed at a reasonably good pace. However, towards the end of the third phase when the external group decided to gradually withdraw, the women faced a lot of obstacles in carrying the programme forward. Several incidents, which hampered the functioning of the programme, took place. Free grazing in the plantation area by some of the landowners themselves, damaging the lining material of the pond, etc., are all examples of this.

It was these experiences that led to a strong thinking among the core group for the need to have a legal space for the landless and the women for assured entitlements over land and water. The present arrangement of registering a WUA through the Cooperative Societies Registration Act did not address the concerns of the landless and also women from the landed households.

Equally important is also to build up a support group within the village so that the conflicts, misunderstandings and problems could be amicably settled within the village itself and the programme could be sustained.

## **Biomass production and livelihoods of the landless**

Another important issue to be discussed here is whether the landless families can meet their livelihood needs from the biomass produced from the wasteland. What was projected in the project proposal was that a landless family would be able to meet most of their livelihood needs from the produce that they can get from 2 ha wasteland and one 0.1 ha intensive cultivation plot. As mentioned earlier, the women could not go into a production phase in the 0.1 ha plot as most of the project period went in learning and developing the plot itself. So at the moment there is no data from the 0.1 ha plot to say how much biomass can be produced from this. As far as the data from the 0.8 ha plantation is concerned upto 1998 the results showed that the group could get about 6 T of incremental biomass per ha per year. This means that if the family gets access to 2 ha of wasteland then they can easily get about 12 T of biomass every year. This is a bottom line figure as better productivity can be achieved with little more input use of nutrients and water. Various biomass and livelihood studies have shown that the livelihood needs of a family, including the cash requirements, can be easily met if it can get access to about 12 to 18 T of biomass. Thus, from what has been achieved in the Khudawadi pilot project one can safely say that a family would be just able to meet its requirements from the produce of 2 ha wastelands. To this one should also add what could be produced on the 0.1 ha intensive cultivation plot. Since the landless would get only about

60% of the produce under the produce sharing arrangements, what actually a landless family would get in hand would be only about 7 T of biomass. Obviously, this would be insufficient to meet all the requirements of the family. This can very well meet the fuelwood and fodder requirements of the landless family.

However a detailed monitoring of the same plot was done in March 2001 ie just before deciding to harvest the trees. This data showed a significant reduction in the total biomass and in fact the dry weight of the utilisable biomass (fuel wood and poles) was just 3 tons and in financial terms this was not more than Rs 4500 @Rs 1500/ton. This certainly is a set back and raises some fundamental questions with regard to sustainability of the alternative; choice of technological alternatives for meeting livelihood needs and need for phased planning for making the programmes more sustainable and viable.

It should be mentioned here that the approach taken in Khudawadi was one of minimum inputs and from the experience of the project it is very clear that if one has to meet the livelihood needs, then a faster and a greater biomass growth with the help of nutrients, including chemical nutrients, and water would be required. The water used in the Khudawadi plantation was more for establishment and survival of the plants and not so much for biomass increment.

Downstream processing of at least part of the biomass was also assumed when the Khudawadi programme was conceived. However, this did not take place, as it requires a much wider organisational and technological efforts. Here only a projection can be made of what would have been the scenario if this value addition had taken place. Experiences of some of the proto-type projects in this regard, especially in the infrastructure sector, show that it is possible to add value by a factor of 4. This means that if 1 T processable biomass (let us say in the form of small dimension timber) which has a monetary value of about Rs. 1000 if sold as firewood, is processed and used as infrastructure material, then its value can go up to about Rs. 4000. Out of the 14 T of biomass produced from the 2 ha wasteland; about 5 T could be of processable biomass in the form of small dimension timber, fibre, etc. Out of this, 3 T is the share of the landless themselves and the remaining 2 T can be bought from the landowners on a pre-fixed price (provided there is such an arrangement in the village) so that ultimately each landless family gets access to about 5 T of processable biomass. Thus, with 5 T of biomass at its disposal the landless family would be able to generate an income of about Rs. 20,000 per year. Of course, the primary concern is sustainable technologies to enhance productivity, develop arrangements for pooling of biomass and setting up the necessary processing facilities at the village or cluster of village level.

The sustenance of the Khudawadi programme depended on a combination of all of these factors

There was always this uncertainty and doubt as to whether the programme would continue after the project period is over. This was mainly due to two reasons: one, the external funding of the project would be over and hence the question was whether the women would continue their involvement in the absence of assured wages coming from the project; two, after the external agency withdraws whether the women would be able to sort out the problems that could come up from time to time.

This pilot experiment taught us many a lesson and although today we are in no position to claim success in the sustainability of the initiative, we certainly are better placed in terms of addressing the problems that the experience posed. One of the important things that we learnt was that when it comes to water use rights for the landless and the women there is need to look at a variety of factors. A single right to use water is not sufficient as the concerned group has no access to land or other resources to develop an asset base using the water use right-access to a bundle of rights therefore becomes very critical.

If there has to be a sustainable replication of the experience then the tasks ahead of us are

- Lobby for change in the legal procedures that would include women and the landless as members of the WUA
- Extending the scope of the WUA beyond the surface irrigation systems to include the watershed area too.
- Granting a bundle of rights for such groups in order that they are able to better use their water right. The Khudawadi experience showed us that a mere right in principle is not sufficient for its effective use-what is necessary also is the need to a) allocate entitlements on land, b) provide the necessary financial support in the establishment phase of resource development which can come through the poverty alleviation and other employment schemes, c) build capacities in the different skills needed for sustainable productivity enhancement

The experience of the women in Khudawadi is an example of the positive direction that is needed, and in spite of its limited achievements points to the direction that needs to be taken - to increase the availability of water (and local natural resource availability in general), and to get a portion of at least the incremental resource earmarked for providing minimum water assurance for the women and access to small plots for intensive cultivation. Therefore two directions emerge: one, creating a strong presence for women in village affairs in general and moving on to issues of women's share in economic activity and property.

## Postscript.....

The Khudawadi programme has raised a number of issues in the context of sustainability and replicability. One of the areas that needed immediate attention was creating legal space for the landless and women for clear entitlements over water and a role in the decision making process in the context of water use and rights.

The other major limitation that affected the sustainability of the programme was related to technological options in productivity enhancement. A serious analysis of the approach, methods and practices used for enhancing the productivity of both land and water was due. The core group did have an internal meeting looking at these aspects of the programme.

At both these levels the organisation has made some serious efforts, which are narrated below

## Providing the legal space

Maharashtra government introduced a draft act in 2001 titled the Maharashtra Farmers Managed Irrigation Systems Act (MFMIS). In many ways this is a welcome sign and paves the way for better-managed irrigation systems. However, apart from many other things, here too there is no specific mention of making the act inclusive for women and the landless. However using the basis of the draft State Water Policy and some of the clauses in favour of women in the MFMIS, SOPPECOM has made an effort to carve out a space for women and the landless. The suggestions have been divided in three sections. The first relates to membership of the WUA for women and landless and their representation in the decision making process, the second relates to entitlements over water for these groups, and the third relates to a future review process.

## *Participation of women*

Women's participation becomes all the more important in the light of the definition of water user in the act as any 'individual or body corporate or an association, using water for agriculture, domestic, commercial industrial or any other purpose from a government and or notified source of irrigation'. However, in the draft act, the participation ensured does not conform to this definition, it remains confined to holders/occupiers of land in the command.

To ensure the participation of women, we have defined a relevant woman member of the holder/occupier's household as joint holder/occupier and give her the right to participation and prefer to give the joint holder/occupiers equal rights on par with holder/occupiers. Treating them as a single unit would have deprived the women to express their independent views. Provisions are made for 33% representation in the Managing Committee for women. We have also made a provision to reserve five per cent of the water for use by women for developing independent livelihood support for women. This Women's quota shall be under the regulation of the sub-committee comprising all women members of the Managing Committee.

### ***Participation of other stakeholders and the landless and links with the community***

Technology and the growing demand for water has meant that boundaries between different water uses, areas and stakes have diminished and there are more than one type of stakeholders in canal water as per the broadened definition of water user shows. However, the WUA is still defined as mainly a body of irrigators or holder and occupiers of land in the command area. Here we propose a modification in the current definition of the command area that allows for the inclusion of the other people in the immediate vicinity as Associate Members.

Here is an extract from the note that was sent to the State Government as suggested modifications in this context

First, a service area is required to be delineated for each Minor that comprises the hamlets, villages and gram panchayats such that, a) a significant number of the holders/occupiers reside in them, and b) a significant amount of their area is served directly or indirectly by the canal water from the Minor. Second, all households that are not holders/occupiers in the command area of the Minor including the landless are made Associate members of the WUA. Third, two persons, the head of household and a joint woman representative chosen in a manner similar to choosing the joint holder from each household are deemed to be Associate members.

Associate members do not have mandatory voting rights in the General Body, though the WUA may grant them additional rights if it so desires. This means that there is sufficient space for the more progressive among the WUAs to provide for expanded rights for the associate members.

However, while individual associate members do not have voting rights in the General Body, associate members do have the right to elect two members from themselves, one man and one woman from landless households, to sit as full members of the Managing Committee. This ensures that their views are given a serious hearing. Also the provision that they be drawn from the landless and that they be elected by all associate members is expected to see that they represent both interests in the Managing Committee.

This particular draft act does not mention the role of panchayati raj institutions in the functioning of the WUAs. If water has to be managed by communities in an integrated manner then it is important that the panchayati raj institutions have a role from the very outset. It is with this in mind that we have made a provision for the gram panchayats to nominate members to the Managing Committee so that there can be fruitful interaction between the community, its self-governance structures and its water use organisation.

## *Incentives for equity*

Ideally, water rights, at least in the form of a definite quantum of minimum water assurance, must vest in people and not in the land they own. Hence, water rights should be separated from land rights. The draft Act, as it stands, perpetuates water rights as rights derived through land rather than as those vested in persons.

We see little hope in the government taking any initiative to take any radical steps in reversing this system. However, we feel that in the short term, the least that can be done is to provide for adequate incentives for those WUAs who provide such minimum water assurance for their constituents irrespective of their landholding. So although these provisions cannot be made mandatory there could be some incentives for WUAs who take pro-active steps towards equitable access of water through positive discrimination and ensuring access to water for the landless, the women and other disadvantaged sections. In our proposed suggestions we have suggested a concession in water rates for each such step. This is on the lines of the existing concessions given to the WUA by the ID for early payment and total recovery.

## *Provision for review*

One of the things that we strongly felt was in connection with the limitations of the act to meet the broader goals of integrated water use. In a rapidly changing scenario, in which water use composition, water use technology as well as water use priorities are changing rapidly, there is a need for a periodic multi-stakeholder interaction and joint review to re-determine water use systems, water allocations, entitlements, and management structures. We have therefore made an explicit provision for a periodic review of the same.

## **Study for technological choices**

The other shortcoming of the Khudawadi experience was related to the choice of technology or rather the role of technology in enhancing the primary productivity of the soil to meet the livelihood requirements of the poor in a particular time frame. The low productivity results were partly due to the soil type and the delay in providing water but largely due to a lack of understanding of the resource base to decide on the technological intervention that would be needed. Post facto analysis indicates that probably selection of different species in different combinations would have proved better. Also a judicious use of chemical fertilisers particularly nitrogen and phosphates would have built the ground for better productivity in the initial stages. The point being made here is the need to have a thorough understanding of the resource base and the area and the environment. It is this understanding that would finally help in selecting the appropriate technologies for resource development.

From this point of view SOPPECOM has now undertaken a study of different technological alternatives in productivity enhancement particularly on wastelands in different agro climatic regions.

The current study is being supported by the Winrock Foundation and it essentially looks at different practices and methods used by both individual farmers and groups in different regions to use their land and water resource in a manner that has led to sustainable enhancement of primary productivity. We are looking at balanced approaches, which have a strategy to use chemicals in a judicious manner but gradually reduce their use over a period of time.

We hope that this study will be of use not only to us in our action programmes but also to other groups working on similar issues.

The Khudawadi experience has set an agenda for a long-term action programme that organisation working in the water sector need to take up. It has demonstrated the limitations of the legislation in the water sector, the lack of institutional technological and other kinds of support for the deprived to come forward and establish their rights and use them meaningfully.

The pilot shows which direction to move in but also demonstrated the need to make a concerted effort at all the levels to achieve equity and sustainable productivity enhancement.

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