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How Effective are 'Pani Panchayats'?

A Fieldview from Maharashtra¹

Manish K. Thakur and Binay K. Pattnaik

This paper focuses on the organisational dynamics of Pani Panchayats in the context of minor irrigation. Based on field material collected from the Pune District of Maharashtra, it examines the organisational viability of Pani Panchayat and the possibility of its replication on a wider scale. It addresses such questions as why certain conditions lead to the organisation of Pani Panchayats in some villages and not others despite the similarities in the problems faced by them on the irrigation front?, and what are the factors and processes that explain their emergence and effective functioning? It tries to link the issues of organisational and financial sustainability of Pani Panchayats to those of equity and dominance at the level of village social structure.

Of late, the voluntary sector and non-governmental organisations (NGOs) have made their presence felt in the area of Common Property Resources (CPRs). A noteworthy aspect of these new actors has been their concerted focus on the participatory forms of development (Chopra *et al.* 1990; Katar Singh 1991a, 1991b and 1994; Sengupta 1991; Singh and Ballabh 1996). The emergence of Pani Panchayats in Maharashtra can be seen in this context. Pani Panchayat is a specific model of integrated micro watershed development initiative pioneered by the Gram Gourav Pratisthan (hereafter GGP), a voluntary agency based in Purandar Taluka of Pune District. It refers to the organised effort of groups of farmers to formulate and implement community irrigation projects based on certain mutually agreed-upon principles for water sharing. Since Pani Panchayats deal with water, which is a CPR, they present an interesting instance of participatory development of CPRs. Though participatory, they are

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different from cooperatives. This difference manifests itself in their organisational structure and functioning.

This paper attempts to look into the factors and processes behind the 'success' of Pani Panchayats while addressing the following questions: In what ways Pani Panchayats are a better organisational system than the government-managed irrigation schemes? Why Pani Panchayats emerge only in certain social settings and not in all places, though the problems faced on the irrigation front are more or less the same? What factors account for their emergence and sustainability? More specifically, what has been the role of social action groups and NGOs in the organisation and growth of Pani Panchayats? As far as the organisational dynamics of Pani Panchayats is concerned, our focus will mainly be on two types of conditions: (1) those facilitating the emergence of an institution, and (2) those helping sustain it (see also Wade 1987:188). In particular, we have been guided by the framework suggested and elaborated by Palakudiyil (1996:147-54) in the study of a cooperative lift-irrigation society in Ahmednagar District of Maharashtra.

The data on which this paper is based were collected during brief spells of fieldwork of a month's duration in 1997. These data pertain to the Purandar Taluka of Pune District which boasts of 38 Pani Panchayats. Significantly, it was in this Taluka that Pani Panchayat first made its appearance against the backdrop of severe drought of 1972- 73 in Maharashtra. The late Shri Vilasrao Salunke,² an engineer by profession and a budding industrialist, is credited with its original idea. Whereas the idea of Pani Panchayat emanated out of the larger concerns and objectives of the GGP,³ which he got registered in 1974, its sheer novelty presents us an interesting narrative of an innovative experiment in the field of community irrigation.

The Naigaon Experiment: The First Pani Panchayat

The Naigaon village is in the Purandar Taluka and is 55 kilometres south of Pune city. At the time of the experiment, the population of the village was 1,600 with 300 households, and the total cultivable area of the village was 1,537 hectares. The GGP took on lease a 16-hectare plot of almost degraded temple-land on the hill slopes of Naigaon. This plot was part of a 200-acre micro-watershed where water could be impounded in a small percolation tank. The initial efforts included the construction of a tank along with soil and water conservation treatments in the catchment areas

like levelling of contour bunds, contour ploughing, vegetative bunding, and the formation of water ways.

The success of this experiment can be gauged from the fact that out of these 16 hectares, 9.60 were brought under protective irrigation, 2.40 under afforestation, and the remaining four hectares under the percolation tank and other structures (Deshpande 1993:102). Once this was demonstrated, the farmers began realising that rain-fed agriculture can be made more productive with a marginal supportive irrigation. The experiment had a catalysing impact on the farmers and, through long discussions on the benefits of water conservation, the first farmers' cooperative lift-irrigation society (Pani Panchayat) was formed in 1979. This Pani Panchayat started functioning on the basis of the following seven guidelines:

1. GGP would help in formulating lift-irrigation schemes of cohesive groups. Individual schemes would be discouraged. The focus would primarily be on minor irrigation schemes.
2. The sharing of water would be based on the number of members in the family and not in proportion to the land owned by them. Every household would get water rights to a maximum of 2.5 acres with an allocation of 0.5 acre per capita. The land in excess shall remain under rain-fed conditions. This guideline was meant to incorporate the principle of equity in water sharing.
3. The members would have rights to irrigation. These rights would not be attached to the land. If the land was sold, water rights would revert to the Pani Panchayat. That is, water rights would not automatically get transferred to the new owner of the plot of land, though the seller of the land was a member of the Pani Panchayat.
4. Members would contribute 20 percent of the capital cost initially, the remaining 80 percent would be provided by the GGP as an interest-free loan (in the case of non-availability of government subsidy). If the government subsidy (of 50 percent) was available, then the remaining 30 percent would be met by the GGP as an interest free loan. The idea was to spread out the total cost of the scheme among the beneficiaries. Also, the beneficiaries would be fully responsible for administering and operating the scheme.
5. The landless labourers could also avail of water rights which would enable them to cultivate others' land on an informal basis. The water right of half an acre per capita was fixed for those landless agricultural labourers who were working with the members in the

- scheme. These water rights would be transferred along with the labourer to the cultivator with whom the labourer chose to work.
6. Water-intensive crops like sugarcane, banana, or paddy would not be included in the cropping pattern of the beneficiaries. This measure was meant to reduce distortions in the equitable water sharing across crops and enhance the spread of limited water resources.
 7. The project would be entirely administered by beneficiaries with the help of a *Pancha* Committee from among themselves (*Ibid.*:103).

Salient Features of Pani Panchayats

Once the villagers decide to form a lift-irrigation society, a *Pancha* Committee is formed. The *Pancha* Committee typically consists of a *Gat Pramukh* (group leader) and other members. It frames certain operational rules to ensure smooth functioning of the Panchayat. It then starts preparing documents regarding the records of rights, cropping pattern, no dues certificate from bank/village accountant and a letter of consent. It also acquires the land necessary for the pump house, pipelines etc. The appointment of a *Patkari* (water distributor), to look after water distribution according to the fixed time-table and the recovery of the *pani patti* (water charges fixed on crop/acreage basis), is the other task performed by the Committee. Besides, the Committee also ensures the recovery of the loan from the beneficiaries. In all these tasks, the representative of the GGP plays a key role. The GGP undertakes the technical survey of the area with the help of the technicians. It also helps in finalising capital requirements, mutual share and preparation of the documents, and facilitates the cooperative in obtaining various subsidies, sanctions, certificates and electricity from the state government.

It has been claimed that the formation of Pani Panchayats has caused a decline in water-consuming crops and the unsustainable exploitation of water resources. Its achievements relating to the equitable sharing of irrigation water have also been appreciated. Community involvement has gained ground as reflected in the group decision-making, harmonious relationships across castes and classes, and the awareness of rights and duties among the farmers. The homogeneity of the members of the Pani Panchayats in socioeconomic terms, the low costs involved in the schemes of lift-irrigation, the principle of water rights given to the individuals on per capita basis, the commitment of the beneficiaries to the scheme, and equal distribution have been identified as the important reasons for the

success of Pani Panchayats. According to Deshpande and Reddy (1990:37), 'the Pani Panchayat experiment has created an in-depth community awareness, strong interdependence, collective decision-making, resource literacy and above all an incremental income for better living conditions'.

The fact that most of the Pani Panchayats are small, with less than 40 members each, makes their operation more efficient. Moreover, they were found to be capital efficient. Whereas some of them did depend on governmental subsidies, others functioned efficiently without any such subsidy. Their management has generally been effective and efficient, and care has been taken to ensure that the managerial power does not get concentrated in the hands of wealthier and socially dominant sections of the society.

Although the primary objective of the Pani Panchayat is to improve agricultural production in chronically drought-prone regions, its organisational philosophy and distinctive approach connote promotion of local-level development initiatives. The economic and sustainable use of water has been a top priority of the Pani Panchayats. The self-imposed regulations on cropping pattern help reduce the overuse of water and land and the associated problems of land degradation like soil alkalinity, acidity, etc. The distribution of water rights based on the number of members in the family is an important step, howsoever small, towards correcting the distortions of landholdings. This reflects the social concern of Pani Panchayat at the local level.

Pani Panchayats: A Contemporary Profile⁴

So far 45 Pani Panchayats have been made operational.⁵ Most of them are concentrated in the Purandar Taluka (see Table 1), which has been the centre of the activities of Shri Salunke and the GGP since the drought of 1972. As the GGP is headquartered at Purandar and the survey for water conservation schemes was carried out in this Taluka alone in the early phase of its work, it is but natural to find 38 out of 45 Pani Panchayats in this Taluka.

In absolute terms, the growth of these projects does not seem impressive. Over 15 years (1980-95), their number is stagnating at 45 (GGP 1997). Nonetheless, Pani Panchayats have benefited 1,550 households, covering a population of 10,000, while bringing 3,000 acres of land under their cover (see Table 2).

Table 1: Taluka-wise distribution of Pani Panchayats

Taluka	District	No. of Pani Panchayats
Purandar	Pune	38
Ambeegaon	Pune	1
Maval	Pune	1
Phaltan	Satara	2
Gihe	Satara	1
Jhanjhamni	Yeotmal	2

Source: GGP 1997

Table 2: Aggregate details of Pani Panchayats

Total number of Pani Panchayats	45
Area under irrigation (in acres)	3,000
Number of households covered	1,550
Population covered	10,000
Total HP employed for lift-irrigation	722
Average life (in feet)	80-85
Total project cost (in Rs.)	70,00,000
Project cost per household (in Rs.)	4516.13
Irrigation per household (in acres)	1.9
Cost per acre (in Rs.)	2,333.33

Source: GGP 1997

As for loan recovery from the beneficiaries, 22 Pani Panchayats have paid back their dues to the GGP (*Ibid.*). Interestingly, the GGP views them as successful, as the payment of loans amounts to a relationship of trust and mutual support. For the GGP, loan recovery not only indicates the smooth functioning of the Pani Panchayat but also the assured flow of benefits to its members. This does not mean that the GGP regards other aspects of Pani Panchayat functioning as inconsequential or less important. For a comparative analysis, we present below two case studies: Shindewadi Pani Panchayat, where the loan recovery has posed certain problems; and Mahur Pani Panchayat, where loan recovery has been successful.

Shindewadi Pani Panchayat: A Case Study

Shindewadi is a small hamlet of village Pangare located 18 kilometres south-east of Saswad, the taluka headquarters of Purandar. It has one

primary school and is connected with the taluka headquarters through a metalled road. The Pani Panchayat in Shindewadi started functioning in 1985. In fact, it got initiated in 1981-82 itself, but due to non availability of electricity, it was lying idle for three years. This caused resentment among the villagers and they resorted to agitational programmes to get electricity connection. Some 1,200 people went to jail and they had to undertake a fast-unto-death to get electricity connection. This Pani Panchayat has two 30 HP pumps to lift water from a minor irrigation tank to the storage tank and two 12.5 HP pumps to draw water from this tank to the outlet tank. From the outlet tank, water goes to the respective fields through pipelines and channels. A primary school teacher in the village took the initiative and was instrumental in collecting Rs. 98,000 as contribution from the villagers. Rest of the money came from a government subsidy and the GGP loan. This Pani Panchayat has been named after a local deity and is called Babadeo Pani Panchayat. Relevant details of this Pani Panchayat are shown in Table 3.

Table 3: Details of Shindewadi Pani Panchayat

Total project cost (in Rs.)	4,90,000
Subsidy (in Rs.)	2,45,000
GGP loan (in Rs.)	1,47,000
Members' contribution (in Rs.)	98,000
Area under irrigation (in hectares)	120
Number of beneficiary households	55
Total HP employed	50

Source: GGP 1997

Shindewadi has 55 households. Ninety percent of them belong to the Maratha caste, while Chamars, a Scheduled Caste, dominate the remainder. Of the 55 households in the village, nine are those of the marginal farmers (owning below two hectares), 38 are small-farmer (owning two to four hectares) households, and the remaining eight belong to the category of big farmers (owning more than four hectares). The Pani Panchayat in Shindewadi is unique in the sense that almost all the residing households are its members. Even so, it belongs to the category of less effective ones for two reasons: (1) it was facing some difficulty in recovering loans advanced by the GGP, and (2) though it has managed to resolve conflicts about the distribution of water, the other components of the Pani Panchayat package like change in the cropping pattern keeping in view the sustainability of water resources, land development, and plantation of

trees on the field bunds have got little attention from the villagers. This seems to be characteristic of the Pani Panchayats in the sense that most villagers perceive it more as techno-economic assistance than a comprehensive package of social measures dealing with the twin issues of sustainability and equity. Seen thus, the actual operation of Pani Panchayats seems to undermine their basic social principles based on communitarian sharing of water in a sustainable way so as to maximise its gains in water-scarce areas. Sometimes, it appears that villagers volunteer to form a Pani Panchayat more because it promises to relieve them of the immediate sharing of the 80 percent of the project cost than out of a genuine interest in equitable sharing of water. In a way, this underlines the failure of the Pani Panchayat to communicate the novelty of its principles to the beneficiaries effectively.

Pani Panchayats in Mahur: A Case Study

The Mahur village is about 28 kilometres south-west of Saswad, the taluka headquarters of Purandar. It has a population of 3,000 comprising of 300 households of various castes. Majority of the villagers belong to the dominant Maratha caste; there are 30-35 Scheduled Caste and two Muslim households in the village. The village has one primary school, one high school, and post office, and is connected with a metalled road to the district and taluka headquarters. The village has one flower-marketing and two dairy cooperatives. Besides, the village has a long history of informal cooperation, as is evident from the *shramdan* by the villagers for temple construction and their monetary contribution for the construction of a meeting hall on the project site of Pani Panchayat. There are three Pani Panchayats - Renukamata, Shriram, and Gurudatta - operating under the auspices of the GGP (see Table 4). However, they do not cover the entire population of the village. In fact, less than half the residing households come under the services of Pani Panchayat. This has to do with the landholding pattern of the village. As 42 percent of the village households belong to the category of big farmers, holding 10-15 acres of land (see Table 5), they have developed their own private means of irrigation. In substantial terms, the Pani Panchayat caters to the marginal and small sections of the farming community. It covers more than 40 percent of the village population, while the categories of marginal and small farmers together constitute 50 percent. Thus, all the small and marginal farmers have not been covered by Pani Panchayats.

Table 4: Details of Pani Panchayats in Mahur

	Renukamata	Shriram	Gurudatta
Total project cost (in Rs.)	2,11,000	3,11,000	1,40,000
Subsidy (in Rs.)	1,05,500	1,55,500	70,000
GGP loan (in Rs.)	63,300	93,300	42,000
Members' contribution (in Rs.)	42,200	62,200	28,000
Area under irrigation (in hectares)	20	32	10
Number of beneficiary households	52	46	25
Total HP employed	45	30	12.5

Source: GGP 1997

Table 5: Categorisation of farmers in Mahur

Category of farmers	Percentage of village households
Big (>4 hectares)	42
Small (>2 and <4 hectares)	10
Marginal (<2 hectares)	40
Landless	08

Source: Field data

The Pani Panchayats in Mahur are considered to be effective. All three are doing well and the GGP loan has been paid back by the beneficiaries. Majority of the beneficiaries belong to the categories of small and marginal farmers. In the village, there are some groups of two-three farmers operating their own lift. Obviously, they belong to the well-to-do segments of landholding hierarchy. For them, Pani Panchayat holds no special promise. Rather, it imposes restrictions on the cropping pattern and the quantity of water used. On the contrary, small and marginal farmers cannot afford to invest in private lift schemes, as they are short of surplus capital. In such a situation, they enthusiastically go for Pani Panchayats, as they promise to offer them a regular and guaranteed supply of water, howsoever limited in quantity. Moreover, as 80 percent of the project cost is shared by the GGP and/or the government, the Pani Panchayat becomes even more attractive.

The field situation in Mahur reveals another aspect of the Pani Panchayat. This pertains to the grant of water rights to the landless. Though, in principle, landless can avail of water rights, in reality none of them has been found to benefit by this provision. It is unimaginable to

expect a landless labourer to invest in Pani Panchayat in the hope of future benefit that someone might grant him sharecropping rights. For the landless, even 20 percent of the project cost is too high to be invested in a Pani Panchayat. This shows the impracticability of the provision to grant water rights to the landless.

Comparative Effectiveness: Mahur and Shindewadi

In Mahur, the percentage of the Pani Panchayat beneficiaries to the total population of the village, and that of the land covered by the services of Pani Panchayat to the total cultivable land, stand at 45 and 30 respectively. In Shindewadi, on the contrary, almost 90 percent of the population is its beneficiary and nearly 75 percent of the total cultivable land has been covered by the Pani Panchayat. Though Shindewadi is a small hamlet in comparison to the Mahur village, the crucial difference lies in crop planning. Both Mahur and Shindewadi have a similar degree of rise in the productivity of land under the Pani Panchayat. However, Mahur has gained more because it went for diversification of the cropping pattern in the wake of Pani Panchayats. Moreover, in Mahur, Pani Panchayats have helped make barren lands productive by plantation and soil reclamation. By contrast, in Shindewadi, the idea of diversification of the cropping pattern has not gained much currency and farmers have shied away from undertaking plantations on bunds and marginal lands. This is because agriculture is more subsistence oriented in Shindewadi as most of its residents are small and marginal farmers, whereas Mahur has a history of commercial cropping. As big landholders have their own source of irrigation in Mahur, they have been engaged in commercial cropping for quite some time. This means, the Pani Panchayat is likely to be more effective in those villages where there is competition from the big farmers having their own source of irrigation. This competition is conducive for the growth of commercial cropping as farmers have already been exposed to it, albeit indirectly. The formation of flower-marketing cooperative by the beneficiaries of Pani Panchayats in Mahur can be explained on the basis of their previous exposure to cash cropping and their willingness to learn and gain from the experience of big farmers.

Pani Panchayats: Views from the Field

What is most striking about Pani Panchayats now is the gradual withdrawal of the GGP and the severing of the umbilical chord between

the GGP and Pani Panchayats. We have seen earlier how since its beginning the GGP has been a one-man show and how Shri Salunke has been its sole inspiring force. In 1997, notwithstanding the declining role of the GGP in Pani Panchayats, he commanded tremendous respect and personal loyalty among the workers and beneficiaries of Pani Panchayat. In the initial phase of the organisation, a large number of rural youth were recruited by the GGP. They formed the bulk of local coordinators and were called 'barefoot managers'. They were on the payroll of the GGP. However, in one stroke, they were removed by the GGP under the pretext that their maintenance started acquiring precedence over development initiatives. As for humanpower, at present, the GGP has only a handful of employees on its payroll. Khedekar performs multiple tasks: playing host to visitors, looking after routine administrative work, liaising with the farmers and government officials and acting as custodian and caretaker of the farm-cum-office of the GGP at Khalad. He is assisted by some five technicians and a social worker. The reduction in the number of workers is explained by defining the role of a development organisation as a mere facilitator. To the extent that voluntary organisations were not to replace or compete with the state structures, retaining a large contingent of humanpower on the payroll of the GGP did not make much sense to Shri Salunke any longer. As he put it, 'the voluntary organisations should exert pressure on the state for making its policies more people oriented and making place for the people in the decision making related to their own development. They should not attempt to build up a parallel bureaucratic structure while going for large-scale recruitment'.⁶ However, this philosophical argument alone does not suffice as an explanation for the emaciation of GGP.

Among other reasons for the declining strength of GGP, we elicited the following during our field work:

1. Since GGP is no longer interested in setting up more Pani Panchayats, the reduction in humanpower is but natural.
2. Most Pani Panchayats initiated by the GGP have reached a stage of maturity in the sense that local groups of irrigators can now manage their own affairs. Half of them have already paid back their loans to the GGP and are financially and technically independent. Once this techno-economic aspect of the Pani Panchayat has been settled, there is little rationale or need for the GGP to interfere in the routine management of farmers' activities. This shrinkage of roles obviously called for the reduction in humanpower.

3. The current self-image of the GGP is that of a peripheral agency that introduces the locals to the prospects of development and helps them design and undertake specific activities.
4. Since Shri Salunke has been the chief promoter of the GGP, his fluctuating interests in the work and activities of the organisation can be construed as an important reason for its gradual withdrawal from the field of developmental initiatives. In fact, the year 1985 marks a fundamental shift in the growth and development of the GGP as an organisation.⁷ In that year, Shri Salunke contested the Maharashtra Assembly elections from the Purandar constituency as an independent candidate. He based his election campaign on the issue of irrigation, but failed to cash on the good work he had done in this field. His defeat in the election (he lost his deposit as well) was a personal setback. From then onwards, he started losing interest in the developmental work of the GGP, and that had a discouraging impact on the GGP and Pani Panchayat. Shri Salunke does not refute this explanation. To him, the idea of Pani Panchayat, and the principles of equity and communitarian sharing that it advocated, are more important than the actual replication of these schemes by the GGP. With this changed perception, his focus was now on communicating these ideas to a wider audience. Accordingly, he set on this new task by attending seminars and workshops and giving feedback to other organisations and the government. These tasks now took most of his time and, consequently, the real development works of the GGP took a back seat in his scheme of things.

Pani Panchayat: A Movement?

Although local voluntary action is at the core of the developmental vision of GGP, one finds a marked decline in the collective mobilisation undertaken by the Pani Panchayat movement. It seems as if the GGP's initiative has reached a stage of stagnation. Its unwillingness to initiate more Pani Panchayats and the subsequent reduction in its manpower point to its peripheral existence. In the initial phase, the GGP could manage to stir and involve humanitarian sensibilities of the middle class as it was committed to a definite vision of participatory rural development. The involvement and support of the then District Magistrate of Pune and other local authorities, the initiative and dynamism shown by the students of Government Engineering College (Pune) and the encouragement of the

local industrialists provided it a unique stage to unfold itself. It did live up to the expectations of its supporters and collaborators and implemented their mandate by concentrating on the novel experiment of Pani Panchayat. However, now there is a lack of enthusiasm towards its activities. With the increase of government-sponsored participatory irrigation schemes, the rationale for GGP's existence as a promoter of Pani Panchayats is waning. This does not mean that Pani Panchayats were like any other government scheme. In fact, what distinguishes them is their innovative way of dealing with the issue of equity in the distribution of irrigation water with far-reaching social implications. To the beneficiaries, they were but another form of getting techno-economic assistance for operating local irrigation projects which would otherwise have been difficult, if not impossible. This is not to say that the beneficiaries deviated from the principles of Pani Panchayat once it got operational.

The question we are addressing is not about the adherence of the members to the basic principles of Pani Panchayat, but about why this 'movement' could not spread to other villages and areas on its own, that is, without the help of GGP. Why, even in Purandar Taluka, it could not generate adequate momentum to ensure replication and expansion of Pani Panchayats after 1994? Is there something wrong with the very design of the Pani Panchayat or are the factors more contingent?

One explanation for the non-replication of Pani Panchayat schemes could be the composition of the socioeconomic constituency to which they cater. In the hilly and water-scarce villages of Maharashtra, these schemes involved, on an average, a capital cost of Rs. 1.55 lakhs. Moreover, we find a situation where larger farmers have got their own wells and pumps and are therefore not interested in joining Pani Panchayats. In such a scenario, it is very difficult for a group of small farmers to raise the entire project cost of a lift-irrigation scheme about whose technical feasibility and economic benefits they are unsure. As most of the participants in these schemes tend to be smaller farmers, the replication means initiative and enterprise coming from their side. However, the low economic status of small landholders in drought-prone areas makes it impossible for them to raise the necessary capital required for such a project without the assistance of an external agency. Therefore, it may be argued that in many cases the principles of Pani Panchayats were readily agreed upon because it relieved the beneficiaries from the immediate burden of the project cost and provided them the much-needed technical and administrative support. Yet it could not generate momentum by unleashing social forces which would have made the large-scale replication of the schemes possible. Two

conclusions follow: either the people are incapable of organising on their own, even for purposes of their own benefits, or the ideals envisaged in the principles of Pani Panchayat were not exciting enough to make people work in that direction. In any case, one finds that Pani Panchayats could not take the shape of a movement, nor could they result in a large-scale organisation à la Anand pattern of tree growers or dairy cooperatives which would have made its replication possible.⁸ To probe into the actual working of Pani Panchayats, we will discuss below the various aspects relating to their being a participatory exercise in water management.

Nature and extent of participation. Pani Panchayats profess participation of intended beneficiaries in the formulation and implementation of irrigation projects. Community participation is the much-acclaimed cornerstone of the Pani Panchayat. However, one finds here more emphasis on informal participation of the community. That is why, Pani Panchayat does not advocate the cooperative or any formal-democratic association as the basis for the mobilisation of local people. In its eyes, cooperatives are too formal to advance the cause of genuine participation.

Forms of participation. In most cases, Pani Panchayats that started with the assistance of GGP have been taken over by the user groups. The GGP's role was to facilitate the organisation of these schemes rather than control them on a sustained basis. Its role as the promoter of Pani Panchayats gives the beneficiaries ample scope for participation. At the local level the *Pancha* Committee and the *Gat Pramukh* take care of the routine management of Pani Panchayats. They oversee the distribution of water, collect maintenance costs from the users based on their share in irrigation, arrange for the repayment of loans, and supervise the work of technical assistant/s. Earlier, the *Patkari* was attached to and paid by the GGP. Now, he works under the overall supervision and guidance of the local *Gat Pramukh* and is accountable to him. Even his salary is paid by the local group. In this sense, local leadership has more leverage and autonomy in the operation of Pani Panchayats. However, as is evident, this participation was not spontaneous. The GGP acted as a catalyst in the organisation of Pani Panchayats. Therefore, participation in Pani Panchayats can be termed induced, controlled and regulated rather than spontaneous and self-generative.

Refurbishing the traditional ideal. Since its inception, the GGP has been emphatic about the fact that water is a CPR, and as such, it belongs to the community rather than individuals. All village residents have equal right over the irrigation water. In reality, however, large farmers get more

water as very frequently water gets allocated in proportion to land-holdings. Similarly, farmers whose fields are closer to the source of water benefit more than those whose fields are away from the source of water. Moreover, farmers with more than their fair share of water can grow water-intensive crops, for there is no mechanism for regulating the cropping pattern in the context of irrigation. Thus, a pattern of social injustice is interwoven in the very mechanism of water distribution in the villages. To rectify these distortions more egalitarian principles for water distribution were formulated so that the concept of social justice could be enshrined in the planning and implementation of the Pani Panchayat itself. But, who was to be entrusted with the task of overseeing the implementation of these principles? Herein came the idea of forming a *Pancha* Committee at the village level to ensure equal distribution of water, from which the experiment got the name 'Pani Panchayat'. In the Indian tradition, the *Pancha* has been accorded a place of high prestige and esteemed social status. It is expected of the *Pancha* to act impartially without fear or favour. Traditionally, most village disputes have been settled by the caste and village panchayats. This has been one of the factors which gave Indian society what Yogendra Singh (1973) terms 'inter structural autonomy'.

Pani Panchayats have striven to refurbish this traditional ideal of Indian society to create collective irrigation management system based on equitable distribution of water. The GGP seems to have been quite sensitive and open to the local traditions of the village community. Most Pani Panchayats have been named after local deities. Besides giving the local community a sense of belonging, this has other advantage as well: The invocation of the name of local gods and goddesses, coupled with the much talked about virtue of *Pancha*, might deter certain unscrupulous but god-fearing elements from misappropriation of water.

Disenchantment with formal democratic structures. Neither the GGP nor the Pani Panchayats can be termed a formal democratic organisation. Unlike the National Tree Growers Cooperative Federation, the GGP does not have any representation on its board from the village-based *Pancha* Committee. In fact, it does not have any formal hierarchical structure, democratic or otherwise. Likewise, Pani Panchayats do not have elaborate bylaws. There are certain operating rules which are to be adhered to in practice. Also, Pani Panchayats have not been registered as cooperatives, though in practice they can be said to follow certain cooperative principles like equal sharing of costs and benefits and maximisation of the welfare of community as a whole. According to Shri Salunke, 'the formal nature of

cooperatives and their excessive dependence on the government stifles local developmental initiative and enterprise'.⁹ Moreover, the cooperatives create a host of other problems as certain sections develop vested interest and higher economic stakes in their functioning.

However, one finds an apparent contradiction in Shri Salunke's unwillingness to register Pani Panchayats as cooperatives, as the GGP has a history of formal liaison with the government. Also, if Pani Panchayats are meant to overcome farmers' dependence on government, then the governmental withdrawal of subsidies should not have created so much dissatisfaction among the GGP's rank and file. On a larger plane, the GGP has supreme faith in the government's ability to foster development. Then, how can one be disenchanted with an essential characteristic of modern polity, that is, its formal and democratic nature, while remaining loyal to its authority?

The Question of Sustainability

The rationale of the Pani Panchayats is to enable poor farmers to gain equitable access to water resource. The intention is to offset the normal patterns of appropriation of this resource by the better off and more powerful farmers. In any case, to ensure equal distribution of water Pani Panchayats have to be sustainable. In this context, six factors can be identified as having a bearing on sustainability of group irrigation schemes: (1) homogeneity of the group, (2) group size, (3) supporting services, (4) water availability, (5) alternative water supplies, and (6) economic and financial viability (see Chambers *et al.* 1989:89-93; see also Chambers 1988:1-17). These six factors are interconnected. They mutually reinforce each other. In no case are they to be seen as absolute laws explaining the sustainability of the schemes. In what follows we will discuss certain discernible trends with reference to the Pani Panchayats in the light of these factors of sustainability.

Homogeneity of the group. Homogeneity of the group precludes the chances of factionalism. This has been frequently mentioned as an important factor in the success of cooperatives in Maharashtra (see Attwood and Baviskar 1988). In the case of Pani Panchayat, the group consists of farmers from more or less similar socioeconomic background. Most farmers are small or marginal landholders. As regards caste composition, in a particular village generally the majority belong to a single caste. On the basis of this criterion, the Pani Panchayat is sustainable to a large extent.

Group size. The sustainability of a group scheme is linked with group size, as small groups tend to be more homogeneous. It has been noted that the moderate-sized groups (8-50) tend to shrink and disintegrate, losing members over time (see Chambers *et al.* 1989:90). The average size of a Pani Panchayat is 35 members. Contrary to Chambers' assertion (*Ibid.*), one finds rare instances of withdrawal of membership in the course of time.

Supporting services. Since lift-irrigation schemes involve technical handling of power-driven pumps, reliable and adequate power supply is essential. In case of a technical snag, the availability of immediate and cheap mechanical repairs and spare parts are also required. As Patkaris of the Pani Panchayat are generally trained, majority being Industrial Training Institute Diploma holders, there has been good technical backup. Also, the GGP has conducted workshops to train people to maintain the pumpsets and related irrigation devices.

Water availability. Pani Panchayats deal with a crucial resource, namely, water. Without the availability of water base they cannot sustain themselves. There have been cases when they had to undergo severe strain because of successive droughts. Often, they had to be contented with irrigating merely one-tenth of the command area. The limited availability of water becomes the litmus test of adherence to the equitable principle even in adverse times. This might, however, lead to intensified competition for water among the members, more so if the availability of water has been scarce for successive years.

Alternative water supplies. Farmers prefer their own control on irrigation and water supply. Many farmers have a tendency to opt out of groups and group sharing or simultaneously use another source of water supply while being a member of the group. In water-abundant areas, water markets often overlap, presenting farmers with choices which are likely to weaken groups and group cohesion. However, since Pani Panchayats are a characteristic of water-scarce areas like western Maharashtra, the availability of alternative sources of water supply to the small farmers is less likely to emerge in near future unless the government invests in a big way in irrigation projects. There has been almost no shrinkage of membership of Pani Panchayat on this count. As for using group schemes and other sources simultaneously, the instances are rare because those who have their own water supplies do not bother about membership of the group schemes such as the Pani Panchayats.

Economic and financial viability. In the ultimate analysis, the sustainability of any scheme depends on its economic and financial

viability. On this count, Pani Panchayats have done quite well. It is noteworthy that there has been no instance where electricity supply has been disconnected because of the non-payment of electricity dues.

Governmental Indifference

Notwithstanding the relatively better performance of the Pani Panchayats in terms of the commonly identified factors of sustainability, one cannot ignore the role of macro-level supportive institutions in their growth and development. The Pani Panchayats were made feasible because of many favourable conditions. The governmental bureaucracy at the district and taluka levels was favourably inclined towards the work of GGP in its initial years. The middle-class professionals and industrialists from Pune provided the much needed financial and other types of support. The state government had launched several schemes of subsidies in the context of droughts which benefited the work of GGP. However, over the years not only the organisational character of the GGP changed, but also its relationship with the government. So much so, the issue of governmental indifference has become a common refrain at the GGP. Earlier it was expected that the government would take over Pani Panchayats and would lend its might to replicate them on a large-scale. But the subsequent withdrawal of subsidies was a disappointment for the Pani Panchayat enthusiasts. Technically speaking, the government had never provided subsidies to the Pani Panchayats as such. There were subsidies for marginal and small farmers which the GGP availed of, as Pani Panchayats mostly comprised small and marginal farmers. In any event, the failure of the government to come with any new policy initiative on the issue of irrigation has belied the hope of Pani Panchayats being replicated widely. The government is yet to recognise and appreciate the innovative principles of the Pani Panchayats and integrate them in its policy frameworks on irrigation.

Lack of Support from Other NGOs

Shri Salunke and the GGP expected like-minded rural development organisations to further the cause of Pani Panchayats by working towards their replication. To their dismay, none of the organisations came forward to contribute to the GGP's initial efforts towards the expansion of Pani Panchayats. Nonetheless, the Pani Panchayats have inspired various local level rural development initiatives in the field of irrigation. In Palamu

District of Jharkhand similar experiments have been launched by the local people. People from a plethora of development organisations keep coming to the GGP for inspiration and guidance. In this sense, the GGP, despite its limited scope in terms of the actual reach of Pani Panchayats, has underlined an alternative way of managing water resources in particular and CPRs in general. Also, the Pani Panchayat experiment in the collective management of CPRs has attracted the attention of many researchers and policy makers. This explains the positive appreciation that it has received in the literature on sustainable rural development, including the instant paper.

Pani Panchayat and Equity

The issue of equity is central to the Pani Panchayat model of irrigation management. The central question, thus, is whether the Pani Panchayats have enabled the poorer sections of rural society to gain more from them. In a situation where public irrigation schemes are said to have been dominated by big farmers, the issue of preferential benefits to the small and marginal farmers assumes added significance. While evaluating the performance of Pani Panchayats on this count, the focus will be on two conditions of equity: first, whether the groups formed under this model really consist of marginal and small farmers and landless labourers (see Table 6) and, second, whether access to water is governed by the equitable principles enshrined in the philosophy of Pani Panchayats. The first criterion requires an enquiry into the socioeconomic profile of the groups served by Pani Panchayats.

Table 6: Landholding pattern of Pani Panchayat membership (households)

Category of farmers	Babadeo (Shindewadi)	Renukamata (Mahur)	Shriram (Mahur)	Gurudatta (Mahur)
Big (>4 hectares)	8	8	4	2
Small (>2 and <4 hectares)	38	26	30	16
Marginal (<2 hectares)	9	18	12	7
Landless	0	0	0	0

Source: Field data collected through interviews with key informants

Socioeconomic composition of the groups. Our findings corroborate the assertion that the groups organised as Pani Panchayats by the GGP in Pune District were of the poorer farmers as the better-off had already

obtained access to lift-irrigation and were growing sugarcane. Moreover, the Pani Panchayat was unattractive to larger farmers, as it would mean prohibition on sugarcane cultivation and limited water supply (see also Chambers *et al.* 1989:93-94).

Water allocation principles. Traditionally, with few exceptions, water rights have been attached to land rights. In modern times as well, the normal convention has been, as in canal irrigation, that water entitlement is proportional to landholding size, that is the larger the holding, the bigger the share in water, and conversely, smaller the holding, the smaller the share, in simple arithmetic proportion. On the contrary, under the Pani Panchayat, the unique provision is to limit water entitlements to half an acre of irrigated land per paid up household member, with a maximum ceiling of two-and-a-half acres for any one household.

However, this novel principle of water distribution has not been implemented in toto. In one case, a beneficiary household was found holding 7.5 acres of land under the Pani Panchayat. In fact, there was no deliberate attempt by the Pani Panchayat to encourage this practice. Rather, the problem seemed to lie with the definition of the household. It is noteworthy that some existing joint households have claimed to be separate domestic units and have thus circumvented the rule to maximise their holdings in the command area of the Pani Panchayats.

Although tying up the ceiling of water rights with the household gives the potential beneficiaries enough theoretical leverage to take advantage of the Pani Panchayat, in practical terms, other factors - the limited land-ownership of a beneficiary household in the Pani Panchayat command area and the fear of protests from other beneficiaries who may not buy the technical arguments concerning the definition of the family/household - act as a countervailing force on the tendency to abuse water allocation principles. This perhaps explains why our case studies reveal only rare instances of violation. For example, in Mahur, the group leader has 7.5 acres of land under the Pani Panchayat even though he has two adult sons living under the same roof. He might have achieved this by making three separate households on paper, that is, one of his own and two of his sons. However, the other beneficiaries did not have any grievance against him as he was instrumental right from the beginning in the completion of the Pani Panchayat project and hence commands tremendous respect.

In any case, water allocation principles scored well for equity in allowing larger families more irrigated area up to a limit only. On the other hand, there are instances when a very poor family had difficulty in raising the mandatory share of the 20 percent of the overall capital cost

and thus bought subscriptions for less acreage of land than would have been permissible to it. Then, there were those who were rationally reluctant to take the risk of subscribing to a Pani Panchayat at the time of its initiation as in Shindewadi. However, once the Pani Panchayat was demonstrably successful, some residents were willing to buy their water entitlements even by paying cent percent of their share of the Pani Panchayat project cost. However, there was opposition from other beneficiaries, as water availability was limited and the command area was fixed, and any addition of new members would mean reduction in the volume of water supply available to them. Thus, while the half-an-acre principle is widely known, actual practices vary though broadly converging on the theme of equity (see also Kolhe *et al.* 1986:48).

Creation of an Additional Resource and Its Equitable Distribution

The examples of the GGP, Sukhomajari-Nada, Aga Khan Rural Support Programme and the landless lift-irrigation groups of Bangladesh challenge the conventional linkage of water rights to land rights. There is an underlying belief behind these experiments that initiation of a new lift-irrigation scheme means creation of a new resource in the form of irrigation water. Hence, a redistribution of rights to water can produce effects similar to land reforms. That is to say, much common property water for lift-irrigation is an unappropriated resource where equal rights or rights which discriminate in favour of the poor can be established to reduce the distortions caused by the highly skewed landownership pattern in rural India. This can provide a clue to the developmental policies of the state, as this means avoidance of direct confrontation with the well-entrenched interests of the landed gentry. Moreover, for a 'soft state' like India, the implementation of these policies could be smooth and less troublesome while ensuring a fair degree of equality and positive discrimination for the poor. In this sense, these experiments can be construed as bypass routes to achieve equity-oriented growth (see Bokil 1990).¹⁰

Limited Scope

It is true that most state-sponsored public lift-irrigation societies have been ineffective, inequitable, and uneconomic, and might remain so (Chambers *et al.* 1989). Nonetheless, these schemes are backed by the enormous power of the state and are vast and wide in their scope and reach. On the contrary, schemes like Pani Panchayats, even if well

implemented and successful in water-scarce areas in bringing substantial gains to the poor, cannot have much impact on the quality and content of participatory forms of irrigation development as they are localised and limited to few pockets. They can at best achieve localised water reforms in few villages and have certain symbolic functions as a participatory mode of development. In a situation where privately-owned lift-irrigation schemes account for more than 95 percent of the area irrigated by lift, the experiments of Pani Panchayats do not carry much weight. This necessitates bringing in the larger context of the political economy of Indian state, its class character and the kinds of policies it follows. It is indeed difficult to create islands of equity in an environment of growth-oriented development. Given the all-pervasiveness of the modern nation-state, it underscores the limitations of the role that NGO-induced groups like Pani Panchayats can play in the transformation of rural society (see Dhanagare 1988). To create an idyll of community participation and sharing is too weak an experiment to face the double onslaught of the state and market forces.

Conclusion

Since equity has been the central concern of Pani Panchayats, it would be reasonable to assess their role in terms of reduction of inequity. While it is difficult to measure equity in quantitative terms, based on the field data, some tentative observations can be made. So far no landless family has acquired any water rights, though in principle this is possible. Besides, the principle of half-an-acre per family member is rather vague and is not informed by a valid rationale. This has left many loopholes in the implementation of this principle. Most important, the hope that, by creating an additional resource and distributing it on egalitarian lines, the Pani Panchayats can surmount the pitfalls of a skewed landownership pattern seems naive and amounts to wishful thinking. Water, howsoever critical a resource in drought-prone areas, cannot take the place of land. Even a cursory acquaintance with the features of Indian social structure is sufficient to make one realise that land is not merely a means of production, but also a source of power and privilege (see Bêteille 1974). One's status and prestige in agrarian social structure depends on the amount of land one holds and not on the quantum of water entitlements.

The potential beneficiaries of the Pani Panchayats are not free-floating rational beings destined to make wise economic decisions. Their specific structural location in the local caste-class hierarchy and their

concomitant resourcefulness or resourcelessness have a bearing on their being members of the Pani Panchayats. In the ultimate analysis, ensuring equity is the function of the nature of political economy and the nature of the developmental policies followed by the state. It is the irrigation policy of the state which determines who gets the water and how much. Since groundwater is yet to be socialised, the better-off farmers have dug wells, constructed elaborate field channels and built percolation tanks, bought pumpsets and irrigated their sugarcane fields. They have thus made and continue to make pre-emptive strikes to appropriate the community resources of groundwater. True, the GGP enables poorer farmers to compete in this scramble. But, this is an unfair competition, as the rules of the game are biased in favour of the large farmers. Thus, the policy orientations of the state act as constraints to the GGP's achievement of its goals.

When one evaluates the performance of the Pani Panchayat in the light of its own targets, one gets a dismal picture. As for its number, the GGP has so far managed to establish only 45 Pani Panchayats, a mere 7.5 percent of the targeted 600. In fact, there has been a decrease in the number of Pani Panchayats operating under the auspices of GGP. Against the targeted irrigation of 10,000 hectares at the cost of Rs. 10 crores, Pani Panchayats have been able to achieve 1,200 hectares of irrigation at the cost of Rs. 60 lakhs.¹¹

However, the GGP has managed to provide substantial gains to the farmers in terms of increased agricultural production and thus increased income. One finds tremendous diversification in the types of crops grown after the commencement of the Pani Panchayats. Earlier they used to grow a limited number of crops, such as Jowar and Bajra, because of the non-availability of irrigation. Now, in Mahur, farmers have started floriculture in a big way. Likewise, in Shindewadi, the farmers are growing cash crops like onions and vegetables.

Thus, it can be argued that the Pani Panchayats have facilitated the generation of increased incomes for the beneficiaries. Wherever they have been made operational, the members have benefited immensely from them in terms of income and employment. Notwithstanding the novelty of the Pani Panchayat experiment, it has failed to replicate itself on a sufficiently large-scale. All said and done, Pani Panchayat remains a localised phenomenon. On the other hand, it has attempted to resurrect the ideal of community and community participation. At a time when the development projects of the state are being questioned by many a social scientist, the

basic guiding principles of Pani Panchayat can be looked at as an attempt towards alternative forms of popular and participatory development.

Our study of Pani Panchayats throws up some interesting theoretical questions as well: How to define a community and identify communal resources? In what way and to what extent does the Indian state recognise the existence of communities as legal entities? What type of relationship exists between the community and the state? Although the notion of community has occupied an important place in the discourse on modern nation-state (Chatterjee 1993; Kaviraj 1992), the literature on development is yet to make a conceptual transition from the individual beneficiary to the community. More often than not, community is understood in terms of an agglomeration of individual beneficiaries. Then, it comes as no surprise that in modern times cooperative management of natural resources has been advocated as the most potent form of community development.

Notes

1. The data used in this paper form part of a M.Phil. dissertation submitted to the Indian Institute of Technology, Bombay (see Thakur 1997). We thank the members of Shindewadi and Mahur Pani Panchayats for their warm hospitality and unfailing cooperation. We are deeply indebted to the late Shri Vilasrao Salunke without whose support this work would not have been possible. We also appreciate the help rendered by the staff of the Gram Gourav Pratisthan. Finally, our sincere thanks are due to the anonymous referee for her/his constructive input and Ms. Aparajita Ganguly for her valuable assistance.
2. Shri Salunke passed away in April 2002. We thank the referee for this piece of information.
3. Some broad objectives of the GGP were as follows:
 - a) To provide initial relief to the farmers of Purandar Taluka by improving their economic conditions, and to remove the cause of recurring droughts.
 - b) To create facilities to raise their social and economic conditions to attain welfare of the people in this Taluka.
 - c) To conduct research studies on socioeconomic conditions so that the urban interest can be linked with the process of creating an integrated rural development.
 - d) To do all such lawful things as are conducive or incidental to the attainment of all the above aims and objectives (GGP 1983; see also Deshpande 1993).
4. Though the fieldwork for this paper was conducted in the year 1997, it may be noted that since 1994 no new Pani Panchayat has been added to the existing repertoire. So, the data do have a contemporary resonance.
5. Official communication from the GGP, 26 September 1997.
6. Interview with Shri Vilasrao Salunke at Hadapsar, Pune, on 29 September 1997.
7. Interview with Dr. Milind Bokil, a NGO-professional based in Pune, on 3 October 1997.

8. This has indeed happened in the case of dairy cooperatives. The creation of the National Dairy Development Board was a major factor behind the replication of the Anand-pattern dairy cooperatives throughout the country under the auspices of the Operation Flood. We thank the referee for this observation.
9. Interview with Shri Vilasrao Salunke in Jejuri, Khalad, on 4 October 1997.
10. Bokil (1990:19-20) identifies two types of ideological orientations in the context of irrigation: (1) growth orientation, which concerns the increased productivity and income through better facilities of irrigation and, (2) equity orientation, which concerns with the provision of equitable access to irrigation. As for lift-irrigation schemes, the respective orientations can be judged on the basis of principles of water allocation and the preferred cropping pattern. Thus, 'growth orientation would envisage allocation of water in relation to the traditional rights in land and emphasis on cultivation of commercial, water-intensive crops [while] the equity orientation would envisage allocation of water in relation to an equitable access and cultivation of low water requiring, subsistence crops'.
11. Official communication from the GGP, 10 October 1997.

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