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Maharashtra has had a long history of farmer managed irrigation systems dating back to 15th or 16th century. However, the real impetus to formal decentralization of irrigation management to WUAs began only during the 1980s. Maharashtra has 4500 Water User Associations (WUAs) with a potential to manage 17 lakh ha of command area; these are at different stages of evolution. A new law of the Maharashtra government has mandated Participatory Irrigation Management (PIM) and therefore the state's ambition is to take this number to 9000. But what is the state of existing WUAs? This Highlight is based on a quick assessment of around 400 WUAs by SOPPECOM and their partners. Maharashtra leads Indian states in PIM. This Highlight offers a reality check.

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# HIGHLIGHT

**Situational Analysis  
of WUAs in Maharashtra**

**SOPPECOM**

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## SITUATIONAL ANALYSIS OF WUAs IN MAHARASHTRA<sup>1</sup>

Research highlight based on a report by the same title<sup>2,3</sup>

### INTRODUCTION

Maharashtra has had a long history of farmer managed irrigation systems dating back to as long ago as the 15<sup>th</sup> or 16<sup>th</sup> century.<sup>4</sup> However, the first efforts at a formal decentralization started with a few pilots introduced in the 1980s. The main aim of this was to demonstrate that the farmers can manage irrigation water better than the irrigation bureaucracy and also to improve irrigation management system from the point of view of equitable access within the command, efficiency, better water tariff collection, sustainability of the system and of the resource and enhanced productivity. These early pilots, and the experiments that followed, opened up several possibilities in expanding the notions of good governance in the water sector.

The early 2000 saw a spate of reforms in the water sector in the country as a whole. As part of this, in Maharashtra, Water Sector Improvement Project (MWSIP) was launched in 2003 through an agreement with the World Bank with a loan assistance of US \$ 325million (Rs.1800 crore<sup>5</sup>). Prior to this and partly as a result of it Maharashtra Government initiated the water sector reform process which included the State Water Policy (2003), Maharashtra Management of Irrigation systems by Farmers Act (MMISFA 2005) and the Maharashtra Water Resources Regulatory Authority Act (MWRRA 2005).

The reform process clearly brings out the rationale for user participation and the need for legislating participation. This is a change from the voluntary mode in which WUAs were set up in 80s and 90s under the Cooperative Societies' Act. Through this reform process and specifically through the MMISFA forming WUAs has become mandatory to access water. In the current reform process with independent regulatory bodies and provision of bulk entitlements, WUAs have an important role to play in irrigation management especially as the new legislation now allows for federating of WUAs from the minor level to the project level.

SOPPECOM's engagement with Participatory Irrigation Management (PIM) began with setting up of WUAs in the late 1980s and engaging with the State Government on various policy changes. It continues even today as it believes that PIM as an expanded concept does hold the potential to restructure water sector in more equitable, sustainable and democratic lines. It is within this broader framework that SOPPECOM initiated this study along with 14 other organizations in Maharashtra.

### ABOUT THE STUDY

Water resources department of the state aims to cover approximately a CCA of 31 lakh<sup>6</sup> hectares through formation of 8000 WUAs across the different major,

<sup>1</sup>This IWMI-Tata Highlight is based on research carried out under the IWMI-Tata Program (ITP). It is not externally peer-reviewed and the views expressed are of the authors alone and not of ITP or its funding partners - IWMI, Colombo and Sir Ratan Tata Trust (SRTT), Mumbai.

<sup>2</sup>This paper is available on request from [p.reghu@cgiar.org](mailto:p.reghu@cgiar.org)

<sup>3</sup>The Study has been done collectively by 14 organisations based in different parts of Maharashtra and co-ordinated by SOPPECOM. The highlight has been put together by K J Joy and Seema Kulkarni

<sup>4</sup>For a review of farmer participation in irrigation management in Maharashtra see Lele and Patil (1994)

<sup>5</sup>One crore = 10 million

<sup>6</sup>One lakh = 0.1 million

medium and minor irrigation projects. Currently there are about 4500 WUAs, which are either only registered, or where agreements have been made or those that are fully functional which cover about 17 lakh hectares of CCA. Majority of these are registered under the Co-operative Societies' Act and about 1500 are registered under MMISFA.

MMISFA, like the Co-operative Societies Act, is supposed to facilitate farmer participation to ensure efficiency in irrigation management and promote equity and participatory decision-making in the command areas of the irrigation projects. The difference between WUAs registered under these two types of Acts is that the co-operatives have a voluntarism associated with it, while MMISFA makes it mandatory for all the farmers in the command areas to become members to be able to receive water. Alternatively in the case of the Cooperative Act if a minimum of 51 percent of the farmers who have land in the command area consent then they can form the WUA and in the case of MMISFA all farmers in the delineated command area of a minor automatically become members.

Through this study, we took stock of the developments in PIM in Maharashtra, which has lasted for over two decades and has seen both the voluntary approach and the mandatory approach. The study was more of a rapid assessment of WUAs against certain key areas like processes and procedures, water allocation and

WUAs, various problems such as non-availability of information, non-existence of certain WUAs (though mentioned in the DIRD data set), problems in the data collected meant that – we were finally able to analyze information for 253 WUAs. One of the important aspects of the study was that it was a research collectively done by 14 organizations across the five administrative regions of the state. The main advantage of a collective study such as this is that a network of concerned organizations get built in the process of research itself and this network is important in taking up some of the crucial issues flowing from the research at policy level. However, the downside of this is that there is a limit to the extent of rigour in data collection that one can achieve.

Data was collected through seeking WUA office information, conducting FGDs with WUA members and doing physical verification of canal system. The WUAs included in the study were from all the five regions, were registered under both MMISFA and cooperative act, and were formed on major, medium and minor projects (Table 1).

## KEY FINDINGS

### Formation and handing over

About 44 percent of the WUAs studied have been in existence for about 5-6 years and 26 percent for more than

**Table 1 Region, project and Act wise distribution of the sample**

Region	MMISFA			Co-operative			Total
	Major	Medium	Minor	Major	Medium	Minor	
Konkan	0	0	4	0	0	2	6
Marathwada	3	4	1	25	5	17	55
North Maharashtra	35	1	2	10	1	2	51
Pune	37	1	2	14	0	1	55
Vidarbha	36	6	6	13	14	11	86
Total	111	12	15	62	20	33	253

distribution, pricing, operation and maintenance, physical condition of the system, volumetric supply and measuring devices and governance practices and decision making.

As per the data published by the Directorate of Irrigation Research and Development (DIRD) in April 2010 there are 1545 WUAs registered under the MMISFA and 2615 WUAs under the Co-operative Act. Our total universe therefore comprised of 4160 WUAs. Though we had selected a 10 percent sample, which was about 400

6 years. So a majority of them have been in existence for more than 5-6 years therefore expected to have substantial experience in water management. Yet the data on key aspects like volumetric supply, participation of farmers in deciding rotation schedules, dialogue with the government officials, etc., does not seem to reflect this. About 77 percent WUAs still do not have an office of their own, 50 percent of the WUAs have less than 20 percent women members indicating how the provisions in the law itself are discriminatory and exclude women despite their role

in irrigated agriculture in command areas. Only 4 percent of WUAs had more than 3 women members on their management committees. MMISFA has recently introduced a quota of 3 women on the managing committees of WUAs. Even among these, 21 percent were not aware that they are members and could not actively participate in the decision making.

In keeping with traditions and incentivized by the grant for a consensus based management committee selection, 93 percent WUAs have had unopposed elections to the managing committee. WUAs have been promised a grant of up to Rs. 20000 for holding such consensus based (s) elections. Yet 56 percent of them complained that they have not yet received the grants promised to them.

Transfer of irrigation management is the first step in the process of PIM and our data shows that despite the fact that 70 percent of WUAs have been in existence for over 5-6 years only 38 percent said that actual handing over had been done. In only 39 percent WUAs joint inspection has been done. Of these, 33 percent WUAs reported that the tasks listed in the Joint inspection report as part of the onetime maintenance of the system prior to handing over had not been completed. This means that most of the WUAs are still having to manage systems which are not fully repaired.

### **Water supply and charges**

Volumetric supply, a much talked about achievement of WRD Maharashtra, seems to show a fairly dismal picture on ground with 48 percent of WUAs saying that devices are not in place. Where they are in place about 32 percent WUAs report that they are non functional. Although these devices are in place in some areas, overwhelmingly the response from 61 percent WUAs is that water is not measured properly. Our investigators reported that the overall ethos of volumetric supply is lacking.

Water charges within the WUA are largely decided on a crop area basis as reported by 70 percent of the WUAs. There was no response to the question on how the department charges the WUAs. So this is indeed a data gap which we hope to fill in through detailed case studies of a few WUAs. Most WUAs do have defaulters and only 6 percent reported that they stop supplying water to the defaulters. Twenty one percent reported that dialogue has been the best method for recovering water charges.

### **Participation**

Participation is not very forthcoming amongst the WUAs and this is demonstrated by the responses on the number

of meetings of the management committee and the general body held on an average in a year. Only 5 percent of the WUAs reported having held more than 3 general body meetings on an average in a year and as per the Act at least 3 general body meetings are expected to be held in a year – prior to seasons and to present the audit and the budgets. 40 percent WUAs have had less than 6 management committee meetings in a year on an average and as per the Act management. Committee meetings are to be held every month. So formally none of them seem to be abiding by any of these rules and very few of them were able to show any records of the minutes of the meetings. As far as trainings are concerned, 77 percent said that they have never participated in any trainings and this is despite the fact that WALMI has been appointed as the nodal agency for training and capacity building for PIM in Maharashtra.

Although irrigation officials do visit their canals, information about dam storages and rotation schedules are not shared with the WUAs very easily. Fifty percent WUAs reported that preliminary irrigation programmes (PIPs) are not prepared and shared prior to rotation although both the Acts do state this to be an important part of PIM.

### **Water and crop planning**

Seventy percent of WUAs reported that crops are decided by the farmers and there is no collective planning by the WUA based on information around availability of water and number of rotations. The time table for rotations is decided by the irrigation department, but in many of the WUAs we spoke to this information does not reach them well in time.

### **Maintenance of records**

On the question of maintenance of various records, as stipulated by the Acts, most WUAs scored rather poorly. Fifty five percent reported that they have no records in their office. Fifty six percent said that they do not prepare an annual budget. About 42 percent said that they do maintain accounts. Seventy eight percent said they have a separate bank account.

### **Condition of physical structures**

The report on the physical status of the canal showed that this is still a critical factor responsible for the overall dismal picture. Our data shows that 61 percent of WUAs had silt in the canal and 69 percent had the canals filled with bushes and shrubs. Although operational gates were present at the Minor head there were considerable

leakages as well. Fifty three percent reported that the WUAs do maintain the canals and 46 percent said that field channels are maintained by the farmers. Maintenance works are largely contracted out or laborers are hired for this work.

#### OVERVIEW OF KEY FINDINGS: ACT WISE

A comparison between the WUAs registered under the Co-operative Act and those registered under the MMISFA points to the fact that performance of WUAs registered under the Co-operative act has been marginally better than those registered under the new MMISFA. This can be explained in two ways – one, the WUAs registered under the MMISFA are relatively new (not more than 6 years old) and are still on a learning curve, while co-operative ones are older and thus more familiar with the

management process; two, motivation is perhaps higher among the older ones as the WUAs under the Co-operative Societies' Act had voluntarism associated with their formation while the ones under the MMISFA are registered because the law mandates so. Ironically the law also mandates all the listed processes to be completed within stipulated time and yet our data shows that the WUAs registered under MMISFA have not been performing well.

#### CONCLUDING COMMENTS

The analysis shows that, on an average, the performance of WUAs in Maharashtra leaves a lot more to be desired. However, there are also examples, through very few in numbers, that have demonstrated the potential of WUAs becoming the main institutional fulcrum for reforming the

**Table 2 Act wise analysis (All figures are in percent)**

Key areas	Overall	MMISFA	Co-operative
Handing over not done (OI)	55	70	37
Agreements not done (OI)	57	75	36
Joint inspection not done (OI)	45	54	34
Measuring devices not in place (FGD)	48	49	48
Measuring not possible (CI)	61	63	59
Farmers do not get access to water (FGD)	44	49	38
Annual report not there (OI)	55	65	43
Annual budget not prepared (OI)	56	64	46
Annual audit not done (OI)	46	80	32
Leakage at main gate (CI)	58	54	63
Silt in canal (CI)	61	64	57
Bushes and shrubs in canal (CI)	69	76	61
No general body meetings held since formation (average) (OI)	17	14	19
Three and more than 3 general body meetings held since formation (average) (OI)	6	8	3
Less than ten percent women members (OI)	25	20	32
More than 30 percent women members (OI)	7	11	1
Do not get returns from WRD (OI)	42	51	30

*OI: Office Information; CI: Canal Walk through information; FGD: Focused Group Discussions*

irrigation sector. One such example is the Ozar WUAs in Nashik district on the Waghad medium irrigation project set up by Samaj Parivartan Kendra (SPK) with support from SOPPECOM in the 90s. Initially three WUAs – Banganga, Mahatma Phule and Jay Yogeshwar – were set up and the WUAs have performed very well by any of the conventional norms like irrigation efficiency, increase in the irrigated area, maintenance of the system, managing water properly, collection of water charges, and so on. They have also provided an example of co-management of groundwater and surface water. They have built a number of check dams on the *nallahs* and streams flowing through their command and use them to harvest rain water, store their unused quota of canal water and help recharge wells and thus increase water availability, irrigated area, area under high value crops like vegetables and grapes. In the Mahatma Phule WUA, the farmers also pay certain water charges to the WUA for using water from their wells and have developed simple methods of monitoring well water levels and estimating the charge.<sup>7</sup> This is also the only project which has been completely turned over to a federation of WUAs. Need of the hour is to learn from such positive experiences and devise strategies to generalize the learnings. Otherwise there is a danger that the positive experiences are treated more as exceptions or special cases, as often done, and there is no question of learning from them. This is all the more important because WUAs seems to be the best bet in chalking out a pathway which is neither statist nor market-centric.

Also, concerted efforts are needed at various levels if PIM has to succeed. While efforts at the WRD level are critical, experience also shows that a deep rooted understanding of participation and democracy also needs to be internalized and practiced by farmers along with a commitment to equitable distribution and sustainable use of water. Very often strong nexus exists between some users and the WRD leaving a section of the farmers without access to water and a say in the decision making.

### **Policy advocacy**

One of the expected outcomes of this study was to initiate a joint dialogue with the WRD on bringing about improvements in the WUA functioning. The findings were shared with the WRD as well as with the MWRRA and

both did commit a meeting of senior level officials to discuss the findings. The study findings were also discussed with the Lokabhimukh Pani Dhoran Sangharsh Manch a loose platform of individuals working in the water sector for pro people policy and practice. The key findings were sent to the WRD and the MWRRA through this platform as well.

### **Suggested way forward**

Broadly speaking if we were to suggest approaches for improvement in the sector a two pronged strategy might be useful. The first concerns what needs to be done by the WRD in the immediate future which could provide a foundation for making a transition to the long term strategy for restructuring the water sector on equitable, sustainable and democratic lines?

In the current legislative context where the understanding of equity is clearly defined in terms of water access in proportion to land ownership in command areas, short term approaches for the improvement of the sector would include in ensuring water access to all as a first step within the command area, building capacities of the users and the functionaries of the WUAs in terms of water use planning and productivity enhancement through sustainable practices. Agriculture and cropping practices are often not part of conventional irrigation thinking and this should become an important area of WUA's work. Preparing operational plans, putting forth water demands, measuring water use and distributing as per the water schedules and plans prepared are among the important functions of WUAs and where capacities need to be built. Importantly WRD should invest its time and money towards building capacities of the key functionaries and the directors. Women's participation in these institutions also needs to be focused on and a workable strategy and financial commitment needs to be made by the WRD to ensure that women and other socially disadvantaged groups do participate in irrigation planning.

WRD needs to seriously review its performance around volumetric supply and pricing, preliminary Irrigation programmes need to be conveyed to the WUAs etc. Importantly WRD needs to take stock of the changes that are occurring on the ground in terms of changes in the CCA, cropping patterns, preference for cash crops over

<sup>7</sup>For details see Paranjape and Joy (2004), research supported by IWMI, Colombo, available at [www.soppecom.org](http://www.soppecom.org)

cereals, preference for drip over flow irrigation etc.  
Irrigation planning needs to be rethought by taking stock of some of these changes on the ground.

These actions would help build the foundation for making a transition to expanding the scope of PIM to include

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ground water and also creating water access beyond the command areas of projects thereby move out of the command area mindset that the WRD and the MWRRA are currently trapped in.



## About the IWMI-Tata Program and Water Policy Highlights

The IWMI-Tata Water Policy Program (ITP) was launched in 2000 as a co-equal partnership between the International Water Management Institute (IWMI), Colombo and Sir Ratan Tata Trust (SRTT), Mumbai. The program presents new perspectives and practical solutions derived from the wealth of research done in India on water resource management. Its objective is to help policy makers at the central, state and local levels address their water challenges – in areas such as sustainable groundwater management, water scarcity, and rural poverty – by translating research findings into practical policy recommendations. Through this program, IWMI collaborates with a range of partners across India to identify, analyze and document relevant water-management approaches and current practices. These practices are assessed and synthesized for maximum policy impact in the series on Water Policy Highlights and IWMI-Tata Comments.

Water Policy Highlights are pre-publication discussion papers developed primarily as the basis for discussion during ITP's Annual Partners' Meet. The research underlying these Highlights was funded with support from IWMI, Colombo and SRTT, Mumbai. However, the Highlights are not externally peer-reviewed and the views expressed are of the author/s alone and not of ITP or either of its funding partners.

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