

Situational Analysis of Water Users Associations in Maharashtra: A rapid assessment

Report of a joint study by a network of grassroots organizations in Maharashtra

Co-ordinated by SOPPECOM, Pune

April 2012

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Acknowledgements

The study has been possible as a result of the efforts of several grassroots organizations in Maharashtra. The idea was conceived in 2010, a time when reforms in irrigation sector were moving at a fast pace. On the one hand participatory irrigation management through the formation of water users associations was hailed as the answer to resolve the irrigation crisis and on the other water was being allocated to industries.

SOPPECOM suggested the idea of taking stock of the participatory institutions set up to manage public sector irrigation to a group of organizations working in this sector. A loose network of organizations in Maharashtra was thus set up and a rapid assessment of about 300 WUAs was possible in a participatory manner. The strength of the study lies in this participatory process which holds potential to do policy advocacy with the department and awareness building among the beneficiaries.

As the coordinating organisation SOPPECOM thanks all the participating organizations for being involved in the study from its inception to the stage of finalizing the report. SOPPECOM also thanks its senior staff S N Lele, R K Patil and S B Sane for the support they provided. Thanks are also due to Abraham Samuel for conducting investigator training in Nagpur, Raju Taywade for supervising the data collection process in Nagpur, Archana Bhokase and Kshitija Gosavi for doing the data entry.

Most importantly we would like to thank Dr. Palanisami of IWMI-TATA for the immediate financial support that he provided for the completion of the study.

On Behalf of the study team at SOPPECOM

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April 26, 2012

Chapter 1 Introduction

Maharashtra presents a paradox of policies that on the one hand freely promote trading in public sector water and on the other hand speak of decentralization equity and farmer participation in Irrigation Management through the formation of water users associations (WUAs).

From 2005-2010 a high powered committee comprising of a group of ministers has diverted about 1500 MCM of water from 40 irrigation projects to industries, thereby affecting about 2.6 lakh hectares of agricultural land. This has been done in the face of policies and legislation that appear to protect the interests of the farmers through participatory irrigation management. Water resources department of the state aims to cover approximately a CCA of 31 lakh hectares through formation of 8000 WUAs across the different major, medium and minor irrigation project. Currently there are about 4500 WUAs, which are either only registered, 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 the new legislation called the Maharashtra Management of Irrigation Systems by Farmers Act 2005 (MMISFA). This is a substantial area where farmer participation can make a difference.

MMISFA 2005 like the Co-operative societies Act is supposed to facilitate farmer participation to ensure efficiency in irrigation management and promote equity in the command area of the irrigation project and participatory decision-making. The difference between the two types of WUAs is that the first has a voluntary approach to it and the second makes it mandatory for all the farmers in the command areas to be registered as a WUA to be able to receive water.

Through this study, we hope to take stock of the developments in participatory irrigation management in Maharashtra, which has lasted for over two decades and has seen both the voluntary approach and the mandatory approach. The main intention of the study is to look at certain key areas of WUA functioning at a scale. The areas that the study proposes to cover are issues of allocations and distribution, pricing, operation and maintenance, physical condition of the system, volumetric supply and measuring devices and governance practices and decision making. More importantly the study hopes to take stock of how many WUAs actually exist at the ground level.

The present study used a 10% sample of the existing WUAs formed under the Co-operative societies act and the new MMISFA 2005. This means that the study covered about 400 WUAs. Since the number of WUAs is large, we would be using the rapid assessment methodology that gives an understanding at a scale.

Section 1: Background and Rationale for the study

Maharashtra has had a long history of Participatory Irrigation Management dating back to as long back as the 15th or 16th century when the Phad system was followed by farmers in the northern parts of Maharashtra. Several such examples abound the irrigation history of the state.

However, the first efforts at a formal decentralization started with a few pilots introduced in the 1980s. Prior to this there were examples of Water users co-operatives set up at the behest of Sugar factories¹

The first formal experiment of setting up a WUA initiated by SOPPECOM was in 1989 in Chanda village of Ahmednagar district on the Minor 7 of the Mula major irrigation project. This was the first effort of its kind in PIM (Participatory Irrigation Management) in India. The main aim of this was to demonstrate that the farmers/users can manage irrigation water better than the irrigation bureaucracy and also to improve irrigation management system from the point of view of equitable access, sustainability of the system and of the resource and enhanced productivity. It was hoped that participation of users through decentralized management would lead to meeting these goals of decentralization. This was followed by experiments in Ozar on the Waghad medium irrigation project in Nasik district of Maharashtra with Samaj Parivartan Kendra (SPK) where conjunctive use of ground and surface water was seen to be critical. Later on in the middle of nineties experiments in Khudawadi village of Osmandabad district on the Kurnur medium irrigation project also showed the possibilities of extending equity beyond the command areas to include landless and women water users. These experiments opened up several possibilities in expanding the notions of good governance in the water sector.

After these initial experiments, efforts were also made to federate WUAs at the minor level to form a project level WUA. However, the then water resources bureaucracy did not receive those experiments very well.

Much of the work around WUAs was being done in the voluntary mode, as there was no mandatory legislation until then.

1.1 The reform process

The early 2000 saw a spate of reforms in the water sector in the country as a whole. In general, there was a lot of legislative activity prompted by shifts in thinking at the global level across different states in the country.

As part of this process in Maharashtra, the World Bank and the water resources department have been working jointly since 2002-2003 to address some of the challenges of the public sector irrigation. As part of this the World Bank through the Bank Netherlands Water Partnership programme has been a critical knowledge advocacy partner to the State. The main aim was to establish a more appropriate policy and institutional framework for multisectoral and

¹Samvatsara Co-operative Society set up in Malinagar in 1930 was at the initiative of the Sugar factory in Ahmednagar district

environmentally sustainable water resource planning, management and allocation and to separate the overall water resources planning and allocation functions from the service delivery functions. It is in this context that the Maharashtra Water Sector Improvement programme was launched in 2003 through an agreement with the World Bank with a loan assistance of USD 325million or 1800 crore INR (GoM). The loan brings in with it some of these crucial measures

Maharashtra State Water Policy 2003 (MSWP)

Maharashtra Water Resources Regulatory Authority MWRRA 2005

Restructuring the Irrigation Development Corporations (IDC) into River Basin Agencies

Maharashtra Management of Irrigation systems by Farmers Act 2005 (MMISFA)-to promote more efficient, equitable and sustainable irrigation service delivery through effective involvement of WUAs and to reduce the canal irrigation subsidies, through raised canal water charges to cover the full O&M costs through government order authorising an automatic 15% increase per year during the period between 2001-2004 and

Restructuring of irrigation sector institutions including downsizing of the staff

The rationale for the loan and the subsequent measures is that irrigation coverage will improve by 22% and irrigated crop yields by 5-20%. Farm incomes are expected to increase by 49% and about 33610 farm families who are fully dependent on agriculture will be brought above the poverty line at project closure. It claims that water pricing reforms will improve efficiency on farm while promoting accountability and financial and fiscal sustainability of irrigation services.

The total cost of the project is USD393.77 million of which the bank's support would be USD325 million the GoM would support USD 61.15million and the beneficiaries would contribute USD 7.62 million. It is part of a long term partnership with the state for 12-18 years. The present project is a 6 year one with a strategic focus on creating and supporting an enabling environment for the efficient, sustainable and equitable development and management of the water resources in the state beginning with establishing the appropriate policy, regulatory and institutional framework in the water sector. It will cover 286 irrigation projects in Maharashtra of which nine are major irrigation, 13 are medium irrigation projects and 264 are minor irrigation.

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 80's and 90's. Through this reform process and specifically through the MMIFSA forming WUAs has become mandatory to access water.

In more than two decades of its history, the PIM process has seen two significant phases the first which precedes the reform process, characterised by voluntarism and the second one where participation becomes mandatory or what could be described as the legislative mode. Although it might be too early to compare the two processes in terms of the outcomes, it becomes important at this juncture to assess the impact and the performance of what seemed like a hope in darkness.

It becomes especially important at this juncture, when the state has set out to launch a large number of WUAs and sees this as the key solution to the irrigation crisis, to look back and see how they are functioning. At the same time the State is also making rapid headway in diverting irrigation water to

industries and the WUAs which are supposed to represent the interests of the farmers have little say in these decisions.

SOPPECOM has been part of the long history of irrigation management in Maharashtra and believes that WUAs do provide an institutional space for water users to bring in their viewpoints in irrigation management. It is also an important tool to democratise and restructure the irrigation system. At present, it is the efficiency paradigm that dominates irrigation thinking thereby allowing little space for improving equity and democratic participation.

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.

These are the key drivers for SOPPECOM to take up this study along with other partners in the state.

1.2 Objectives and Scope of the study

One of the key objectives of the study was to do a situational analysis of the various WUAs formed under the co-operative societies act and under the MMISFA 2005 through a rapid assessment. The study could be used in the following ways

- To use this information and analysis for collective thinking towards alternatives
- To use this analysis to lobby for change with the WRD through the network partners

The scope of the study was limited to the state of Maharashtra and covered a representative sample of WUAs registered under Co-operative Societies Act and those registered under the newly formed MMISFA 2005. It did not cover lift irrigation societies.

The situational analysis of the WUAs broadly covered the following areas

- Governance of WUA: This included formation of WUAs, formal registration, joint inspection, formal handing over and how participatory have the processes been, audits and financial dealings, meetings and information to members, women's participation etc
- Technical dimensions: Measuring devices, whether water is measured and records are kept regularly
- Allocations: Water allocations and entitlements tail end and other equity issues, how is the demand for water over years.
- Pricing: How are the charges decided internally and how is the WUA charged by the WRD
- Water rotations and cropping patterns : Mapping the changes to understand water rotations, frequency etc
- Physical system- maintenance, its present condition

Section 2: Research Process

Process

The study idea was conceived about a year ago and the initial process started in May 2010 with the idea of doing a participatory research to understand the status of WUAs in Maharashtra. The effort here has been to make this process participatory from the planning stage itself. In June 2010, SOPPECOM organized a meeting of NGOs and other civil society groups working on water to discuss the possibility of a joint study on the status of WUAs in the state with an idea to initiate advocacy with the WRD. A network of partners was thus formed from across the five administrative regions of the state that were enthusiastic to participate in the study (See Annexure 2 for list of organizations from different regions).

A series of three meetings were conducted in 2010 and most of the discussions around the objectives of the research, the research tools and questions, sampling etc got firmed up in these meetings. All the groups were enthusiastic about the study, but the study could not be immediately taken up at that time as a result of some data gaps and importantly resources required for the study. We could not find a centralized list of all the WUAs registered under the Co-operative societies Act and these had to be procured from the different irrigation departments spread over the state. In a few cases we also had to use the RTI to get some of the lists. On the funding front with IWMI Tata's partial support we finally decided to get head on with this study in November 2011. The main point that we would like to stress here is that the spirit of collective study is important as the study is expected to contribute to initiating a process of dialogue with the WRD as well as with other civil society groups in the state to work in the interest of democratic water governance.

One of the main advantages of collective study is the strength it is able to pool in for future action around the study; however it also has limits in terms of the process of rigour in data collection. Data collection was done by different teams with different orientations, for example some were activist groups who have not necessarily been trained to do systematic data collection while some of the NGOs have been doing it as part of their routine activity. However we do think that participatory processes will have to live with these limitations to some extent but the strength is in coming together to do advocacy around the issue.

SOPPECOM co-ordinated the study and data was collected by the different partner organizations. The trainings prior to data collection were conducted extensively in each of the regions for the investigators. These trainings included training around the tools but importantly training around the reform process, the new legislations in water and its probable impacts, the objectives of the study, WUAs and their functions etc. In most of the organizations, investigators were familiar with the irrigation context and WUA functioning and that familiarity helped in the process of data collection.

Data was cross checked by SOPPECOM and to an extent possible verifications were done with the investigators from the partner organizations. Apart from the quantitative data, the investigators were also asked to write their impressions and observations during the process of data collection. As part of the co-ordination work SOPPECOM had extensive discussions with the investigators to get an understanding of the contexts in which data was collected.

Organization of the report

The report is organized into four chapters, the first is the introduction to the study which discusses the background and rationale of the study, the objectives and scope of the study and the research process, the second chapter discusses the sampling process, problems with the sampling, data findings and the analysis and the final chapter draws the conclusions of the study and suggests a way forward.

Chapter 2 Situational Analysis of Water Users Associations in Maharashtra

This chapter details out the sampling process, methods and tools for data collection, findings of our study and analysis. Data was collected from three different sources using three different tools. These were the office information checklist, the focus group discussion checklist and the canal walk or the physical verification tool. Apart from that field observations and experiences of the investigators are also recorded and included in this chapter.

Selection of WUAs for the Study

As per the data published by the Directorate of Irrigation research and development there are 1545 WUAs registered under the MMISFA (2005), all recorded as functional and 2615 WUAs under the Co-operative Act which are categorised as functional (1235), agreements done but not functional (280) and registered but no agreement done (1100). Our total universe therefore comprises of 1545 from MMISFA and 2615 from Co-operative Act which is 4160. A 10% sample meant that about 400 WUAs would have to be studied to get a current assessment of the situation of WUAs in Maharashtra (See Annexure 2 for details). For reasonably accurate sampling we needed a complete listing of all of these 4160 WUAs from among which about 400 were to be selected. However, getting this data proved to be the most critical bottle neck in terms of progress of the study. The list of 1545 WUAs registered under the MMISFA 2005 has been compiled by the WRD, but the list of WUAs registered under the Co-operative society Act have not been centrally compiled by the WRD. As a result of this we needed to depend on local offices in different regions to give us the lists having names of WUAs. What we eventually got was a total number of 1873 names of WUAs listed under the Co-operative societies act and 1503 under the MMISFA 2005 which is about 3400 WUAs recorded as functional under by the WRD.

A little over 10% sample was drawn using the stratified random sampling method. The following were the layers around which sampling was done

- Act under which the WUA is registered
- Region in the state as per the classification of the WRD. There are five regions as per their classification-Pune, Konkan, Vidarbha, North Maharashtra and Marathwada.
- Type of projects i.e. whether major, medium or minor

From each of these strata 10% sample was drawn taking the total sample to 365 WUAs. Of these 202 were registered under the co-operatives act and 163 under the MMISFA 2005.

The tables below give a detailed picture of the sampling process

Table 1: WUAs in Maharashtra as per the data procured from various regional WRD offices

Region	MMISFA			Co-operative			Total
	Major	Medium	Minor	Major	Medium	Minor	
Konkan	24	0	24	5	7	23	83
Marathwada	19	25	41	467	77	196	825
North Maharashtra	359	45	27	133	21	19	604
Pune	382	8	58	322	8	39	817
Vidarbha	339	55	97	252	156	148	1047
Total	1123	133	247	1179	269	425	3376

As per the data compiled by the DIRD the total number of functional, WUAs where agreements are completed and only registered WUAs in Maharashtra is 4165. However the actual data procured by SOPPECOM from the various Irrigation offices shows that number to be 3376. If we were to go by the DIRD numbers as the final numbers then we see a discrepancy of about 800 WUAs of which about 42 fall in the MMISFA list and about 745 in the co-operative list.

The sample selection had to be done on the basis of the actual data that we had received from the various regional WRD offices which is stated in the table above. Thus a sample of at least 330 had to be drawn from the data sets that we had received.

The sample drawn as per the strata mentioned earlier is as follows

Table 2: The sample drawn

Region	MMISFA			Co operative			Total
	Major	Medium	Minor	Major	Medium	Minor	
Konkan	7	0	7	5	2	6	27
Marathwada	2	3	5	47	8	20	85
North Maharashtra	36	5	3	14	3	2	63
Pune	38	1	6	33	1	4	83
Vidarbha	34	6	10	26	16	15	107
Total	117	15	31	125	30	47	365

Out of these the final data that we entered was for 318 WUAs since for various reasons the teams were not able to collect the data for about 47 WUAs that were sampled. The bifurcation of this 318 was as follows- Co-operative 178 and MMISFA 140

Table 3: Sample Collected

Region	MMISFA			Co operative			Total
	Major	Medium	Minor	Major	Medium	Minor	
Konkan	0	0	4	0	0	2	6
Marathwada	3	4	1	44	6	21	79
North Maharashtra	35	1	2	10	1	2	51
Pune	37	1	2	32	2	3	77
Vidarbha	36	7	7	23	17	15	105
Total	111	13	16	109	26	43	318

Methods of data collection

Since this is a rapid assessment of the WUAs in Maharashtra the tools developed were such that the research team spends about 2 days in each of the WUAs where it administers questionnaires with the key functionaries of the WUA, conducts an FGD with a representative group of members and does a transect walk across the canal to understand the physical status of the system. The following three research instruments were thus developed for the study

- Checklist for interviews with the key functionaries to get the office based information
- Checklist for the FGD with beneficiaries of WUAs
- Checklist for a transect walk along the canal and the command of the minor

The first checklist broadly looked at all the office records in terms of details of registration of WUA its year of registration, handing over etc, member profiles, meetings held, audits done, records on water allocations, demands, cropping patterns, water charges.

The second checklist covers areas of water management from the user's point of view, overall functioning, issues of water access, water pricing, decision making processes, interaction with the government etc.

The third checklist broadly covers the state of the physical system i.e. state of the canal, measuring devices, outlets, gates, canal lining, uncommand areas, water theft etc.

Apart from this the investigators and the leaders of the organizations were asked to keep detailed notes of their field visits to capture insights that cannot be recorded in these checklists. Notes were also written by SOPPECOM staff during their visits to those areas.

Issues with data sets and final sample

Our initial sample was of 365 WUAs and of these 365, data was collected for 318 WUAs i.e. 87% of our planned sample. Many of the WUAs where data could not be collected were WUAs on paper and they did not exist on ground. In some other cases the concerned organizations in

those regions could not complete the data collection in the stipulated time, for example Jalgaon group or Konkan group.

Data collected through three different tools for 318 WUAs was entered and as we starting looking at the data and processing it we realized that there were several such WUA data sets that did not have any information in all its three tools. It was thus decided that such WUAs should not be considered for the present report. After this round of screening and scanning our data we were finally able to use data for 253 WUAs i.e. about 69% of our original sample. As we can see in the charts below we were able to locate and study almost all the WUAs selected under the MMISFA. As far as WUAs selected under co-operative acts about 64% could be studied thereby leaving about 36% out from the selected sample. The main reason being that WUAs were not functional or just did not exist.

After this round of elimination we still had data sets wherein more than 50% of the questions were not answered. With such a high no response category we thought the data would not be very meaningful and representative and hence such questions too were eliminated in the analysis. These were some of the most critical questions on issues such as water quotas, number of rotations, tail ender deprivation, water charges and default etc. However in the findings we do try to present a picture based on the few responses that we have received on some of these important categories.

The two charts below map the changes in the sample. The data collected and the actual sample of which data was used is shown in these two charts.

Chart 1: Sample changes: MMISFA

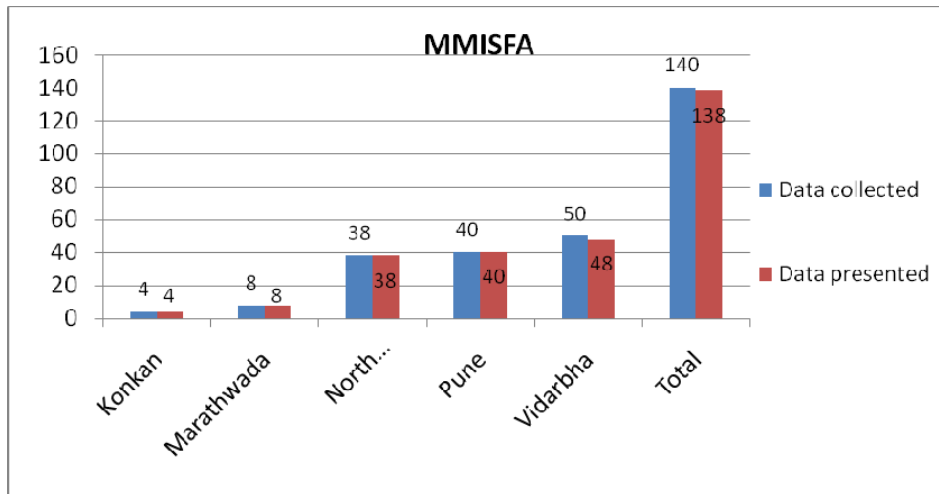
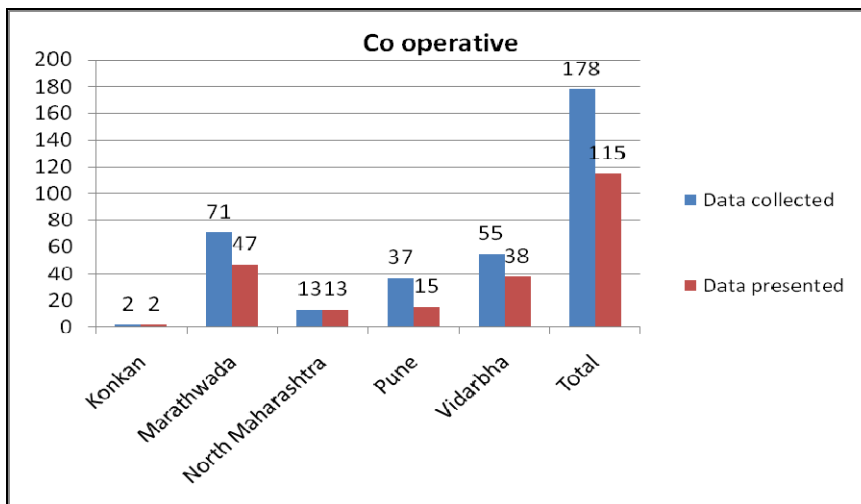


Chart 2: Sample Changes: Co-operative Act



The table below gives a picture of the final sample used for presenting the situational analysis of WUAs in Maharashtra.

Table 4: 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

Registration –transition to MMISFA

As a result of the new legislation all the irrigation projects to be covered under the Maharashtra Water Sector Improvement Programme (MWSIP) will now have mandatory WUAs registered under the MMISFA 2005. The MWSIP would cover about 286 major, medium and minor projects under its repair and rehabilitation programme. All the WUAs formed under this programme would have to register under the MMISFA 2005. Some would be newly formed WUAs and some older ones registered under the Co-operative Act which will have to re register under the new act. WUAs that had been formed under the Co-operative Act will now have to be re registered under the MMISFA 2005. This transition has not happened very smoothly yet as there are issues with the two concerned departments.

In our data we see that about 19 of the WUAs currently under the MMISFA were earlier part of the co-operative act and now have made a transition to the MMISFA 2005

Table 5: Transition to MMISFA from Co-operative

Response	WUAs
No	75
Yes	19
NR	44
Total	138

The table below shows that among the WUAs that were earlier part of the Co-operative Act and now part of the MMISFA we see that 8 of them said that they were not given any information about their official status and 8 others said that they were given information. Eight of them thought that there was a change in rules after this transition but seven thought that that was not so. Six of them felt that there was a change in water management practices after the transition and 8 of them felt that that was not so.

Table 6: Changes after transition to 2005

Response	Whether information given by government about the official status of WUA after 2005	Any change in rules	Any change in governance
Yes	8	8	6
No	8	7	8
NR	3	4	5
Total	19	19	19

Findings

Formation of WUAs

Most of the WUAs, as the table below suggests were formed during the period between 1990's and 2010. The ones formed in the 1990s have been formed under the Co-operative act and most of those that have been formed after the 2005 have been formed under the MMISFA.

Reasons for formation of WUAs show that there was a combination of reasons that led to the formation of WUAs in most of the places. Most farmers in the FGD conducted said that there was a hope that water should be equitably distributed and that there should be assured water supply. These responses have largely come from the WUAs formed under the Co-operative act. Under the 2005 Act, WUAs have been formed mandatorily as the law demands it. Responses from 20 WUAs showed that entitlements did change after the formation of WUAs. It is however not known whether they changed for the better or for worse.

The important learning from this finding is that most WUAs felt that their existence has been mainly to ensure equitable and guaranteed water supply to all the beneficiaries including the tail. One set of responses which has largely come from the WUAs registered under the MMISFA is that WUAs were formed because it was mandatory.

Table 7: Reasons for formation of WUAs

Reason	WUAs
Equal distribution of water	83
Guaranteed water supply	57
Mandatory by the law	56
Water supply till tail end	50
Pressure from the department	44
To get water at reasonable price	44
Changes occurred in water entitlement	20
To reduce corruption	9
Decentralized governance	4
Other	4
NR	16

Table 8 presents data on who initiated the formation of WUAs. This data overwhelmingly shows that about 154 WUAs have responded saying that it is the Irrigation department that has initiated the process.

Our experiences in the field have shown that WUAs formation process is initiated by various stakeholders. In most cases it is the Irrigation department, but after the 2005 there is also some discussion that the WUAs were initiated by contractors who wanted to take on the repair and rehabilitation work of the canals.

Table 8: Initiator of the formation process

Initiative	No of responses
Irrigation Department	154
Farmers	77
Leader in the village	39
NGO	2
Leader outside village	1

Table 9: Years of formation (figures in parantheses represent percentages)

No of years since formation	Co operative Act	MMISFA	Total
Up to 3	4 (3)	9 (7)	13 (5)
4 to 6	31 (27)	97 (70)	128 (51)
7 to 9	29 (25)	0 (0)	29 (11)
More than 9	33 (29)	0 (0)	33 (13)
NR	18 (16)	32 (23)	50 (20)
Total	115 (100)	138 (100)	253 (100)

Most of the sample WUAs have been registered for the last 4-6 years (51%). The co-operative ones are older and there are 13% that have been registered for more than 9 years. Only 5% are registered for upto 3 years, thereby indicating that several aspects of management should have been taken over by many of the sample WUAs by 2011. Most of the WUAs (70%) registered under the MMISFA are in the category of 4-6 years i.e. after the act was passed in 2005.

In a later table we shall see how the formation years can be linked to the information on agreements done, joint inspection and handing over.

Office premises

Under the new law and also under the co-operative act, every WUA should have an office premises in one of the villages included in the command area. The table below shows us that of the 253 WUAs 77% still do not have their own office with only 13% having a space of their own.

Table 10: Office premises

Response	WUAs
No	194 (77)
Yes	34 (13)
NR	25 (10)
Total	253 (100)

Membership profiles

General membership

In this section we look at the membership profile of WUAs and their managing committees. Membership to WUAs is restricted to those who own land in the command areas or those who are landholders in the command area. Often it is seen that women are not owners of land and thus do not qualify as members of these WUAs. Similarly we also see caste inequities in terms of access to land in command areas. Although we could not get detailed data on the caste wise landholdings in command areas we do have a picture of women's membership to WUAs.

The table below presents the percentage of women members segregated by type of Act.

This table gives an overall picture of percentage of women members in the 253 WUAs studied. We see that about 25% of the WUAs have less than 11% women members and another 25% have between 11-20%. The number of WUAs having larger % of women members is very low, thereby reflecting the number of women as landholders/owners in the command area of the concerned WUAs. In the MMISFA however there are about 10% WUAs having 31-40% women's membership and two of them having more than 40% membership of women. This probably has something to do with the way membership is registered under this act. It is called a voters list and includes all the names that are listed in the 7/12 revenue record.

All of these WUAs reporting higher women's membership are on major irrigation projects and most fall in Ahmednagar district. It might be interesting to understand the reasons for this through in-depth studies but SOPPECOM's earlier studies in Ahmednagar district show that larger percentages of women's membership is also related to the large land holdings and the subsequent applicability of land ceiling laws in those areas.

Table 11: Act-wise membership of women

Percentage of women members	Co operative Act	MMISFA	Total
0 to 10	37 (32)	27 (20)	64 (25)
11 to 20	31 (27)	32 (23)	63 (25)
21 to 30	4 (3)	23 (17)	27 (11)
31 to 40	0 (0)	14 (10)	14 (6)
More than 40	1 (1)	1 (1)	2 (1)
NR	42 (37)	41 (30)	83 (33)
Total	115 (100)	138 (100)	253 (100)

Table 12: Act and region-wise % of WUAs with women's membership (all figures are percentages)

Percent of women members	Konkan		Marathwada		North Maharashtra		Pune		Vidarbha	
	Co-op	MMISFA	Co-op	MMISFA	Co-op	MMISFA	Co-op	MMISFA	Co-op	MMISFA
0 to 10	0	0	26	13	54	13	40	18	32	29
11 to 20	0	50	13	25	38	16	27	18	42	31
21 to 30	0	25	6	13	0	26	0	13	3	13
31 to 40	0	25	0	0	0	29	0	3	0	2
More than 40	0	0	2	0	0	3	0	0	0	0
NR	100	0	53	50	8	13	33	50	24	25
total	100	100	100	100	100	100	100	100	100	100

Committee membership

General membership as we have seen is defined by landownership or land holdership in the command area however committee membership is largely defined by the power structures within the community.

The co-operative Act did not have any specific quota for women, whereas the new MMISFA has made it mandatory to include 3 women on the managing committee which comprises of 9 or 12 people depending on the command area. Each of these women has to represent the head, tail and middle reaches of the canal. The law also says that at least for one term of 2 years a woman has to be made a chairperson. There is however no caste quota within the women's quota and thus women from the upper castes or the majority castes get represented on the committees.

Table 13: Number of women in managing committee

No of women committee members	Co operative Act	MMISFA	Total
0	27 (23)	3 (2)	30 (12)
1	40 (35)	13 (9)	53 (21)
2	19 (17)	19 (14)	38 (15)
3	4 (3)	84 (61)	88 (35)
More than 3	3 (3)	8 (6)	11 (4)
NR	22 (19)	11 (8)	33 (13)
Total	115 (100)	138 (100)	253 (100)

The table above shows us that as a result of this law a larger percentage of women are on committees formed under the MMISFA as compared to the Co-operative act. Yet the mandatory nature of the act which makes it compulsory to have three women members does not seem to have been abided by the WUAs registered under MMISFA.

However if we look at the table below we see that in the case of the co-operative societies 21% women did not know they were members of the committee. The awareness was better (80%) in the case of the MMISFA where there is a dedicated quota for women on the committees.

Table 14: Act wise Knowledge of membership for women

Response	Co operative Act	MMISFA	Total
Yes	46 (40)	111 (80)	157 (62)
No	24 (21)	13 (9)	37 (15)
NR	45 (39)	14 (10)	59 (23)
Total	115 (100)	138 (100)	253 (100)

Understanding caste in the context of irrigation requires looking at different kinds of data sets related to land ownership within command, population in the villages in the command area etc. For this study we have looked at data which shows us the membership profile in which caste was one of the variables. Our data points out that caste does play a major role in decision making. SC, ST and castes like the DTs and NTs or SBCs largely do not own land in the command

areas and this is reflected in their membership to committees as well. The number of WUAs with no representation or lower representation of SC, ST or DT etc is higher as per our data. However it might be interesting to look at 52 WUAs that have reported 0% open caste members on its committees. These are largely villages which have dominant populations belonging to the OBC, DT or NT communities. As mentioned earlier it is important to also look at the landownership of these castes and the population of these castes in the command area villages. SOPPECOM has done this exercise for a few WUAs in another study and that does show that scheduled castes and scheduled tribes own very little land in command areas of irrigation canals. As a result their representation on decision making bodies is affected.

Table 15: Caste wise membership of committees

Percentage of committee members	Open	OBC	SC	ST	DT	NT	SBC	Muslim	Jain
0	52	49	97	138	153	105	155	149	156
1 to 25	19	31	59	15	3	37	1	7	1
26 to 50	17	14	1	1	1	9	1	1	0
51 to 75	19	24	0	2	0	3	0	0	0
76 to 99	27	22	0	0	0	1	0	0	0
100	23	17	0	1	0	2	0	0	0
NR	96	96	96	96	96	96	96	96	96
Total	253	253	253	253	253	253	253	253	253

Selection of members

The two tables below show us the process of selection/election of the committee members. The first table shows us that elections were held in 70% cases but in most of them selection was done by consensus

Table 16: Whether Elections were held

Response	Co-operative	MMISFA	Total
Yes	53 (46)	124 (90)	177 (70)
No	42 (37)	9 (7)	51 (20)
NR	20 (20)	5 (4)	25 (10)
Total	115 (100)	138 (100)	253 (100)

Table 17: How were the elections conducted?

Response	Co operative	MMISFA	Total
Unopposed	46 (87)	119 (96)	165 (93)
By show of hand	3 (6)	0 (0)	3 (2)
Voting	1 (2)	1 (1)	2 (1)
NR	3 (6)	4 (3)	7 (4)
Total	53 (100)	124 (100)	177 (100)

The table above shows us that about 93% WUAs had committee members selected through consensus. The percentage is higher for MMISFA at 96% since there is an incentive of upto Rs 20000 for unopposed elections. Only 1% of WUAs have actually voted to select their committee. This has generally been the experience about WUAs which are still not seen as political hot spots. There is very little interest in WUA elections unlike the elections in sugar co-operatives which acquire a political colour. Management of WUAs is seen only as a burdensome task with little potential for building political careers of local leaders. With the MMISFA things might change as the federation does offer a larger institutional space for upcoming leaders. Whether it would be a positive change or a negative one only time will tell.

Table 18: Incentive funds for unopposed elections	
Response	WUAs
Yes	67 (56)
No	43 (36)
NR	9 (8)
Total	119 (100)

Of the 119 WUAs where unopposed elections were held only 56% reported that they actually received the incentive fund and about 36% have not received as yet. As discussed earlier every unopposed election under the MMISFA receives a monetary incentive of upto Rs 20,000/ from the Water resources department. We have seen how the office bearers have described beneficiary participation in WUAs, we can now see how the general members of WUAs look at participation.

Usually two kinds of procedures are followed for selection of members. One is through elections where members vote for their representative and the other is where members are selected through unopposed elections. In both cases however names are suggested by the respected members of the village/s or influential members, leaders and also the Irrigation department

officials. Our data shows that only 13% WUAs went for an election by voting and the rest went in for an unopposed selection with 13% not responding. However there were several ways in which people tried to influence the committee membership of the WUA.

Table 19: How committee members are selected

Response	Co operative Act	MMISFA	Total
With consensus	25 (22)	45 (33)	70 (28)
Jointly by leaders and ID officers	28 (24)	21 (15)	49 (19)
ID officers	5 (4)	31 (22)	36 (14)
Leaders from the village	23 (20)	10 (7)	33 (13)
Election	5 (4)	27 (20)	32 (13)
NR	29 (25)	4 (3)	33 (13)
Total	115 (100)	138 (100)	253 (100)

Members are usually informed about their selection in a meeting but there have also been responses where membership is informed orally or through sending notices, letters or certificates.

Table 20: How are members informed about selection?

Response	Co operative Act	MMISFA	Total
In the meeting	33 (29)	51 (37)	84 (33)
Orally	14 (12)	21 (15)	35 (14)
Sending letter/notice/certificate	8 (7)	26 (19)	34 (13)
On phone	0 (0)	3 (2)	3 (1)
By ID officers	0 (0)	2 (1)	2 (1)
Not informed	6 (5)	3 (2)	9 (4)
NR	54 (47)	32 (23)	86 (34)
Total	115 (100)	138 (100)	253 (100)

Transfer of Management

Transfer of management is one of the most important aspects of WUA governance. It is only after the WRD hands over the management to the WUAs that its members start taking on the responsibilities in terms of water allocations, filling demand forms, preparing water schedules, distribution of water, preparing water bills, collection of water charges from farmers and paying the WRD . Apart from this, conducting meetings, annual audits etc are also tasks of the WUAs which are undertaken by them once handing over or transfer of management is completed.

Agreement

As part of the process of handing over the first step is an agreement with the WRD where a quota is allocated to the WUA and joint inspection is then planned. As per the bye laws prepared under the co-operative societies act for WUAs an agreement or a Memorandum of understanding between the Irrigation department and the WUA has to be signed after the registration of the WUA. This MoU includes clauses related to joint inspection, rights of members, recovery of water charges, water rights, rights of government officials etc.

As per the MMISFA the WUA has to enter into an agreement with the WRD or an upper level WUA within three months of its formation. The main components of the agreement include water use entitlement, water rate and assessment on volumetric basis, rights of the members of WUAs and WUAs themselves, maintenance and repairs of canals, resolution of conflicts, penalties, compensation and technical guidance and training.

As far as agreements with the WRD are concerned our data shows that 57% of the WUAs do not have any agreements done with the WRD and majority of them i.e. 75% are WUAs registered under the MMISFA where these agreements have not been completed. Many of the WUAs registered under the MMISFA have been slow in following the milestones mentioned in the act.

Although one can understand the reasons for delay in handing over, it is not clear as to why agreements are still not completed. As far as co-operative act is concerned most of them are older WUAs whereby agreements ought to have been completed by now.

Table 21: Act wise agreement done with WRD

Agreement with WRD	Co operative Act	MMISFA	Total
	No of WUAs	No of WUAs	
Yes	49 (43)	23 (17)	72 (28)
No	41 (36)	103 (75)	144 (57)
NR	25 (22)	12 (9)	37 (15)
Grand Total	115 (100)	138 (100)	253 (100)

Joint inspection

As per the bye laws prepared for WUAs under the Co-operative Act, after the agreement and before starting the rotations a joint inspection will have to be conducted and repair works to be carried out. The department is responsible for handing over a well functioning system where actual discharges at various points are as per the design capacities. Repair work of field channels is not to be done by the government department. However, after the handing over of a well functioning system is done, all repair and maintenance works related to the canal are to be done by the WUA. This includes removal of shrubs, desilting, measuring devices outlet gates to be kept in good order.

In the MMISFA within three months of the agreement the WUA and the WRD have to do a joint inspection of the canal. The entire canal will be jointly inspected by the Executive engineer or his/her representative along with the members of the WUA in order to identify the repair works of the canal. These repair works as per the MMISFA will be classified into two lists Priority 1 and priority 2. The priority 1 list has the important repair works pertaining to gates, outlets, minor head i.e. those works that are essential for the designated discharge, control and measuring conveyance of water by flow gravity. Priority 2 includes roads, construction of bridges etc and can be done after Priority 1 is completed. The findings of the joint inspection have to be recorded and signed by both the parties and within 12 months of the joint inspection priority 1 works have to be completed. After completion of these works testing of the canal would be done jointly and within one month the WUA would be handed over the management.

Joint inspection is thus a very important step in the process of handing over. Our data showed that in 45% of the WUAs joint inspection had not been done. Once again joint inspection is expected to be completed within 6 months of the formation of the WUA and our data shows a different picture

Table 22: Act wise Joint inspection

Joint inspection	Co operative Act	MMISFA	Total
Yes	50 (43)	49 (36)	99 (39)
No	39 (34)	75 (54)	114 (45)
NR	26 (23)	14 (10)	40 (16)
Grand Total	115 (100)	138 (100)	253 (100)

Our responses through FGDs with farmers show that in 46% of the WUAs Joint inspection was done at some point in time. For MMISFA the percentage is slightly higher at 48% as against 44% for WUAs under co-operative Act. This response broadly corroborates with the information provided by the key office bearers.

Table 23: Whether joint inspection done (FGD)

Joint inspection done	Co operative Act	MMISFA	Total
Yes	51 (44)	66 (48)	117 (46)
No	46 (40)	68 (49)	114 (45)
NR	18 (16)	4 (3)	22 (9)
Total	115 (100)	138 (100)	253 (100)

Table 24: When was joint inspection done (FGD)

Joint inspection-when	Co operative Act	MMISFA	Total
After handing over	8 (16)	18 (27)	26 (22)
Before handing over	39 (76)	44 (67)	83 (71)
NR	4 (8)	4 (6)	8 (7)
Total	51 (100)	66 (100)	117 (100)

For those where Joint inspection was done 71% responded that it was done before handing over which is a positive step and 22% said that it was done after handing over which is still substantial considering that Joint inspection has to be necessarily done before handing over as only a functional system can be handed over to the WUA. It is interesting to note that under

MMISFA where it is explicitly stated that Joint inspection needs to be done before handing over we see a higher percentage i.e. 27% being done after

It was interesting to see that in 57 % cases the tasks listed in the Joint inspection were completed but in 33% WUAs the tasks listed out in the joint inspection were not completed again the figure is higher for MMISFA (39%) and this is something that the WRD may need to look out for.

Table 25: Was a task list prepared after Joint Inspection

Response	Co operative Act	MMISFA	Total
Yes	30 (59)	37 (56)	67 (57)
No	13 (25)	26 (39)	39 (33)
NR	8 (16)	3 (5)	11 (9)
Total	51 (100)	66 (100)	117 (100)

Handing over

Under the MMISFA and the Cooperative act as well, handing over is done only after items listed in the joint inspection have been completed. Our data shows that handing over has been done in only 38% of the WUAs. If we look at the second table below we see that percentage of WUAs not handed over is higher in the MMISFA (70% as against 37% among the Co-operative). This can be explained by the fact that WUAs registered under the MMISFA are still new and the process of rehabilitation of the systems is not yet completed. The MWSIP programme has already completed its term in March 2012 and yet we see that many tasks are incomplete and WUAs are still not managing their own business. What is important to highlight here is that the processes are slow and the reasons for these slow processes need to be understood.

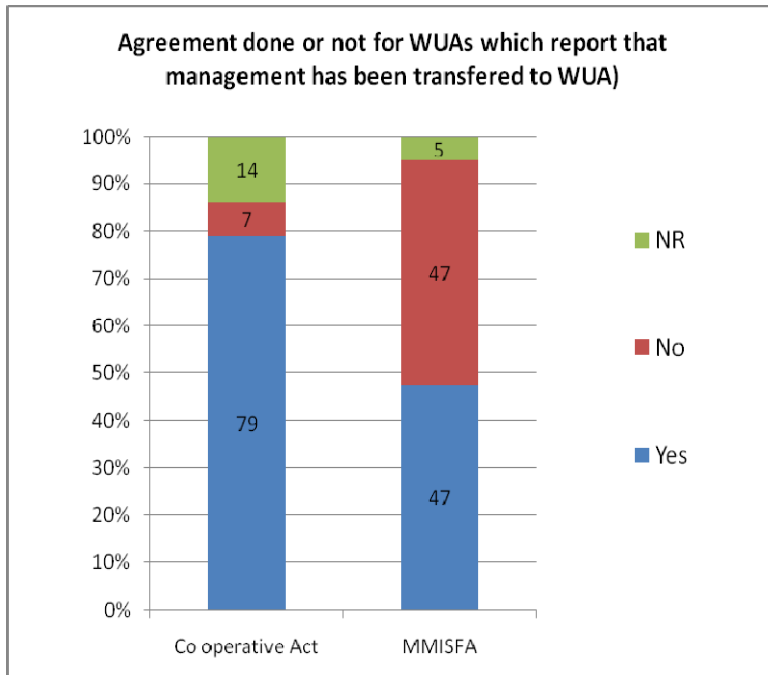
Table 26: Act wise handing over of WUAs

Handing over	Co operative Act	MMISFA	Total
Yes	58 (50)	38 (28)	96 (38)
No	42 (37)	97 (70)	139 (55)
NR	15 (13)	3 (2)	18 (7)
Total	115 (100)	138 (100)	253 (100)

It is important to see how many WUAs have completed the three steps in transfer of management i.e. Agreement, Joint inspection and finally handing over. Our data shows that of the 96 WUAs where handing over was done 64 (66%) have said that agreements have been completed and of these only 32 or 50% said that they have copies of the agreement. The rest of

the 50% do not have a copy of the agreement despite the fact that they did have an agreement with the WRD.

Chart 3 Agreement done or not for WUAs which report that management has been transferred to WUA



The chart above indicates that in 79% WUAs agreement has been done under co-operative Act and 7% report that they have not been done. While in the MMISFA the situation is pretty bad considering that 47% are reporting that agreements are not done despite handing over of management.

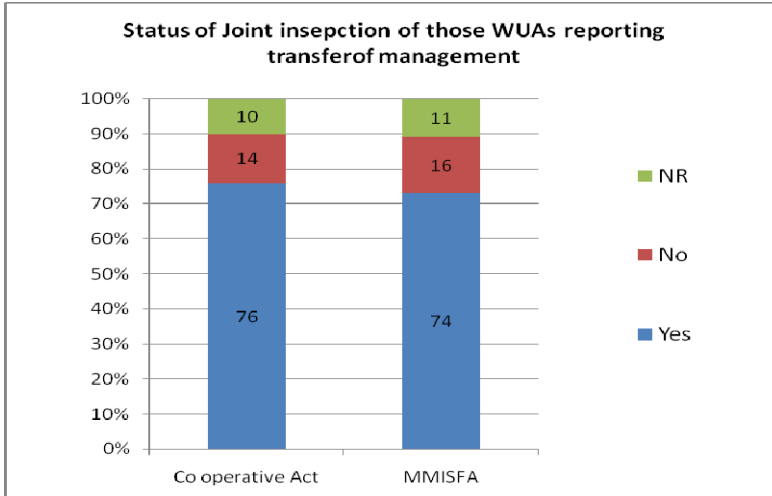
Table 27: Copies of Agreements with the WUA

Copy of agreement	Co operative Act	MMISFA	Total
Yes	24 (52)	8 (44)	32(50)
No	8 (17)	7 (39)	15 (23)
NR	14 (30)	3 (17)	17 (27)
Total	46 (100)	18 (100)	64 (100)

However joint inspection was done only in 72 WUAs of the 96 ones where handing over was done. The chart below shows how across the two Acts handing over was done before joint inspections were carried out or laid out on paper. In 76% WUAs under Co-operative Act and 74% under MMISFA joint inspection has been done before handing over. About 15 % WUAs in both the Acts show that joint inspection has not been done despite the fact that handing over was

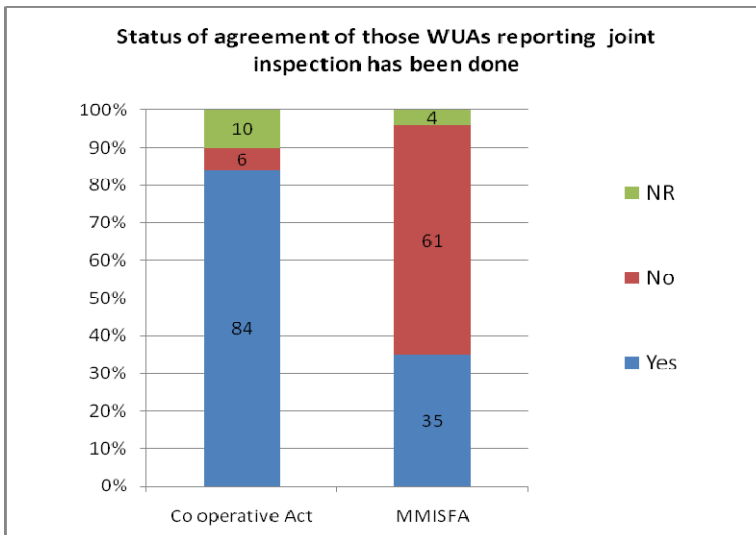
done. This indicates that joint inspections and agreements were not done before actual handing over was done in several cases and this is a serious discrepancy that needs to be recognized.

Chart 4 Status of Joint Inspection of those WUA's reporting transfer of management



Similarly if we look at the data on the Joint inspections and the agreements done we see that in 6% WUAs registered under the Co-operative act and 61% WUAs registered under the MMISFA agreements have not been done despite the fact that joint inspections have been done. This does indicate that often certain procedures have not been completed before doing the actual handing over and joint inspection.

Chart 5 Status of agreement of those WUAs reporting joint inspection has been done



Volumetric supply

Maharashtra is considered a pioneer as far as volumetric based water supply and pricing is concerned. Well functioning and appropriately located measuring devices at the minor head are thus a crucial component for ensuring the success of this system. Our data shows that 48% WUAs have said that measuring devices are not in place and 34% have said that they are in place with 17% not responding to the question. This shows that much of it is on paper and both supply and pricing is largely done on an ad hoc basis. The picture is better under the MMISFA where 44% have reported that there is a measuring device at the stipulated place than the co-operative where 23% WUAs have reported that the device is in place. It is unfortunate that the cooperative and voluntary process which started earlier and with a lot of motivation to improve service delivery is performing poorly on this front.

Table 28: Measuring device in place

Measuring device in place	Co operative Act	MMISFA	Total
Yes	26 (23)	61 (44)	87 (34)
No	55 (48)	67 (49)	122 (48)
NR	34 (30)	10 (7)	44 (17)
Total	115 (100)	138 (100)	253 (100)

Of those who have said that the measuring device is in place 62% say that it is functioning and 32% say that it is non functional. The difference across the Act is marginal.

Table 29: Is the measuring device functional

Response	Co operative Act	MMISFA	Total
Yes	18 (69)	36 (59)	54 (62)
No	8 (31)	20 (33)	28 (32)
NR	0 (0)	5 (8)	5 (6)
Total	26 (100)	61 (100)	87 (100)

Data from the physical verification tool on the measuring device more or less corroborates with the data from the FGD with of course the difference being greater in the Co-operative act.

Table 30: Is the measuring device in place (CI)

Response	Co operative Act	MMISFA	Total
Yes	34 (30)	63 (46)	97 (38)
No	58 (50)	69 (50)	127 (50)
NR	23 (20)	6 (4)	29 (11)
Total	115 (100)	138 (100)	253 (100)

Table 31: Do you complain if the measuring device is not working

Response	Co operative Act	MMISFA	Total
Yes	1 (13)	11 (55)	12 (43)
No	7 (88)	5 (25)	12 (43)
NR	0 (0)	4 (20)	4 (14)
Total	8 (100)	20 (100)	28 (100)

43% WUAs have said that they do complain and the same percentage has also said that they do not complain if the measuring device is non functional. However the difference across the two acts is quite substantial with 55% under MMISFA saying that they do lodge a complaint whereas the figure for co-operative is only 13%.

It is expected that in WUAs where handing over is done measurements are to be done by the officials of the WUA along with the Irrigation department. However in most of the cases i.e. about 49% WUAs it is done by the employee of the irrigation department. As per the office information received by us only in 38% of the cases has handing over been done. This explains why a high percentage is seen for irrigation employees' involvement in keeping measurements.

Again in the MMISFA it can be explained as still many of the WUAs handing over has not been done and therefore most of the records are maintained by the Irrigation department and not by the WUA, measurements is one of them. Very often these canal inspectors often belong the area and would thus be willing to continue doing the measurements as part of their routine work which also yields them some non official incomes.

Table 32: Who measures?

Response	Co operative Act	MMISFA	Total
Employee of Irrigation Department	8 (31)	35 (57)	43 (49)
Employee of Irrigation Dept & sometimes joint inspection	1 (4)	4 (7)	5 (6)
Jointly	13 (50)	10 (16)	23 (26)
WUA	2 (8)	3 (5)	5 (6)
NR	2 (8)	9 (15)	11 (13)
Total	26 (100)	61 (100)	87 (100)

However as the table below shows a large number of WUAs i.e. 61% have reported that measuring is not done properly. Wherever measurements are done they are largely done by the government officials (57%) and 18% reported that they are being done jointly and only 7% of WUAs do it themselves.

Table 33: Is measuring possible (Canal Walk)

Response	Co operative Act	MMISFA	Total
Yes	23 (20)	45 (33)	68 (27)
No	68 (59)	87 (63)	155 (61)
NR	24 (21)	6 (4)	30 (12)
Total	115 (100)	138 (100)	253 (100)

Water charges

Irrigation department supplies water to the WUA on a volumetric basis and charges it accordingly. In most cases however the measuring devices are not in order so the supply and the charges are worked through assumptions. Internally the WUA usually charges the members on a crop area basis.

Most of the office bearers were not able to give information around water charges. Either the records were not kept or they were too sketchy. Thus we could not assess the situation of the WUAs in terms of their payments to the Irrigation department and the rate of default of both the WUAs as well as the members.

Table 34: Getting rebate for timely payment from the Irrigation department

Response	Co operative Act	MMISFA	Total
Yes	31 (27)	23 (17)	54 (21)
No	34 (30)	71 (51)	105 (42)
NR	50 (43)	44 (32)	94 (37)
Total	115 (100)	138 (100)	253 (100)

The above table gives us some indication in terms of how many WUAs do make timely payments. Rebates or what is referred to as partava or returns are given to those WUAs who have made timely payments of their water charges. Since overall 42% WUAs reported not getting this rebate it can be assumed that most are not making timely payments. Among these 51% are from MMISFA which in all likelihood are not yet managing their own affairs. However 30% among the Co-operative WUAs not getting the rebate is also a fairly high percentage and is indicative of a high default rate.

This data shows that about 70% WUAs decide water charges based on the crop area basis. Only two WUAs decide water charges on an hourly basis.

Table 35: Criteria for deciding water charges

Criteria	Co operative Act	MMISFA	Total
Crop- area	73 (63)	105 (76)	178 (70)
Hour	1 (1)	1 (1)	2 (1)
NR	41 (36)	32 (23)	73 (29)
Total	115 (100)	138 (100)	253 (100)

It is noted that several members are defaulters as far as paying of water charges is concerned. Most WUAs have informal channels of collecting such defaults. Our data shows that 23% WUAs have reported that they collect default charges through initiating a dialogue with the concerned person and 21%WUAs said they do charge a late fee. Only 6% WUAs take the extreme step of not supplying water to the defaulters and in 5% WUAs the water charges are recovered from the sugar factory from the cane bills. However 46% WUAs have not responded to this question.

Table 36: Method to collect default

Response	Co operative Act	MMISFA	Total
By initiating dialogue with the concerned person	32 (28)	25 (18)	57 (23)
By charging late fee	20 (17)	32 (23)	52 (21)
By not supplying water for next season	8 (7)	8 (6)	16 (6)
Cut by the sugar factory	0 (0)	12 (9)	12 (5)
NR	55 (48)	61 (44)	116 (46)
Total	115 (100)	138 (100)	253 (100)

Participation

One of the main objectives of WUA formation is that people participate in matters of governance. Organising and attending meetings is one of the important indicators of healthy participation of the beneficiaries. Our overall findings show that few meetings are conducted and few people participate in the committee meetings and also the annual meetings.

General body meetings

General body meetings are usually expected to be held before the rotations begin and during the final audit. Usually meetings would be held for about 3-4 times in a year. As we have seen earlier most of our WUAs have been registered before 2010, many in the 90's. Considering this, it is important to note that there are only 5% WUAs who have had general meetings more than 3 times on an average in a year since its formation.

Table 37: Average general meetings in a year since formation

Average general meetings held per year	Co operative Act	MMISFA	Total
0	22 (19)	20 (14)	42 (17)
Up to 1	35 (30)	31 (22)	66 (26)
1 to 3	11 (10)	30 (22)	41 (16)
More than 3	3 (3)	10 (7)	13 (5)
NR	44 (38)	47 (34)	91 (36)
Total	115 (100)	138 (100)	253 (100)

Committee Meetings

Committee meetings are to be held once a month as per the MMISFA. But the overall picture as regards these meetings is rather dismal with upto 40% of WUAs having less than 6 meetings in a year.

Table 38: Act wise Number of committee meetings since formation

Average committee meetings held per year	Co-operative	MMISFA	WUAs
0	16	9	25
Up to 1	11 (10)	19 (14)	30 (12)
1 to 3	8 (7)	22 (16)	30 (12)
3 to 6	10 (9)	21 (15)	31 (12)
6 to 9	1 (1)	2 (1)	3 (1)
9 to 12	4 (3)	10 (7)	14 (6)
More than 12	1 (1)	2 (1)	3 (1)
NR	64 (56)	53 (38)	117 (46)
Total	115 (100)	138 (138)	253 (100)

The above table shows that under MMISFA the performance is slightly better although here too we do not see a fulfillment of the quota of meetings to be conducted.

For general meetings it is expected that a notice is issued and circulated among the members. In our FGD data we see that only 21% WUAs are informed about the meetings through a notice, 17% orally and in fact 26% have said that messages are not given.

Table 39: How are members informed about the general meetings

Response	Co operative Act	MMISFA	Total
Notice	20 (17)	33 (24)	53 (21)
Orally	12 (10)	30 (22)	42 (17)
Davandi	7 (6)	12 (9)	19 (8)
By phone	1 (1)	10 (7)	11 (4)
Message is not given	32 (28)	33 (24)	65 (26)
NR	43 (37)	20 (14)	63 (25)
Total	115 (100)	138 (100)	253 (100)

Table 40: Number of committee meeting held in the last year

Response	Co operative Act	MMISFA	Total
0	27 (23)	22 (16)	49 (19)
1 to 3	19 (17)	19 (14)	38 (15)
4 to 6	12 (10)	20 (14)	32 (13)
7 to 9	5 (4)	19 (14)	24 (9)
10 to 12	8 (7)	16 (12)	24 (9)
More than 12	0 (0)	5 (4)	5 (2)
NR	44 (38)	37 (27)	81 (32)
Total	115 (100)	138 (100)	253 (100)

Usually committee meetings are expected to be held once very month but only in 9% WUAs do we see that committee meetings are held between 10-12 times in a year. Most WUAs (34%) have held meeting upto 6 times in a year. In most cases (36%) decisions taken in these meetings are conveyed to people orally.

Table 41: How the decisions in the meetings are conveyed to the members

Response	Co operative Act	MMISFA	Total
Orally	32 (28)	58 (42)	90 (36)
Public notice	17 (15)	23 (17)	40 (16)
To those who ask about it	2 (2)	9 (7)	11 (4)
Only to some specific people	3 (3)	4 (3)	7 (3)
No information	0 (0)	2 (1)	2 (1)
No meetings	27 (23)	22 (16)	49 (19)
NR	34 (30)	20 (14)	54 (21)
Total	115 (100)	138 (100)	253 (100)

Table 42: Participation in trainings

Response	Co operative Act	MMISFA	Total
Yes	18 (16)	40 (29)	58 (23)
No	97 (84)	98 (71)	195 (77)
Total	115 (100)	138 (100)	253 (100)

Our data shows that only 23% of the WUAs reported attending any training programmes. Although the number attending trainings is slightly higher for WUAs under MMISFA the number is not very substantial considering that the act does propose conducting of trainings and WALMI has been appointed for the same.

Water Management

Under the Memorandum of Understanding byelaws prepared for the co-operative societies Act in every season a rotation programme has to be prepared by the department and copy of it is supplied to the society 10 days before the commencement of the season. The WUA has to inform the Canal Inspector the water demand, the period for which it is required and the method of distribution

Under the MMISFA the WUA has to proactively seek information on the storage and the rotation cycle for each season. WUAs also have to then inform the Water resources department about the demand from their WUA.

Table 43: Information on Water to be supplied prior to rotation

Response	Co operative Act	MMISFA	Total
Yes	31 (27)	38 (28)	69 (27)
No	41 (36)	86 (62)	127 (50)
NR	43 (37)	14 (10)	57 (23)
Total	115 (100)	138 (100)	253 (100)

Table 44: Who gives the information

Response	Co operative Act	MMISFA	Total
Written notice	12 (39)	18 (47)	30 (43)
ID officer	13 (42)	15 (39)	28 (41)
On phone	2 (6)	2 (5)	4 (6)
Unofficially through leaders	3 (10)	1 (3)	4 (6)
NR	1 (3)	2 (5)	3 (4)
Total	31 (100)	38 (100)	69 (100)

We generally see that the information is given through a notice or by the department officer. Across both the acts these seem to be the modes of communication and which also fits in within the overall responsibilities laid out in the bye laws and the act.

Table 45: When is the information given

Response	Co operative Act	MMISFA	Total
Many days before rotation	4 (13)	11 (29)	15 (22)
Few days before rotation	22 (71)	15 (39)	37 (54)
When rotation starts	4 (13)	11 (29)	15 (22)
NR	1 (3)	1 (3)	2 (3)
Total	31 (100)	38 (100)	69 (100)

The table above is interesting because here we see that there is adhocism in terms of sharing the information overall 54% say that information is shared only a few days before the actual rotation. In the case of co-operative society the percentage is higher although the responsibility

rests largely with the department to share information well in time for farmers to plan their crops. In the case of MMISFA the WUA has to go and seek information from the department or the concerned canal officer, well in advance.

Table 46: Are WUAs consulted about the rotation

Response	Co operative Act	MMISFA	Total
No	40 (35)	86 (62)	126 (50)
NR	46 (40)	16 (12)	62 (25)
Yes	29 (25)	36 (26)	65 (26)
Total	115 (100)	138 (100)	253 (100)

Table 47: Who decides the crop pattern

Response	Co operative Act	MMISFA	Total
Farmer decides and inform to WUA	67 (58)	109 (79)	176 (70)
WUA decides	5 (4)	5 (4)	10 (4)
NR	43 (37)	24 (17)	67 (26)
Total	115 (100)	138 (100)	253 (100)

Both under the co-operative act and the MMISFA we see that the farmer has the freedom to decide the crops and this is amply seen through the data where in 70% of the cases it is the farmer who decides and only in 4% of the cases the WUA takes the decision.

Table 48: Who decides timetable for rotation

Response	Co operative Act	MMISFA	Total
Officials decides and inform WUA	34 (30)	59 (43)	93 (37)
WUA decides after a discussion	15 (13)	25 (18)	40 (16)
Committee decides and inform WUA	8 (7)	6 (4)	14 (6)
NR	58 (50)	48 (45)	106 (41)
Total	115 (100)	138 (100)	253 (100)

As far as the time table for rotation is concerned it is largely the officials who take the lead and our data shows that about 37% WUAs said that officials decide and inform. It appears that there

is little participation of the users in planning of the rotation schedule. 42% WUAs have not responded to the question perhaps due to lack of participation from their side.

As far as access to water is concerned we saw that under the co-operative act about 38% of WUAs say that all farmers do not get access to water and about 49% from the MMISFA say the same.

Table 49: Do all farmers get water

Response	Co operative Act	MMISFA	Total
Yes	36 (31)	61 (44)	97 (38)
No	44 (38)	67 (49)	111 (44)
NR	35 (30)	10 (7)	45 (18)
Total	115 (100)	138 (100)	253 (100)

Table 50: Overview of water management related responses (percent of WUAs)

Response	Overall	MMISFA	Co-operative
Demand for water made orally	34	36	31
Demand for water made in writing	32	31	33
No there are no different rules for water distribution for shortage years	51	54	49
Time table for rotation decided by Officials	37	43	30
Time table for rotation decided by WUA	16	18	13
Tail to head rotation	19	17	21
Increase in number of wells	27	22	33

Land and other irrigation sources

One of the important areas regarding use of water was whether water was transferred outside the command area and whether canal water was stored in wells. 5% WUAs said that they did transfer water outside of the command areas but largely such transfers were not done according to people. Similarly only 3% WUAs stored water in the wells while 70% WUAs denied storing any canal water in their wells. However wells recharged during canal irrigation is not accounted for in most of the WUAs.

Table 51: Water transfer and storage

Response	Is water transferred outside the command area	Is water stored in wells
Yes	12 (5)	8 (3)
No	181 (72)	176 (70)
NR	60 (24)	69 (27)
Total	253 (100)	253 (100)

Availability of records in the office

As part of WUA governance it is expected that annual reports are produced annually, an audit report is prepared and that a budget is prepared to be presented before the general body. It is also mandatory for a WUA to have a separate bank account for its purposes.

Only 14% WUAs reported that they had an annual report of the WUA. This picture was more or less similar for both the acts. Overall it is expected that MMISFA should at least have all its paper work done better than that of Co-operative societies. But the data does not show much difference and in fact it shows that co-operative societies are marginally better in terms of the annual report.

Table 52: Preparation of annual report

Response	Co operative Act	MMISFA	Total
Yes	17 (15)	18 (13)	35 (14)
No	50 (43)	90 (65)	140 (55)
NR	48 (42)	30 (22)	78 (31)
Total	115 (100)	138 (100)	253 (100)

As far as the budget is concerned we see a very dismal performance where only 11% WUAs reported that they had prepared a budget last year. The overall percentage is also reflected in the act wise data that we have. Neither of the WUAs show any better performance than the average.

Table 53: Act wise preparation of budget

Response	Co operative Act	MMISFA	Total
Yes	14 (12)	14 (10)	28 (11)
No	53 (46)	89 (64)	142 (56)
NR	48 (42)	35 (25)	83 (33)
Total	115 (100)	138 (100)	253 (100)

If we look at the accounts situation we see that overall about 42% do maintain accounts and 32% do not maintain them and this is very high. We do not see much difference in the performance of accounts maintenance under the two acts.

Table 54: Act wise Maintenance of accounts

Response	Co operative Act	MMISFA	Total
Yes	47 (41)	59 (43)	106 (42)
No	27 (23)	55 (40)	82 (32)
NR	41 (36)	24 (17)	65 (26)
Total	115 (100)	138 (100)	253 (100)

Table 55: Separate account of the WUA

Response	Co operative Act	MMISFA	Total
Yes	88 (77)	109 (79)	197 (78)
No	5 (4)	17 (12)	22 (9)
NR	22 (19)	12 (9)	34 (13)
Total	115 (100)	138 (100)	253 (100)

As far as separate accounts are concerned most of them seem to have separate accounts and only about 9% have reported that they do not have separate accounts.

Audit reports are a mandatory requirement of WUA governance and we see that only about 32% of the WUAs have reported that they have prepared audit reports. Co-operative societies have a slightly better performance as far as preparation of audit reports is concerned.

Table 56: Audits prepared

Response	Co operative Act	MMISFA	Total
Yes	41 (36)	39 (28)	80 (32)
No	37 (32)	80 (58)	117 (46)
NR	37 (32)	19 (14)	56 (22)
Total	115 (100)	138 (100)	253 (100)

Table 57: Certified copy of the map

Response	Co operative Act	MMISFA	Total
Yes	41 (36)	28 (20)	69 (27)
No	31 (27)	83 (60)	114 (45)
NR	43 (37)	27 (20)	70 (28)
Total	115 (100)	138 (100)	253 (100)

All the WUAs are expected to have a certified copy of the map denoting the command area with them in their office. Only 27% of the WUAs did report that they have the maps and 45% said that they did not have them with 28% not reporting at all. The map is considered a basic document in the WUA office and SOPPECOM’s experience shows as well that in most of the WUA offices these maps are missing. Under the MMISFA this has become a mandatory requirement and yet we see that only 20% have their maps.

Interaction with the government officials

About 60% of the WUAs said that government officials do visit the WUA and 22% said that they do not with 18% giving no response.

Table 58: Do government officials visit the WUA

Response	Co operative Act	MMISFA	Total
Yes	66 (57)	85 (62)	151 (60)
No	16 (14)	40 (29)	56 (22)
NR	33 (29)	13 (9)	46 (18)
Grand Total	115 (100)	138 (100)	253 (100)

About 25% of the WUAs said that no visits were made by the government officials in the last year and 32% said that upto 4 visits were made. The percentage was slightly higher with 29% of the WUAs under MMISFA that the officials did not visit last year

Table 59: Information on storage of dam

Response	Co operative Act	MMISFA	Grand Total
Yes	44 (38)	50 (36)	94 (37)
No	38 (33)	73 (53)	111 (44)
NR	33 (29)	15 (11)	48 (19)
Grand Total	115 (100)	138 (100)	253 (100)

Overall only 37% reported that the officials did give them information on storage of the dam and 44% said that no information was given to them about the storage with 19% not responding at all.

Of those who said that information was given 23% said that it was given every year and 50% said that it was given beginning of every season. 47% of the WUAs registered under MMISFA reported that it was given at the beginning of every season as against 39% registered under the Co-operative Act

Table 60: When is the information of dam storage given

Response	Co operative Act	MMISFA	Total
Every year	14 (32)	8 (16)	22 (23)
Beginning of the season	17 (39)	30 (60)	47 (50)
Every month	6 (14)	2 (4)	8 (9)
Only in case of water scarcity	0 (0)	1 (2)	1 (1)
NR	7 (16)	9 (18)	16 (17)
Total	44 (100)	50 (100)	94 (100)

Status of the Canal

One of the tools used by us was the physical verification tool whereby investigators walked through the canal and recorded their observations regarding some of the key structures of the minor canal.

Water is measured and released to the WUA at the minor head and this means that the gate at the minor head has to be at an appropriate place and in good condition. Apart from that measuring devices also need to be in place and so also all the outlet gates need to be in a fully repaired and functional condition. Most importantly the discharge capacity of the canal has to be at the design level. Although information for minor head and other maintenance issues was available, we had very poor information for the condition of outlets. More than 50% responses to that question were missing,

Canal discharge capacity

As far as the condition of the canal itself is concerned, 57% WUAs reported that the discharge is as per the design capacity and a significant 30% reported that it is not as per the capacity.

During the canal walk the investigators noted that there was deposition of silt in the minor and this was reported for 61% WUAs. It was also recorded that 69% WUAs have bushes and shrubs in the minor. However despite this we have a fairly good response to the above question. This also means that prior to the season the WUAs do take on the responsibility to clean up the minor to allow it to function as per its capacity.

Table 61: Is the discharge according to capacity

Response	Co operative Act	MMISFA	Total
Yes	46 (40)	97 (70)	143 (57)
No	43 (37)	32 (23)	75 (30)
NR	26 (23)	9 (7)	35 (14)
Total	115 (100)	138 (100)	253 (100)

Table 62: Presence of silt in the canal

Response	Co operative Act	MMISFA	Total
Yes	65 (57)	89 (64)	154 (61)
No	25 (22)	40 (29)	65 (26)
NR	25 (22)	9 (7)	34 (13)
Total	115 (100)	138 (100)	253 (100)

Table 63: Bushes and shrubs in the minor

Response	Co operative Act	MMISFA	Total
Yes	70 (61)	105 (76)	175 (69)
No	18 (16)	25 (18)	43 (17)
NR	27 (23)	8 (6)	35 (14)
Total	115 (100)	138 (100)	253 (100)

Water flows in the canal obviously would not be possible in the absence of maintenance.

Gate at Minor head

Let us look at some of the key structures of the canal. Our data shows that 79% WUAs reported that the minor head gate was in place and of these 72% said that the gate was operating well and only 27% reported that it was not. This indicates a fairly good picture in terms of the basic structures in the minor.

Table 64: Whether gate at minor head is in place

Response	Co operative Act	MMISFA	Total
Yes	82 (71)	118 (86)	200 (79)
No	13 (11)	18 (13)	31 (12)
NR	20 (17)	2 (1)	22 (9)
Total	115 (100)	138 (100)	253 (100)

Table 65: Is the gate functioning

Response	Co operative Act	MMISFA	Total
Yes	57 (70)	87 (74)	144 (72)
No	23 (28)	31 (26)	54 (27)
NR	2 (2)	0 (0)	2 (1)
Total	82 (100)	118 (100)	200 (100)

Table 66: Is there leakage

Response	Co operative Act	MMISFA	Total
Yes	52 (63)	64 (54)	116 (58)
No	24 (29)	51 (43)	75 (38)
NR	6 (7)	3 (3)	9 (5)
Total	82 (100)	118 (100)	200 (100)

On whether there is leakage from the gate 58% WUAs reported that there is leakage and 38% reported no leakage. Leakage in the minor head gate implies that certain farmers would get a larger share of the water while the burden of payment is shared equally by the WUA. Usually the head end farmers would benefit from such a leakage. The other important question it raises is regarding the water audit. Measuring device is in place, but it cannot measure accurately as these kinds of losses are only assumed. This has implications on bills of the WUAs. This is also one of the important reasons that WUAs are not for volumetric based pricing. So various negotiations take place at different levels to legitimize these flaws on either side.

As per the data in 57% WUAs the gate is operated by the government employee and 17% WUAs reported that farmers operate the gate. It is expected that the gate is operated jointly but as we see here

Table 67: Who operates the gate

Response	Co operative Act	MMISFA	Total
Government employee	57 (50)	86 (62)	143 (57)
Farmers	18 (16)	24 (17)	42 (17)
Government employee and farmers	3 (3)	10 (7)	13 (5)
WUA employee	1 (1)	2 (1)	3 (1)
Government employee and WUA employee	2 (2)	1 (1)	3 (1)
NR	34 (30)	15 (11)	49 (19)
Total	115 (100)	138 (100)	253 (100)

53% WUAs reported that they maintained their canal systems, 30% did not which is again significant and 17% did not respond.

Maintenance

Operation and maintenance is one of the most crucial functions of a WUA after handing over is done.

Maintenance of field channels is the responsibility of the individual farmers and our data shows that in most cases farmers do take care of their own field channels.

Overall in 46% WUAs we see that farmers are maintaining their field channels and in 8% WUAs it is the WUAs who do the maintenance, but there is no response on this issue from about 42% WUAs.

The following table shows that 23% WUAs get the work done through contracting out the work and 30% hire labourers on a daily wage basis. It is interesting to note that none of the WUAs have mentioned that they do shramdaan.

Table 68: Maintenance of field channels

Response	Co operative Act	MMISFA	Total
Farmers	51 (44)	65 (47)	116 (46)
WUA by taking contribution from farmers	6 (5)	13 (9)	19 (8)
No maintenance	0(0)	12 (9)	12 (5)
NR	58 (50)	48 (35)	106 (42)
Total	115 (100)	138 (100)	253 (100)

Table 69: How is the maintenance work organised

Response	Co operative Act	MMISFA	Total
Contract system	19 (17)	40 (29)	59 (23)
Labours on daily basis	31 (27)	44 (32)	75 (30)
Shramadan	0 (0)	1 (1)	1 (0)
NR	65 (57)	53 (38)	118 (47)
Total	115 (100)	138 (100)	253 (100)

Table 70: Is maintenance done?

Response	Co operative Act	MMISFA	Total
Yes	58 (50)	77 (56)	135 (53)
No	29 (25)	46 (33)	75 (30)
NR	28 (24)	15 (11)	43 (17)
Total	115 (100)	138 (100)	253 (100)

Once again it is surprising that in 42% WUAs it is the government that is still reported as doing the maintenance and this is most likely to be so since many of the WUAs (55% as per the office information data) have not been handed over by the government.

Table 71: Who does the maintenance?

Response	Co operative Act	MMISFA	Total
ID department	18 (31)	39 (51)	57 (42)
Farmers	6 (10)	13 (17)	19 (14)
ID and farmers	0 (0)	2 (3)	2 (1)
WUA	22 (38)	13 (17)	35 (26)
NR	12 (21)	10 (13)	22 (16)
Total	58 (100)	77 (100)	135 (100)

Chapter 3 Conclusions: Key findings and way forward

The second chapter discussed in detail some of our key findings around water users associations in Maharashtra. These findings broadly covered the areas under governance of irrigation system. The findings backed by the observations point to the fact that PIM which was considered to be one of the key instruments for improving participation in water management does not seem to have achieved as much.

Maharashtra has had a long history of PIM both prompted by the voluntary spirit in the early years and through the legalistic route in the post 2000 period after the reforms in the sector.

This rapid assessment hoped to take stock of both these efforts represented by the co-operative act and the Maharashtra Management of irrigation systems act 2005, largely in the area of farmer participation and some of the key aspects related to volumetric supply and aspects in water management.

The most telling stories are of the investigators who went into the field to find that WUAs existed largely on paper or were prompted by single individuals with people knowing very little about these water governance institutions. There are however examples of well functioning WUAs in Nasik region where the effort to develop strong WUAs is reflected.

Our sample which dropped down from 365 to 318 and then finally the data presentation brought to 253 itself speaks about the condition of WUAs. Several questions remained unanswered partly because people were not informed enough to answer, or because there was very little that was there to tell. Some of the critical areas that thus got left out as a result of this were around water pricing, collection of water charges, water allocations, tail ender deprivation, information on outlets and their status, irrigated areas, number of rotations in a year. While this data would have added a good view into the actual functioning of the WUAs, its absence or no response to these questions also speaks for the condition of PIM in the state.

Key findings

A recap of the key findings shows us that about 44% of the WUAs have been in existence for about 5-6 years and 26% for more than 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, a dialogue with the government officials etc does not seem to reflect so. About 77% WUAs still do not have an office of their own, 50% of the WUAs have less than 20% of women as members, indicating exclusions based on ownership of land despite their role in irrigated agriculture in command areas. Only 4% of WUAs had more than 3 women members on their decision making committees. MMISFA has recently introduced a quota of 3 women on the managing committees of WUAs. Even among these 21% are not really aware that they are members and could actively participate in the decision making.

In keeping with traditions and incentivized by the grant 93% WUAs have had unopposed elections to the managing committee. WUAs have been promised a grant of upto 20,000 INR for holding such elections. Yet 56% 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% of WUAs have been in existence for over 5-6 years only 38% said that actual handing over had been done. In only 39% WUAs joint inspection has been done. 33% WUAs however said that the tasks listed in the Joint inspection report had not been completed which also means that the WUAs are still having to manage systems which are not fully repaired.

Volumetric supply a much talked about achievement of WRD Maharashtra, seems to show a fairly dismal picture on ground with 48% of WUAs saying that devices are not in place and where they are in place about 32% WUAs report that they are non functional. Although these devices are in place in some areas, overwhelmingly the response from 61% 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 areas basis as reported by 70% 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% reported that they stop supplying water to the defaulters. 21% reported that dialogue has been the best method for recovering charges or charging a fine.

Participation is not very forthcoming in these WUAs and this is demonstrated by the responses on the number of committee and general body meetings held on an average in a year since the formation of WUAs. 5% of the WUAs reported having held more than 3 general body meetings on an average in a year since its formation and 40% WUAs have had less than 6 committee meetings in a year on an average since its formation. Ideally at least 3 general body meetings are expected in a year, prior to seasons and to present the audit and the budgets. Committee meetings are to be held every month which means that ideally 12 meetings have to be held in a year. So formally none of them seem to be abiding by any of these rules and few of them were able to show any records of minutes to us. As far as trainings are concerned 77% said that they have never participated in any trainings and this 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 around dam storages and rotation schedules are not shared with the WUAs very easily. 50% WUAs reported that information is not given prior to rotation although both the acts do state this to be an important part of PIM.

70% of WUAs reported that crops are decided by the farmers so there is no collective planning by the WUA based on information around availability of water and number of rotations. The time table for rotation is decided by the irrigation department.

About 70% of WUAs reported that they do not store canal water in wells .

On the question of records and proper maintenance of these records most WUAs scored rather poorly. 55% reported that they have no records in their office, 56% said that they do not

prepare an annual budget. About 42% said that they do maintain accounts and 78% said they have a separate bank account.

The report on the physical status of the canal showed that this is still a critical factor responsible for the overall dismal picture.

61% reported that there is presence of silt in the canal and 69% said that the canal is filled with bushes and shrubs. Most reported that there is a functioning gate at the minor head but there is leakage at these gates. 53% reported that the WUAs do maintain the canals and 46% said that field channels are maintained by the farmers. Maintenance works are largely contracted out or labourers are hired for this work.

Overview of Act, Project and Region-wise key findings

The key findings of this rapid assessment are indicated through the three tables below. The first gives a gist of the Act wise analysis, the second looks at the project wise differences and the third looks at the regions. The detailed tables for project and region wise analysis are part of Annexures 3 and 4.

A few key areas have been identified and findings listed in the tables. The act wise overall analysis generally 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- WUAs registered under the MMISFA are relatively recent (not more than 6 years old) and are thus learning the processes, while co-operatives are older and thus more familiar with the management related process. But it is also important to look at the data in terms of the route through which WUAs were registered. The older ones registered under the co-operative act had voluntarism associated with its formation. At least 51% of the beneficiaries had to come together to take the initiative, while the new 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.

Act wise analysis (All figures are in %)

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 meetings held since formation (average) (OI)	17	14	19
Three and more than 3 general meetings held since formation (average) (OI)	6	8	3
Less than ten % women members(OI)	25	20	32
More than 30% women members(OI)	7	11	1
Do not get returns from ID (OI)	42	51	30

Looking at the project wise analysis we see certain key trends emerging in terms of the performance of the medium projects. Most of the medium projects are from Vidarbha region followed by Marathwada and are spread out in both the MMISFA and Co-operative acts.

WUAs on major projects seem to be lagging behind in areas related to preparing annual reports, budgets and annual audits. The link between project and region needs to be further explored through case studies of a few WUAs from these projects.

Project wise analysis (All figures are in %)

Key areas	Overall	Major	Medium	Minor
Handing over not done (OI)	55	54	66	50
Agreements not done(OI)	57	60	63	44
Joint inspection not done (OI)	45	45	59	38
Measuring devices not in place (fgd)	48	51	62	29
Measuring not possible (CI)	61	66	63	44
Farmers do not get access to water (FGD)	44	43	66	33
Annual report not there (OI)	55	61	47	40
Annual budget not prepared (OI)	56	65	38	38
Annual audit not done (OI)	46	52	41	29
Leakage at main gate (CI)	58	48	88	81
Silt in canal(CI)	61	62	69	50
Bushes and shrubs in canal(CI)	69	72	72	58
No general meetings held since formation (average) (OI)	17	23	0	6
Three and more than 3 general meetings held since formation (average) (OI)	6	6	0	8
% of WUAs with less than 10% women members (OI)	25	21	34	35
% of WUAs with more than 30% women members (OI)	7	9	0	2
Do not get returns from ID (OI)	42	46	34	31

Region wise analysis shows quite clearly that Vidarbha has been performing poorly on various counts. In some aspects such as maintenance of records and payment of water charges Pune region also seems to be lagging behind. The linkages need to be explored further through more detailed and in depth studies.

Region wise analysis (All figures in %)

Key areas	Overall	Konkan	Marathwada	North Maharashtra	Pune	Vidarbha
Handing over not done (OI)	55	67	36	43	58	71
Agreements not done (OI)	57	50	35	47	67	71
Joint inspection not done (OI)	45	0	27	31	47	66
Measuring devices not in place (fgd)	48	17	36	41	47	63
Measuring not possible (CI)	61	33	56	71	60	62
Farmers do not get access to water (FGD)	44	17	25	43	33	65
Annual report not prepared (OI)	55	17	25	49	71	71
Annual budget not prepared (OI)	56	0	29	47	73	72
Annual audit not prepared(OI)	46	0	20	27	51	74
Leakage is there(CI)	58	83	45	51	47	72
Silt is there(CI)	61	50	53	59	49	76
Bushes (CI)	69	67	45	73	71	81
No general meetings held since formation (average) (OI)	17	0	31	8	18	13
Three and more than 3 general meetings held since formation (average) (OI)	6	0	2	10	2	8
% of WUAs with less than ten% women members(OI)	25	0	24	24	24	30
% of WUAs with more than 30% women members(OI)	7	17	2	24	2	1
Do not get returns from ID(OI)	42	17	20	27	60	53

The overall picture thus shows that for the WUAs to function as vibrant institutions for water management, ensure equity within command at the least, the environment is not fertile. The reasons for this need to be explored and need to be historically mapped as well. While in most of the cases we do see the apathy of the irrigation department, it also cannot be forgotten that these institutions also have wide networks within them which when necessary partner with the department to negotiate for the best terms to access water.

Way forward

Water Users Associations hold a lot of potential in terms of re-structuring water sector on sustainable, equitable and democratic lines. In the context of Maharashtra, new laws like the MWRRA and MMISFA see the WUAs as an important institution in terms of surface water management. Providing bulk water supply and pricing would now be done through the WUA institution. However if the WUA is expected to fulfil these critical roles it needs to develop as a robust institution capable of handling water use planning, supply and pricing in a participatory manner. The study findings however show that the ground situation is far from being able to achieve this.

SOPPECOM's work in this regard and the study findings indicate that concerted efforts are needed at various levels if Participatory irrigation management 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.

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 terms approaches for the improvement of the sector would include in ensuring minimum 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 Water users association'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.

These actions would help build the foundation for making a transition to expanding the scope of PIM to include ground water at one level and thereby move out of the command area mindset that the WRD is currently trapped in. SOPPECOM has detailed this out in its paper on revisiting PIM (www.soppecom.org) which tries to outline an approach that brings in equity, sustainable enhancement of productivity and democratic participation.

As mentioned earlier, there is a need to analyse success and failures of WUAs in far more nuanced ways since our experience and data does point to the fact that the question cannot be posed as merely the WRD against the users. A complex set of relationships between different users and the WRD play out constantly, thereby demanding actions which are far more complex than listing out what the WRD can do.

Actions planned with network partners

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. A one day long meeting was held with all the network partners to discuss the report and the way forward on the 10th of April. The study findings and the discussions that followed clearly showed that if WUAs are to be developed as useful instruments in irrigation management, work will have to be done at various levels from doing advocacy with the WRD to building awareness of the users and developing their capacities to improve management practices, to altering the politics of water governance at all the levels.

A few broad areas were identified and which could be listed as follows

Present the study findings along with concrete demands before the WRD, MWRRRA, Planning commission etc around the five areas which have prominently emerged as areas of concern through the study a) Handing over b) volumetric supply and pricing c) Participation d) maintenance of records e) Status of the canal

Hold region wise meetings in the state to disseminate the study findings and mobilize public opinion around the status of WUAs in Maharashtra

Conduct detailed case studies of about 20 WUAs across the five regions of Maharashtra from among the sample to get a better understanding of the situation in terms of crucial areas of enquiry that emerged out of this study.

Maharashtra already has an existing forum by the name *Lokabhimukh Panidhoran Sangharsh Manch* (pro-people water policy platform) which works around policy reform through a network of active individuals from different organizations working in the water sector. It was proposed that the action programmes that are evolved around this study be taken up through this manch which would be able to build pressure from below.

Annexure 1 List of Participating organisations

Name of Organisation	Region	District
Shramik Kranti Sanghatana, Mandlik Trust and Kashtakari Sanghatana	Konkan	Raigad , Thane
Manavlok	Marathwada	Beed, Latur, Osmanabad
Rajan Kshirsagar Group		Parbhani, Nanded
Vijay Diwan Group		Aurangabad
Shramik Mukti Dal(Lokshahiwadi) Rahuri	North Maharashtra	Ahmednagar
Janarth		Dhule, Nandurbar
Rashtra Vikas Sanstha		Jalgaon
Samaj Parivartan Kendra		Nashik
SOPPECOM	Pune	Pune, Ahmednagar
Krantiveer Babuji Patankar Lokshashtriya sanshodhan ani Prabodhan Sanstha		Satara, Sangli, Solapur
Adivasi Mahila va Bal Kalyan Sanstha	Vidarbha	Gadchiroli , Nagpur, Chandrapur
Van Sampada		Nagpur
Gramin Yuva Pragatik Mandal		Nagpur, Gondiya, Bhandara
Dharamitra/Chetana Samaj Seva Mandal		Yavatmal, Amravati, Buldhana, Washim, Akola

Annexure 2: Water Users Associations in Maharashtra

Under MMIFSA 2005										
Projects	Functional		Agreement done but		Registered but no agreement		Proposed		Total	
	No.	CCA (ha)	No.	CCA (ha)	No.	CCA (ha)	No.	CCA (ha)	No.	CCA (ha)
Major and medium										
CADA	846	348655	0	0	0	0	0	0	846	348655
Outside	441	211677	0	0	0	0	0	0	441	211677
Total	1287	560332	0	0	0	0	0	0	1287	560332
Minor	258	109187	0	0	0	0	0	0	258	109187
Total under MMIFSA	1545	669519	0	0	0	0	0	0	1545	669519
Under Cooperative society Act										
Projects	Functional		Agreement		Registered but		Proposed		Total	
	No.	CCA (ha)	No.	CCA (ha)	No.	CCA (ha)	No.	CCA (ha)	No.	CCA (ha)
Major and Medium										
CADA	646	227732	128	51003	272	120965	472	275970	1518	675670
Outside cada	345	113514	89	22532	522	186769	2240	670325	3196	993141
Total	991	341246	217	73535	794	307734	2712	946295	4714	1668811
Minor	244	75002	63	25970	306	94850	710	213892	1323	409714
Total under Co-operative societies	1235	416248	280	99505	1100	402584	3422	1160187	6037	2078525
Maharashtra Total	2780	1085767	280	99505	1100	402584	3422	1160187	7582	2748044

Source: DIRD data base April 2009

Annexure 3: Relevant provisions of MMISFA and the Co-operative Act

Key areas	MMISFA	Co-operative
Membership	Mandatory to all those in the command area	At least 51% beneficiaries or 51% area should be included
Agreements	Within three months of formation	
Joint inspection	<p>Within 6 months of the agreement JI to be initiated</p> <p>The findings of the joint inspection shall be recorded in duplicate, signed by both the minor level Water Users' Association and the Canal Officer and one copy thereof shall be retained by each party.</p> <p>Within one month of the JI a list would be prepared</p> <p>The Priority-I List shall include the mandatory nature of works, which are absolutely essential for passing of designated discharge, control and measuring and conveyance of water, by flow under gravity in the area of operation of WUAs.</p> <p>The Priority II List shall include the works other than those mentioned in</p> <p>Priority-I which although necessary for the efficient functioning of</p> <p>WUAs, can be taken up after the Priority-I works.</p>	
Handing over	Within one year of JI priority list 1 tasks to be completed. This would be followed by canal tests and then handing over would be done	After successful completion of tasks listed under joint inspection
Measuring devices	Canal officer to provide MD at supply points and ensure its proper functioning	
Water charges	<p>Volumetric at the point of supply, minimum charges applicable in case there is no demand. WRD will charge a minimum rate even if there is no demand.</p> <p>WUA has the right to charge its members as per the decision of the GB, they too have the right to charge a minimum for lands that do not demand water</p>	<p>Right to charge a separate water rate to members and upto 30% more to non members.</p> <p>For timely payments made to the irrigation department a 5% rebate would be given. If late then surcharge is levied.</p> <p>Water rates mentioned in the agreement, to be reviewed</p>
Water rights	<p>Individual entitlements would be worked out in proportion to land in the command area.</p> <p>Rabi water quotas cannot be carried forward to the</p>	Rabi water quotas can be carried to the summer

	summer season	
Office records	A register with a list of members, Copy of the act, a map of the command area, assets and liabilities, meeting register, accounts books showing R&P, water accounts, audits, measurements	
Annual report, budget audit	These will have to be mandatorily prepared	These will have to be mandatorily prepared
Maintenance of field channels	By farmers	By farmers
Maintenance of canal	After handing over by WUA	
General meeting	Minimum one before irrigation season and one general meeting to approve the annual audit and budget. Minimum 50% quorum	
Committee meeting	Once a month	
Committee membership	3 women representing head, tail and middle reaches	
Chairpersonship	One term in six years for a woman member	No such rule
Rebate and concession for timely payments and other grants from WRD		5% rebate on timely payments from WRD
Water rotation	Tail to head	No specific rule Every season rotation programme to be prepared by the department and copy to be given to the WUA ten days before the commencement of the season
Choice of crops	Farmers can decide	Farmers can decide

Annexure 4: Positive stories

Meruling Pani vapor sanstha, Raigaon Taluka Javali, District Satara

Krishna Major Irrigation project (Dhom Kalwa)

Formation

Formed in 1994 and handing over done in 1996

All the processes related to handing over were smooth, Joint inspection and agreements were all completed before the handing over was done.

Water management

The CCA of this WUA is 239 ha and of which the table below shows the area irrigated and the number of rotations it received in the last 3 years.

Area irrigated

CCA	239	2009-10	2008-09	2007-08
Canal	Rabi	205 (86)	202 (85)	217 (91)
	Summer	60.4 (25)	50.1 (21)	66 (28)
Well	Rabi	22 (9)	37 (15)	22 (9)
	Summer	32 (13)	18 (8)	22 (9)

Rotations	Rabi	4	6	5
	Summer	4	7	4

The ID does consult the WUA before deciding on the rotation, information is shared by the ID regarding the storage in the dam and the quotas to the WUA. After the farmers give their water demand in writing the WUA sits, discusses and prepares the water plan and the rotation schedule. The data on rotations shows that the number of rotation in every season has been consistently good.

All the farmers get access to water. There are different rules for good and bad times. During bad years priority is given to fodder crops. There is also an unwritten rule that certain crops would not be taken during drought years.

In the last few years the number of wells has increased mainly for 2 reasons, economic prosperity and also the percolation has increased.

The situation has improved and now all farmers do get access to water and this is attributed to the fact that WUAs have improved their decision making process and because water distribution does take place on equitable lines

There is a very good dialogue with the ID. The government officials do visit regularly and share all the required information related to dam storages etc.

Participation

Agenda is decided by the chairman and vice chairman and as per the situation.

Since formation the WUA has had 17 general meetings which is a very good sign. In their last meeting there were 165 members present which is about 75% and 29 were women which are about 76% of the women members. All their records are up to date annual report, audit and budget. The final audit approval meeting is held before 14th august as stipulated. A notice is sent to all the members

As far as committee meetings are concerned 172 committee meetings have been held which is excellent. Last year 10 meetings of the committee were held. The stipulated is about 12.

About 17% women are members of this WUA. There are 2 women on the committee one belonging to the open caste and one belonging to the SC caste.

Women are aware of membership to committees and all of them attend the meetings of these committees

Several of their members have participated in training programmes organized at WALMI or locally. 10 women have also been part of these trainings.

Volumetric supply

Measuring device is there and measurements are taken jointly. Complaints have been registered and they have been addressed as well. Person doing the measurements has been trained in WALMI Aurangabad

Water charges

Data for this WUA shows that the ID has charged the WUA on volumetric basis and the WUA has made timely full payments made to the ID and also got the returns due to them.

The WUA official gives the WUA bills to all the members and the members either come or pay in the office or it is collected by the official from their homes. Those members who do not make timely payments are first explained and then later a late fee is charged. In the last three years the WUA has been consistently showing profit and there has been no default.

O&M

Operation and maintenance WUA has spent on Maintenance and they have also got some grants for maintenance. There is a stipulated amount made in the annual budget. Usually farmers do repair their field channels and the WUAs do all the other canal related maintenance. Sometimes the WUA does all the work within the command including the field channels and then collects the charges from the farmers.

Every six months maintenance work is done. The canal is in a good shape.

The good physical status, good participation from the people has made a great difference to how the WUA functions. This is backed by the good dialogue with the government and the support they extend to ensure that the WUA functions well. The result is seen in the good management of the WUA, water sharing, payment of water charges

Shri Hanuman Pani vapar sanstha Khudawadi

Kurnur Medium irrigation Project

Although the data for this WUA was not as well documented as the one for Meruling this society too shows to be a good example of how WUAs can be managed.

The WUA was formed in 1992 and agreements done in 1993.

The WUA reported that all farmers from head to tail get water. Rotations are from tail to head. They have different rules for good and bad years. During shortage years certain crops like sugarcane are prohibited. The number of wells in the command have increased because of overall economic prosperity, but the water from these wells is not charged.

The WUA reports a very good dialogue with the Irrigation department. They are informed well in advance about the rotation schedule, storage in the dam etc. Generally they have been getting 2 rotations at least in each season and about 4 maximum at times.

About 40-45% area is irrigated in rabi and about 33% in summer of the total area under the WUA

Budget is made for maintenance, field channels repaired by farmers masons are employed by the WUA

Water bills are given during the meeting and farmers pay the bills by coming to the office.

The membership of women is only 6%. Since its formation the WUA has held 15 annual meetings and 63 committee meetings (once in three months) which is much better than most other WUAs studied.

One of the main reasons cited for the success of the WUA is the enthusiasm of the beneficiaries and the co-operation of the Irrigation department.