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## **Community and Institutional Led Multi-Disciplinary Approaches in Implementation of Integrated Watershed Management in India A Case study from Karnataka State**

Prabhakar K.

Centre for Good Governance & Policy Analysis (CGGPA), NIRDPR, MoRD, GoI, India

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### **ABSTRACT**

*Since independence, reforms towards Panchayat Raj Institutions (PRIs) have focused on designing of legal and administrative structures that institutionalize decentralized governance and planning, while guaranteeing that such a system does not allow the local elite to dominate the marginalized units of the people. With the advent of the 73<sup>rd</sup> amendment in Indian constitution, the panchayat system is looked as a significant development in handling rural governance in India. In this aspect, the state of Karnataka can be considered in many ways as one of the active states in promoting decentralization. Karnataka is in the forefront when it comes to devolution of functions and financial powers to PRIs. Hence, the current study has the broad objective to undertake a situational and adopting SWOT analysis to determine the strengths, weaknesses, opportunities, and threats (SWOT) related to existing Watershed committees and Water User Co-operative Societies in Karnataka under Integrated Watershed Management Programme (IWMP) in terms of the structure, function and factors influencing in implementation of Watershed programme in the state of Karnataka, India. The findings revealed that about 90 % percent of all committees are found to exist on record (structural level), SWOT analysis clearly shown that community-led water use associations are performing better than the department led water user associations in the implementation of IWMP. While the structure and legal status of PRIs have matured over the years, it is clearly recognized that true public involvement in progress and governance through PRIs has a long way to go.*

**KEYWORDS:** *Decentralisation, Participatory Development, Local Governance, Integrated Watershed Management Programme*

## 1 INTRODUCTION

Since independence, reforms towards Panchayat Raj Institutions (PRIs) have focused on the designing of legal and administrative structures that institutionalize decentralized governance and planning, while guaranteeing that such a system does not allow the local elite to dominate the marginalized sections of the society. Major initiatives in this regard are the recommendations of the Balawantraï Mehta Committee (1957), Ashok Mehta Committee (1978), G.V.K. Rao Committee (1985) and the L. M. Singhvi Committee (1986). Subsequently, the Constitution of India was amended in 1992, through the 73rd amendment that gave a uniform 3 – tier framework, and Constitutional status to these PRIs in the entire country. While the structure and legal status of PRIs have matured over the years, it has been well recognized that true public participation in supremacy and progress through PRIs has a long way ahead.

Thus, in general, there are several reasons why such committees may function exceedingly well or tend to lose relevance and accountability and end up existing only on paper. Due to the diverse selection processes, a large number of committees, diverse roles and responsibilities and the variety in the effectiveness of these committees, a comprehensive compliance/tracking mechanism to guarantee actual participation and timely deliverables from such committees is lacking. Therefore, the accountability of such committees seems to largely vest on bureaucrats like ex-

officio secretaries of such committees (e.g., Panchayat Development Officer (PDO)/Secretary of the Gram Panchayat (GP), (A Gram Panchayat is the cornerstone of a local self-government organisation in India, consist of three to five villages), Head Teacher of the School the Medical Officer at the Primary Health Centre etc.) who become answerable when decisions have to be taken or when targets like beneficiary selections and expenditures have to meet.

### **1.1 Watershed Committees (WC) in Integrated Watershed Management Programme (IWMP):**

In India, in IWMP programme, WC will be established by the Gram Sabha to instrument Watershed Development Team (WDT) in the village with the support of the officials under the watershed project. Registration of Watershed Committee (WC) will be under the Society Registration Act, 1860. A suitable person from the village may be elected as Chairman of WC by the Gram Sabha. Chairman of WC will be Sarpanch and /or ward member/ Panchayat members of the same village. WC secretary will be a paid functionary of the Watershed Committee. WC will include at least 10 members, half of the members will be legislatures of Self Help Groups (SHGs) and User Groups, Scheduled Caste (SC) /Scheduled Tribes (ST) community, women and landless persons in the village. At least one WDT member will be represented in the Watershed Committee (WC) and funds may be released to WC.

## **1.2 Micro-watershed Committees in Karnataka**

The micro -watershed committee is set up in Gram Panchayats where the Integrated Watershed Management programme is dynamic, as a sub-committee of the GP. The committee is accountable for the overall planning, observing and operation of the watershed activities implemented as part of the programme. One committee per GP is set up and consists of the President of the GP, 4 to 5 SHG representatives, 6 to 7 User Group (UG) representatives, and two or three GP members of that region. At least 50% of the members are women and the committee is selected through Gram Sabhas. The Micro -watershed groups are allied closely with involved watershed planning, work operation, extension lead, and taking part in monitoring and evaluation. The work of the micro-watershed committee is monitored by the taluk watershed progress team headed by the taluk watershed development official.

## **1.3 Existing Official Appointments at the Community Level and Public Contribution under IWMP programme**

**Self Help Groups (SHGs)** SHGs in the watershed region are constituted with the help of Watershed Development Team (WDT) by the watershed committee from the poorest of the poor, women, SC/ST population, landless/assetless poor agricultural labourers, small and fringe farmers. These clusters shall be identical groups having common uniqueness and concern who are dependent on the watershed area for their livelihood. All SHGs will be supported with a revolving

fund of an amount to be decided by the Nodal Ministry.

### **1.3.1 User Groups (UGs)**

With the help of WDT, User Groups are also constituted by the WC in the watershed regions. These shall be identical groups of personnel most affected by each effort and shall include those having land properties within the watershed regions. Each UG shall comprise of those who are expected to derive straight benefits from a particular watershed. With the help of the WDT, the WC shall enable to extend resource-use promises among the User Groups based on the moralities of justice and sustainability. These promises must be worked out before the concerned work is commenced. It must be observed as a pre-state for that activity. The UGs will be accountable for the task and maintenance of all the assets developed under the watershed project in close association with the Gram Panchayat and the Gram Sabha.

### **1.3.2 Watershed Committee (WC)**

In India, in IWMP programme, WC will be established by the Gram Sabha to instrument WDT in the village. Registration of WC will be under the Society Registration Act, 1860. Identified suitable persons from the village may be elected as Chairman of Watershed Committee by the Gram Sabha. Chairman of WC will be Sarpanch and /or ward member/ Panchayat members of the same village. WC secretary will be a paid functionary of the Watershed Committee. WC will include at least 10 members; half of the members will be legislatures of

SHGs and User Groups, SC/ST community, women and landless persons in the village. At least one WDT member will be represented in the WC and funds may be released to WC. On the other hand, Gram Sabha shall constitute the WC and it will be a sub-committee of Gram panchayat. In such conditions, WC need not be registered under the Society Registration Act and funds will be released to WC accordingly. The regions/sub continentals may implement any one of the above two choices. Where the panchayat covers more than one village, they have to establish a separate sub-committee for each village to look after the watershed progress project in the alarmed village. Where a watershed scheme covers more than one Gram Panchayat, isolated committees will be established for each Gram Panchayat. The WC will be provided with an autonomous paid office space and funds. The WC will open a distinct bank account to receive money for watershed projects and will use the same to commission its works. The costs towards the salaries of the WDT fellows and Secretary of WC will be covered from the administrative costs under the professional support of the project implementation authority.

### **1.3.3 Watershed Committee Secretary**

The Secretary of the Watershed Committee (WC) will be selected by Gram Sabha meeting. Secretary- WC would be an autonomous paid distinct official and separate from the Panchayat Secretary. He would be a devoted official with no duties other than providing assistance to the WC and he would function below the direct monitoring of

the President of WC and would be nominated on the basis of worth and familiarity. The costs to the honorarium to be salaried to Secretary of WC will be covered from the executive support to the PIA. The WC Secretary will be responsible for the succeeding responsibilities:

Arranging meetings of the Gram Sabha, Gram Panchayat, WC for simplifying the resolution-making methods in the context of Watershed Development Project (Common Guidelines for Watershed Development Projects 2008, Government of India).

- a. Taking decisions and follow up actions.
- b. Preserving all the records of project events and minutes of the meetings of Gram Panchayat, WC and other establishments for WDP.
- c. Effecting payments and other financial transactions.
- d. Authorizing the cheques along with the WDT nominee on behalf of the WC

### **1.3.4 Gram Panchayat Role**

As per the IWMP 2008 guidelines, The Gram Panchayat would complete the following significant activities:

- a. Oversee upkeep and guide Watershed Committee from time to time.
- b. Validate the accounts/ spending statements of WC and other organizations of the watershed project.

- c. Enable the convergence of different assignments/ projects to organizations of the watershed development project.
- d. Maintain asset records as an outlook to hold it with WDP
- e. Offers work station and other necessities to WC.
- f. Assign legal rights to eligible user groups/ SHGs over the assets made.

But, ground reality based on some of the studies in Karnataka shows that Micro-watershed Committee functions are very poor or in most of the cases, it is de-functional (this committee is set up in GPs where the Integrated Watershed Management Programme is active and as GPs' sub-committee. Our training programme will try to identify governance gaps and educating the committee members as well as officials for better implementation of IWMP programme in the future for Karnataka.

#### **1.4 Objectives**

The study has the main objective of raising awareness about the roles and responsibilities of WC members, Water User Co-operative Societies and educating the participants to perform better in their duties as committee members and officials. The paper attempts to identify gaps for factors influencing implementation of IWMP in terms of the structure, functions as well as identifying governance issues and influences on both officials and committees to sort out actual problems and solutions.

## **2 MATERIALS AND METHODS**

As per the design of the study, totally five Focus Group Discussions (FGDs) have been conducted in two phases of field visit. In the first phase, team conducted two FGDS with two different watershed committees which were managed by government and NGO led WCs. In the second phase three FGDs were conducted for three different Water Users Co-Operative Societies Association constituted by the Department of Rural Development, GoK.

In each and every FGDs, Situational and SWOT analysis were adopted to see the strengths, weaknesses, opportunities, and threats (SWOT) related to existing Watershed committees and Water User Co-operative Societies in Karnataka under Integrated Watershed Management Programme (IWMP) in terms of the structure, function and factors influencing implementation of Watershed programme in the state of Karnataka, India. Through SWOT analysis findings can also draw conclusions and recommendations for policy implications to further strengthen the IWMP programme effectively.

## **3 RESULTS & DISCUSSION**

Here are the phase one FGDs findings by comparison of two different WCs functioning as follows.

**Table 1: Salient features of two Watersheds**

Sl.No	Particulars	Bettadpur- watershed committee, Bettadapur Periya-pattanna Taluka, Mysuru	Kudregundihalla watershed committee, hediya village, Nanjangudu Taluka, Mysuru
1	Implementing Agency	Government ( Support of NGO-BAIF-mobilizing the participants)	MYRADA/MYKAPS(Myrada Cauvery Pradeshik Sansthe) NGO
2	Funding	Government of Karnataka (World bank )	NABARD
3	Starting Date	2012-13	2011-12
4	Project Stage	Completed (2014-15)	About complete 2015-September
5	villages covered	Andihalla, Hatiigogodu, Bettadatunga and Bettadpur	Two gram panchayat: Villages (5): Odeynapur, Aadnuu,badgalpur, hidiyala and venkatachalapur.
6	Area coverage	6720 hectare	1250 hectare
7	beneficiary number/ farmers numbers	40 user groups-800 members 50 SHG-938 members	865 farmers 75 SHG's
8	SHG federations	Not existing	Existing

Table.1 reveals about salient features of two watersheds, in case of Bettadpur watershed, the implementing agency was the government with NGO-BAIF involved in mobilizing the participants. This WC was covering an area of 6720 hectares with huge farmer numbers and also water user consisting about 40 user groups and about 800 members with 938 SHG members: later the existence of these SHG was not observed in long run.

Whereas in case of Kudregundihalla watershed of Hediya village, Nanjangudu Taluka, Mysuru implanting agency was purely by MYRADA NGO which has no role of government involvement. The area coverage was less when compared to Bettadpur WC, it was only 1250 hectare with only 865 farmers and 75 SHGs: however, this WC was having strong federations among SHGs.

**Table 2: Core Activities and Impact features of two watersheds in Karnataka**

Sl.No	Particulars	Bettadpur- watershed committee, Bettadapur Periya-pattanna Taluka, Mysuru	Kudregundihalla watershed committee, Hediyaala village, Nanjangudu Taluka, Mysuru
1	Farmer/beneficiary contribution	0% *	23%
2	Attitude of the members	Less active/Negligence as the project is implemented by the government (one of the implementing partners is NGO)	More active –a lot of handholding and awareness is created by the NGO
3	Record maintenance	Average	Good
4	Pressure	More (political intervention)	Less (No political intervention)
5	Monitoring and Evaluation	Any time	Once in year and concurrent visits

The table 2 indicates that the involvement of stakeholders was zero percent in case of Bettadpur- watershed, whereas in case of Kudregundihalla watershed it was 23%, which is a good percentage when compared to other WC for the participation of stakeholders. Similarly, the attitude of farmers was found to be negligent during implementation with average record keeping coupled with political pressure interventions and it was also found that WC monitoring and evaluation was unnoticed. Whereas in the case of Kudregundihalla watershed the involvement of stakeholder farmers was more active coupled with good record maintenance and also less political interventions. The evaluation was done once in a year so as to make the changes they contributed for the development of WC visible.

In addition to above core features, the study also conveyed that, activity-wise, two WCs vary from location to location such as that, in case of Bettadpur-watershed, Less Activities near Check dam, distribution of Horticultural and Forest seedlings, farm pond, Trench cum pit method, Tailoring. Further, the second most important activity was the distribution of seed money to SHG's ((Rs.50000/SHG): used for petty business) and third activity was Training on Vermi compost, Dairy, Tailoring and more community-oriented works was fourth activity. Further, awareness regarding the project, Less clarity/lack of information among the members on the Project and function of the watershed committee especially for the SHG members and Landless. The impact has increased the underground water level due to soil and water conservation measures.

In case of Kudregundihalla watershed, More activities including land levelling: Bonding Waterways, Boulder checks, Distribution of seeds and seedlings, individual activities like-Tailoring, Driving, Barbershop, followed by Training,- vermi compost, Dairy, FFS (Cotton production)and Exposure visits to other watershed committees, Demonstration on Flower cultivation, Seed distribution at the local level to beneficiaries(convergence) saved cost and

time. The last activity was more individual works (As there was no need of community works in this area). However, the awareness regarding the project, more clarity on the Project and function of the watershed committee are shown. The Impact has increased the underground water level due to water and soil preservation methods and increased farmers' income through Farmers filed School (FFS), Training and Demonstration.

**Table 3: Core features of two watersheds in Karnataka**

Sl.No	Particulars	Bettadpur- watershed committee, Bettadapur Periya-pattanna Taluka, Mysuru	Kudregundihalla watershed committee, hediya village, Nanjangudu Taluka, Mysuru
1	Participation level	Good	Medium
2	Project implementation awareness	Lack of knowledge regarding the implementation of the project	More clarity regarding the implementation of the project
3	Conduction of Meetings	Not regular	According to activity implementation, meeting will be held
4	Activities implemented by	Implemented by the agriculture /watershed department with consultation of farmers	Implemented by the farmers with the support and guidance of NGO
5	Formation of watershed Committee	Formed according to department guidelines and not registered	Formed according to NABARD guidelines /done through gram Sabha and registered under Society register act

In table 3, the findings revealed that, in Bettadpur-watershed the Learning's Participation (watershed Committee members involving SHG, GP members

and user groups) was not rigorous and proactive and this led to poor implementation of the project. Here lack of knowledge about the implementation

and also in organizing meeting was not regular, which has resulted in delayed work. This WC has not followed the registration process; it was formed based on guidelines of the line department but not registered. On the other Kudregundihalla watershed, project implementation awareness was clearly explained by the authorities, further, based on activity, implementation meeting was conducted with the support and guidance of NGO. The formation of WC was based on guidelines of NABARD done through gram Sabha and registered under Society register act. Further, it has received trainings but not demonstrated, FFS and Exposure visits. (Government and one of the partners is NGO in the mobilization of the people).

The Participation (watershed Committee members involving SHG, GP members and user groups) was rigorous and proactive involvement of WC members including members and SHG members led to better implementation of the project. However, Received all kind of support viz training, demonstration, FFS and Exposure visit other watershed and NGO was a sole important mentor.

As part of the Phase- two visit, three FGDs conducted three different Water User Co-Operative Societies constituted by the department of rural development, GoK.

Here are the findings of three different WCs functioning in the form of SWOT analysis as follows.

**WUAs 1: Brief description about Sankanahalli, Mirle Hobli, KR Nagar taluka, Mysuru**

<ol style="list-style-type: none"> <li>1. Year of Establishment- 25<sup>th</sup> Jan, 2002.</li> <li>2. No of Shareholders-560</li> <li>3. No. of Directors-09</li> <li>4. No villages- 6</li> <li>5. Aykut area governed by -942 hectares</li> <li>6. Distributary No-29<sup>th</sup> distributor of HRBHLC (Ch:7.3 Km-15Km)</li> <li>7. Water Allocation-15 Cusecs. (34 Cusecs)</li> <li>8. Supply Period-Aug –Dec</li> <li>9.             <ol style="list-style-type: none"> <li>a) One time grant (CADA)-Rs 821544.00</li> <li>b) Farmers Contribution -Rs 122592.00</li> <li>c)Total- Rs 9,44,146.00</li> </ol> </li> <li>10. Crops practiced in the region: Paddy,Ragi, Garden crops</li> <li>11. Total Irrigated Area-200-250Acres</li> </ol>
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**Table 4: SWOT Analysis of Sankanahalli Water Users Co-Operative Society**

<b>Strengths</b>	<b>Weakness</b>
<ol style="list-style-type: none"> <li>1. Functioning well.</li> <li>2. Conducting meetings regularly, Auditing and General body meeting proceedings are</li> </ol>	<ol style="list-style-type: none"> <li>1. 100% Water tax collection has not been achieved by the society.</li> <li>2. No Proper water Management and canals</li> </ol>

<p>properly maintained.</p> <p>3. Apart from water management, Society is arranging for distribution of seeds, fertilizers and pesticides to the farmers at reasonable rates which enhances the financial strength of the society.</p> <p>4. Good water management by adopting scheduled 'on and Off systems'</p> <p>5. WUCS has been collecting tax since 2014</p>	<p>not maintained properly.</p> <p>3. All the water users have not become a member of this society.</p> <p>4. Instead of 11 members, Society committee have only 9 directors.</p> <p>5. Not maintained the proper records for the usage of water.</p> <p>6. losses.</p> <p>7. Farmers are not trained.</p> <p>8. Less participation as shareholders.</p>
<b>Opportunities</b>	<b>Threats</b>
<p>1. If they receive full allocated water of 34 cusecs instead of present 15 cusecs availability, they have an opportunity to irrigate the total area and thereby tax collection can be improved.</p> <p>2. If they make the soil testing arrangement, necessary measures can be taken to improve the soil properties.</p> <p>3. There is scope for improving the relation between department and WUAs.</p> <p>4. By improving Chanals (leakage proof) we can increase the area under irrigation.</p> <p>5. Facility of loans from MDCC bank.</p> <p>6. Approval of infrastructure.</p> <p>7. Approval of grants from govt.</p>	<p>1. Illegal usage of water by head reach farmers is not Prevented.</p> <p>2. No prior information from federation or Govt. orders regarding the amount of water allocated /released.</p> <p>3. Some beneficiaries are reluctant to PAY the Tax</p>

The SWOT Analysis of Sankanahalli Water Users Co-operative society was presented in

Table.4 The strength of this WC was its Functioning ability because of its good implementation by conducting meetings regularly; Auditing and General Body meeting proceedings are properly maintained. Apart from water management, society was also arranging for distribution of seeds, fertilizers and pesticides to the farmers at the reasonable rates which enhances the financial strength of the society. The WC has

adopted very best water management by adopting scheduled 'on and off systems'. The user association was also involved collecting tax since 2014 for smooth functioning of WC.

In case of opportunities for this WC, the farmers make the soil testing arrangement; necessary measures can be taken to improve the soil properties. There is scope for improving relation between department and WUAs. This was boosted by improving canals (leakage proof) which increase the area under

irrigation. This enables WC to avail loans from MDCC bank and also the approval of infrastructure and grants from the government.

directors coupled with poor records for the usage of water. In this WC Farmers are not trained and their participation was also found to be less.

The major weakness of WC was that 100% Water tax collection has not been achieved by the society. The management was not found satisfactory due to poor water and canal management. All the members did not register for society. It was observed that, Instead of 11 members, Society committee have only 9

The main threat faced by WC which was illegal usage of water by head reach farmers was not able to control. There was no prior information from federation or Govt. orders regarding the amount of water allocated /released. Even some stakeholders were not ready to pay tax.

**WUAs 2:** Brief description of Tandre Ankanahalli Mirle, Hobli, KR Nagar Taluka, Mysuru

<ol style="list-style-type: none"> <li>1. Year of Establishment- 28<sup>th</sup> January, 2001.</li> <li>2. No of Shareholders-300</li> <li>3. No of Directors-09</li> <li>4. No. of Villages-8</li> <li>5. Aykut area governed by -986.30 hectares</li> <li>6. Distributary No-29<sup>th</sup> distributor of HRBHLC (Ch:0Km- Ch:3.5 Km)</li> <li>7. Water Allocation-30 Cusecs. (30 Cusecs)</li> <li>8. Supply Period-Aug –Dec</li> <li>9.             <ol style="list-style-type: none"> <li>a) One-time grant (CADA)-Rs 887326.00</li> <li>b) Farmers’ Contribution -Rs 118386.00</li> <li>c)Total- Rs 10,05,712.00</li> </ol> </li> <li>9. Crops practiced in the region : Paddy, Vegetables, Tobacco</li> <li>10. Total Irrigated Area-1000-1500Acres</li> </ol>
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**Table 5: SWOT Analysis of Tandre Ankanahalli Water Users Co-Operative Society**

<b>Strengths</b>	<b>Weakness</b>
<ol style="list-style-type: none"> <li>1. Functioning well.</li> <li>2. Co-operative Norms and Regulations are judiciously followed.</li> <li>3. Society has one qualified Engineer as a director in the member committee and Tax collection was done in 2014.</li> <li>4. Apart from water management, society</li> </ol>	<ol style="list-style-type: none"> <li>1. Water tax collection has not been done. (collected in 2014 only)</li> <li>2. No proper water management and canals not maintained properly.</li> <li>3. All the water users have not become the members of this society.</li> <li>4. Instead of 11 members, Society</li> </ol>

<p>is arranging for distribution of seeds, fertilizers and pesticides to the farmers at the reasonable rates.</p> <p>5. This enhances the financial strength of the Society.</p>	<p>committee have only 9 directors.</p> <p>5. Not maintained the proper records for the usage of water.</p>
<b>Opportunities</b>	<b>Threats</b>
<p>1. No objection Certificate issued by the society should become the mandatory document to receive any Government assistance by the farmers.</p> <p>2. If they need to receive any additional financial support from the government, society can improvise their co-operative activities.</p> <p>3. Necessary training should be imparted to the members of society to create awareness regarding proper utilisation of water thus increasing the crop yield.</p> <p>4. There is scope for improving relation between department and WUAs.</p> <p>5. By improving canals (leakage proof) and we can increase the area under Irrigation.</p> <p>6. Approval of grants from govt.</p>	<p>1. Consumption of more water by the head reach farmers has become a threat to the last reach farmers.</p> <p>2. No prior information from federation or Govt. orders regarding amount of water allocated /released.</p>

SWOT analysis of tandre ankanahalli water Users Co-operative society is presented in table.05. The findings show that, the major strength of this WC as it was functioning well was due to good norms and regulations judiciously followed by good Co-operation among farmers. The society has one qualified engineer as a director in the member committee and tax collection was done in 2014 and water management was also found to be good which enhances the financial strength of the society.

The main opportunities of this WC were that, to avail of benefits, farmers should bring no objection certificate issued by

the society to receive any government assistance by the farmers. It was also found that, pre-requisites training should be imparted to the members of society to create awareness regarding proper utilization of water thus increasing the crop yield. This WC has improved many canals by adopting leakage proof and increased the area under irrigation.

The major weakness was that the water tax collection has not been done, (collected in 2014 only) coupled with poor records maintenance along with poor water management and canals not maintained properly.

The major threat was the consumption of more water by the head reach farmers which has become a threat to the last reach farmers and there was no prior

information from federation or Govt. orders regarding the amount of water allocated /released.

**WUAs 3: Brief description about Muduguppe, Kuppahalli village, Mirle Hobli, KR Nagar taluka, Mysuru**

<ol style="list-style-type: none"> <li>1. Year of Establishment- 25<sup>th</sup> January 2001.</li> <li>2. No of Shareholders-760</li> <li>3. No of Directors-09</li> <li>4. NO. Of Villages-12</li> <li>5. Aykut area governed by -1200 hectares</li> <li>6. Distributary 29<sup>th</sup> distributor of HRBHLC (Ch:4 Km- Ch:7.3 Km)</li> <li>7. Water Allocation-36Cusecs. (36 Cusecs)</li> <li>8. Supply Period-Aug –Dec</li> <li>9.             <ol style="list-style-type: none"> <li>a) One-time grant (CADA) -Rs 921600.00</li> <li>b) Farmers’ Contribution -Rs 102400.00</li> <li>c) Total -Rs 10,65,620.00</li> </ol> </li> <li>9. Crops practiced in the region : Paddy, Ragi, Garden crops</li> <li>10. Total Irrigated Area-2000-2500Acres</li> </ol>
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**Table 6: SWOT Analysis of Muduguppe Water Users Co-Operative Society**

<b>Strengths</b>	<b>Weakness</b>
<ol style="list-style-type: none"> <li>1. Functioning well with the active participation of committee members.</li> <li>2. Documents are properly maintained including logbooks (about water usage statistics)</li> <li>3. As an additional activity, apart from irrigation, they have made their own arrangement to fill the tanks in their Jurisdiction.</li> <li>4. They have their own well-organised infrastructure for society activities. (CADA fund )</li> <li>5. Conducting meetings regularly, Auditing and General Body meeting proceedings are properly maintained.</li> </ol>	<ol style="list-style-type: none"> <li>1. 100% Water tax collection has not been achieved by the society.</li> <li>2. No Proper water Management and canals not maintained properly.</li> <li>3. All the water users have not become the members of this society.</li> <li>4. Instead of 11 members, Society committee have only 9 directors.</li> <li>5. Violation of cropping patterns is observed. (The government is not able to convince to change the crop pattern).</li> </ol>

Opportunities	Threats
<ol style="list-style-type: none"> <li>1. If they make the soil testing arrangement, necessary measures can be taken to improve the soil properties</li> <li>2. This increases the crop yield by minimising initial cost.</li> <li>3. Additional financial support has been expected by the society from the government in order to purchase modernised agricultural machinery to supply to the small farmers on hire basis.</li> <li>4. If canals are well maintained by the department, society has an opportunity to increase the achkut area.</li> </ol>	<ol style="list-style-type: none"> <li>1. Consumption of more water by the head reach farmers has become a threat to the last reach farmers.</li> <li>2. No prior information from federation or Govt. orders regarding the amount of water allocated /released.</li> </ol>

The SWOT analysis of Muduguppe water users co-operative society is presented in table.06. The findings state that the major strength of this WC was good functioning with the active participation of committee members and also record maintenance under logbook. The stakeholder has arranged their own arrangement to fill the tanks in their jurisdiction with well-organized infrastructure for society activities (CADA fund) apart from conducting meetings regularly, auditing and general body meeting proceedings. The major weakness was that 100% water tax collection has not been achieved by the society.

Further, the lack of proper water Management and canals management was needed. All the water users have not become members of this society. It was having only 9 directors instead of 11 members. It was also found that violation of cropping patterns was observed. (The government is not able to convince to change the crop pattern).

In this WC farmer, the major opportunity is that they make the soil testing arrangement; necessary measures can be taken to improve the soil properties which indirectly increase the yield. If canals are well maintained by the department, society has an opportunity to increase the area. Further, this WC has additional financial support as has been expected by the society from the government in order to purchase modernised agricultural machinery to supply to the small farmers on hire basis.

The major threat was that the consumption of more water by the head reach farmers has become a threat to the last reach farmers. And also no prior information from federation or Govt. orders regarding the amount of water allocated /released.

#### 4 CONCLUSIONS

Panchayat Raj Institutions with the advent of 73rd amendment of the Indian constitution have been considered

important to carry out the governance of community-level development activities; a number of studies have emerged to examine the level of success of doing so. From the study, the comparison of the Government and NGO led Watershed committees and water user co-operative societies functioning, the following measures should be considered for the best results on better water management, especially in rural area development. Gram Sabha would select the watershed committee members and in return, members would select the president of the committee. Complete information about the watershed committee members is vital to know their roles and responsibilities as a member and there should be proper coordination between the members.

New technology should be adopted for the monitoring and evaluation and this should be done by the members of the committee. Awareness regarding the project and technical aspects of the activities among the beneficiary /farmers can be increased through organizing Farmer's Field School and demonstration. It is also important to know about technical issues, watershed related activities and their unit cost, attitudinal changes, post-project sustainability of the watershed committees etc. The societies are functioning in their own buildings with the necessary infrastructure and staff. Training is imparted to the society members to create awareness regarding the optimum use of water for irrigation, cropping pattern, rotation of crops so as to obtain higher yield with minimum expenditure. Exchange of views and ideas can be done among the progressive

society members to educate the poor performing societies.

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