



Groundwater Governance through Panchayat Raj Institutions in Andhra Pradesh



Project Orientation Workshop

28th to 30th October 2015

Venue:

BIRDS Training Centre, Muthyalapadu, Chagalamarri Mandal
Kurnool District, Andhra Pradesh.

Bharati Integrated Rural Development Society (BIRDS)

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1. Introduction

The 'Groundwater Governance through Panchayat Raj Institutions in Andhra Pradesh' pilot project will be implemented in five districts of Andhra Pradesh (Anantapur, Chittoor, Kadapa, Kurnool, and Prakasam), where FAO-APFAMGS successfully demonstrated the impact of the work on changes in the demand side in managing groundwater distress. In the pilot phase, the project will refurbish all groundwater monitoring infrastructure and establish linkages with Gram Panchayat for improved governance of this key resource. This initiative will be co-funded by FAO and the Government of Andhra Pradesh. It is expected that the pilot initiative will develop a model for upscaling the project to cover all areas in these five districts as well as parts of Nellore.

The pilot project's duration will be one year. The project will have two major components. The first will focus on revitalizing the GMCs and HUNs formed under APFAMGS in 518 villages of the five districts. Additionally, it will invest on repairing the PHM monitoring equipment to ensure that data collection is restored and done regularly. APFAMGS promoted Groundwater Monitoring Committees (GMCs) and Hydrologic Unit Networks (HUNs) will take lead in technical data generation, water budgeting, crop planning and crop adoption. The second component will focus on initiating groundwater governance through Gram Panchayats in 72 villages of Kurnool district. This will include elements of water sharing to improve equity and access to water and thereby control new drilling and unsustainable water-use.

This pilot will be implemented in close collaboration with the groundwater and agriculture departments both for design of data collection formats and also for data validation. Additional inputs will be drawn from the departments of Groundwater, Rural Water Supply department, District Water Management Agency (DWMA), Micro Irrigation, Agriculture, Horticulture, Forestry, Soil Conservation, and Animal Husbandry in these districts as required.

BIRDS, the lead NGO in the erstwhile FAO-supported project will be responsible for the project implementation. Improved groundwater governance will involve coordination with the six partner agencies in implementing project activities such as, PHM data collection, data computerisation, data analysis, conduct of crop-water budgeting workshops, crop planning, crop adoption, capacity building of GP representatives, formation of farmer interest groups and farmer producer groups.

Purpose: Staff recruitment has been completed for all positions, except for hydrologist at BIRDS. It is important to orient the project staff to the key concepts in the pilot initiative. The objective of the Project Orientation Workshop was to orient the newly recruited staff to project concepts, activities, and timeline. The workshop was held at BIRDS Training Center, Muthyalapadu, Kurnool district. The NGO Chiefs of all the project partners and staff participated in the workshop. The list of participants is enclosed as *Annex 1*, list of resource persons as *Annex 2* and the workshop schedule is enclosed as *Annex 3*.

Day One: 28th October 2015

1. **Introductions:** Mr. Paul Raja Rao welcomed the participants and the resource persons. Later, he shared with participants the background to the project—visit of Mr. Shyam Khadka, Food and Agriculture Organization Representative (FAOR) to Kurnool to participate in an interaction between Mr. T. Vijay Kumar, Special Chief Secretary Agriculture, Government of Andhra Pradesh (GoAP) and APFAMGS project partners from Anantapur, Chittoor, Kadapa, Kurnool, and Prakasam districts of Andhra Pradesh on August 5th; and views expressed by the Special Chief Secretary and the FAOR that it is important to strengthen the APFAMGS model and upscale it to cover all areas in these five districts. This led to the conceptualization of the short duration pilot co-funded by FAO and the Government of Andhra Pradesh. Following this, the workshop participants briefly introduced themselves—names, roles on the project, and previous experience.



2. **Project Background:** The introductions were followed by a short presentation on the project. The presentation covered: project area and focus, importance of engaging Panchayat Raj Institutions (PRIs) in groundwater governance, hydrological monitoring, participatory hydrological monitoring network, water balance and audit, concept of governance, farmer producer organizations (FPOs), project structure and management.

3. **Re-conceptualizing Water:** Participants worked in four small groups¹ to discuss: mapping water users and usage; water sources and infrastructure; water quality, and water sanitation. The output of the discussions on each issue are summarized below:

1) **Mapping water uses and usage:**

- Types of users: humans domestic needs, livestock, agriculture (field crops and horticulture), other vegetation and animals, commercial users—industries, construction, hotels, hospitals,
- Distribution of water usage across users: , institutions (family, school, religious, etc.), habitations, and social groups
 - Humans domestic consumption: drinking, cooking, family functions/events, bathing, washing, and religious purposes
 - Livestock and fauna: drinking, cleaning
 - Agriculture irrigation
 - Industrial (small/household/ medium/heavy): industrial production operations, cleaning, etc.

¹ Participants worked in the same groups for the duration of the workshop. The participants' groups are enclosed as *Annex 4*.

- Construction: commercial buildings, residential houses, educational institutions, hospitals, public buildings
- Agriculture: growing crops, plants, and trees
- Quantification of the proportion of usage by different users and control and access to resources is important for management. Following questions can be used to engage communities on control and access to water:
 1. Is everyone getting adequate quantity of water in the village?
 2. How do we ensure that all users have access to water in future?
 3. What strategies should we design and implement to ensure water availability and water security for the future?
 4. Household level:
 - a. What is the distribution of use of different members?
 - b. Who is responsible for procurement of water?
 - c. Who controls use of water?
 - d. Who is responsible for the management of the water?
 5. Consolidate water use from different sources
- An effective strategy could be to engage the GMCs and HUNs in these discussions. Later, GMCs and HUNs could be used as pressure groups to build consensus at GP level and engage GP Sarpanch, office bearers and all water users.
- For effective governance and equitable access to water, it is important to engage all types of water users and manage all water sources.

2) Water sources & infrastructure

- Water sources: tanks, streams, check dams, ponds, canals, reservoirs, farm ponds, groundwater aquifer, and springs;
- Extent of sources and quantum of water storage
 1. Tanks—growing crops, livestock rearing, fish rearing,
 2. Infiltration tanks recharge aquifers
 3. Streams—to fill up tanks
 4. Check dams—improve soil moisture, agriculture
 5. Reservoirs—agriculture, livestock
 6. Canal—agriculture, drinking water

- Water infrastructure (means to harness a resource)
 1. Types—hand pumps, borewells—irrigation and domestic, open wells, water tanks, taps, mineral water plants,
 2. Investments (private and public): surface water investments—government/public funds; groundwater investments—private—individual and collective, and government funds

3) Water quality

- It is important to increase awareness on water quality and its impact on irrigation and health—human and animal
- Deepening of borewells can lead to deterioration of water quality
- Poor water quality can adversely impact humans, livestock, health, crops, etc.
- Ways to improve water quality: improve farmers/general public awareness, undertake water quality tests, share results of water quality analysis with general public, undertake remedial measures in coordination of public health department.
- Poor management of the resource and inequitable distribution are primary causes of contamination. Likewise, poor infrastructure can lead to contamination.
- Ways of assessing water quality: *Physical indicators*—colour, taste, smell, turbidity, and presence of external matter; *Social*—which socio-economic groups have access to what sources (borewell, piped water, streams, tanks, old wells, etc.) and types (treated and untreated water, piped water, tanker water)
- It is important to identify/distinguish water contamination. Also, quality standards vary for different uses. Further, domestic waste water can be recycled for other uses.

4) Water sanitation—outcome of water availability and use/misuse

- Leakages in pipes, overflow of tanks, etc. cause wastage of water. Increase water supply leads to increased issues around sanitation.
- Water stagnation and open drains are a public health hazard—sources of malaria, dengue, other water borne diseases
- Improper solid waste disposal, open defecation, waste water and effluents, unclean surroundings, etc. can pollute water bodies—both surface and groundwater—and cause diseases

- Waste water is a big resource—waste water from one sector—domestic—can be an input to another sector—agriculture and fisheries. Multiple uses of water can address problem of shortages, sanitation and contamination.
- Following questions can be used to generate discussion on water wasted and waste water
 - How much water is being supplied per day?
 - Estimate water wasted
 - Estimate waste water
 - What mechanisms can be put in place to reduce water misuse?
 - What mechanisms can be put in place to ensure secondary use/recycle
 - What kinds of infrastructure and models should be used based on water availability?
- Raise the issue to trigger discussion; accurate estimation/calculation is not important; raising awareness is important

4. **Institutional Structure:** Participants worked in four small groups to discuss the institutional structure and ways of reconfiguring the Groundwater Management Committees (GMCs) formed under the Andhra Pradesh Farmer Managed Groundwater Systems (APFAMGS) project. They reached the following consensus:

- 1) Reconfigure GMCs in each habitation as Water Management Committees (WMCs), alternatively called as Grama Jala Mandali (GJM). This is to be done by expanding the membership of GMCs to include representation from all water user groups—including different socio-economic groups that have differential access to and control over the resource.
- 2) Grama Panchayat Jala Mandali (GPJM) will be constituted at the Gram Panchayat level. It will be a federation of GJMs. GJM from each habitation to nominate two to five members to GPJM. Two representatives from each water-related committee of the GP to be nominated to the GPJM. All ward members will be ex-officio members of GPJM. Sarpanch to be the president of GPJM. An illustration outlining the two-tier body is enclosed as *Annex 5*.

5. **Interests and institutional relations:** Participants worked in small groups worked on the following formats and found them useful to assess water demand of different users and generate discussion on water use accountability and



develop mechanisms for conflict resolution. Specifically, the tabular format ‘water demand for different users’ can be used to generate discussion on water users, usage, and relations between different water users.

Water demand for different water-users

Characteristics of demand and benefits	House hold / Domestic use	Farmers	Livestock rearers	Household enterprises / Micro entrepreneurs	Bulk users (tankers/ packaged water/ distilleries)	Institutions (school/ temple / hostel/PHC	Public events	Other commercial enterprises
How frequently is water used?								
How much water is needed per year?								
How critical is good water quality?								
Elasticity of water use w.r.t supply								
Site of use								
Benefits								
Current water deficits								
Harm/loss caused due to deficit								

Likewise, the tabular format ‘water demand for specific economic groups’ format can be used to generate discussion on gender and social inclusion.

Water demand for specific socio-economic groups

(landless, dalit, large farmers, religious minorities)

Characteristics of demand and benefits	Drinking (humans)	Drinking (livestock)	Bathing & sanitation	Washing	Irrigation	Enterprise
How frequently is water used?						
How much water is needed per year?						
How critical is good water quality?						
Elasticity of water use w.r.t supply						
Site of use						
Benefits						
Current water deficits						
Harm/loss caused due to deficit						

- 1) Participants expressed that the ‘water demand’ tabular formats are useful to:
 - assess per capita consumption, water foot print distribution within the village, access, and equity;
 - discern which users have access to water for all consumption needs and which users are experiencing shortages;
 - percentage of population dependent on different livelihoods and water utilized by those sectors.
 - The ‘Water demand for specific socio-economic groups’ tabular format can be used for gender analysis on access and control over water resources.
- 2) Waste water is a big resource—waste water from one sector—domestic—can be an input to another sector—agriculture and fisheries. Multiple use of water can address problem of shortages, sanitation and contamination
- 3) Water availability is a challenge for small farmers and users from lower socio-economic strata

- 4) Quality should be shown as either good, normal, or poor
- 5) Access with respect to (w.r.t.) use should be shown in percentage
- 6) WMC should be a platform to discuss inequitable access to water, sensitize different stakeholders and explore potential solutions to ensure access to all users for basic needs and equity of access; and
- 7) Graphs can be effective in depicting access to water and usage across different socio-economic groups.



Day Two: 29th October 2015

1. Hydrological monitoring: Participants worked in four small groups to discuss: PHM data collection and dissemination, maintenance of PHM equipment, and water management planning. The output of the discussions on each issue are summarized below:



1) *PHM data collection and dissemination*

- Drinking water:
 - Need to monitor piped water supply schemes, treated water supplied by Sujala scheme, hand pumps, private tankers, and private/community wells
 - Monitor water use through both direct and indirect methods. Direct measurement involves manual water level measurements and discharge measurements. Indirect method of estimating water consumption and efficiency involves monitoring water consumption at household level through survey and actual measurement of containers.
- Irrigation use
 - Continue groundwater monitoring and integrate with Ground Water Department and Rural Water Supply monitoring wells
 - Monitor performance of injection wells
- Soil moisture analysis to be done with SPACC equipment and soil nutrient analysis will be undertaken with government soil testing laboratories.
- Surface water measurements—stream gauge data will be collected by identification of gauging sites, procuring instrumentation and incorporate data in water audit
- Water quality testers need to be procured
- Drum discharge—monitor discharge 4 to 5 times during each irrigation as discharge varies with pumping hours

2) *Maintenance of PHM equipment:* Gram Panchayat will be responsible for maintenance of PHM equipment

3) *Water balance:* Water audit will be overarching. It will include crop-water balance, surface water balance, and individual irrigation tank-water balance to be integrated into the water audit.

2. Farmer Producers Organizations (FPOs): Participants listed the advantages of initiating FPOs:

- Secure adequate price, better price
- Reduce middlemen profit
- Get out of debt trap
- Reduce costs for procuring inputs and marketing produce (input sourcing and output aggregation)
- Improves farmers financial status
- Secure/source inputs at appropriate time
- Assess market demand and plan accordingly
- Increase farmers awareness on various issues related to production and marketing
- Improve storage facilities
- Access/tap into government schemes
- Improved awareness on crop package of practices
- Mitigate risk of farmers being forced to sell their produce to money lenders for low prices

Information on the legal framework and processes for the formation of FPOs was shared with the participants. Two potential models—Mutually Aided Cooperative Societies (MACS) act and Farmer Producer Organizations (FPOs)—were discussed and it was decided to adopt the Farmer Producer Organizations framework for constituting FPOs. Here below are the details of the legal framework and processes of MACS act and FPOs

A.P. Co-operative Societies Act, 2010, also called Mutually Aided Cooperative Society (MACS) Act

Co-operatives are based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity.

The State of Andhra Pradesh enacted the MACS Act to facilitate the voluntary formation and democratic functioning of Co-operative Societies as peoples' institutions based on self-help, thrift and mutual aid and enable people to promote their economic and social betterment.



- State promotes Co-operative Societies as instruments of equity, social justice and economic development in fulfilment of the Directive Principles of State Policy as enshrined in the Indian Constitution.

- Role of the Government is limited to enacting suitable legislation providing for timely conduct of elections, audit of the Co-operative societies and incorporate measures to safeguard the interests of the members and other stake-holders in them.
- The State shall not interfere in the internal management and operation of the Co-operative Society. State recognizes Co-operative Societies as democratic institutions owned, managed and controlled by members for their economic and social betterment, operating their business based on mutual aid and Co-operative Principles.

Cooperative Principles

- Voluntary and Open Membership
- Democratic Member Control
- Member Economic Participation
- Autonomy and Independence
- Education, Training and Information
- Co-operation among Co-operatives
- Concern for Community

Farmer Producer Organizations (FPOs)

Small and marginal farmers in India have been vulnerable to risks in agricultural production. Several organizational prototypes are emerging to integrate them into the value chain with the objectives of enhancing incomes and reducing transaction costs.

Enhanced access to investments, technological advancements, and efficient inputs and markets focus of development has shifted from enhancement of production to market connectivity

Small Farmers' Organizations such as cooperatives and FPOs are expected to enhance incomes, reduce costs of input purchases along with transaction costs, create opportunities for involvement in value-addition including processing, distribution and marketing, enhance bargaining power

The basic purpose envisioned for the FPOs is to collectivize small farmers for backward linkage for inputs like seeds, fertilizers, credit, insurance, knowledge and extension services; and forward linkages such as collective marketing, processing, and market-led agriculture production (Mondal, 2010). The Department of Agriculture and Cooperation had issued a policy document titled "Policy and Process Guidelines for Farmer Producer Organizations" in 2013 to encourage the formation of FPOs and laying out indicative guidelines for the formation and performance of these collectives

Farmers may be organized at four levels

1. Farmers Interest Groups (FIGs)
2. Sectoral Farmers Association (SFA)
3. District Farmers Forum (DFF)
4. State Farmers Federation (SFF)

Steps in Establishing Farmer Organizations

5. Understanding the village community
6. Identifying potential leaders in the community
7. Talking to the identified leaders and seeking cooperation from other agencies
8. Helping local leaders to call community meetings
9. Nominating core group leaders to develop the FO
10. Developing an organizational structure for the FO
11. Developing the FO's management through education and action learning
12. Gearing up for action
13. Implementing selected projects
14. Monitoring and Evaluating the FO's progress

Participants opted for FPOs for the following reasons:

1. This is the latest model
2. There is an assured grant money for formation and capacity building of FPOs
3. Access to credit is easy with NABARD as they are interested to strengthen FPO
4. Department of agriculture has released clear guidelines and established supporting agencies at state and district level for immediate help and assistance

Some concerns not for immediate but definitely we need to look for

1. How do we include women in the formation of FPOs and what roles will they play to make our FPO s gender inclusive?
2. If HUNs take lead role what will be the position of dry land farmers and landless?
3. Will our FPOs provide livelihoods to landless families? If so, what will be our plan of action (strategy)?

The project partners decided that they would initiate FPOs focusing on crops that are drought tolerant or resistant. Participants identified the following crops to initiate the business operations under FPOs

- Crops grown with residual moisture: Bengal gram, Coriander, Foxtail millet
- Crop requiring one or two irrigations: Variga, Jowar, Ragi, Red gram, Cow pea
- Crops requiring three irrigations: Arika, Bajra,
- Mustard

Participants opined that FPOs initial trading operations will be organized with pulses and millets. FPOs could also source locally produced agriculture inputs—such as vermi-compost, organic pesticides, non-pesticide measures, etc.—for their agriculture operations. This will facilitate greater inclusion as it opens livelihood opportunities for the landless and women.

Branding of the produce grown by APFAMGS farmers was discussed, and the following ideas emerged from those discussions:

- Water Smart—more crop per drop
- Save land, water, crop, and farmers
- Sustainable practices, healthy consumers, and responsible/prosperous farmers
- ముందు తరాలకు క్షేమకరమైన భవిష్యత్తును అందించే పంటలు / పంట విధానాలు
- నేలను సారవంతుం చేస్తూ మనవ జాతికి , జీవరా సికి పోషక విలువలు కలిగిన ఆహారాన్ని అందించే పంటలు
- కరువు పీడిత ప్రాంత రైతు మానసిక వత్తిడిని ,ఆర్థిక ఖోభాను తగ్గించే పంటలు
- బాల కార్మికులు లేని స్త్రీ పురుష సమాన భాగస్వాత తో పండించిన బంగారు పంటలు
- నా బంగారు భూమి మీద పండించిన పంట
- విషరహిత పంట
- నా బంగారు పంట మీ ఇట్టి వంట

Each of the partner NGOs shared the road map for initiating FPOs with their respective GMCs and HUNs. Here below is the road map articulated by the respective NGOs.

BIRDS

- Discussions ongoing for the past two years for formation of FPOs
- Will develop a clear action plan in the next week or two
- Plan to initiate formation of FPOs in two months
- After that, various capacity building activities will be implemented for four months to build farmers' capacities
- FPO will be operational in 6 months.

CARVE

- Organize Gram Sabhas to discuss rationale for formation of FPOs
- Develop a detailed action plan after:
 - Discussing threadbare, which crops to focus on, what set of agriculture practices should be promoted, how to determine pricing, strategies for input sourcing and output aggregation, etc. and
 - Studying existing value chains and marketing mechanisms around grains and

vegetables

- Organize producer-buyer/consumer forums to develop clarity on potential buyers and markets
- Await clear sequence of steps in formation of FPOs from FAO Consultant.

DIPA

- Plan to initiate formation of FPOs in three months
- Organize Gram Sabhas to discuss rationale for formation of FPOs
- Discuss threadbare, which crops to focus on, what set of agriculture practices should be promoted, how to determine pricing, strategies for input sourcing and output aggregation, etc. and develop a detailed action plan.

GVS

- By end-November complete an assessment of locally grown farm produce and quality of produce
- Establish linkages for marketing produce
- Study FPOs initiated in neighbouring villages/mandals
- First initiate output aggregation; establish forward linkages for marketing farm produce. These steps are aimed to build farmers' confidence and ownership
- Study potential markets and develop market plans.
- Build on these steps to develop a detailed action plan for next crop season (kharif 2016)
- Confident of forming FPO by July 2016

PARTNER

- Organize Gram Sabhas to discuss rationale for formation of FPOs
- Discuss threadbare, which crops to focus on, what set of agriculture practices should be promoted, how to determine pricing, strategies for input sourcing and output aggregation, etc. and develop a detailed action plan.
- Await clear sequence of steps in formation of FPOs from FAO Consultant.

SAFE

- Already initiated discussions on rationale for formation of FPOs
- Will first focus on identifying farm products that have specific geographic identity
- In the current season, we will initiate output aggregation, establish forward linkages for marketing farm produce

- For this, we will study potential markets and develop market plans.
- For the next season, we will develop a detailed action plan that will include:
- Detailed discussions on which crops to focus, what set of agriculture practices should be promoted, how to determine pricing, strategies for input sourcing and output aggregation, etc. and
- Study existing value chains and marketing mechanisms around grains and vegetables
- Organize producer-buyer/consumer forums to develop clarity on potential buyers and markets
- Await clear sequence of steps in formation of FPOs from FAO Consultant.

SYA

- Engage farmers to:
 - Develop database of farmers, farm products, markets, input sources, and agriculture practices
 - Develop a business plan
- Following this, hold detailed consultations with farmers on FPO formation

Strategies for gender and social inclusiveness in FPOs were discussed. The participants felt that it was important to deepen the empowerment of women initiated in the earlier project by making focused efforts/strategies to engage/include women farmers as well in the FPOs. They felt that such efforts are necessary, else gender inequality would increase as conventional practices often exclude women from exposure to market, and access and control over monetary resources generated through membership in the FPO. As such an outcome is not desirable, it was agreed that conscious efforts would be made to explore ways in which women can be included in the FPOs. For this, it was decided to have discussions—individually and focus group— with women farmers of women-headed households and women farmers on ‘nature of women farmers’ inclusion in the FPO’. Aside from this, it was agreed that the FAO Consultant on Gender and Social Inclusion will list specific strategies that have worked in similar settings.

Day Three: 30th October 2015

1. **Work plan & timeline:** Participants reviewed the project work plan and developed weekly plans for better scheduling and monitoring the progress of work. The weekly plan is enclosed as *Annex 6*.



2. **Organizing Grama Sabhas:** The Grama Sabhas are the general body of the Groundwater Management Committees (GMCs). Therefore it is imperative to share the objectives of the new initiative in the Grama Sabha, discuss the need to reconfigure GMCs and expand their membership to all water users for effective governance of groundwater, and develop a structure for the water management committee that is socially and spatially inclusive. Participants discussed ways of facilitating the Grama Sabhas and came up with the following process steps:

- 1) Achievements of GMCs
- 2) Government recognition: acknowledging the successes of the APFAMGS project, the Govt. of AP has requested FAO, BIRDS and PNGOs to strengthen the APFAMGS and upscale the project
- 3) Rationale for reconfiguring GMCs and expanding their membership to all water users for effective governance water
- 4) Identifying different water users:
 - 1) Ensuring gender and social inclusion to address issues of equity in access to water
 - 2) Ensure participation of users who have difficulty accessing water for basic needs
- 5) Identifying stakeholders
- 6) Gram Sabha to nominate representatives from all stakeholder groups to the expanded water management committee (Jala Mandali)
- 7) Structure of the Jala Mandali at habitation and Grama Panchayat levels
- 8) Participatory Hydrological Monitoring (PHM) to include surface water monitoring, water quality and sanitation (water misuse and waste water)
- 9) Instruments and methods to measure:
 - 1) water use,
 - 2) water availability, and
 - 3) water quality.
- 10) Roles and Responsibilities in monitoring water use, quality and availability

3. Vision building exercise: Participants felt that it would be effective to use Appreciative Inquiry to engage members of the newly constituted Jala Mandali in developing a vision on water governance for their Grama Panachayat. The following process will be used to facilitate the 'vision building' exercise.

- 1) Discover—Discuss GMCs good practices, learning from the work groundwater monitoring and management, and what else needs to be done for effective water governance
- 2) Dream—Developing a vision for the Grama Panchayat on Water Governance, i.e. what successes would the Jala Mandli achieve on water governance in five years.
- 3) Design—Use the Vision to develop a detailed Action plan, with timeline and responsibilities
- 4) Destiny—Review action plan and list sources of verification to monitor the progress of each activity

The Non Formal Education facilitator will develop detailed training designs using the above guidelines.

4. Workshop Evaluation: Participants were asked to evaluate the workshop proceedings using a simple format, which listed the topics discussed in the workshop and asked participants to rate their 'understanding' of each concept and 'need for more clarity'. Participants' feedback is enclosed as *Annex 7*.

Annex 1
Participants List

S. No.	Name of the Participant	Designation	Organization - Station
1	Mr. V. Paul Raja Rao	Executive Director	BIRDS - Nandyal
2	Mr. Ch. Rambabu	PNGO Chief	GVS - Madanapalli
3	Dr M. Madhukar Reddy	PNGO Chief	SAFE - Cumbhum
4	Mr. G. Ravindra Kumar	PNGO Chief	CARVE - Markapur
5	Mr. B. Yesudas	PNGO Chief	DIPA - Giddalur
6	Mr. S. C. Hassain	PNGO Chief	SYA - Gooty
7	Mr. P. Nazeer Khan	PNGO Chief	PARTNER - Porumamilla
8	Mr. N. Rambabu	Admin. & Documentation Officer	BIRDS - Nandyal
9	Mr. B.L. Narsimha Reddy	Office Manager/Accounts	BIRDS - Nandyal
10	Mr. Yusufkhan	Data Collection Assistant	BIRDS - Nandyal
11	Mr. Shaik Abdulkhadar	Project Coordinator & Agriculture Facilitator	BIRDS - Allagadda
12	Ms. R. Lakshmi	NEF Facilitator	BIRDS - Allagadda
13	Mr. V. Diwakar	Village Coordinator	BIRDS - Allagadda
14	Mr. K. Bhaskar	Village Coordinator	BIRDS - Allagadda
15	Mr. T. Obulesu	Village Coordinator	BIRDS - Allagadda
16	Mr. V. Bulliabbay	Village Coordinator	CARVE - Markapur
17	Mr. M. Guravaiah	Village Coordinator	DIPA - Giddalur
18	Mr. R.V. Narayana	Village Coordinator	DIPA - Giddalur
19	Mr. D. Abdulla	Village Coordinator	DIPA - Giddalur
20	Mr. C. Nagi Reddy	Village Coordinator	GVS - Madanapalli
21	Mr. K. Anil Kumar Reddy	Village Coordinator	GVS - Madanapalli
22	Mr. M. Eswarayya	Village Coordinator	PARTNER - Porumamilla
23	Mr. R. Ramanayya	Village Coordinator	PARTNER - Porumamilla
24	Mr. A. Veera Brahmam	Village Coordinator	SAFE - Cumbhum
25	Mr. V. Ravi Kumar	Village Coordinator	SAFE - Cumbhum
26	Mr. M.Hussain Saheb	Village Coordinator	SYA - Gooty
27	Mr. M. Srinivasulu	Village Coordinator	SYA - Gooty

Annex 2
List of Resource Persons

S. No.	Resource Person Name	Designation	Organization
1	K. A. S. Mani	Groundwater Specialist	FAO India
2	Debashish Goswami	Water Resources Specialist	FAO India
3	Salome Yesudas	Farmers Producer Organization Specialist	FAO India
4	Radhika Desai	Gender and Social Inclusion Specialist	FAO India
5	C. Konda Reddy	Institutions and Governance Specialist	FAO India

Annex 3

Workshop Schedule

Project Orientation Workshop (28th – 30th October 2015)

28th October 2015

Day One: Morning Session

1. Introductions
2. Project Background
3. Re- conceptualizing water

Day One: Afternoon Session

4. Institutional Management & Governance
5. Hydrological Monitoring (homework)

29th October 2015

Day Two: Morning Session

1. Recap
2. Hydrological Monitoring
3. Farmer Producer Organizations

30th October 2015

Day Two: Afternoon Session

1. Farmer Producer Organizations
2. Follow-up (Work plan & timeline, Gram Sabhas planning, and Vision building exercise)

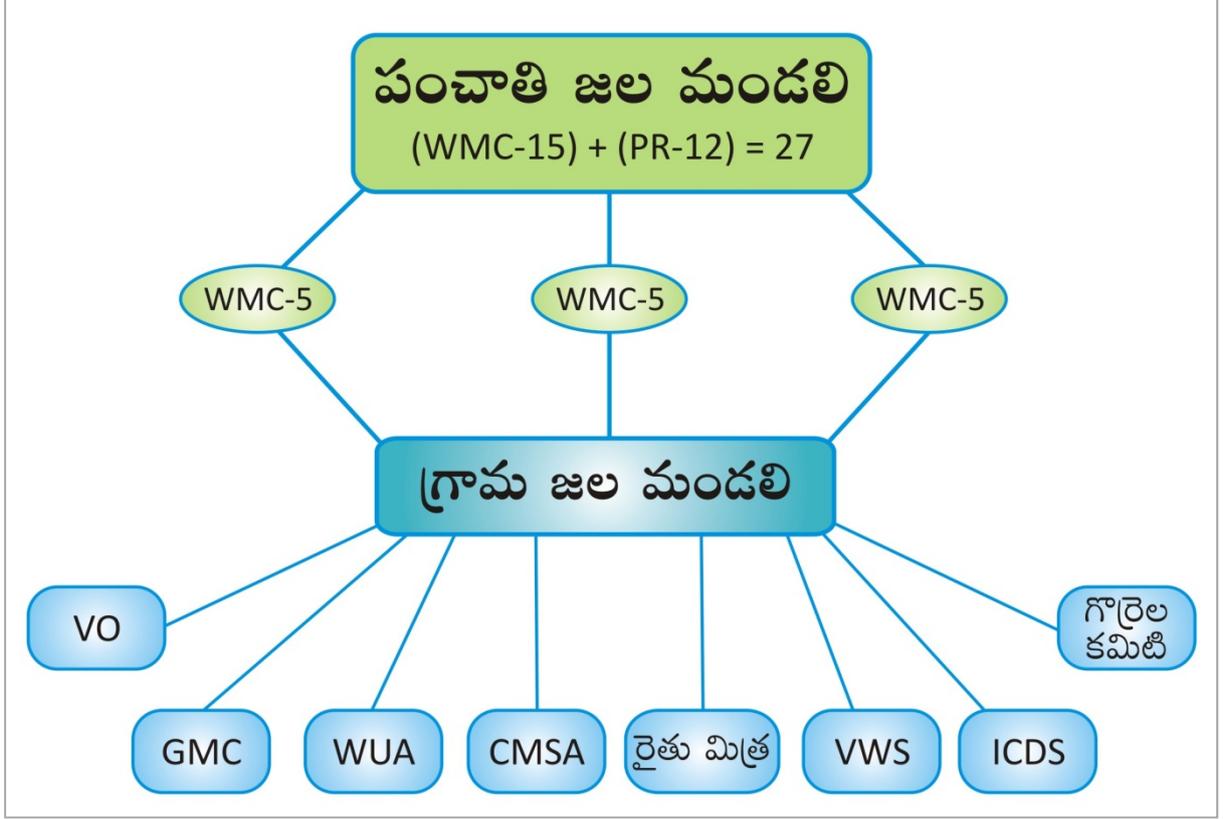
Day Three: Morning Session

1. Follow-up (Work plan & timeline, Gram Sabhas planning, and Vision building exercise)

Annex 4
Small Groups Composition

Group 1	Group 2	Group 3	Group 4
V. Paul Raja Rao	M. Madhukar Reddy	P. Nazir Khan	Ch. Rambabu
S.C. Hassain	R. Lakshmi	S. Abdul Khadar	G. Ravindra
B. Yesudas	D. Abdullah	M. Hussain Saheb	V. Dayakar
M. Eswaraiah	R. Ramanaiah	T. Oblesu	K. Bhaskar
C. Nagi Reddy	K. Anil Kumar Reddy	M. Guruvaiah	M. Srinivas
A. Veera Brahmam	R. V. Narayana	V. Bullabhaiah	V. Ravi Kumar

Annex 5
Jala Mandali Structure



Annex 6 Work Plan and Timeline

Activity code	Activity	2015											
		Oct				Nov				Dec			
		1 st	2 nd	3 rd	4 th	1 st	2 nd	3 rd	4 th	1 st	2 nd	3 rd	4 th
	Project Inception Workshop												
	Project Staff Training												
Component 1: Participatory Hydrological Monitoring													
Activity 1.1.1:	Orient Gram Panchayat (GP) office bearers												
	a) Intimation to GP office bearers												
	b) Preparatory work for orientation												
Activity 1.1.2:	GMC meetings												
Activity 1.1.3:	Federate Gram Panchayats at the Hydrological Unit (HU) level (HUN meetings)												
	a) formation of WMC at GP level												
	b) Formation to GP level WMC members at HUN level Meeting												
Activity 1.1.4:	Repair/Replace PHM equipment and display boards												
	a) Procurement of PHM Equipment												
	b) Preparing the details of PHM (OB wells, RGs etc) repairs and replacements												
Activity 1.1.5:	PHM data collection and dissemination												
Activity 1.1.6:	Data classification and entry												
Activity 1.1.7:	Maintenance of PHM equipment												
Activity 1.1.8:	Data collection on PHM impact (Average crop yields, water harvested, water saved, etc.)												
Activity 1.1.9:	Benchmarking of soil moisture status using bio-indicators												
Activity 1.1.10:	Soil nutrient analysis												
	a) Collection of Soil Samples												
Activity 1.1.11:	Collect crop plans for the upcoming season												
Activity 1.1.12:	Conduct Water Audit workshops												
Activity 1.1.13:	Develop DSGWM Plans for each HU												
Activity 1.1.14:	Conduct DSGWM adoption survey												
Activity 1.2.1:	Design data applications for dissemination of PHM data												
Activity 1.2.2:	Design applications for analysing PHM data												
Activity 1.2.3:	Disseminate PHM data												

Activity code	Activity	2015											
		Oct				Nov				Dec			
		1 st	2 nd	3 rd	4 th	1 st	2 nd	3 rd	4 th	1 st	2 nd	3 rd	4 th
Component 2: Groundwater Governance													
Activity 2.1.1:	Vision building workshops												
	a) Intimation to WMC members for Workshop												
Activity 2.1.2:	PRI Office bearers promote DSWM through linkages with government programmes												
Activity 2.1.3:	Develop water sharing norms												
Activity 2.1.4:	Design water sharing arrangements												
Activity 2.1.5:	Develop DSWM plan for each GP and consolidate it at HU-level												
Activity 2.1.6:	Implement DSWM plan												
Component 3: Farmer Producer Organizations (FPOs)													
Activity 3.1.1:	Formation of FIGs												
	a) Preparatory meetings for FIGs formation												
Activity 3.1.2:	FIGs Training												
	a) Intimation for FIGs training												
Activity 3.1.3:	11 HUNs in Kurnool district reorganized as FPOs												
Activity 3.1.4:	11 FPOs Orientation Training												
Activity 3.1.5:	FPOs meet regularly to discuss functioning of PHM data collection and dissemination												
Activity 3.1.6:	FPOs – District level functionaries workshops												
Activity 3.1.7:	FPOs undertake market survey												
Activity 3.1.8:	FPOs prepare a market plan												
Activity 3.1.9:	FPOs undertake market operations of agriculture produce												

Annex 7 Participants' Feedback

S. No.	Workshop Topics	Understood well (%)	Need more clarity (%)
1	Project Background	100	0
2	Re-Conceptualizing Water		
A.	Mapping water uses and usage	100	0
B.	Water sources and Infrastructure	100	0
C.	Water sources and infrastructure	100	0
D.	Water quality	65	35
E.	Sanitation	100	0
3	Institutional Structure		
A.	Jala Mandali Structure	100	0
B.	Assessing water Demand for different users	100	0
C.	Assessing water demand for different socio-eco groups	100	0
4	Hydrological Monitoring		
A.	PHM data collection and dissemination	100	0
B.	Maintenance of PHM Equipment	100	0
C.	Water Balance and Water Audit	87	13
5	Farmer Producer Organizations (FPOs)		
A.	Advantages of FPOs	100	0
B.	FPO legal framework & processes	52	48
C.	FPOs Branding	17	83
D.	PNGOs road map to FPO formation	17	83
E.	Gender & Social inclusiveness strategies for FPOs	43	57
6	Project Work plan & Timeline	100	0
7	Gram Sabhas Planning	100	0
8	Vision Building Exercise for GPs	100	0