

# Dialogue on improving watershed policies, practices and knowledge to impact people and ecosystems



International Crops Research Institute  
for the Semi-Arid Tropics



WWF International

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# **Dialogue on Improving Watershed Policies, Practices and Knowledge to Impact People and Ecosystems**

***Proceedings of the Dialogue***

***24–25 November 2005***

*Editors*

**SP Wani, Anil C Shah and TK Sreedevi**



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## **Organizing Committee**

SP Wani (Chair)

Biksham Gujja (Co-chair)

Piara Singh

V Vinod Goud

TK Sreedevi

Mohammed Osman

## **Logistical Support**

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## Background

Watershed management is regarded as the best strategy to rehabilitate fragile ecosystems and improve the livelihoods of people living in rainfed areas. The rural poor living in such areas are under constant threat of low yields, unemployment and consequently poor living conditions. Effective water management can substantially reduce risks, make water for drinking and cultivation available in an equitable manner, increase farm productivity and raise income through a host of auxiliary activities.

ICRISAT is involved in developing watershed technologies for more than three decades. Based on the learnings, ICRISAT-led consortium comprising of national agricultural research systems (NARSs) such as Central Research Institute for Dryland Agriculture (CRIDA), National Remote Sensing Agency (NRSA), Indian Institute of Soil Science (IISS), state agricultural universities (SAUs), non-governmental organizations (NGOs), state government of Andhra Pradesh, Rajasthan, Madhya Pradesh, advanced research institutes (ARIs) such as Michigan State University and University of Georgia, farmer organizations and national governments of India, Thailand, China and Vietnam have developed a holistic farmer-centric consortium model for watershed management. This model based on the principles of 4Cs: convergence, collective action, consortium and co-operation has shown good impact on field – in terms of enhanced community participation, increased crop productivity, incomes for the farmers, improved greenery and water availability, reduced soil loss and runoff, capacity building and building of social capital in the target watersheds.

In order to enhance the benefits of 200<sup>+</sup> community watersheds to larger areas it is felt that there is a need to share these successful experiences with other important agencies concerned with watershed research, implementation and policy making in the country. This is mainly to mainstream and upscale the benefits. World Wide Fund for Nature (WWF) Dialogue Project, which is based at ICRISAT campus, is working on water issues with a focus on mid-Godavari basin. A proposal was put forth to organize a National Dialogue event jointly by ICRISAT and WWF with the following objectives:

- To share experiences of ICRISAT-led consortium on watershed management, research and implementation
- To seek suggestions to improve and upscale the lessons/best practices that would emerge
- To identify gaps and priorities for future research programs

This event was expected to lead to the following outputs:

- A critical overview of ICRISAT's activities on watershed management
- Specific strategies for up-scaling of the proven watershed technologies
- Identification of gaps/priorities for future research
- A Forum to be established among interested partners
- Ideas generated to carry forward multi-stakeholder Dialogues on watershed policies, approaches and practices.

The Dialogue event was held for two days. Broadly one-and-a-half day was focused on sharing of experiences and brainstorming on issues identified. The remaining half a day was devoted to deliberate on how to continue the Dialogue process through establishing appropriate platforms.

## **Kickstarting the Session**

Dr YS Ramakrishna, Director CRIDA, chaired the inaugural session. Dr Biksham Gujja, Special Project Scientist, WWF welcomed the participants and warmly acknowledged Dr William Dar, Director General, ICRISAT, who was instrumental in initiating this Dialogue. Dr Dar in his inaugural address stated that "Knowledge is not the monopoly of any one organization" and sharing knowledge is crucial to ICRISAT for its overall growth. Along with giving an overall picture of the activities of ICRISAT, he stressed the need for strengthening the Dialogue urgently with the NGOs and the importance of partnership in uprooting poverty in the semi-arid zones of the country through scaling-out the benefits of an integrated watershed management approach and enhancing the reach. He likened it to a battle against poverty and emphasized the preeminence of integrated water management in combating it.

Dr SP Wani, Principal Scientist (Watersheds) and Regional Theme Coordinator (Asia) listed out the objectives of the Dialogue and presented a scene setting paper titled: Reflections and Learnings from an innovative farmer-participatory integrated watershed management for improved livelihoods and environment protection in the tropics. The main purpose of the Dialogue was to share the experience of the ICRISAT-led consortium for integrated watershed management research and its implementation. It also wanted to seek suggestions from the NGOs and other organizations involved in the field to improve and upscale the watershed management in future. And finally to identify gaps and priorities for future research.

A bird's eye view was given in his power point presentation where he spoke of insights into some of the burning issues in SAT. These were (water scarcity and occurrence of drought) low fertility of soil, and soil erosion leading to land

degradation, high child mortality rate and walloping population levels. Finally by 2025, 33% of the world's population would be facing severe water scarcity – mainly in the developing countries.

The solution to the problems faced by these areas was in following the example of integrated water management at Adarsha watershed, Kothapally wherein water management was used as an entry point for:

- Increasing productivity
- Improving livelihoods
- Protecting environment
- Empowerment of the poor
- Social capital development

To elaborate: ICRISAT developed an innovative farmer-participatory consortium pilot model for integrated watershed development at Kothapally a drought-prone region of Ranga Reddy district. The key principles of this holistic model were collective action, participatory approach, convergence, a consortium for technical backstopping, tangible benefits to all the stakeholders, holistic livelihood approach and capacity building. New knowledge and empowerment to improve productivity were used as the entry points to facilitate participation. Here it was seen that indigenous knowledge blended with environment-friendly sustainable soil, water crop and pest management holistically benefited the farmers. This approach substantially reduced runoff (by 29%) and soil loss (by 60%), increased groundwater availability, revived dead open wells and increased 200 ha of irrigated area in a 500 ha watershed. Crop yields increased by 2.2 to 4 times for maize, sorghum, chickpea and pigeonpea. Incomes of 900 households in the watershed village and surrounding 3 satellite watershed villages substantially increased and the net returns on rainfed crops more than doubled. In addition to this the green cover was enhanced and an additional 45 t C per year was sequestered in the soil in the Adarsha watershed in Kothapally.

The specific lessons learnt by ICRISAT during its watershed research and development efforts were in: learning efficient technical options, key social processes and institutional lessons, that contractual mode of farmers participation was unsustainable, technological components (but not the packages) were to be adopted. Most importantly it was observed from the meta analysis results of 311 watershed case studies in India that for low rainfall areas <700 mm y<sup>-1</sup> different watershed management interventions are needed. The currently adopted approach 'one size fits all' did not show the desired benefits. The performance of watersheds in terms of benefit-cost-ratio was best in rainfall regimes ranging from 701 to 1100 mm.

He further elaborated that water is the key issue and there is 'no beginning or end to watershed management and interventions'. Tangible benefits to individual small and marginal farmers enhanced individual participation in the program activities and experience revealed that the poorest people were the most willing to participate. Results of 311 watershed case studies using meta analysis also revealed that benefit-cost-ratio of the watershed programs in India was 1:2.14 with the internal rate of return of 22.9%. It generated employment of 181 days/ha per year during the project period, enhanced irrigated areas by 33.6%, increased cropping intensity by 63.5% and decreased runoff by 13%.

Dr Wani stressed the point that to reach a common goal of increasing agricultural productivity and incomes of the farmers in rainfed areas while protecting the environment, we have to have strong partnerships through a consortium approach. The success of the consortium depends on shared vision, trust, mutual respect, good communication and dedication by the partners. Good leadership is also a much-needed quality for the success of the consortium approach. Through a public-private partnership a multiplier effect could be created which could result in a win-win situation. Capacity building of all stakeholders is critical and quality inputs and funds need to be ensured for increasing agricultural productivity. He concluded that at present the consortium model for integrated watershed system developed by ICRISAT and the partners is scaled-up in 200+ micro-watersheds in India, NE Thailand, northern Vietnam and South China benefiting 38,000 families (190,000 people) directly. This project of ICRISAT along with its partners (CRIDA, NRSA, agricultural universities, NGOs, state government of AP) received high coverage and excellent evaluation by national and international media. This approach is one of the best examples of integrated natural resource management impact case studies selected by Consultative Group on International Agricultural Research-Interim Science Council (CGIAR-ISC).

The chairperson Dr YS Ramakrishna, Director, CRIDA, commented that a paradigm shift is needed to not only empower farmers through self-help groups but also share knowledge equitably with them. Also the farmer's advisory board and the *panchayati raj* institutions should be strengthened to bring to the small and marginal farmers tangible economic benefits of the watershed programs through the consortium approach.

Dr Biksham Gujja elucidated the activities of WWF and ICRISAT's role in natural resource management (NRM). The WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which human beings live in harmony with nature. He mentioned that this Dialogue was designed to workout the scaling-up and scaling-out methods for reaching vast numbers of farmers through the consortium approach. There was a pressing need to find

tangible solutions to the pressing problems of food security and environmental sustainability. He raised several questions on the current watershed programs that needed to be addressed:

- How much rainfall is required to fill the tanks and new small storages created through watershed?
- Can watershed management continue to benefit in spite of large-scale groundwater extraction for paddy?
- Is it possible to scale-up at the basin level?

He stressed the need to increase the capacity of water storage structures, as the current capacity is quite low and not sufficient. He also stressed the need to reduce water consumption for rice as it consumes about three fourths of the total irrigation water available in Andhra Pradesh. In his presentation he gave the example of water storage structures at ICRISAT campus.

There was considerable discussion on the impact of watershed interventions on the downstream. The participants reported both the positive and negative impact of watershed interventions on the downstream. The positive impact reported were increased availability of groundwater, reduced flooding and sedimentation in the downstream sites. The negative impact reported was on - reduced surface water availability at the downstream sites particularly in the low rainfall areas. There was general consensus that we need to work out clear strategies and policy guidelines for allocating water and sharing costs and benefits among upstream and downstream communities to mitigate classic problems of externalities.

The next presentation on institutions and institutional learning was based on last thirty years of natural resource management of watershed research activities at ICRISAT, Asia. Dr Shambu Prasad first explained what is institution and institutional learning. He explained that institutions are the rules, habits and conventions that govern how organizations interact with each other and institutional learning is the process through which new ways of working emerge. It asks the question: what rules, habits and conventions have to be changed to enable effective partnerships? Commenting on the general NRM programs in India, he mentioned that despite increasing evidence on the value of partnerships in NRM research, very few research projects have partnered with the state government line departments, non-governmental organizations (NGOs), community-based organizations (CBOs), farmers groups or the private sector in the design and implementation of research projects. He gave the example of long-term watershed based research at ICRISAT from which several lessons can be learned.

Dr Laxmi presented the ILAC phase 2, which covered mostly the ongoing watershed projects. She mentioned that due to several factors, there is a big change in the NRM research strategies. The institutional learning from the previous projects contributed significantly in changing the research strategies. She explained the different tools, partner inventory and institutional mechanisms used in her study. Finally she presented some of the main lessons from ILAC.

In the discussion that followed some key points were discussed:

- **New Hariyali Guidelines for Watershed Project**

Several participants expressed their concern that there was not enough participation and say of NGOs and private sectors in the *Hariyali* guidelines. There was a general consensus that changes are necessary in the institutional set up, particularly to reopen the scope for competent NGOs to function as PIA, to make the watershed program of the Ministry of Rural Development more effective. The consortium members also resolved to strengthen its approach by bringing in more stakeholders from credit and research organizations so that it would result in cross learning and dissemination of knowledge.

- **Conflict between the consortium members**

Due to several organizations being involved in the consortium, how are the conflicts resolved? It was mentioned that conflicts have arisen in the past but were resolved amicably without much problems through team building exercises and continued dialogue. The consortium approach is bound to have some problems, as many divergent partners are involved. This difficulty can be resolved through team building exercises and its advantages can be harnessed through cross learning.

Dr Bandyopadhyay from the Directorate of National Agricultural Innovation Project (NAIP) shared some of his views. He stated that his purpose at the Dialogue was to invite the participants to get involved in this national project. The project is funded by the World Bank and is led by the Indian Council of Agricultural Research (ICAR). The NAIP had a predecessor in the National Agricultural Technology Project (NATP), which operated from 1998–2005, which laid a strong foundation for institutional change and research. The basic principle of NAIP was the explicit development of business dimensions, inclusion of public, private and civil societies and having a healthy competitive spirit. The strengths and benefits of networking through consortium approach for watershed management as demonstrated, need to be capitalized. The process, approaches and components of NAIP were also elaborately explained. He reiterated that the funding was adequate at the sum of US\$ 250 million

and the basic aim was to facilitate accelerated and sustainable transformation of Indian agriculture for poverty alleviation and income generation.

Dr Marcella D'Souza gave an impromptu bird's eye view of LEAD (Livestock, Environment and Development) and its Advocacy Network (LAN). This is an inclusive group (open network) of institutions and individuals, interested in enhancing the knowledge base related to sustainable livestock and environment interactions contributing to informed debates and policy options. She explained that the goal is the enhancement of pro-poor livestock related livelihoods by strengthening practices of sustainable natural resource management particularly in watersheds and the promotion of an enabling policy environment.

Dr Marcella listed out the main objectives: to enhance the knowledge base on Livestock-Livelihoods-Environment issues with a special focus on watershed development, among practitioners, researchers, policy makers. Of equal importance was the objective of facilitating networking, feedback and information sharing for advocacy purposes. There was also a need to document and disseminate experiences and the lessons learnt through publications, including the platform newsletter, in non-electronic and electronic formats (as well as in local languages). She concluded by making a fervent appeal to the participants to contribute their mite to the poor living in degraded regions, especially those who depend on small ruminants and livestock. They definitely need a better environment and policy framework to sustain them.

The next session had the main theme as watershed management for increasing productivity, equity and sustainability. Dr BR Patil spoke on 'Up-scaling best-bet practices for increasing productivity and rural incomes'. He listed out:

- The choice of technologies, niches, issues and opportunities should address local needs, problems and priorities within the cultural practices.
- Selection of interventions included soil, water conservation, micronutrient application, broad bed furrows, improved crop varieties, village seed banks, vermicomposting and microbial inoculants for improved productivity.
- For social groups, land is used for fodder development and livestock rearing. Cows and cross breeds are preferred, based on their uses.
- Intervention matrix on breeding and feeding were also explained. Issues to be recognized were participation of women, hierarchy and real problems that existed.

The discussion that followed was on (a) the need for identifying and documenting "best practice". This should be based on importance given to a particular practice, which was found difficult to implement by most organizations such as ridge to valley approach, or developing common lands as part of watershed program. The regions where such difficult issues have been taken up and implemented

successfully should be identified and documented to work as a reference to others. (b) more specific issue identified was on the least importance that was given to livestock in watershed management. At village level trained staff is able to manage the fodder problems but not the diseases of the animals.

Village level institutions and federation have the major role in ensuring technical support. Locally available practices were to be used, as they are more user-friendly.

Mr Anil C Shah presented 'Institutions and policies for sustainable watershed management'. He mainly expressed the need to federate CBOs like watershed associations and ensure continuing momentum of local resources development partly achieved during the intensive phase of watershed development. The post-implementation phase may be referred to as 'Watershed Plus'. Added to this:

- According to the *Hariyali* guidelines (2003) only *gram panchayat* or village level organization will be the implementing agency with *panchayat* secretary. Problems may arise when village bodies are engaged in business activities, and when they want to federate for accessing other resource centers for credit, marketing, etc.
- Importance of facilitating agency NGOs and PRIs for motivation and organization of local groups to work for common purpose. Country-wide experience showed that competent NGOs are more suitable to work as facilitating agency than either government departments or *panchayati raj* institutions (PRIs).
- Monitoring and evaluation, training and software inputs were highly essential to achieve the quality of the program. This has to be provided by competent and independent organizations.
- Organizational restructuring of the natural resource management programs requires relatively a higher autonomous organization at district, state and national level. The guidelines chalked out by the National Authority for Development of Rainfed Agriculture (NADORA), outlined by Dr Manmohan Singh, Prime Minister of India was found to be an appropriate management of important and sensitive programs like watershed development. According to Anil C Shah, only autonomous organizations could work with high order of accountability for performance, stakeholder's participation, operating autonomy, policy continuity, co-coordinating operations, flexibility and innovation.

## Group Discussions

The discussions evolved around the role of the *panchayat* in watershed management, which was mainly to support but not to manage. If watershed is a business it should be an added option and may be termed as bio-industrial watershed.

The Dialogue was then divided into three thematic groups, which discussed in detail the insights and need for up-scaling the benefits of watershed management and made recommendations on specific issues. Thereafter the group leader presented the plenary report of the group.

**Group I** – discussed and identified research gaps mainly in the area of technologies for increasing productivity of rainfed agriculture. It was indicated that research in four major fields was lacking: water availability for crops, soil fertility levels, management of pests and diseases in the farm and site-specific agronomic practices. To reduce these gaps it was suggested that the rural poor should be exposed to the latest techniques through interexchange of knowledge, information about infrastructure, markets, etc., which would all in turn help them to realize a better income. Compilation of base traditional knowledge also needed to be documented. With the identification of these research gaps group I was confident that it could enhance value addition, diversify soil and water management systems to suit poor farmers and set up a water budgeting model for post project management. It was also suggested that ICRISAT should adopt the cost-benefit ratio study so that the cost-per-hectare for integrated watershed management could be revised to optimize benefits to the farmers.

**Group II** – led by Dr Shambu Prasad dealt with institutions and policies for sustainable watershed management. The group discussed thought-provoking issues of the fate of the village level watershed development funds. Though money is spent on watershed management accountability is needed. Also common issues like lack of drinking water, groundwater and minimal data on watershed programs is a point of concern. Two major issues cropped up during the discussion:

- (i) There is a need for an informed body mainly for decision-making.
- (ii) A pilot scale is needed for an indicative analysis for a bigger watershed atlas. This would help the farmers to be better informed about their water rights and in the long run help in water recharging, conserving, etc.

**Group III** – discussed ‘Equity and post-project measures for enhancing impact of watershed programs’. Equity as defined in the American Heritage Dictionary is the quality of being impartial and fair. Equitable distribution of benefit by restoring degraded land, forest and water resources and consequent development of biomass is one of the objectives of the watershed program as

specified in the 1994 guidelines (Ministry of Rural Development) Government of India. Summarizing Group III's discussion, Dr Somnath Roy presented the challenges faced in semi-arid areas and watershed management. He suggested some major areas to address equity issues:

- Integrated genetic natural resource management (IGNRM).
- Farm related enterprise activities
- Adoption of crops

Elaborating on these points he explained that there is a need for:

- Enhancing water availability
- Capacity building for sustainability
- Women empowerment
- Using economics as driving force
- Enhancing environmental benefits
- Managing biodiversity
- Livestock-based activity
- Future of watershed: Need for a robust model with pro-people policies, attitudes and changes for progression.

The discussion that followed was in agreement that robustness is a challenge to achieve in terms of both food and fodder. Equity in terms of investments and women's participation should both be linked up with federation of groups. Institutional structure should define sustainability in a system. The chairperson Dr Veeraraju further suggested that:

- Giving prominence to livestock in watershed management
- Enhanced role of local inhabitants in the driver's seat and NGOs as facilitators
- Challenges of equity issues in a resource poor area and complex scenario
- Ways to involve local communities in addressing local issues so that the rural poor are benefited.
- Systems to be put in place to include marginalized communities in equitable benefit – sharing.

Three major groups were identified to discuss research gaps and bring out the salient points of their discussion so that the Dialogue could be further enriched. Group I led by Dr BR Patil discussed 'up-scaling of the best-bet technologies'. Group II was on 'Institutions and policies for sustainable watershed management' led by Anil C Shah and Group III headed by Srinivas Mudrakarta, was on the 'equity and sustainability'. The three groups brought out specific recommendations:

**Group I: Up-scaling the best-practices.** The group stressed the need to identify the research gaps giving priority to the socioeconomic aspects.

- The features of bet-bet technologies were identified
- The best practices may be defined as those tried and found to be replicable
- How to basically up-scale?

The group identified about 13 enabling factors. Among them the participatory approach was one of the most important mechanisms through which not only government orders/research institutes but also state agricultural universities, non-governmental organizations, community based organizations and federations could be used.

**Group II: Institutions and Policies for Sustainable Water Management.** They discussed specific gaps in scientific work and how technology should be used effectively to enhance productivity. Adequate resources were needed and well-defined operational guidelines had to be chalked out.

- Selection of area: Scale issue
- Role and responsibilities of partners
- People's contribution
- Emphasis on CPRs
- Federating watershed groups
- Convergence of existing and new programs
- Transparency and accountability
- Monitoring indicators for the project.

**Group III: Equity and Post-Project Sustainability.** This group concluded that no data was available on benefits or changes accruing from the watershed programs and the non-tangible benefits were scarcely recorded. Also, there was no organized forum for people to voice their concern and a National Support Group (NSG) for watershed programs led by civil societies would be much appreciated. Added to this:

- Equity consideration from the inception with focus on vulnerable groups was to be considered
- Local institutions to be empowered to manage local resources
- Institutional arrangement for conflict resolution
- Involving children and youth for post-project sustainability, eg, environmental clubs under Tata-ICRISAT-ICAR project
- Revolving fund: Matching grant equivalent to people's contribution
- Up-gradation of volunteer base and their capacity, skill, knowledge, etc.

## Recommendations

The three groups came out with specific recommendations that could substantially improve watershed management in the country:

1. The Dialogue placed on record its appreciation of the Independence Day speech of the Prime Minister, Dr Manmohan Singh, which stressed creation of a body for rainfed areas. The Dialogue in principle endorsed the setting up of NADORA, which would work as an autonomous executive authority to be managed professionally for furtherance of objectives of watershed programmes in India.
2. Appreciating the consortium approach that ICRISAT has developed with its partners in 7 states of the country the Dialogue recommends that a seamless integration of research and development at all levels for productivity enhancement and impact of watersheds be worked out for further development and spread of the concept. ICRISAT may work further on how at least one consortium can be set up in each district where watershed programme is implemented.
3. A National Watershed Support Group consisting of research institutions (ICRISAT, CRIDA and SAUs) NGOs, PRIs and other interested bodies was to be set up. This group would work out the constitution, mandate, objectives, function and funding and work with local groups for ensuring that the watershed programme develops and spreads on healthy lines. It was suggested that initially BAIF be the network anchor for this initiative. ICRISAT may work out with BAIF Pune who should be the members of National Support Group on Watershed Development, as also the date, venue and agenda of the first meeting of the Support Group.
4. Post project management of watersheds, Watershed Plus, leading to sustainability of watershed institutions for maintenance of assets, productivity enhancement and value addition needs to be emphasised as part of the watershed guidelines. There is an imperative need for institutional and financial support for Watershed Plus initiatives. ICRISAT would prepare a proposal in this regard for consideration by MoRD and MoA.
5. It was also noted that large amount, which may be running into more than Rs 500 crores, has accumulated as Watershed Development Fund in watershed programs, promoted and funded through various ministries and donor agencies. For want of clarity (on how these funds have to be employed for maintenance of assets) they are almost frozen. It was agreed that ICRISAT may take initiative in setting up a Task Force that would collect information on magnitude of Watershed Development Fund under various programs and based on the documentation of the 'best practice'

the Task Force may recommend to the policy makers the best manner of utilizing these funds.

6. The choice of technologies, niches issues and opportunities should address local needs and priorities within the local cultural practices. It was explained that different agro-eco regions require different/specific technological interventions and a uniform code would not benefit the watershed programs. The Dialogue recommended that ICRISAT initiate and coordinate some more research issues on technology, institutions and sustainability.
7. The Dialogue was happy to note that the Ministry of Rural Development has appointed a committee to look into the *Hariyali* guidelines and suggest appropriate changes. The participants hoped that the recommendations arising from the committee would modify the *Hariyali* guidelines to create space for various stakeholder organisations besides *Panchayati Raj* institutions (PRIs) and make their worthwhile contribution to the furtherance of the watershed development.
8. The Dialogue recommended increased investment for rainfed areas through watershed programmes. The Dialogue further recommends an increase in investment per hectare from the current Rs 6000/ha to Rs 15000–20000/ha depending on requirements of different agro-ecological zones of the country.

The concluding remarks to the Dialogue were by Dr Dyno Keatinge, Deputy Director General of ICRISAT. The salient remarks pointed out by him were:

Watershed management projects are considered to be science-led because of the technology-mediated type of learning. He pointed out an example on the role of ICRISAT in the production of international public goods (IPGs). In this vein, the new paradigm for doing science includes, for instance, a biological scientist getting involved in social mobilization.

The idea of forming a National Network among organizations working on watersheds is a good proposition to have a 'louder voice' (increase in public influence). Through alliances, progress toward the production of IPGs in watershed projects can be addressed in a better manner.

A policy to address equity is an important concern in watershed projects. Organizations involved in watershed projects have to reckon with a continued responsibility even after the project period.

The idea of building the capacity of younger people (getting them interested in watershed activities at a young age) is believed to cause a significant impact.

Common Property Rights issue is a very contemporary topic in watershed projects especially within the context of poor people and to quote Keatinge,

'common property rights is not a fringe issue among the poor.' He parted on the note that – learning from our mistakes is never too late.

Dr Wani ended the dialogue by thanking the cross section of NGO leaders and other experts for their keen participation which had contributed to a broad based review of the watershed program and at the same time indicated future course of action. He expressed the hope that the Dialogue that has commenced would continue and become more loud and effective as experience is gained in network activity.

# Program

## Dialogue on Improving Watershed Policies, Practices and Knowledge to Impact People's Livelihoods and Ecosystems

*24–25 November 2005,*  
CF Bentley Conference Center  
ICRISAT-Patancheru

Thursday 24 Nov 2005

0830–0900 Registration

### Session 1 **Inaugural Session**

*Chair* YS Ramakrishna

*Rapporteur* TK Sreedevi

0900–0905 Welcome Biksham Gujja

0905–0910 Dialogue objectives SP Wani

0910–0930 Inaugural address WD Dar

0930–1015 Reflections and learnings from an innovative farmer-participatory integrated watershed management for improved livelihoods and environment protection in the tropics SP Wani

1015–1025 Discussion

1025–1035 Chair's remarks YS Ramakrishna

1035–1040 Vote of thanks Piara Singh

1040–1100 *Group photograph and tea/coffee break*

### Session 2 **Technical Session I: NRM and Institutional Learnings in Watershed Management**

*Chair* Anil C Shah

*Rapporteur* P Pathak

1100–1130 WWF-ICRISAT initiative for NRM in India Biksham Gujja

1130–1200 ILAC and natural resource management: Learnings from ICRISAT's watershed work T Laxmi

1200–1230 Discussion

1230–1330 *Lunch*

<b>Session 3</b>	<b>Technical Session II: Insights and Needs for Scaling-up the Benefits of Watershed Management</b>	
	<i>Chair</i>	Marcella D'Souza
	<i>Rapporteur</i>	Hameeda Bee
1330–1400	Up-scaling of best practices for increasing productivity and rural incomes	BR Patil
1400–1430	Institutions and policies for sustainable watershed management	Somnath Roy
1430–1500	Equity and post-project measures for enhancing impact of watershed programs	Srinivas Mudrakarta
1500–1515	<i>Tea/coffee break</i>	
<b>Session 4</b>	<b>Technical Session III: Parallel Group Discussions</b>	
		<i>Facilitators</i>
1515–1800	Group I: Up-scaling the best-bet technologies	BR Patil
	Group II: Institutions and policies for sustainable watershed management	Anil C Shah
	Group III: Equity and post-project measures for enhancing impact of watershed programs	Srinivas Mudrakarta
1830	<i>Workshop dinner</i>	
<b>Friday 25 Nov 2005</b>		
<b>Session 5</b>	<b>Technical Session IV: Group Discussion and Report Presentations</b>	
	<i>Chair</i>	Biksham Gujja
	<i>Rapporteur</i>	Mohammed Osman
0830–0850	Group I: Up-scaling the best-bet technologies	BR Patil
0850–0910	Group II: Institutions and policies for sustainable watershed management	Shambu Prasad
0910–0930	Group III: Equity and post-project measures for enhancing impact of watershed programs	Somnath Roy
0930–1000	Discussion	
1000–1015	<i>Tea/coffee break</i>	

<b>Session 6</b>	<b>Technical Session V: Research Gaps and Future Strategy</b>	
	<i>Chair</i>	PV Veeraraju
	<i>Rapporteur</i>	Meera Reddy
1015–1130	Identification of research gaps in parallel sessions	
	Group I: Technologies	
	Group II: Institutions and policies	
	Group III: Equity and sustainability	
1130–1200	Presentations by groups	
12.00–1230	National innovation project and consortium for impact	A Bandyopadhyay
1230–1300	Scaling-up the benefits through networking	Biksham Gujja
1300–1400	<i>Lunch</i>	
1400–1500	Discussion and report preparation	
1500–1530	<i>Tea/coffee break</i>	
<b>Session 7</b>	<b>Plenary session</b>	
	<i>Chair</i>	Dyno Keatinge
	<i>Rapporteur</i>	Rosana P Mulla
1530–1620	Rapporteurs' reports	
1620–1630	Chair's concluding remarks	
1630–1635	Vote of thanks	

## Dialogue inaugural session in print



## Dialogue inaugural session in progress



Dialogue participants interacting



## Dialogue participants



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The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is a nonprofit, non-political organization that does innovative agricultural research and capacity building for sustainable development with a wide array of partners across the globe. ICRISAT's mission is to help empower 600 million poor people to overcome hunger, poverty and a degraded environment in the dry tropics through better agriculture. ICRISAT belongs to the Alliance of Future Harvest Centers of the Consultative Group on International Agricultural Research (CGIAR).

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