

Training Workshop on Understanding and Resolving Water Conflicts

18-22 July 2011; Satapada, Odisha

Technical Report



Forum for Policy Dialogue on Water Conflicts in India
Society for Promoting Participative Ecosystem Management (SOPPECOM)

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Contents

Background and Introduction to the Training Workshop on Understanding and Resolving Water Conflicts.....	4
Rationale of the Training Workshop.....	4
Objectives.....	7
Expected outcomes.....	8
Methodology.....	9
Classroom Presentations and Discussions	10
Day One	10
Welcome, introduction to the training programme and introduction of the participants	10
Group work: Introduction to the group work, Group formation, Setting the norms, procedures, outcomes	11
Understanding water: the bio-physical and socio-cultural characteristics of water: K. J. Joy, SOPPECOM, Pune.....	12
Summary of Discussion:.....	14
Normative concerns around water: sustainability, equity and democratization: Suhas Paranjape, SOPPECOM, Pune	16
Summary of Discussion:.....	19
Inter-sectoral water use in India: trends and issues: Suhas Paranjape, SOPPECOM, Pune	21
Summary of Discussion.....	27
Day Two	28
Water for ecosystem needs: A. Latha, CPSS, Thrichur.....	28
Summary of discussion	Error! Bookmark not defined.
Legal and institutional issues in the water sector: Philippe Cullet, IELRC, New Delhi ..	37
Summary of discussions	41
Understanding water conflicts in India: K. J. Joy	42
Summary of discussion	45
Day Three: Field Visit	46
Visit to Gopagundu village.....	46
Mahinsa Village visit.....	48
Day Four	49
Methodologies for conflict resolution: Dr. S. Janakarajan, MIDS, Chennai	49
Part 1: Concepts, Theories and Methods of Conflict Resolution	49
Part 2: Analyzing, Understanding and Documenting Conflicts	59
Summary of Discussion.....	64
Conflict resolution: Common challenges and some approaches to creating sustainable solutions: Ashok Panikkar, Executive Director, Meta-Culture, Bangalore.....	65
Summary of Discussion.....	Error! Bookmark not defined.
Stakeholder processes, dialogues and resolution of conflicts around water: Dr. S. Janakarajan, MIDS, Chennai.....	75
Part 1: Stakeholder processes, dialogues and resolution of conflicts around water	75

Part 2: Practical lessons and examples on MSP and MSD and the process of conflict resolution	85
Summary of Discussion.....	98
Day Five.....	98
Conflict negotiations: Mumai Pheiga, Manipur	98
Summary of discussion.....	101
Presentations of the group work and discussions	101
Group 1: Bramaputra Bank Erosion in Rohmorria: State’s Response and People’s Struggle.....	102
Group 2: Parching the Chambal River Basin: Unrelenting irrigation schemes wring the unique Chambal dry	107
Group 3: Water Conflicts in Sason Command Area of Hirakud Reservoir	110
Group 4: 1: Inter-State Dispute on Barrage Construction over Mahendra Tanaya River Barrage or No Barrage).....	114
Group 4: 2: Water and People: A case of Traditional Water Management Practices and Changing Scenario in the Himalayan Valley of Lahaul.....	118
Feedback from Participants.....	124
Content	124
Methodology/pedagogy	126
Field visit.....	126
Reading material	127
Group Work.....	128
General comments and suggestions	128
Conclusion.....	130
Annexure 1: Programme	132
Annexure 2: List of Participants	135
Annexure 3: The Resource Persons	138

Background and Introduction to the Training Workshop on Understanding and Resolving Water Conflicts

The Forum is an effort to bring together people who have an interest to work on water and water conflict related issues. The Forum began its work towards the end of 2004 as a collaborative effort of eight organizations and a few independent researchers and was supported by World Wide Fund for Nature (WWF). In the first phase of Forum's work, the emphasis was on understanding conflicts and hence the Forum took up extensive documentation of different types of conflicts in the country. The documented case studies have been published as a book – *Water Conflicts in India: A Million Revolts in the Making* – by Routledge. The present phase of Forum's work, primarily supported by Arghyam, Bangalore, covers four broad areas of:

- Conflict Documentation
- Conflict Resolution
- Conflict Prevention
- Network and Outreach

The secretariat of the Forum is housed in the office of Society for Promoting Participative Ecosystem Management (SOPPECOM), Pune. The Forum has also set up two state resource centres – one in Kerala (housed and managed by the Chalakudi Puzha Samrakshan Samiti) and the other one in Odisha (housed and managed by Shrishti on behalf of the Odisha Water Forum). The Forum has recently started documentation of different types of water conflicts in collaboration with Aaranyak. The Forum, in collaboration with Megh Pyne Abhiyan, is also planning to document flood induced conflicts in the country. For further details on the forum, log on to <http://conflicts.indiawaterportal.org>

Rationale of the Training Workshop

Understanding conflicts and developing approaches and practical strategies to deal with conflicts is an important aspect of IWRM. One of the critical issues in IWRM is contending and competing water uses and users and many of the conflicts are also embedded in this. If IWRM has to move forward then we also need to develop capacities of various stakeholders in the water and allied sectors 1) to understand water in an integrated manner (from an

IWRM perspective in terms of crossing disciplinary boundaries of bio-physical sciences as well as various social science boundaries as well as sectoral and institutional boundaries, 2) understand the present institutional and legal set up and see the type of reforms to be initiated at this level, and 3) to bring together various, especially conflicting stakeholders, into a process of knowledge driven dialogue process within the deliberative democratic framework.

During the work of the Forum in understanding and documenting water conflicts in India over the last few years we realised that researchers, practitioners and policy makers and activists who are interested in resolution of water conflicts, find it difficult to analyse the conflict with the complexities and rapidly changing debates related to conflicts over resources, to move towards its resolution in a scientific manner.

Two of the partner organizations – one from Kerala and the other from Odisha – are actually working on two important conflicts with a view to resolve them. These groups also need to build up their capacities if they have to meaningfully engage with the conflicting parties in these two specific cases. Forum's partner organisations are involved in different types of conflicts. For example the partner from Kerala is primarily working on upstream-downstream conflicts in the context of a heavily dammed river (called Chalakudy River). There they are working on an alternative model of reservoir operations so as to optimize the needs of the hydro-power with the down stream needs of irrigation. In Odisha the partner is working on the conflict around diversion of water from agriculture to industries. The Forum is also documenting about 20-25 water conflict case studies from the North-East India.

Though the present training was not woven around a particular conflict, we welcomed any material in the form of manuals or experiences around these two types of conflicts (upstream-downstream and contending water uses) since it would be of great use to our partners from Kerala and Odisha. Since the training programme was held in Odisha, we expected a good number of participants from Odisha and welcomed any material related to resolving conflicts around competing or contending water uses in Odisha.

The Odisha capacity building training programme was aimed at introducing participants to the basic concepts and debates around water (and IWRM), different types of water conflicts in India and the issues they bring forth, theoretical and practical approaches to resolution of conflicts especially through knowledge based dialogue process.

The training programme included the following components:

- Understanding water: bio-physical and socio-cultural peculiarities of water in the context of IWRM
- Normative concerns around water: sustainability, equity and democratization
- Legal and institutional issues related to water
- Understanding water conflicts in India
- Methodologies for conflict resolution: Stakeholder processes, negotiated settlements and resolution of conflicts around water

The main focus was on water conflicts and methodologies to resolve them. Hence in terms of time, about one-third of the available time was devoted to understanding water in the context of IWRM, the normative concerns and legal and institutional issues related to water. The remaining two-third of the time was devoted to water conflicts and conflict resolution methodologies.

As the Forum itself is a network of various organizations and individuals, the training programme was also conceived as a network activity. The two regional resource centres in Kerala and Odisha were also part of the training in terms of both designing the programme content and running the programme. Prof. Janakarajan has been also involved very actively in the entire process. The core group consisting of K. J. Joy, Suhas Paranjape (both from SOPPECOM), Prof. Janakrajan (MIDS), Pranab Choudhury (Shristi, Baitarani initiative and Odisha Water Forum) and A. Latha (Chalakudi River Protection Committee) had taken the responsibility on behalf of the Forum to design and run the capacity building programme, which has been a felt need expressed by many of the partner organisations of the Forum. Thus the training programme is truly a network programme and not just one conceptualized and run only by SOPPECOM.



Interactions with the fishermen community in one of the villages around the Chilika lake

Objectives

To develop an understanding of water conflicts and process in the case of different types of water conflicts and also to build the capacities of researchers and activists of civil society organizations in conflict resolution methodologies especially in stakeholder dialogue

Specific objectives:

1. To equip the participants – mostly middle level professionals drawn from government departments and NGOs working on water issues – to engage with water conflicts.
2. To go beyond our partner organizations and reach out to other researchers and activists who want to work on these issues.
3. To develop a full-fledged module on water conflicts and their resolution and run it on a pilot basis so as to learn from it and then finalize it on the basis of the feedback from the

participants. SCAN can also help ideas and supplementary materials, including their own training manuals.

4. Depending on the leanings from this pilot programme the Forum could also design targeted training programmes for other stakeholders, especially government water bureaucracy, media and judiciary

Expected outcomes

1. A properly developed module on water conflicts and process of resolution which can be used by other organizations also
2. To create a small number of trained people around water conflicts and their resolution within the water sector, especially academia and civil society organizations.



The participants and some of the resource persons

Methodology

The workshop methodology consisted of following components:

Reader and case study format: The Forum sent out to all the participants, an illustrated Reader comprising several articles, reports and research papers on issues covering the legal, social, ecological, economic and political dimensions of water conflicts in India, two weeks before the workshop both in as a soft copy on a CD and a hard copy of the selected critical readings.

The Forum also sent a case study format to the participants for the purpose of documenting a water conflict in which the participants were involved in either as researchers or as activists.

Class room lectures and discussions: The Training largely followed the classroom lecture and discussion format. All through Day 1, 2 and 4, 5 distinguished resource persons lectured the participants on specific topics. Following their presentation the floor was opened up for discussion, clarification of doubts if any, and exchange of comments among the participants. This allowed space for very fruitful and enriching engagement around the topic.

Recap: The workshop provided 15 minutes every morning for a Recap session which was facilitated by participants on a rotation basis. This was done in order to ensure the recapitulation of the previous day's proceedings.

Group work: On Day 1, the Forum facilitators divided the participants into four groups. (In order to ensure variety, a conscious effort was made to include participants from diverse disciplines, area of work, gender, etc within the groups.)

All groups were instructed to exchange within themselves the conflict case studies that each of the group members had documented and then choose one case study out of those. The groups were then asked to design a conflict resolution framework for the chosen conflict and present it to the other participants on the last day of the workshop.

Exposure visit to a live conflict site (Chilika Lake): The workshop also included a field visit to Chilika lake and participants had discussions with the communities in the neighboring villages to better understand the conflicts around Chilika lake.

Classroom Presentations and Discussions

Day One

Welcome, Introduction to the training programme and Introduction of the participants

K. J. Joy welcomed all the participants for the training workshop.

In his briefing, Joy shared the background of the Forum with the participants. He made the following key points:

The Forum started its activities in 2005- 06 as a collaborative initiative of 7-8 organizations supported by the WWF.

In the first phase, the Forum tried to understand different types of water conflicts that existed in India. This led to the publication of a case studies book by Routledge that documented 63 cases grouped under eight themes.

The present second phase of the Forum continues the documentation process but is also gearing up to go towards conflict resolution. There are more than 100 members of the Forum. There is a need to move from understanding conflicts to resolution and prevention of conflicts.

The overall objective of the Forum is reduced water conflicts in India as a result of better understanding, dialogue and policy intervention. In this regard, there are three broad areas or themes:

- conflict documentation
- conflict resolution
- conflict prevention

Joy also touched upon the organizational aspects of the Forum and its national and state level structures.

Joy also briefly talked about the Forum's other activities around the following events:

- National Workshop on ‘Water Entitlements and Allocations for Livelihoods and Ecosystem Needs and the Legal-institutional Framework for Conflict Resolution’ (30-31 March 2009, Pune).
- National Dialogue on ‘Water Entitlements and Allocations for Livelihoods and Ecosystem Needs and the Legal-institutional Framework for Conflict Resolution’, (25-26 February 2010, Pune).
- Meeting to understand and explore common ground on the Mullaperiyar water conflict, (4 August, 2009, New Delhi).
- Visioning and strategy planning meeting on ‘Right to Water and Sanitation: Moving Towards a Constitutional Guarantee’; 5th August 2009, New Delhi and its follow up meeting in Pune on 27 February 2010.

Joy said that the objective of the training workshop is to introduce participants to the basic concepts, debates, theoretical and analytical approaches and emerging issues related to water conflicts and their resolution in India. There is a central gap of lack of necessary understanding, approaches and skills that makes the understanding and analysis of water conflicts and their resolution in a scientific manner more difficult. This training programme is part of a process to fill this gap. This training programme is second in the series. The first training programme was held in Kerala from 5 to 9 April 2010.

Group work: Introduction to the group work, Group formation, Setting the norms, procedures, outcomes

Joy introduced the group work component of the training workshop to all the participants.

All the participants were divided in four groups keeping their background and gender balance. These groups had two functions: 1. Take detailed notes of each day’s proceedings and make a brief presentation the next day and 2. Work through the cases and make a presentation on the last day.

Joy explained the functions of each Group

- Detailed notes of a particular day and also making a 15 minute presentation as a recap of that day
- Presentation can be made in any form
- Working through the case studies on water conflicts

In this group work each group member was supposed to make a brief presentation of his/her case study to the group. The group would then select one case study for the group to work through, develop it in the light of the various sessions including methods of resolving that conflict, prepare a presentation and present it on the final day of the workshop. Presentation could be in the form of PPTs, posters, and so on.

Certain time slots were provided within the programme schedule of the training workshop for group work and beyond that the groups were free to use their free time for group work or discussions on the case studies.

Understanding water: the bio-physical and socio-cultural characteristics of water: K. J. Joy, SOPPECOM, Pune

In this presentation Joy highlighted the bio- physical and socio- cultural peculiarities of water as a natural resource in order to provide an understanding about the more complex issues related to its distribution, allocation and entitlement. The key highlights of his presentation were as follows:

- Water is an ecosystem resource, i.e., it is embedded within ecosystems; it is not a freely manipulable resource; nor is it a resource to be indiscriminately mined.
- Environmental flows- a minimum flow of water is required for the preservation of ecosystem services.
- Who is returning how much of water to the ecosystem and in what condition is an important issue related to quality of water.
- Water is a common pool resource, irrespective of what the property regime is.

- Water is divisible and therefore amenable to sharing- it has multiple, competing uses and users leading to the problem of excludability.
- Water is both a local and non- local resource- the way water is planned, used and managed causes externalities.
- The approach to water management nests different scales – from micro watershed upwards to basins and further up to states and countries.
- Every community has a proportional right to water as part of a collective right to assured livelihoods.
- Water use beyond fulfillment of livelihood needs, does not form part of this *right* and moreover cannot be at the cost of others' livelihoods.
- Assured and variable nature of water - assured water should be more equitably shared and tied to livelihood needs.
- Variable water could be utilized and managed in many different ways such as bulk biomass production or distribution to more enterprising farmers at economic costs.
- There is a socio-cultural aspect to water: drinking water use, domestic water use, water for livelihoods etc are often mediated, at least partially, through cultural traditions and values.
- Social hierarchies and inequalities such as caste system get intertwined with cultural traditions and values.
- Peculiarities of water as 'private property': Water never was a commodity prior to the advent of modernity or capitalism.
- 'Ownership' of water is basically an entitlement to use water in a certain way at certain points and times; it does not imply entitlement in an absolute sense.

Joy concluded his presentation by stating that because of the peculiar nature of water both as an ecosystem and a common pool resource, it cannot be treated as private property in the classical sense. The instruments like classical market mechanisms cannot work efficiently because water lacks the reliability, the ready manipulability and the constancy that other

private property has. All these characteristics have a bearing on water related institutions, policies and laws, movements and struggles around water and the normative concerns underpinning our approach and viewpoints about water.

Summary of Discussion:

About the questions related to water in local watershed, concept of 'local' water and trying to bring equity between farmers from Rajasthan and Cherapunji in case of water use, Joy elaborated that we are not going to impose the same water use for different water regimes in our country. The water use in Kerala will be different from the water use in Rajasthan. Each of those regimes develops its own livelihood system. We should not have same type of water rules across different agro-climatic and resource regimes in our country. However the point is that in the context of watershed development, it has an impact both in the watershed itself and also in downstream flow. When these watersheds extract water, which was not the case prior to watershed development, it could result in decreased downstream flows.

Suhas Paranjape said in TamilNadu, tank irrigation is a major source of irrigation. If farmers who have land in the command of an upstream tank decide to raise the height of tank bunds to impound more water the farmers who have land in the command of the downstream tank will come and break the tank bund because their water share in downstream is getting affected due to water holding in the upstream tank. This interconnection between upstream and downstream is present everywhere, but in most of the areas it is not visible. The point is there is direct linkage in upstream and downstream water availability. This applies for watersheds also. Generally what happens in watersheds is that more water than livelihood requirement is impounded and used in the upstream watersheds and this restricts water flow downstream. In upstream watersheds surface processes dominate the water regime but when order of stream increases the channel processes dominate the water regime, and whatever water is collected in downstream has a relationship with upstream watershed. Our all watershed ideas are based on terminal watersheds in upstream.

In answer to the question about whether watersheds are same as basin and catchment, Joy said that all these come under the term watershed, watershed which is bounded by ridge lines and having common exit. Entire Krishna basin is a watershed where common exit point is the sea. There is a scale of defining watersheds; there are micro, mini, major watersheds, after this there is sub-basin and basin.

Prof. Janakarajan said that we need to understand the dynamics of water. As explained in the presentation, biophysical nature of water needs to be appreciated, no one can change it or alter it and no one can take otherwise about it. The biophysical nature is that water is dynamic and flowing according to gravity. You can't do anything about it, from upstream to downstream in micro mega watersheds, basin, sub-basin all these are contributed to rivers. If you do interventions locally to collect water in upstream it will have its impact in down streams.

Participant felt that 'local' is not well defined. Is it the area of watershed, basin or distance from peculiar watershed? On this Joy said that there is no bookish definition for this, the local is explained here in terms of control of local community on that specific watershed. Local is village or panchayat in a region where water is directly available for community. We want to explain that if livelihood needs of respective community in particular region are satisfied by water present in that region then there is no requirement to bring in water from outside. There should not be confusion between administrative boundaries and hydrological boundaries. One village may have two watersheds and one watershed may be shared by two or three villages. In a basin there will be number of watersheds.

Common pool and property in the context of conflict: we assume that earlier management was common pool resource management and some community management. Later on property management came in. Can we say that from common pool to common property efficiency has increased or decreased? Joy answered that the resources were managed by local communities under common pool. After introduction of colonial rule in India common pool resources became state property. In the context of efficiency, if we see Phad irrigation system in Tapi Basin, earlier construction of dams was based on common pool resources. After introduction of dams in Tapi River the whole phad system vanished where efficiency goes down. The point is that the transfer of common pool resources to common property resources through state intervention is important. There are some examples where water use efficiency goes up due to introduction of water user associations.

Prof. Janakarajan said there is a political question over here, common pool or common property resource which is good. Elena Ostrom did a study on it where she argued that when common pool resource becomes private property you lose the resource as the case with grazing lands. She explains that resources should be managed through common

property resource under state control. For this she gives traditional examples of how resources can be managed through communities itself. But I disagree that in this fashion there is justice towards resource users. Tank irrigation is handled by two-three big farmers and water is shared by them. Small and marginal farmers in the region get less share of water. However they have to work equally in tank restoration. Resource management in common property manner does not help to bring equity among the users.

Normative concerns around water: sustainability, equity and democratization: Suhas Paranjape, SOPPECOM, Pune

In this section, Suhas talked about the normative concerns around water issues. He said that currently there is a growing recognition of the fact that natural resources cannot exist independently; they are inter-connected and nested within the eco- system. Water is a prime example of this, it is one of the most complex resources – more connected and embedded than other resources. As a result, management of water resources should be based on a normative framework.

Following are the key highlights of his presentation:

Normative framework or concerns includes understanding of the notion of “development” and how this broad notion is to be translated in the specific context of different sectors; this translation may be based on additional assumptions about what is possible and also how these may be achieved. We could call this set of goals, specific objectives and assumptions the normative framework or concerns underpinning an analysis or approach

Suhas discussed four normative concerns: Livelihoods, Sustainability, Equity and Participation/democratization

Livelihood

There is a shift from basic needs/subsistence needs to livelihoods since the early 90s. This shift to livelihoods and sustainable livelihoods (DfID, CARE, Oxfam, UNDP, etc.) includes the following points:

- A livelihood comprises the capabilities, assets and activities required for a means of living

- A livelihood is sustainable when it can cope with and recover from shocks and maintain or enhance its capabilities and assets both now and in future while not undermining the natural resource base
- five types of capital: natural, social, physical, human and financial
- primarily based on Chambers and Conway's work on "sustainable livelihoods" in the early 90s

Defining livelihood needs: more than basic needs – includes needs that are imposed due to the nature of the livelihood activity itself. Composition of livelihoods is determined by livelihood pattern, it is not same as (cash) income. It is not limited to agriculture income; the role of non-farm incomes. It's objective is self reliance.

Fulfilment of needs has to be assessed at household and intra-household level

Suhas elaborated the linkages between biomass and livelihood while talking about biomass based approach to livelihoods:

Sustainability

- Sustainable development ...that meets the needs of the present without compromising the ability of the future generations to meet their own needs (WCED, 1987)
- Sustain the underlying bio-physical processes, their environmental integrity and dependability as mediated by human intervention
- Conserve and/or enhance the primary productive and assimilative potential of the ecosystem
 - primary and secondary productivity
 - what is happening to the physical attributes of the system (dynamic steady state, reliability, resilience and adaptability) and how certain changes affect these attributes
- The concept of stocks and flows
- The rate of regeneration of the resource must be greater than or equal to the rate of harvest
- Use resources (like water, biomass, etc., within renewable limits:
 - use annual flows

- stocks to be used only in bad years with the understanding that they would be replenished in good years
- minimise import of water or biomass, do it in a fair manner

Equity

- Two types of inequities:
 - Historically disadvantaged sections on the basis of class, caste, patriarchy, ethnicity, etc.
 - There is also spatial or locational disadvantages emanating from the bio-physical characteristics of resources (for example watershed)

Equity and right based discourse

- Right based discourse on development
- Right to resources and services needed to meet livelihoods
- The basic issue is “ensuring a social minimum to all”

Equity: in practice what could be done?

- Newly created or incremental resource created through developmental interventions to be shared equitably
- De-linking existing property rights and access to these resources and services and linking it to livelihood needs:
 - Ensure these resources and services for livelihood needs to all on affordable terms
 - Basic service and economic service
 - Positive discrimination: Favour those bearing the brunt of the inequity due to class, caste, ethnicity, gender, location
 - Equal opportunity or space for participation in decision making and management or governance functions (especially in the institutions)

Participation and democratisation

- Participation: a new buzzword in developmental policy, practice and research
- Also known by other terms like:
 - collective action, community based natural resource management, community driven development, bottom-up approach, decentralised self-governance, etc.
- 'Participation is often endorsed unambiguously on normative grounds even if the empirical basis is not clear' (Cohen & Uphoff, 1980)
- South Asian context: started with JFM and PIM through WUAs
- Need to go beyond efficiency to sustainability and equity
- Separation of allocation and regulation functions (governance functions) from service delivery or production-related functions
- Democracy: Primacy of local community in decision making, accountability
- The issue of democracy within the local communities
- Representation of women, landless & other resource poor sections
- Participation of the would-be project (intervention) affected persons in the decision making process
- Outsiders have a definite role in capability building of the local communities to make informed choices and also in raising issues related to equity and sustainability
- Accountability of larger structures and agents (supra local agencies) to the local community
- Pre-conditions for effective participation:
 - Legal mandate with clearly defined rights and responsibilities
 - Right to information and data
 - Performance and financial audits of projects and putting them in the public domain
 - Capability building of the local communities
 - Two-way traffic and learning for both "outsiders" and local communities

Summary of Discussion:

Question: Discussing equity issues in practice, what could be done to those newly constructed or developed resources? Can it be shared equitably?

On this question Suhas answered that the degree of capitalization which is assumed in the presentation is not that much. If we see in watershed development, the government puts money, people work and water availability increases which is not capitalized. There are number of areas where capitalisation of resources is yet to reach. There is a lot of production function which is non-capitalistic in nature. Lots of effort of poor people to remain in existence without going into the hands of capitalism and scavenging and collecting resources on their own are all examples of this. Suhas also explained the water entitlement in Maharashtra and landless family getting water rights. He added that in Maharashtra there is Pani Panchayat group and Pani Sangharsha Chalwal in South Maharashtra who are talking about it but it is yet to be implemented in region.

Question: When a landless family get water rights, they can sell it to the other user including industries and does it facilitate accumulation of resource in one sector through this process. Suhas explained that yes there are concerns that this will happen. World Bank is also trying to do this. They also say that land rights should be delinked from water rights. However we want to do this on equity basis and World Bank does this with a perspective to make water as a tradable commodity. Maharashtra government's MWRRRA act at the moment does not allow trading of water across the sectors, but it allows transfer to the corporate sector for agriculture purpose. The point is that right to water should be based on livelihood needs. According to everyone's livelihood needs water will be available for all. There is a need to check tradability. Also equitable water for landless works in different ways in different situations. For example giving water rights in South Maharashtra for landless laborer where the percentage of landless is small is different than in Marathwada region where percentage of landless laborers is much more.

Question: This will open doors for trading of water among the people. Suhas said that the main thing is what will be applicable to ensure water rights for all. There may be other ways also to do these things.

Joy added that the concept behind this idea is that, a landless family who does not get any land for crop production can sell water to the others for a season or two and get some money without selling it on a permanent basis. There are people who are saying these things can be done. In Kolhapur district of Maharashtra where there is a system of water trading in

which you have to give one fourth of your produce to the person who supplies the water and this has been a practice for a very long time. This is one of the most exploiting systems. No body talks about this as water privatisation.

Inter-sectoral water use in India: trends and issues: Suhas Paranjape, SOPPECOM, Pune

Suhas started his presentation with a discussion on water as a common pool resource and therefore its competing uses. Water retains its character as a common pool resource irrespective of what property regime it operates under. Water is not a public good. It is divisible and amenable to sharing, it has multiple, competing uses and users and so there are resultant trade offs involved, inherent problem of excludability; the exclusion costs involved are often very high. Suhas then moved to the contexts in which competing uses are affected deeply, i.e. structural context (who has what and how much access to resources) and policy context (what we collectively try to do to shape/change access). He looked at the changing contexts and decreasing availability of India's water resources.

He discussed water conflict case studies as examples of contending water uses, namely, Keoladeo National Park, Rajasthan, conflicts between urban and rural water needs in Chennai, Tamil Nadu, Ganga canal water for Delhi, Plachimada, Kerala and Hirakud dam in Odisha.

Following are the key points from his presentation:

During 1950s to 1990s:

- Hydraulic mission mode
- Steady expansion of creation of potential and utilisation
- Surface water – mega projects, continues but has slowed down, mainly centred on irrigation, flood control and hydropower
- Ground water – takes off in 70s and 80s, and has rapidly grown

Changing context of 21st century

- Increasing importance of urbanisation

- growth in urban population
- increasing urbanisation of rural aspirations and lifestyles
- Increasing importance of industries
- `Closing` of basins
- Increasing quality and environmental issues
- Liberalisation, Privatisation and Globalisation (LPG) and water sector reforms
- Climate change

India's water resources and decreasing water availability

- India: 16 % of world's population and 4% of its fresh water resources
- Annual rainfall: 3,840 BCM
- Evapo-transpiration: $3,840 - (1,869 + 432) = 1,539$
- Surface runoff: 1,869 BCM
- Groundwater recharge: 432 BCM
- Available water: 2,301 BCM
- Utilisable water: 1,123 BCM
- Current water use: 634 BCM
- Projected total water requirement in 2050: 973 to 1,180 BCM

Water use in India (Year 2000)

Sector	Water use in BCM	percent
Irrigation	541	85.33
Domestic	42	6.62
Industry	8	1.26
Energy	2	0.32
Other	41	6.47
Total	634	100.00

3

Consumption by different sectors by source

- Surface water Consumption:
 - 89% - Agricultural
 - 2% - Industrial
 - 9% - Domestic
- Groundwater Consumption:
 - 92% - Agricultural
 - 5% - Industrial
 - 3% - Domestic

Projected water use (in BCM)

Sr. No.	Uses	Year 1997	Year 2010		Year 2025		Year 2050	
			Low	High	Low	High	Low	High
1	Irrigation	524	543	557	561	611	628	807

2	Domestic	30	42	43	55	62	90	111
3	Industries	30	37	37	67	67	81	81
4	Power	9	18	19	31	33	63	70
5	Inland Navigation	0	7	7	10	10	15	15
6	Flood Control	0	0	0	0	0	0	0
7	Environment (1) Afforestation	0	0	0	0	0	0	0
8	Environment (2) Ecology	0	5	5	10	10	20	20
9	Evaporation Losses	36	42	42	50	50	76	76
	TOTAL	629	694	710	784	843	973	1180

Diversions and re-allocations

- Increasing diversions of water from agriculture to industries and urban use
- Maharashtra experience:
 - In 2003 the government limited the powers of the Irrigation Department to reserve water for non-agricultural use to 25% of the storage in the dams
 - Set up a High Power Committee with the powers to sanction demands for reservations for more than 25% for non-agricultural uses
 - About 1500 Mm³ of water has been diverted from agricultural use to urban and industrial us from 2003 to 2011
- Affecting 357,600 ha of irrigated agriculture

Critical issues and way forward

- Prioritisation of different water uses
 - Changing water use prioritisation
 - A different conceptualisation of prioritisation

- Proportional and sequential
- Need to change the way we classify water uses

An illustrative case of water use prioritisation

Category	Priority	Sequential/ proportional	The proportion in case the priority is proportional
Domestic or basic water (drinking, cooking, hygiene, washing, livestock)	1	Sequential	Not Applicable (100% of the needs to be provided for)
A. Water for livelihood needs on the basis of minimum water norms Water for keeping the water source alive (environmental flow)	2	Sequential	Not Applicable (100% of the needs to be provided for) (However, the requirement to be worked on the basis of specific basins/sub-basins/ projects)
Water required for public facilities and needs	3	Proportional	To be worked out on the basis of specific basins/sub-basins/ projects
Rest of agriculture (commercial agriculture)	4	Proportional	To be worked out on the basis of specific basins/sub-basins/ projects
Hydro-power projects	5	Proportional	To be worked out on the basis of specific basins/sub-basins/ projects
Business establishments, industrial use, thermal power plants	6	Proportional	To be worked out on the basis of specific basins/sub-basins/ projects
Luxury water (washing vehicles, watering gardens and lawns, private swimming pools, water parks, etc.)	7	Proportional	To be worked on the basis of specific basins/sub-basins/ projects
Bottled water, production of soft drinks and alcohol, star hotels, etc.	8	Proportional	To be worked out on the basis of specific basins/sub-basins/ projects

Critical issues and way forward

- Right to water and equity
 - Minimum assurance to all required for basic needs and livelihood needs irrespective of their ownership of assets
 - Domestic water: lifeline water, lifeline plus and luxury water
- Lifeline water and lifeline water as part of right to water
 - Water required for livelihoods also to be part of the right to water
- De-linking water rights from land rights in the case of irrigation water

Critical issues and way forward

- Environmental flows
 - The principle of ‘subsidiarity
 - Environmental flows are not ‘residuals’
 - Regulated and non-regulated rivers
- Optimising the reservoir operation models
 - Need for cumulative impact assessments

Critical issues and way forward

- Water for industries
 - The nature of the industrial entity like size, ownership structure, products, pollution impact and extent of reuse/recycling of water should be considered in deciding allocations to industries
 - Industries should show that all other measures like recycling and re-use, efficiency measures in processes, local water harvesting are all exhausted
 - Industries should invest in water saving in agriculture and only the saved water should be allocated to industries

Critical issues and way forward

- Need for a framework law and it should take into account:

- The bio-physical and social characteristics of water
- Right based discourse (the right to water should include on the minimum a) potable water of adequate quantity for all, water for livelihoods, minimum environmental flows, and b) only after meeting these needs can water be made available for commercial use)
- The legal framework must take as its starting point an articulated hierarchy of these rights
- Institutional mechanism to ground it

Critical issues and way forward

- Nested institutional framework
 - Based on the principle of subsidiarity: starting from micro watersheds/villages to sub-basins and basins
- Knowledge based dialogues for negotiated settlements
 - Flexibility and periodic consensus process
 - Multi-stakeholder processes
 - Science-policy-stakeholder interaction (SPSI)
 - Need for public hearings prior to diversions and re-allocations
 - Access to reliable data

Summary of Discussion

We should have framework law. It is not enactment which gives power to the center to formulate for legislation for the states. But we still need something common to state legislation. We want something in middle where every enactment will have a common framework.

Question: In case of closed basins what would be surface runoff? Suhas explained that when basin is closed there is runoff inside the basin but whole of it is used within that basin.

Question: Can you explain why industries need to invest in developing irrigation system for irrigation? Suhas answered, yes they should, but before that they should go through conjunctive use and water treatment before discharging effluents. They should invest in

irrigation development. This should not be like peripheral development activity or CSR activity but there should be water tax on these industries which should be invested in irrigation development in command region. There is no example for this but this can be used as better option for improvement of irrigation system in region.

Joy added that in larger context industries are going to grow day by day. What type of development trajectory we have in which what is the relative role of agriculture and industries. We should address the question as to what India's future strategy will be in meeting livelihood needs - is it going to be from agriculture sector only or will it be through industrialization? Keeping in view the increasing population of the country, primary production sector may not absorb that much employment. The primary sector may be unable to incorporate aspiration of youth in growing population. There is a need of industries but we need to explain which type of industries we should have.

Day Two

Water for ecosystem needs: A. Latha, CPSS, Thrichur

Latha started with a discussion on increasing realisation that ecosystems in their natural state are capable of ensuring long term availability of fresh water and sustenance of human beings and that the value of water is much beyond its productive value. But there are changes taking place and the signs are already there

- Rivers are not reaching the seas – summer outfalls very low
- Fish diversity and fisheries – *the most evident indicators* - declining
- Flood plains and deltas are disappearing
- Wetland and river dependent livelihoods displaced
- Water tables are plunging
- Water quality is deteriorating
- Streams losing perennial nature
- Saline ingress increasing

She gave example of the Krishna River Basin: There is a considerable decline in discharge to the oceans. Before 1960, the river discharge into oceans equaled 57 Bcm a year. Since 1965,

it steadily decreased, falling to 10.8 Bcm in 2000, close to nil in 2004 (0.4 Bcm). This has impacted the coastal and delta ecosystems.

Assumptions:

- Water flows in rivers ‘waste to sea’ and hence every drop has to be utilised for human needs
- Hydrological potential is unlimited – engineer the flow as much as you can
- There are no ecological limits – every drop is for human use
- Divide the water between different departments – no linkages needed
- Water is needed by ecosystems for the purpose of breeding, feeding, migration of aquatic species, sediment and nutrient transport, deposit of sand on river beds and along channels, flushing out of pollutants, enriching riparian, flood plain, mangrove, backwater, delta ecosystems, replenishing groundwater, facilitating navigation and recreation, sustaining livelihoods – fishing, farming, cultural and spiritual needs.

Human interventions impact ecosystem needs

- Deforestation of catchments can be seen through agriculture and forest plantations replacing prime forests affecting the surface and sub surface flows
- Dams and diversions fragment river flows cutting of riparian continuity and habitats
- Land use changes and incorrect land use in river catchments like wetland reclamation, hill demolitions also contribute.
- Tourism also extracts water.
- Massive Sand Mining and Mining in catchments - affect water quality, water table, breeding and feeding of aquatic organisms especially fish
- Pollution from pesticides, fertilizers, industries
- Expansion of cities and their water needs
- Rivers used as drains for waste and sewage disposal
- Wetland and paddy land reclamation
- Encroachment into river channels – no room for the river

- More water consuming and waste generating life styles

Dams are direct Modifiers of flows :

Dams are the most significant, often irreversible, direct modifiers of river flows. Hydropower/irrigation releases cannot be considered as environmental flows. They cause change in the natural water flow regimes which is the most pervasive and damaging effects on river ecosystems downstream and in stream. Dams change the timing, frequency, duration of high and low flows. Flow alteration severely modifies river channel and flood plain habitats, changes in life cycles of species, invasion of exotic species. Its related social impacts include fisheries loss, biodiversity loss etc.

Sand mining impacts

- Stability of river banks, deepening of river channel, loss of land
- Deeper saline ingress into the river & Lowering of water tables
- Breeding and feeding of fish and other aquatic species which depend on the nutrients deposited on river beds severely affected
- Fisher folk, lime shell, clam fisheries affected and displaced
- River bank riparian species are disappearing

Ecological Impacts of flow Alteration

- Flow alteration can lead to severely modified channel and floodplain habitats because river flow shapes physical habitats such as riffles, pools, and bars in rivers and floodplains, and thereby determines biotic composition;
- Aquatic species have evolved life history strategies, such as their timing of reproduction, in direct response to natural flow regimes, which can be de-synchronized through flow alteration;
- Many species are highly dependent upon hydraulic connectivity (lateral and longitudinal), which can be broken through flow alteration
- The invasion of exotic and introduced species in river systems can be facilitated by flow alteration

Inter basin diversions also impact

- Based on the concept of water diverted from ‘surplus’ to ‘deficit’ basin
- Complete diversion denies even ‘minimum flows’
- Environmental impacts of such diversions rarely a serious discussion topic in inter state water dispute related agreements
- Lack of environmental impact assessment of such diversions
- Degradation of riparian forests and river channels below diversions
- What happens to livelihoods of people living downstream – not assessed.

A River needs to flow for its own survival and in turn to ensure our survival as well!
One thing is certain that everyone loses if we do not manage for environmental flows.

How to interpret E flows?

Different interpretations are available to the concept of Environmental flows. A few among them are as below

- IUCN – environmental flows - water regime provided within a river, wetland or coastal zone to maintain ecosystems and their benefits where there are competing water uses and where flows are regulated
- IWMI - environmental flow regimes as discharges of a particular magnitude, frequency and timing, which are necessary to ensure that a river system remains environmentally, economically and socially healthy
- *“water itself is part of nature and one cannot presume to allocate water to nature.”*
- Water for ecosystem needs Water requirements for ecosystem should include both terrestrial and aquatic ecosystems. = water needed for direct evapo - transpiration through forests, wetlands, other lands, all supporting distinct ecologies and other functions of terrestrial ecosystems + environmental flows in rivers

Some relevant principles to be adhered to in water for ecosystem needs

- River regulation and/or consumptive use to be recognised as potentially impacting on ecological values

- Provision of water for ecosystems to be based on best scientific information available on water regimes needed to sustain ecology
- Water for environment to be legally recognised
- Recognise existing rights of users while allowing water for ecosystem needs
- Action or Reallocation in cases where environmental needs cannot be met due to existing uses
- Accountabilities in all aspects of management of environment water to be transparent and clearly defined
- water allocation planning and decision making on environment water provisions shall be inclusive process

There are risks and challenges

- Bound to trigger new conflicts since less water will be left for the present needs
- Complex and competing social and political interests to be assessed and determined while addressing – how to provide environmental flows ?
- Careful not to alienate communities
- Lack of knowledge and data base for arriving at appropriate flow regimes in Indian context
- Ecosystem data base, interactions between different ecosystem components lacking
- Poor hydrological data base, insufficient correlation between alterations in hydrological regimes and impacts on ecosystems
- What is happening in already modified river basins ?
- Present techno- bureaucratic system fails to see the link between continued availability of good quality water and ecosystem health and integrity.
- Water managed in sectoral – departmental mode with no coordination between different agencies sharing same water resources
- Lack of responsibility towards upkeep of source by users
- Extent of development of the river basin is significant – different norms for highly regulated river systems and relatively undisturbed ones

How to arrive at water for ecosystems

- Given the lack of ecological information on most rivers
- IWMI estimates – environmental water requirement to keep river in healthy condition – 20- 50% of mean annual flow just enough to maintain ‘fair’ or ‘moderately modified’ condition.
- Allocation based on deducting water for ecosystem needs from total yield and then allotting for human needs
- Prescriptive methods – desk top – historic records for future water requirements
- Hydraulic rating method - relationship between the flow of the river (discharge) and simple hydraulic characteristics such as water depth, velocity etc. to calculate an acceptable flow
- Australia, South Africa – river specific expert panel assessment – different flow needs for different seasons – finalisation based on user community consultations

Indian context

- Semi Qualitative and Quantitative Indicators of ecological sensitivity are being tried in four rivers in /India - Cauvery, Narmada, Ganga, Periyar
 - presence of rare and unique aquatic biota;
 - diversity of aquatic habitats;
 - Overall richness of aquatic biota
 - presence of protected areas, natural heritage sites etc. in the river basin;
 - sensitivity of aquatic ecosystems to flow reduction;
 - percentage of watershed and floodplain remaining under natural vegetation cover types;
 - percentage of exotic aquatic biota;
 - degree of flow regulation and fragmentation – deviation from natural flows
 - human population density in a river basin;
 - the overall quality of water

Some issues for consideration

- Scale of implementation or management – from micro watershed to sub basin to river basin?
- Gathering of reliable data or generating good data for arriving at the optimum e flows is very important
- Does community wisdom count?
- Legally binding compensation for lost livelihoods due to ecosystem degradation?
- Involvement of all relevant river basin users
- How practically Flow regimes can be ensured
- Legislation, enforcement and compliance mechanism to be put in place

Our Water policies have downsized ecosystem needs

- NWP while acknowledging water is part of larger ecosystem, does not mention that water needs to be left for ecosystems
- Ecology stands fourth in water allocation priority preceded by drinking, irrigation and hydropower while all three depend upon the fourth
- Punjab one of the few states that has given second priority to ecology
- Kerala Water policy – no mention about ecology. However necessity for conservation, development of water resources based on the concept of watershed cited as inevitable for maintaining ecosystem integrity of rivers and river basins of Kerala.

Can E flows be implemented?

From policy making facilitation to campaigns to dialogues with communities and governments would include;

- Identification of key decision makers
- Convince legislators and policy makers
- Establish relationships with different user groups
- Local community groups to be involved in influencing views of politicians and pressure groups
- Negotiated approach towards implementation
- Informed decision making

- Implementation to give due respect to spiritual and religious values and sentiments
- River flow data and inventory of already available ecological information to be made available
- operational strategies for reducing the physical losses of water during transit, improving efficiency of delivery and irrigation, more crop and livelihoods per drop and gradual transition to organic farming can be implemented
- Reservoir operations strategy for dammed rivers to be worked out in tune with the downstream needs involving communities and other downstream users
- Ensure minimum and acceptable water quality
- Policy support and enforcement to ensure flow regime is worked out, water is released, and abstraction is limited to meet ecosystem needs.
- Engage actors philosophically, monetarily, socially, economically and environmentally
- Civil society to facilitate
- River communities wisdom
- Local Self Governments / panchayaths to monitor
- On line departments in river basin to coordinate
- Scientists and managers – to assess sensitivity
- Development of legislation to implement
- Adaptive management through different stakeholders

Latha ended her presentation with a Tao saying,

'In its proper time, Rain becomes stream, Stream becomes river, River becomes sea But Divide stream from river, even rain from sea and trouble begins'.

Summary of discussion

In an ideal situation if we deduct all the ecosystem needs then we end up with nothing, because flood which is having a high water flow also has a ecosystem function of water recharge, silt deposition and rejuvenates the fish stocks. The question is how much of the cake we should take from it. If we take single piece it will change the cake. So how much we want and how much we should have?

Question: In the context of environmental flow into the basin, when dam water is released into river does it meet the environmental flow need of river? Also there is presence of subsurface flow in river basin; can we consider this as environmental flow?

Latha explained that downstream flow of river water after dam is one way for environmental flow in river. However the point is that there are very few river basins that are away from human intervention and absence of dams. So there is absence of any ideal situation. What we are saying is there should be negotiations for required environmental flow in the river. We need to find out non-negotiables during discussion around the amount of environmental flows. Non negotiable may vary according to situation such as community livelihood support which is dependent on environmental flow may be non negotiable. We cannot draw same non negotiable for all the rivers, but there may be some non negotiable same for all the rivers, such as minimum water flow in river throughout the year. Secondly the flow for direct dependent communities who are using river water for non consumptive purposes such as fishing, drinking and navigation should be non negotiable. When issue comes to industries, power projects and irrigation it will be negotiable. We are in a process of bringing out river basin model where we can assure required environmental flow through changing in reservoir operation. The Kerala State government authorities are not in a position to discuss about environmental flows in the rivers of the state. Due to this we started to approach the panchayats in river basin who are facing water scarcity. They understand importance of environmental flow in rivers. This is only one strategy; this does not provide solution for the problems of environmental flow in rivers.

Joy added that from Forum's perspectives these issues are trickier over here. There is no major knowledge gap as there is lots of information how river ecosystem works and what its water needs are. The issue is why it does not get into policy discourse or why state does not take this as issue to assure environmental flows. There is politics around this that we need to understand. The Forum is trying to narrow down this polarization. What is the ideal position? From environmentalist perspective even single drop of water removed from ecosystem will impact it. There is another school of developmentalists who do not think about these arguments. Forum wants to come up with some minimalist positions on these issues.

Prof. Janakarajan asked whether we are trying to add more complexity to Environmental flows? According to Suhas's presentation, livelihood needs are important. Latha says ecosystem needs are important and that water should not be taken by other sectors. In spite of this we are having problems of pollution, river basin transfers, sand mining and salinity, all these are burning issues. There is politics behind this and these issues are discussed and debated in different platforms at national international level. However there is lack of consensus on these issues. The forum is working to bring out such issues in focus through political, social, and economical debates.

Suhas elaborated that there is a need for certain guidelines to start this discourse. There are different needs of ecosystem, livelihood, irrigation and industries. The guidelines should have some certain non negotiable baselines on which further discussions can be brought into focus.

Prof. Janakarajan added that we should look at the dams where water is collected and downstream is dried up and we are having another dam in downstream. River just becomes flow less due to these activities. If we see in Brahmaputra basin large numbers of hydropower projects are coming up. There is construction of dam generation of electricity and discharge of water as you like. It changes characteristics of river flows in downstream.

Latha further added that recently the Ministry of Environment and Forest had constituted Avay Shukla committee related to distance between two projects on same river. There are a number of cases in North-east that one dam's backwater touches to the wall of another dam in upstream. There are number of petitions and complains to the Environment Ministry related to these issues. For last five years, the Environment Ministry is talking about environmental flows in river, before this they were not recognizing it

Legal and institutional issues in the water sector: Philippe Cullet, IELRC, New Delhi

Philippe's presentation involved discussion on scope of water law, basic structure of water law, content of water law, water conflicts and law. He also talked about whether the evolving situation requires any changes?

His presentation included following points:

Scope of water law

- Water law comprises all the binding norms and instruments that enforceable and justiciable (constitutional provisions, acts, subsidiary instruments...)
- Other instruments like ‘water policies’ (eg Odisha State Water Policy, 2007) and ‘administrative directions’ (eg NRDWP, 2009) are non-enforceable and non-justiciable.

The case of water policies

- Water policies (national or state level) provide a general statement of intent and principles for the water sector
- Water policies are adopted by the executive
- Water policies can be changed at any time without reference to any particular procedure
- Water policies have no specific place in the constitutional scheme

Water law structure

- Constitutional mandate
 - Union – residual mandate concerning inter-state issues
 - States – main mandate on all aspects of water
 - Panchayats/Urban local bodies – mandate for water issues at the local level
- Court decisions
 - Basic principles and fundamental rights (public trust, human right to water)
 - Adjudication of ‘traditional’ conflicts (eg landowners’ claims)
- Legislation (until now sectoral)
 - Union and states in their spheres of competence
- Common law principles
 - Riparian rights (surface water)
 - Rights included in land ownership – groundwater
- Customary rules

- access to water (eg caste based rules)
- tank management (local organisation of water supply)

Content of water law (pre-reform)

- Union legislation, eg:
 - Indian Easements Act, 1882 (land-water link)
 - Inter-State River Water Disputes Act, 1956 (water conflicts – process, little substance)
- State legislation, eg:
 - Irrigation act (eg Odisha Irrigation Act, 1959)
 - Drinking water (eg Odisha Water Supply and Sewerage Board Act, 1991)
- Non-water legislation
 - Panchayat acts (domestic water supply)
 - Municipalities Act (domestic water supply)
 - Water Act, 1974 (water pollution – environment)

Water law development

- Historically emphasis on water as input for economic development (more than social, environmental aspects)
- Strong links between access to water and land ownership
- Sectoral development
 - By water use: eg irrigation, drinking water
 - By body of water: surface/groundwater
- Not all sectors covered: e.g. drinking water

Water conflicts and law

- Traditional view of role of law in water conflicts largely linked to formal disputes, such as inter-state river disputes, transboundary conflicts
- Water conflicts are in fact much broader. Eg:

- Sectoral conflicts: allocation across water sectors (issue of ‘reserve’)
- Use conflicts: e.g. irrigation, food and drinking water (urban-rural)
- User-related conflicts: e.g. human right and customary/religious restrictions on access to domestic water
- Use/location: e.g. differential allocation in policy of water quantity to urban/rural areas with preferences to cities and among cities bigger cities

Are there reasons for changing existing water laws?

- Water law based on old principles and dated legislation
- Lack of legislation operationalising the human right to water
- Land-based rules inequitable and environmentally unsustainable
- Need to operationalise constitutional amendments on decentralisation

Different principles for ‘sector’ reforms and law reforms

1. Water sector reforms based on international policy consensus & national policy documents
 - Water as an economic good
 - Demand-led, including participation of ‘users’ and private sector
 - Decentralisation
2. National law
 - Fundamental right to water
 - Water as a public trust
 - 73rd and 74th constitutional amendments

Proposed legal solutions to address ‘new’ conflicts

- State regulation, e.g. groundwater
 - Aim: centralisation, delinking access to water and land ownership.
 - Licensing scheme largely based on grandfathering existing uses

- Possible basis for trading in future where economic efficiency is basis for regulating access to groundwater
- User group management, e.g. water user associations
 - Aim: government withdrawal and water use organised at local level
 - Decentralisation without reference to Constitution
 - Legal implications, eg no accountability framework provided
- Institutional reorganisation: setting up of ‘independent’ water regulatory authorities
 - Aim: ‘less’ political body to take over part of the government’s water mandate
 - Broader conception of water management (basin)
 - Focus on management
 - No underlying legal framework for operation (only reference to state water policy)
 - Unclear relationship to existing laws, principles and institutions

Philippe summarized his presentation with the following key points.

- Water law comprises binding and justiciable norms (water policies excluded)
- Water law is largely sectoral and multi-dimensional
- Water law is in large part old and needs to be modified
- Proposed law reforms
 - Do not address the needs of individual states and/or the country
 - Do not implement the constitutional/court principles
 - Fail to integrate human rights, social and environmental dimensions
 - Underlying principles need to be rethought

Summary of discussions

Question: What about the ownership of water? State government irrigation acts are talking about ownership of surface and subsurface water. What are the different legislations talking about water ownership?

Philippe explained that the first act came in 1931, i.e. Madhya Pradesh Irrigation Act. This act talks about state ownership of all the water. All the irrigation acts after this act at state level talk about state ownership on water resources. All these acts are only related to

irrigation. In 1997 Supreme Court said that all surface water should be governed through public trusts, there should not be ownership of water. This is negating the state acts related to ownerships. There is absence of any case challenging this ownership of water.

Question: When state water resource departments are Owners of water, in case of floods in any region they should get compensation due to the harm they get from flood water. At present they are getting relief not the compensation. Is there any legal provision to assure compensation? Secondly when a farmer do not get irrigation water which he should get according to the provision, is he liable to get compensation due to lack of irrigation?

Philippe said in both the cases there is no such provision. Joy added to this saying that there is a provision in Participatory Irrigation Act of Maharashtra state that when a water user association signed an MoU with water resources department for certain amount of water, when in certain situations the water resource department is unable to provide that much amount of water, then water user association can go to the court.

In principle there is no owner of water. Municipalities charge for water services not for the water which is given to the citizens. Irrigation department also provides facilities to provide water and charge for the services which deliver water. In case of floods they should be drawn to the high court through public interest litigation. Court involvement in water pollution cases came to the notice when there is large amount of water pollution involved. Small scale pollution cases do not come up to the court due to number of reasons.

Understanding water conflicts in India: K. J. Joy

In this section, Joy provided an overview of the various kinds of water conflicts. He then identified the various causes for water conflicts in India. Based on these, he then provided a typology of conflicts with examples in each category. Following are the key points of his presentation:

There are various kinds of contending water uses, which are as follows:

When the same unit of water is demanded for different kinds of uses we have a contestation and potential conflict: For example, in Chennai, Tamil Nadu conflicts in the peri-urban areas between those who would mine groundwater to supply to the city versus those who want to use it for irrigation, Ganga canal water for Delhi (urban needs versus rural livelihoods) etc.

Learnings: Structures built to improve the ecosystems may have unintended effects that harm people and ecosystems, improving water resources through rainwater harvesting at the micro level might improve water availability, but sharpen conflicts if equity is not addressed, and in the conflict between urban uses, the rural needs are steadily losing out.

Conflicts arising from Equity, Access and Allocations: Focuses mainly on equity issues between different users but within the same kind of use. This includes contestation over and between old and new water rights, old and new projects, tailenders and head-reachers, interbasin transfers, dalits and upper castes and so on. Examples include Mahad to Mangaon, where in a drought year, centuries of caste-based oppression and prejudice, deep rooted cultures and traditions, reared their head once again to deny water to the Dalits. Other examples are that of the Indira Gandhi Canal where diversions and reduction in water allocation causes unrest amongst farmers; Bhavani river where there exists competing water demands between old and new settlers and this was further aggravated by growing demands of industry etc.

Learnings: The absence of clear cut norms of equitable water allocation and distribution need a better concept of a right or an entitlement to water. A livelihood needs framework that sees assurance of minimum livelihood needs and the corresponding water requirement as an associated right need to share shortages and surpluses in a principled manner.

Conflicts around water quality: These conflicts arise around the issue of how and in what form users return water to the ecosystem. Polluted water returned by users causes problems to 'downstream users,' and decreased freshwater availability; causes economic loss, social distress and ill health. Musi river in Andhra Pradesh for example, domestic sewerage and industrial effluents have reduced the river to a sewage drain. Similarly, in Chaliyar river, Kerala, the Gwalior Silk Mfg (Wvg.) Co.Ltd., also known as Grasim factory effluents released into the river resulted in severe water pollution, which affected the livelihood of a large section of people while the gaseous effluents became a source of air pollution.

Learnings: Some of the key questions that need to be addressed revolve around whether closure of the factories is the solution, whether industries can co-exist with agriculture and other water users and what is the long term solution to the problem. There is a need for a three-pronged approach to address the problem:

- a legal framework based on rapidly enforced criminal and civil penalties

- environmental mediation, a pragmatic direction to settle issues quickly and amicably
- encouraging voluntary compliance

Dams and displacements: Dams have often been called the temples of modern India. For the greater 'common good', there is an argument that some people, especially the resource poor sections like adivasis have to be displaced. This has led to situations where there are drought affected beneficiaries versus the displaced victims. Some examples include the Sardar Sarovar Project (SSP), Polavaram, Andhra Pradesh and Tawa, Madhya Pradesh.

Some of the key learnings from these kinds of conflicts have opened up the debate around large dams, polarization issues such as large vs. small and the need for integration, exploration of options with least cost: social and environmental and proper rehabilitation as part of an upstream area development programme.

Transboundary water conflicts: These conflicts are mainly of two kinds- conflicts between nations and conflicts between states (inter-state). Some examples of this kind of conflict are the Baghlihar dam issue with respect to India and Pakistan over Indus, Farraka barrage issue, India vs. Bangladesh over sharing the Ganga etc.

Learnings: One of the key learnings that can be derived from these issues is that there is a need to look beyond political expediency and look for long term durable understanding on the issues involved. While an Indo-Pak agreement over sharing waters has withstood hostile political relations and wars, similar agreements have led to bitter conflicts between Indian states. One also needs to think whether water can be taken out of state list and put under union or concurrent list. There is a real need for democratic and nested river basin organizations.

Privatisation: Since the past decade, a new set of conflicts are emerging in the context of the Liberalization, Privatization and Globalization (LPG) regime that include privatisation of sources and rights and privatisation of service delivery. Some examples of this conflict include, Sheonath river in Chhattisgarh, where a stretch of the river was given to Radial Company; the Plachimada issue in Kerala where there was a conflict of interest between Coca-Cola and the local communities and the panchayat.

Learnings: There is a need to make a distinction between source privatisation and privatisation of service delivery; water privatisation is highly polarised between two well entrenched positions of for and against and there seems to be very little attempt to explore

the middle ground of seeing water as both a social and economic good. The real issue is about the governance and regulatory framework to secure the rights and access of all to clean water. It is about the right to life. It is also about the rights to water for all.

There could be other ways of classifying conflicts. John Brisco and R. P. S. Malik have classified conflicts as follows:

- Conflicts at the international level
- Conflicts at the inter-state state level
- Conflicts between upstream and downstream riparians in intra-state river
- Conflicts between the state and the communities
- Conflicts between the farmers and the environment
- Conflicts within irrigation projects

Summary of discussion

Question: What should be the way to deal with reservoir management and canal irrigation management during conflict period?

Joy explained that the canal irrigation issue is a management problem where tail-enders do not get desired amount of water for irrigation. Participatory Irrigation Management Act of Maharashtra states that in canal irrigation tail - enders should get irrigation water first (tail to head irrigation). There is more initiative in formation of water user association in tail areas. These associations think that when they will sign MoU with water resource department they can get desired amount of irrigation water. Farmer leader Sharad Joshi was against participatory irrigation management system. Renowned journalist P Sainath reported in his articles that participatory irrigation management will bring privatization in water sector and would also lead to elite capture. However the question is whether prior to PIM, was there equity and absence of elite capture in irrigation system.

Question: If there is a situation where fishermen and farmers who are dependent on the same reservoir, when the farmer demands water from reservoir fishermen opposes it due to fish culture. In this situation what should be the approach to resolve conflict?

On this Joy gave an example of Latha and her group in Kerala, who are working on reservoir operation module which can operate reservoir in a way that there will adequate water for all

the users and environmental flow. Through this module hydropower generation will be brought to the certain level to assure water in downstream.

Question: When there is an issue of common good there is sacrifice by some people for it especially displaced people from dam submerge area. What should be the way to ensure that displaced people get first right to gain profits from dam projects?

Joy explained that there is a rehabilitation policy of Maharashtra state government that families displaced because of a dam should get land as compensation in irrigated areas, with this policy landless people also get land in command region. There are certain provisions that construction of dam and rehabilitation of displaced people and other related construction should go simultaneously.

Day Three: Field Visit

As a part of water conflict training workshop a field visit was organized on 3rd day of workshop inside the Chilika Lake to expose the participants to conflicts related to water and fisheries in the region. Fishermen villages of Gopagundu and Mahinsa, both inside Chilika Lake, were selected to understand the issues of fishermen community. These villages come under Bramhagiri block of Puri district in Odisha.

Visit to Gopagundu village

First we visited the Gopagundu village around 10.30 am and had consultation with the fishermen community about the impact of the Chilika on their life and livelihood.

During the meeting at first our team member Mr. Tapan Padhi explained the objective of our visit to the people. He also functioned as the language interpreter. He first asked to Susanta Behera, one of the villagers, about the problems and difficulties that villagers around the Chilika face presently. Mr. Susanta Behera explained some of the major problems they are facing with the non-fishermen communities and the Government itself.

Conflict with the non-fishermen: Mr. Behera said the Chilika now, is silted up and severely polluted and *ghery* by the non-fishermen is the main reason contributing to the problem. Due to the *gheries*, the movement of boat and fishermen has been affected. Secondly the prawn cultivators use chemicals and other fertilizers that are also contributing to pollution. The area under traditional fishermen has been encroached upon by the non-

fishermen. The government policy has also encouraged the Non-fishermen to form their own society thereby encroaching 80 per cent area of Chilika. Since the major area goes to them, the traditional fishing communities left with very less space for fishing.

During the Biju Pattnaik government a new policy came out named as Gramatali Policy. Through this policy the government handed over the area adjacent to village to the Non-fishermen community on lease. These areas are basically the shallow area of Chilika near the villages. The non-fishing communities at first enclosed those areas and started cultivating prawn. Gradually after few years they entered into deep water illegally and started bullying the traditional fishermen. Then the fishermen protested against this forcible fishing by the non-fishermen in front of State Assembly. Government gave all assurance to them but later it did not take any action against the non-fishermen. Further the decision went in favour of the non-fishermen.

Conflict with the Government: Mr. Susanta Behera outlined how the government's decision to open up a new mouth aggravated their life. He says there was a mouth near Arakuda which connects sea with Chilika. But gradually this mouth silted out and the government with CDA (Chilika Development Authority) as its nodal agency thought to open a new mouth. But the villagers wanted the CDA should consult the villagers in deciding the place of new mouth. The government agreed with them but later the government relied more on satellite image technology and opened a new mouth at Sipakuda, one of islands of Chilika. The villagers, however, demanded that the old mouth should be dug again. The villagers then protested against the new development but of no use.

The opening up of new mouth resulted in increasing the current and salinity of Chilika water which led to decrease in fish population thereby eroding the livelihood of traditional fishermen. Due to this new mouth the current increased and the place where they used to spreading their nets got disturbed. This directly affected their life and livelihood. Many villagers started migrating to different cities in search of new job.

After the current and depth increased the normal boat they were using for fishing did not work. In 2003 there was a huge flood and many boats were dragged away into the sea. The fishermen of 16 villages did not get any compensation for this loss.

This meeting with the Gopagundu villagers continued till 12.00 pm and then we paid another visit to Mahinsa village.

Mahinsa Village visit

The whole team of participants and resource persons visited this village by afternoon 1:00pm, after having lunch with villagers, there was a meeting with the leaders of the fishermen community who came from different parts of Chilka lake. Local activist, Ms Bishnupriya, introduced workshop participants to the villagers and village people, and fishermen leaders to the participants. Leaders from the fishermen community such as Mr. Raghunath Lodu, Ravi Bhaie, Pramod Bhaie, Lakhan Mungsa and Vaikuntha Bhaie were present for this meeting. With them nearly 50 fishermen from Mahinsa village also participated in the meeting.

The main concern of leaders of the fishermen community was the recent activities of Chilika Development Authorities (CDA) inside Chilika Lake. They responded that opening and closing of mouth of Chilka Lake in Bay of Bengal is natural phenomenon. The mouth of Chilika Lake at Harchandi in northern side of lake got closed due to sedimentation. CDA opened new mouth near to the Mahinsa village, which resulted into entry of more saline water inside lake and affecting fish biodiversity. According to leaders there were 175 types of fish varieties in Chilika which is now reduced to 90, with this there is 70% reduction in fish capture in this region. The opening of new mouth was not properly consulted with fishermen community, which is facing threat of sea water intrusion in villages during high tide.

During the year 1953, the area of Chilika Lake was 1165 sq km at present it is reduced to 900 sq km. After the abolition of Zamindari system in 1953, there was a Chilika fishermen movement during the year 1956. In response to this movement state government decided to establish fishermen cooperatives and marketing societies. There was distribution of 5 types of lease to the fishermen for catching fish in Chilka Lake from revenue department. Fishing

lease during 1951 was 300 rupees per acre for one year, which increased to 800 rupees per acre during 1991.

Mainly there are two types of fishing methods that are employed in Chilika Lake, namely, culture and capture fishery. In culture fishery most of the non fishermen communities put their nets locally called *Gheries* in shallow water of lake to do prawn culture. Through this they forcibly encroach on the region removing any chances of capture fishery. There are direct fights, violent clashes between non fishermen and fishermen communities on these issues. According to Supreme Court order in 1997 there should not be any *Gheries* which promote culture fishery inside the lake. However every year revenue administration tries to remove *Gheries*, but still culture fishery is conducted on mass scale inside the lake.

The fishermen leader demanded that whatever funds that CDA get for fishery development in Chilika Lake, should be allotted for the development of traditional fishermen communities. There should be atleast one member of fishermen union on the board of CDA with proper powers to participate in decision making process. The culture fishery should be abolished completely, with mapping of lease areas as it causes most of the conflicts in region. After a brief explanation by the fishermen leader there was discussion between participants and fishermen leaders on different issues related to fishing and fisheries in Chilika Lake. The meeting was concluded after vote of thanks by Tapan Padhi from the participants' side.

Day Four

Methodologies for conflict resolution: Dr. S. Janakarajan, MIDS, Chennai

Part 1: Concepts, Theories and Methods of Conflict Resolution

Prof. Janakarajan started his presentation with a discussion on increasing demand and mismatch between demand and supply - competitive claims across users and sectors – intricacies, complexities and socio-economic and political milieu in which we are operating need to be addressed while approaching water conflicts

Increasing sensitivity about the need to integrate competitive demands and stakeholders' interests, in addition to the evolving need for political accommodation and the proactive stance in avoiding conflict, have all contributed to a shift from confrontation to cooperation,

from monologue to dialogue and from dissent to consensus (UN 2006: 388, The 2006 UN World Water Development Report, emphasis added).

Principles

Conflict resolution or alternative dispute resolution through dialogue or what may be called the Track-II diplomacy refers to a technique without entering into the formal judicial process in a given set of democratic governance

In principle, the track-2 diplomacy is supposed to be pluralistic, inclusive and more democratic – cost effective and sustainable

Main advantages: Save on all kinds of transaction costs – time, energy, resources, psychological stress and health

Conflict resolution needs interdisciplinary approach: Several disciplines are involved besides law, most important of which are sociology, psychology, economics, public administration, social and cultural history, hydrology, ecology and environment

What are the basic principles of conflict resolution? : An atmosphere where more than one stakeholder define their degree of stakes, entitlements, roles and responsibilities through negotiation or mediation and dialogue process

The main motivation

It is important to understand and examine the concepts and theories of conflict resolution and their application in order to strengthen our own knowledge base so that we will be in a better position to do further analysis.

Further, better understanding of the concepts and theoretical perspectives will give an individual or a group, to approach the issue of conflicts more scientifically and in a rational manner

Link conflicts with the overall development of the society, development theories / trajectories, growth models and the issue of sustainable development

Understanding some concepts that are used in conflict resolution

First of all what is conflict? : Conflict is present when two or more parties perceive that their interests are Incompatible

Express hostile attitudes

Pursue their interests through actions that damage the other parties

These parties may be individuals, small or large groups, caste or community, states or countries.

The net outcome of conflicts is:

Frustration

Relative feeling of deprivation

Disappointment

Discontentment

Anger

Revolt

Feeling of aggression

Violence

Feeling of exclusion

Restlessness

Loss of lives (some times) and loss of property

Waste of time, energy and resources

Consensus building, Reconciliation, Conflict resolution cannot be isolated or divorced from the economic, social and political milieu in which one is operating

What is the main reason for the emergence of TRACK-2 Diplomacy? The most important reason is the failure in the existing conflict resolution method – namely, the rule of the law and judiciary

The rule of law is frustrating – with weak law enforcement and monitoring mechanisms

This produces a sort of institutional and political vacuum which might result in a large scale expression of discontentment and eruption of violence

Conflict resolution attempts may become relevant under these circumstances

Conflict resolution method is transdisciplinary

Issues and problems of conflicts are often Social / Societal, Economic, Cultural, Political, Psychological, Historical, Legal, Technological and so on

Conflicts: A source of change

- Conflicts need not be negative; it is a potential source for a change
- Interaction between conflicting parties may lead to changes, for better or worse, or sometimes preserving the status quo.
- Regardless of direction, conflicts are almost always dynamic, and have a time trajectory.

Sources of Conflicts

- Power, how control and participation in political decision-making are mediated – political conflicts – we will discuss this in detail later
- Identity, concerning the cultural, social and political communities to which people feel are tied .
- Status, whether people believe they are treated with respect and dignity and whether their traditions and social position are respected.
- Values, particularly those embodied in traditional customs, conventions, institutions, systems of governance, religious philosophy and so on.

Conflicts are of two types:

- Passive conflicts
- Aggressive or violent conflicts

Often, passive conflicts also turn aggressive or even become violent in the absence of appropriate mediation

Most important, is to understand that the violation of bottom line rules and regulations or norms as the principal reason for the emergence of conflicts

Why do extremists surface in the society? Do they like to be called so? Do they like to be killed in police encounters?

Fundamentally, these sorts of movements are only responses to

- Growing injustice meted out to individuals / groups of individuals in a society
- Growing gap between promises and actual practices of politicians who are in power
- Growing gap between rich and poor –poverty, inequality and deprivation
- Growing feelings of deprivation from lack of basic needs such as food, water etc
- Growing feelings of exclusion and the sense of being exploited
- Erosion of democratic institution, norms and dilution of govt. machineries such as police, court etc

Theories of conflict resolution

1. Theory of impossibility and its application to conflict resolution in NRM

There are often gains to be had by an organization or society by making a collective choice from a set of alternatives available to them, rather than having each individual act independently. No voting method can satisfy according to Kenneth Arrow. The Collective choice could indeed reinforce the impossibility of co-existence

Impossibility of co-existence

Eg. 1. Husband and wife – if they cannot live together, its possible to seek divorce – the outcome at worst may affect individuals but not the society – but in the case of conflicts in NRM, such a possibility does cannot exist as such drastic decision may affect the society or even the future generation

Eg. 2. Lion and a lamb in a cage or in a confined territory – outcome - succumb to the pressure – impossible to coexist or challenge

2. Game Theory

Game theory is a branch of applied mathematics that is often used in the context of economics

It studies strategic interactions between agents

In strategic games, agents choose strategies which will maximize their return, given the strategies the other agents choose

Its relevance to social situations: Modeling games in social contexts supposed to help decision makers to interact with other agents

In other words, the game theory extends the simpler optimisation approach developed in neoclassical economics (profit maximization in a market economy)

This is in total contrast to the Marxian theory.

Prisoner's Dilemma

The Prisoner's Dilemma was one of the earliest "games" developed in game theory. By simulating the Prisoner's Dilemma we are given an excellent method of studying the issues of conflict vs. cooperation between individuals.

Since the Prisoner's Dilemma is so basic, it can be used as a model for various schools of thought / disciplines / or even in military situations

The Game

Two people have been arrested separately for the same that they have supposedly committed, and are held in separate cells. They are not allowed to communicate with each other at all.

Each prisoner is told the following:

We have arrested you and another person for committing this crime together.

Options Given to the Prisoners

- If you both confess, we will reward your assistance to us, by sentencing you both lightly: 2 years in prison.

- If you confess, and the other person does not, we will show our appreciation to you by letting you go. We will then use your testimony to put the other person in prison for 10 years.
- If you both don't confess, we will not be able to convict you, but we will be able to hold you here and make you as uncomfortable as we can for 30 days.
- If you don't confess, and the other person does, that person's testimony will be used to put you in prison for 10 years; your accomplice will go free in exchange for the testimony.
- Each of you is being given the same deal. Think about it

Interestingly the lack of cooperation puts them in a dilemma

But if you restore communication between the two, the cooperation is possible

3. Marxian theory of negation of negation: history of class struggle power struggle

Marxian theory of conflicts: According to Karl Marx in all stratified societies there are two major social groups: a ruling class and a subject class

The ruling class derives its power from its ownership and control of the forces of production through the process of historical and dialectical materialism of historical class struggle or what he called the theory of negation.

The power of feudalism - One landlord (or a few landlords) - owning all natural resources such as land and water – no power struggle within feudalist class – no conflict – in that sense all traditional institutions function very well – best example: water control institutions in order to carry out all basic functions of water management such as water distribution, maintenance and resolution of disputes

Kelly calls it Hydraulic despotism

Elinor Ostrom got the Nobel Prize simply by glorifying such traditional feudal institutions which she calls superior to modern day water management practices

4. Theory of rationality: The tragedy of the commons – G Hardin

If everybody thinks that one extra well (or by an extra cow in a grazing land) will not affect the commons, it's wrong; that will be the tragedy of the commons

Contradictions between individual rationality and collective rationality

Methods of conflict resolution - Concepts

Negotiation

It involves two or more parties engaging in direct discussions with each other in a concerted effort of reaching an agreement.

Direct talk among the affected individuals or the members of a community

Mediation

It involves the use of a neutral third-party who assists the negotiation process among the affected parties in reaching an agreement.

Typically, mediation takes place when direct negotiations fail

Arbitration

This is a form of resolving conflict that is handled outside of court where both parties come before a neutral third-party. The neutral third-party is usually a lawyer who passes judgment on a winner and a loser in much the same way as that of a judge in a Court.

Conciliation

It means settling of disputes without litigation. Conciliation is the process by which discussion between parties is kept going through the participation of the conciliator. The main difference between arbitration and conciliation is that in arbitration proceedings the award is the decision of arbitral tribunal while in the case of conciliation the decision is that of the parties arrived at with the assistance of the conciliator.

Collective bargaining

Negotiation is something that you can do on your own, Collective Bargaining is something you can only do as a group. – Trade union negotiations

The traditional cake cutting problem –

You cut I choose or I cut you choose – but in this method, the party of the other always tends to look at the share of the other party rather than his own share - One is unhappy if the other party is happy and vice-versa

Co-Management

Avoid conflicts or resolve conflicts by evolving the principle of co-management - in which two or more social actors negotiate, define and guarantee amongst themselves a fair share of resources and sharing management functions, entitlements and responsibilities

Prof. Janakarajan also mentioned about a software, Conflict Resolution Support System: A Software for the Resolution of Conflicts in Water Resource Management by K D W Nandalal, Senior Lecturer, Department of Civil Engineering, University of Peradeniya, Peradeniya, Sri Lanka and Slobodan P. Simonovic, Professor and Research Chair, Department of Civil and Environmental Engineering Institute for Catastrophic Loss Reduction, The University of Western Ontario, London, Ontario, Canada which is prepared for Division of Water Sciences, UNESCO, June 2003. This is computer aided software called Conflict Resolution Support System (CRSS).

Their study suggests the following as the main functional activities to aid the conflict resolution process, namely,

- (i) communication;
- (ii) problem formulation;
- (iii) data gathering and information generation;
- (iv) information sharing;
- (v) evaluation of consequences

The CRSS is developed as a tool to assist a conflict resolution process and a tool for training stakeholders in the conflict resolution process

Example: Conflict in water allocation / sharing between hydro-power generator and the down stream drinking and irrigation water needs – The CRSS helps to generate a series of scenarios based upon supply and demand scenarios all stakeholders for different parts of the year – and choose the one which satisfies all stakeholders

Prof. Janakarajan also mentioned yet another well discussed view

Co-existence of conflict and cooperation if no resolution is in sight – This could indeed be one way of resolution – may be temporary

- As is the case of many transboundary water disputes-

In most of the transboundary disputes conflict and cooperation coexist – in which the political process makes it possible to sail through the possible hurdles of conflicts due to compulsions (Transboundary Water Interaction I: Reconsidering Conflict and Cooperation

Mark Zeitoun, Centre for Environmental Policy and Governance, London School of Economics and Political Science m.zeitoun@lse.ac.uk, Naho Mirumachi, Department of Geography, King's College London, Prepared for the annual meeting of the International Studies Association, San Francisco, March 26-29, 2008)

Thus, what is after all conflict resolution? Can there be a comprehensive definition?

Is it how people have dialogue? The tools/disciplines they use to find compromise? The institutions they create, jointly or unilaterally? The answer is YES and NO. This is what we have been doing. And, there is no classic literature or guidelines on this issue. Let me define the conflict resolution in the following fashion:

In a situation where the stakes are high, opinions are stiff and diagonally opposite and emotions run strong it is important to make sure that the conflict resolution process does not mess up or worsen the situation. It is therefore important to understand that Conflict resolution is an extremely subtle but a complex process which requires enormous diplomatic skills, strategies, patience and willingness to work ones way through lessons learnt in the dialogue process. This is s complex process which involves working through the opposing views / claims / demands / rights in order to reach a win-win situation in the larger context

of development paradigms and sustainable development and ongoing socio-economic transformations

Before he concluded this part of presentation Prof. Janakarajan discussed one question: Should one resort to conflict resolution strategy under all circumstances?

The answer is no: For instance in a blatant oppressive land acquisition cases such as SEZs, massive displacement of local population who fight for their livelihoods (dam oustees), Industrial disasters leading to loss of lives and conflicts. In such cases, dialogues may become meaningless or irrelevant. Rather, peoples' resistance or mass upraising need to be supported.

Part 2: Analyzing, Understanding and Documenting Conflicts

Setting the stage

Increasing trends in destructions of livelihood options resulting in poverty, Inequality and discrimination

Unsustainable development

The purpose

Hundreds of different conflicts, at different stages for many different purposes contributing negatively to sustainable development, causing enormous concerns of poverty and deprivation and equity and discrimination

Therefore there is a need for:

- Schematic documentation
- Methodical documentation
- Analytical documentation

Some Pertinent Questions

Why do we need data on water and environment and natural resources in general? Do water conflicts constitute a core data base? Do we have any data base on water conflicts?

Social, economic and political accountability –

There are also other reasons:

For a better use, increase efficiency and overall to achieve sustainable use and development

Why do we need to document and analyse conflicts?

What do we know about water and environmental statistics?

Information collected and available in the published records –

Do we have access to data? – of better methodology - reasonable quality

The situation is, all outdated, bad methodology bad quality of data

Information collected but not published and not available for public

Invisible data – Conveniently ignored - Dangerous

Approach towards data collection has been quite conventional – e.g., data on wells, pollution, and water use pattern etc

But there are situations where there are problems – emerging threats but no systematic data exists:

- Environmental threats for lives, livelihoods and for the societal wellbeing
- Competitive deepening, groundwater abuse and depletion and emerging conflicts
- Water scarcity, competing demand for water and conflicts
- Floods, droughts, seawater rise and the threats of climate change

All these generate conflicts in the society: But do we have enough data on water conflicts?

Some key questions in the specific context of CBNRM

- Under what circumstances conflict occur?
- In what way the existing legal framework help to resolve these conflicts?
- How to turn conflict into opportunities for a potential and positive change?
- Why cooperation is becoming more and more difficult, challenging in natural resource management?
- What is the role of research in managing conflicts?

- Are conflicts unavoidable in the natural resource management?
- Under what circumstances users of natural resources would come forward to collaborate?

Some puzzling questions

Why these conflicts remain unresolved or should one resolve conflicts?

- Is it because of lack of data on conflicts?
- Whose responsibility is it to resolve these conflicts?
- What is the role of government?
- To what extent 'laws' or legal measures be solutions to these conflicts? What is our experience?
- Do we have enough laws to resolve or minimize these conflicts? Or do we need more laws?
- Efficacies of law enforcement and monitoring mechanisms

Analyzing conflicts.....

- What is conflict analysis all about?
- What is the utility of conflict analysis?
- Which agency should undertake conflict analysis for what purpose?

Aim of the Conflict analysis is

- To create data base
- To manage conflicts
- To find solutions to conflicts
- To mediate, compromise and build consensus among contending agents of conflicts
- To turn conflicts into opportunities for a positive change – conflicts need always be viewed as a negative phenomenon
- To convert a win-lose situation into a win-win situation

- To organize a sustained dialogue among stakeholders in order to travel through the path of sustainable development

Analyzing conflicts.....

- will make the job of a facilitator or mediator easy
- will help to understand the reasons, depths and intensity of conflicts
- will help to understand conflicts from various dimensions and from various perceptions
- will help to analyze and differentiate conflicts arising due to objective reasons (backed by data) and subjective reasons (emotions, misunderstandings, assumptions, suspicions, due to lack of communication flow and mistrust)
- will help to identify and organize stakeholders more successfully
- will help to differentiate between primary and secondary conflict
- will help to assess the impact of conflict on different sections of a society
- will help to analyze responses to conflicts from government and judiciary
- will help to assess the willingness and preparedness of various stakeholders for a dialogue

Guiding principles of conflict analysis

- Conflict analysis is a process and not an end in itself
- Conflict analysis should be thoroughly unbiased – should be based upon wide range of views, perceptions and data base and should be approached with a open mind
- It is absolutely necessary to distinguish between subjectivity and objectivity of conflicts – or emotions from reasons
- Most important: *Conflict analysis should also link with overall socio-economic and political contexts and processes of change*
- Learn from past experience and analysis

Structuring conflict analysis

- Attempt to go into the genesis and root cause of conflicts – do not look into things superficially

Build the conflict time line – map the process of pressure building among different stakeholders at different points of time

Identify stake gainers and losers – the process of exclusion and inclusion

Attempt on a comprehensive stakeholder analysis

Finally build the multi-stakeholders' platform and start the dialogue process - How to do it? You need to experience it.

Let us take the case of small water bodies – Tanks –

The peri-urban case

What are the issues that we need to cover in the process of analyzing?

Conflicts? Attempt to do the following:

Collect all basic data - get the history – go as far as the 'A Register'

Mapping the village – Its resources and demographic details

Crop pattern, value of land and economic categories

Land sales for non agricultural purposes – historically

History of entry of industries into the village

Back drop to conflicts

Root cause of conflicts and the role of state

What are the conducive conditions that have attracted the industries to enter

Manifestations of conflicts

How the conflict was managed / represented

Response of the people to conflicting situation within the village and the response of Panchayat

Any mediatory or legal process involved

Outcome of conflicts – whether passive, violent or reached a stalemate – Reasons for all

How the conflicting situation has affected the local population: Poverty and livelihoods analysis

Attempt doing a water budgeting for the village with a futuristic perspective

Analyzing conflict in a larger irrigation system

The Case of the Palar river basin in TN: Pollution is the dominant factor for conflicts

The case of the Cauvery – the transboundary issue is the dominant factor of conflict

Prolonged research in both cases have resulted in the birth of the MSD initiatives

Summary of Discussion

A question was raised about the scope of methods in violence situation for conflict resolution.

On this Prof. Janakarajan said one particular method applied to a particular situation may not be applied in another situation.

Another question was about neutrality and is it a precondition or necessary that an actor is to be neutral or it could be biased? All the stakeholders may not have the same kind of feelings that is the feelings of deprivation. There could be a group of stakeholders who are disadvantaged. They may not have that ability to articulate their problem. In such kind of situation what should be the role of a negotiator.

Prof. Janakaraj replied that with respect to this situation one should go with open mind. The negotiator, the person trying to plea the convener or facilitator of the dialogue should always be a neutral person. He wanted to make a fundamental distinction between the facilitator of a dialogue and an activist. If you are going to approach a particular conflict with a particular position then that person will be called as an activist not a facilitator, because he does not have the open mind. On the other hand a facilitator who goes there and tries to understand the actual situation because he does not have any vision and opinion. He has to first study and talk to all the stakeholders and get the vision of the position.

Suhas said on this that facilitator also has to exercise his judgment.

One of the participants commented that one thing that Prof. Janakarajan has mentioned in his presentation that one should approach it with open mind, but is that kind of open mind and neutrality considered as an idealistic solution?

Prof. Janakarajan said that first he would like to be an investigator. Facilitator should be an investigator first. Better to get to collect information. After collecting the information the person can come to some kind of conclusion.

Question: right now multi-stakeholder platform is seen as a preventive measure to address conflict especially in the river basin organization. Is this multi-stakeholder platform an answer for attaining the equality?

Prof. Janakarajan replied that it is certainly not. Multi-stakeholder platform is not going to ensure equality. The scope of the MSD and MSP is to resolve certain conflicts. This is not the answer for all. One cannot think about resolving primary and subsequently secondary dispute but still cannot ensure the equality.

Conflict resolution: Common challenges and some approaches to creating sustainable solutions: Ashok Panikkar, Executive Director, Meta-Culture, Bangalore

Ashok Panikkar conducted his session in an interactive manner and tried to involve participants in the discussions with small games.

He started his presentation with a quote, Telling people to EMBRACE CONFLICT (because in it lies OPPORTUNITIES) is like... ..telling them “Love your enemy!” or “Celebrate your neighbor’s lottery winnings!”

Competition vs. Collaboration

A Successful Negotiation?

Competitive	Collaborative
You did not make ANY concessions You forced <i>them</i> to give in to <i>your</i> demands You got “more” than they did	You and your counterpart see a more complex problem and tackle it <i>together</i> Agreements are sustainable, not repeatedly challenged Solutions are creative You and your counterpart want to work together again

And if you're still not convinced...

Collaboration...

- Surfaces multiple perspectives, instead of just one
- Results in creative and comprehensive solutions through joint idea-generation and problem-solving
- Develops inspiring models of democratic engagement
- Builds stronger communities and societies

Solutions vs. Process

“For every complex problem there is an answer that is clear, simple, and **WRONG.**” (H.L. Mencken, Journalist and Social Critic)

Solution-driven Negotiation	Process-driven Negotiation
<p>Focuses on Advocacy</p> <p>Pre-determined solutions</p> <p>Minimum/exclusive stakeholder involvement</p> <p>Narrow understanding of conflict issues and interests</p> <p>Tendency to deride the other’s solutions</p>	<p>Focuses on Dialogue</p> <p>No predetermined solution</p> <p>Maximum/inclusive stakeholder involvement</p> <p>Appreciation of complexity and diversity of issues, interests, and emotions</p> <p>Creates joint ownership of solution</p>

Positions vs. Interests

Positions	Interests
<p>Articulated demands</p> <p>Rigid inflexible stances</p> <p>Limited awareness of real needs</p> <p>Changes with discovery of interests</p>	<p>Awareness of the needs and values behind the ‘want’</p> <p>Appreciation of complexity – complex needs and emotions</p> <p>Openness to negotiation and flexibility</p>

Thin vs. Thick Multi-stakeholder Initiatives

Thin MSIs	Thick MSIs
<p>Groups that broadly agree with each other</p> <p>Strategies based on pre-determined goals</p> <p>Coalitions against stakeholders <i>not</i> at the table</p>	<p><i>All</i> key stakeholders, irrespective of perspective</p> <p>Open-ended strategies, evolving goals</p> <p>Collaborate to meet all party's interests</p>

Case Study 1: Water Round Table in a U.S. City

The Problem

- Water shortage
- Complicated water supply system affecting multiple stakeholder interests
- Long history of conflict and litigation
- Planned large dam and storage lake with potential adverse environmental impacts
- Prospects of a new, prolonged litigation at high cost for the City

The Process

- Professional mediators hired
- Mediators conducted a Conflict Assessment
- Roundtable convened involving ALL stakeholders
- Stakeholders built agreement on process, ground rules, and scope
- Monthly Roundtable meetings held
- Work Groups established

The Process – A Closer Look

Mediators guided stakeholders in:

- Creating a list of key interests to address
- Restating the problem
- Developing alternatives and designing models
- Addressing the legal, institutional, and financial implications of discussions
- Creating a joint report
- Reaching consensus on a holistic course of action

Stakeholders	Initial Positions	Revealed Interests
Business groups	Project will go ahead in its present shape Will not bow to litigation or protests Will not negotiate	Healthy profits for org. growth Succeed in executing large projects Protect relations with subcontractors Maintain reputation and credibility Prevent delays and lost opportunities
Environmental groups	Project will not go ahead Conflict to continue Will litigate and protest Will not negotiate	Protect the environment Maintain credibility as a protector of the environment Play a bigger role in state and local policymaking

Success Factors

- *All* stakeholders involved
- Restatement of problem: *dam vs. reliable water supply*
- Positions *transformed* into interests
- Equitable division of tasks in group
- Joint fact-finding = collective acceptance of data

- Joint problem solving = collective ownership of solutions
- Agreements on *process* and *principles*, instead of a particular solution

Conflict Resolution Modalities

- **Facilitation** – Neutral management of the Dialogue process
- **Dialogue** – Facilitated and structured conversations amongst polarized groups to increase understanding and trust
- **Consensus Building** – Systematic and collaborative fact finding, problem solving, negotiation, and joint decision making
- **Mediation** – Facilitation by a neutral third party to help parties rebuild communication with each other and thereby resolve disputes

Case Study 2: Garment Sector Roundtable

The Problem

- Threats to industry sustainability and profitability
- Industry riddled with business and labour issues
- Reactive and adversarial stakeholder engagement over many years
- Misperceptions, misunderstandings, and distrust
- Stakeholders fail to address root causes
- Existing forums ineffective; lack of relevant stakeholders

“...there is a need for these stakeholders to come together, not to restate and reinforce their already entrenched positions, but rather to listen to and build an understanding of each other’s needs, interests, challenges, and values.” (Meta-Culture Garment Sector Scoping Report, December 2009)

Garment Sector Roundtable: Purpose

To create a multi-stakeholder group capable of:

- Improving relationships and establishing trust
- Discussing differences

- Identifying common interests
- Taking collaborative action to initiate systemic changes within the industry

GSR – A Brief History

- *Sept 2009*: NGO approaches Meta-Culture with an idea of convening a multi-stakeholder forum in the garment sector
- *Dec 2009*: Meta-Culture submits scoping report
- *Apr-May 2010*: Stakeholder discussions
- *May-Jul 2010*: Outreach meetings with potential participants
- *Aug 19, 2010*: GSR Informational Meeting for potential participants
- *Sep-Nov 2010*: Nailing down commitments and contributions
- *Jan 11, 2011*: GSR Inaugural Meeting (20 participants from 8 stakeholder groups)

Resolution through Transformation

- Facilitation by a ‘neutral’ third party
- Effective and transparent process
- Presence of ALL key stakeholders
- Moving parties from:
 - Debate to *Dialogue*
 - Distrust to *Trust*
 - Competition to *Collaboration*
 - Positions to *Interests*
 - Simple to Complex solutions

Neutrality/Omnipartiality

Choosing the Right Facilitator

Content Expert	Process Expert
Extensive knowledge of field	Limited knowledge of field

Aware of sectoral politics	Deep experience of facilitation and process management
Deep investment in the sector and clear stake in outcome	No stake, except in good process
History with other stakeholders and part of sub-groups	Limited history with stakeholders
Clarity/ideas about 'right' solutions	No pre-determined solutions or answers
Feels there's much to lose by being neutral	Loses nothing by being neutral

Summary of Discussion

The discussion took place on two major issues:

1. Conflict Resolution as an academic field

There is a very clear academic field on conflict resolution.

Prof. Janakarajan told about the conflict resolution schools and said that conflict resolution can exist. In fact there are centers of conflict resolution for example Stanford, Chicago and MIT. But there is nothing like a classic literature on conflict resolution. There may be manuals or software but not classics.

On this Ashok Panikker said that there is literature on this. But this is a new field which is 40 years old. Even so it is a substantial body of very clear theory. There is no ambiguity about conflict theories. People who are in the field are trained and schooled in credible and tested conflict resolution theories.

2. Key stakeholder inclusion and exclusion

Question: One of the most important key stakeholders in dialogue where river, Government and industries are involved is farmers. Farmers in the sense that river basin is polluted completely and lakhs of farmer loosing their livelihoods. Even the farmers associations go to the extent of filing a PIL in the Supreme Court and now it is on the process. If this is the case then why are farmers not listed as key stakeholders in the presentation?

Ashok Panikker replied that given that this was an industry (garment sector) multi-stakeholder initiative, farmers were not identified as stakeholders in the initial process. None of the stakeholders including NGOs, academics or trade unions talked of the need to have this group represented. However, Meta-Culture will take this feedback to the group and see if they can be included.

Domain Expert and Process Expert

K J Joy: A content expert need not be an embodiment of process expertise or a process expert may be able to function better if the person has domain knowledge. Is that premise all right?

Ashok Pannikar said that this premise is alright. It is just difficult to find out one who can combine both. The problem is most domain experts are perceived as having a specific agenda- either pro or against development, business, environment or human rights.

Having said that, some of my colleagues in the field have specialized in environmental conflict because in a country like USA you have so many well funded projects where facilitators and mediators can hone their skills and specific domain knowledge over 30 odd years .So they become both domain experts and process experts.

Question: There are instances of series of discussions and meetings over stakeholders but fishermen as key stakeholders are not included in the discussion. Who determines and decides who should sit on the table or who decides who will be the stakeholder?

Ashok Panikker: A good facilitator or mediator does not exclude ANY legitimate stakeholder. The general principle is that unless the group is so marginal, if it in fact has no *locus standi* at all in the issue at hand or the conflict, no group should be excluded. It is not in the facilitator's interest to keep out any key stakeholder.

Suhas commented that often the stakeholders themselves choose the key stakeholders. Therefore there is bias and exclusion of stakeholders.

Ashok Panikkar added that as far as this process goes, people who recommend the stakeholders are not obviously the stakeholders themselves. Secondly in the GSR for instance we went to academics, NGOs and the people who had specialized in the apparel industries and followed their lead in inviting stakeholders. It is always possible that some of the people we contacted may have had some bias because of which they didn't include some stakeholders.

It is not in the interest of the facilitator to exclude anybody. It is useful to mention that in our experience it is a greater challenge to get people to the table for a Dialogue. Many people still resist talking to people they disagree with. That is the Dialogue facilitator's main challenge.

Joy: You as a facilitator know what the sources of conflict are and that a particular stakeholder does not come on board then what is the role you play as a facilitator to bring the key stakeholders into the group?

Siddharth Lahiri: Additionally as a mediator you will be hired by some of stakeholders, will it not influence you in choosing the key stakeholders?

Ashok Panikkar: There are two ways this can happen. One, a rich foundation that is sold on conflict resolution or multi-stakeholder processes gives one or two crores and say- "go and resolve the conflict, no strings attached". This could suggest that the facilitators or designers of the process are independent. Two, we have the stakeholders themselves pay for the process. The problem here is that some can pay more than others and some may be unable to pay. Regardless of how the payment happens, the important thing to realize is this: A facilitator has NO decision making powers and cannot judge or arbitrate a solution. Hence his being influenced by money does not arise. Lets' take the worst case- even if he is influenced by the person who pays him, he cannot sway any decision because he has no powers to resolve the dispute unlike a Commission of Inquiry or an Arbitrator.

Tapan Padhi: Like neutrality, is it possible to have 100 per cent partiality or equal per cent of partiality to both the party?

Ashok Panikkar: As a facilitator, I have to learn to be omni-partial- that is be extremely partial to the both. It is in my interest to help both or all parties meet their interests otherwise they will not be able to come to an agreement.

Tapan Padhi: If one of the stakeholders at the table is not very articulate?

Ashok Pannikar: I would have to spend a lot of my time as a facilitator reaching out to and helping parties express their needs and concerns. I might do this offline. If I found that a group really needs external help I will actually get representation either from another NGO or from another trusted stake holder who can help them articulate their needs and perspectives.

Stakeholder processes, dialogues and resolution of conflicts around water: Dr. S. Janakarajan, MIDS, Chennai

Part 1: Stakeholder processes, dialogues and resolution of conflicts around water

Dr. Janakarajan started with a few questions which deserve our attention before we process, i.e.

What is the significance of SA?

Why one is interested in SA?

Should one attempt to undertake SA under all circumstances?

What is the practical utility of SA and who are the potential users of results of SA?

Most importantly, SA is not an end in self but only one among several steps in the conflict resolution process among various stakeholders

What is Stakeholder Analysis (SA)?

SA is basically a participatory methodology or approach adapted where resource sharing is difficult and proved unsuccessful by all conventional wisdoms such as legal, economic and other institutional mechanisms.

Grimble and Chan (1995) say, 'Stakeholders analysis emerged in response to the perceived deficiency of conventional economic and social approaches for assessing and designing projects and policies'.

And, Chevalier (2001) argues, Stakeholder Analysis also has the advantage of being a flexible, context specific paradigm that helps focus attention on specific problems, actors and opportunities for change.

In other words, SA helps to understand the problem better, gives an enormous scope to analyse degrees of stakes enjoyed by various stakeholders or users of a particular resource, helps to document their socio-economic and political power and above all paves the way for beginning a dialogue process among all contending stakeholders.

The purpose of Stakeholder Analysis

- To identify various stakeholders
- To analyse the degree of stakes enjoyed by them
- To differentiate between primary and secondary stakeholders
- To differentiate between primary and secondary disputes
- To document their strengths and weaknesses of stakeholders
- To examine the coping strategies and responses of various stakeholders
- To analyse conflicts in the appropriate socio-economic and political context

To build the timeline of conflicts

- To ascertain whether there is a threshold level of crisis of the problem in question
- In brief, a good SA should aim to analyse conflicts in detail, potential threats for sustainable development and equitable sharing of resources, extent of free riding and its implications

Typically, objectives of stakeholder analysis should be

- To examine the prevailing and enabling conditions required for a fruitful dialogue process
- To explore the scope and problems in detail with a view to addressing various issues related to water at different levels like watershed, sub-basin, basin, State and Nation
- To identify areas for further work (both for action and for research) with a view to fulfilling gaps in knowledge

- To explore and analyze the potential utility of the MSD, to examine popular and political support for such a dialogue and above all to rule out a possibility that such a dialogue might take place in policy vacuum
- To explore the possibility of converting a win-lose situation to a win-win situation

Identification of stakeholders and stakeholder analysis – Chennai peri-urban case

The urban and peri-urban context:

Is urban expansion an inevitable process? Analyse the socio-economic and political processes

Since the urbanization is an inevitable process, should we let the peri-urban population / areas to suffer? Or

Is there a way in which the spread of urbanization could be used for the best use and advantage of both the populations?

Two sets of stakeholders could be identified who have diagonally opposite interest:

1. State
2. Peri-urban village population.

State is represented by

Metro-Water Supply and Drainage Board

Tamilnadu Water Supply and Drainage Board

Chennai Metropolitan Development Authority

Village Administrative Officer (VAO)

Block Development Officer (BDO)

Thasildar (the Revenue Department taluk-level head)

District Collector

Public Works Department (water resources)

State and Central Groundwater Boards

Chennai city Municipal Corporation

Departments of Agriculture, Revenue, Forest and a few others who are concerned with water

Tamilnadu Pollution Control Board

Member of Legislative Assembly (MLA) and Member of Parliament (MP)

Ministers

Peri-urban population is represented by

- Farmers (as a broad category) who live in peri-urban villages
- Village Panchayat
- Village level informal institutions
- The broad category of farmers could be further differentiated into several sub-groups such as,
 - Land and well owners
 - Water sellers
 - Non-water sellers
 - Land owners but non-well owners
 - Tenant cultivators
 - Landless agricultural labourers
 - Women Self-Help Groups

In addition to the broad category of farmers, a substantial section of non-agricultural population also live in the peri-urban villages including traders, employed in the other non-agricultural sector.

In addition to the above two sets of stakeholders, there are others who have either or indirect interests in the urban and peri-urban water supply and conflicts. They are represented by

- Tanker-truck operators and their Associations
- A large number of water companies who sell purified drinking water who are located in and around Chennai city

- A large number of high profile hospitals which are located in and around Chennai city
- A large number of high profile hotels located in and around Chennai city
- A large number of educational institutions located in and around Chennai city
- A large number of commercial enterprises, industries, SEZs, major educational institutions and government offices located in and around Chennai city
- Flat promoters, Residents' Welfare Associations and other urban water users

The last batch of stakeholders represents the civil society which includes Non-Governmental Organizations (NGOs), Activists, Researchers, Media.

Strengths and weaknesses of stakeholders

Four sets of stakeholders have been identified: They are, State (all official agencies and political leaders), Other urban stakeholders, Civil Society, Peri-urban agricultural and non-population.

Is it very difficult to judge strengths and weaknesses and exigency, legitimacy and power of these stakeholders?

The State:

- Enormous power
- Control
- Authority
- Legitimising illegitimacy
- Promote a sense of urgency and emergency through GOs and Enactments

How to characterise this Stakeholder?

Hierarchic, twisting, believing as a whole in exercising control and power rather than delivering

A legitimate question that arises in this context: Does the State represent the common man – protect their livelihoods, ecology and environment?

Other urban stakeholders

Other urban stakeholders go hand in hand or have hand over hand with the State in so far as exploiting resources from peri-urban villages.

This set of stakeholders also demonstrate exigency and claim legitimacy in transporting water from peri-urban areas.

In other words, 'the State' and 'other urban stakeholders' strengthen each other and eventually their strength and power becomes formidable. It is a real threatening alliance which causes enormous concern, in particular because peri-urban resources are fast depleting and getting polluted.

How to characterise this Stakeholder?

Other urban stakeholders basically constitute market which is more profit driven than anything else which concerns the society at large

Third set of stakeholders – the Civil Society, How to characterise this Stakeholder?

Civil Society basically constitutes moralists / campaigners and noise makers against injustice; Typically, although well-intended and motivated, they retreat after a point.

Unfortunately some of them in recent times get absorbed into the system and start legitimising their action and inaction

The fourth set of stakeholders: Peri-urban agricultural and non-population, How to characterise this Stakeholder?

Peri-urban population in this context could be characterized as shock-absorbers;

They are fatalists and gross losers.

Clashing view points of various stakeholders

Stakeholders type	Reasons for conflict	Fighting against whom
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Farmer – water sellers (WS)	Reduction in Profit	Those who protest water sales
Farmers – non WS	Loss of livelihoods and GW depletion	WS, MWB and TWAD Board
Landless Agri. Lab	Loss of livelihoods and GW depletion	WS, MWB and TWAD Board and those who protest against sand mining
MWB, TWAD Board	Under stress to supply water to the city and adjoining areas	All protesters of water sales and sand mining
Tanker operators	Reduction in profit	All protesters of water sales and sand mining
Water companies	Reduction in profit	All protesters of water sales and sand mining
City dwellers / Civic Associations	Lack of DW supply	WS, MWB and TWAD Board and Govt
Civil Society Organizations	Loss of ecology, environment and livelihoods in PU areas	WS, MWB and TWAD Board and Govt.

Cultural theory framework (Dake, Karl and Thompson, Michael (1999))

Society is divided into four groups and each individual is identified with one of these groups in addition to the fifth one:

First is the Hierarchists who believe in power; they are rigid, obsessed and rule bound; they follow the traditional style. This group will try to achieve things by means of coercion – by exercising control and power. Essentially a risk managing group

Second is the group of Individualists, who are quite modern, cosmopolitan and selfish and who are committed to market way of life. They achieve things by swinging upwards and downwards and think of their tasks alone all the time. But people belonging to this group are risk takers

Third group, called Egalitarians, are naturalists and risk averters; they assume a role for themselves and make noises in the society – campaigners

The fourth one is the set of fatalists – marginalized, voiceless and defenceless; they are basically takers; spending life in imaginations and anticipations that things would change some day

The last one is hermits; they are loners and never compete with others; very hospitable and respectable

Degree of stakes enjoyed by various stakeholders and their status in society

Type of SH	Extent of water used	Degree of stake enjoyed	Eco. power Enjoyed	Political power enjoyed	Degree of legitimacy & Urgency	Contributions enviro Damage	Potential impact on the Economy	Prio- rity status in the NWP
Hierarchists State (all agencies Agencies)	Minimum	100%	100%	100%	100%	100%	100%	First
Markets Other urban SH	Minimum	25%	100%	100%	Nil	100%	100%	Third
Egalitarians Civil society for ecology and environment	Nil	100%	Nil	Nil	100%	Nil	100%	Nil

Fatalists	Maximum	100%	Nil	Nil	100%	25%	100%	Second
Peri-urban agri and non-agri population								

Approach to Conflict Resolution

The Conflict resolution has four main tasks

- Develop expectations for win-win solutions
- Define each party's interests, stakes or claims
- Define each party's limitations
- Brainstorm creative options
 - Brainstorm adaptive strategies and reasons for adaptations
 - Prepare stakeholders for sustainable long-term solutions
 - Combine and convert options into win-win solutions

In order to achieve an optimal solutions prepare the stakeholders to go beyond the initial bargaining positions

Ensure that a diversity of interest groups are represented

Make sure that stakeholders are willing to listen, negotiate, compromise, and communicate

Be inclusive in hearing all the views of the representative groups (recall Kenneth Arrow)

In other words, do not try to be dismissive of any view

What is a dialogue? How to explain and characterize the process?

Dialogue is a form of informed conversation and interaction

It differs from:

Debate - repetitive, entrenched, and rhetorical – more in the nature of contestation

Mediation – manner of opening up information flow

Negotiation – Better than debate and mediation – but difficult to sustain

Dialogue on the other hand is more informed, sustained, persuasive, inclusive, pluralistic and democratic

This approach is often more successful in deep-rooted, value based conflicts where negotiation is impossible.

But progress in such situation warrants breakdown of stereotypes, willingness to listen, following the principle of caring and sharing, respect others' views, and a willingness to open oneself to new ideas.

A key question

If you do not believe in MSD as a conflict resolution tool what is the alternative in a democratic governance?

Pre-dialogue meetings – Brainstorming meetings

Give a platform for all stakeholders to get together

The purpose is to get the steam out from ones system

Expect all destructive debates and contestations to take place

Expect stakeholders to take hard positions

The atmosphere may be threatening; attacks, intimidations and interruptions should be expected

Expect stakeholders to present all kinds of evidences – some of them may be blowing out of proportions

Participants listen only in order to refute the other side's data and to expose faulty logic in their arguments.

Questions asked will be in the nature of rhetoric, merely challenging and often intimidating and frustrating

Let all stakeholders speak and hear them and document them carefully

Finally, have a well informed and unbiased panel (acceptable to all stakeholders) to respond to observations made by the stakeholders

Setting the stage for a sustained dialogue

Let the demand emerge from stakeholders unanimously

Prof. Janakarajan pointed out one last issue before moving on to the practical examples MSD, i.e. Distributive Bargaining Vs Integrative bargaining

Earlier models of conflict resolutions were based on the concept of distributive bargaining (what is being practiced in Cauvery is distributive bargaining), where the best joint outcome that could be achieved was a fair division of benefits in which one person's gains were another's losses. This approach is competitive rather than cooperative processes (Deutsch, 1973) and leads, at best, to compromise or resentments.

On the other hand, a win-win solution arrived at by integrative bargaining may be close to optimal for both parties. What could be the win-win solution in the case of Cauvery water dispute? Can both states explore possibilities of conserving water through modernization techniques? Can both states think of regulating water use pattern? Can they explore jointly a revision in the crop pattern – more proactively in a more engaged manner – so that a good deal of water can be saved by reducing area under water intensive crops? Lastly, why should not both states explore the possibility of conjunctive use of surface and groundwater? This sort of integrative bargaining may lead to sustainable solution and sustainable development

Part 2: Practical lessons and examples on MSP and MSD and the process of conflict resolution

Prof. Janakarajan listed three important examples of MSD.

Palar basin – conflict between farmers and tanners due to acute water scarcity and water pollution

(supported by IDRC)

Cauvery basin – most litigious inter-state water dispute in India
(supported by IWMI-Tata Water Policy Program)

Chennai and peri-urban water conflicts
(supported by DFID as a part of a larger project called NEGOWAT)

Some facts about the Palar basin

Palar basin is considered the second rice bowl of the State next to Thanjavur, irrigated by tanks and wells (now both the rice bowls have been disfigured)

Highly urbanized with flourishing rural-urban water market

Very high concentration of tanneries; 75% of the tanneries in the State are concentrated in this basin, contributing to 30% of total leather exports of the country, earning Rs.50 billion towards forex

Tanneries are highly water intensive and polluting industries, generating about 38 mld of effluent with high TDS and chromium and some traces of cyanide

Agriculture is very badly affected, decreased yield, abandoned wells, polluted surface and groundwater, acute drinking water problems, serious health problems, rapid decrease in ag. Employment and thousands of people have already left their villages

Mitigation and regulatory measures in the Palar basin

Public interest litigation and Supreme Court's intervention through what is regarded as historic 1997 judgment – in which the Bench stated that the tanneries might earn foreign exchange and provide employment and therefore that did not give them the license to pollute the river and the environment; hence ordered for the closure of all tanneries

Comprehensive failure of CETP

TNPCB and its role – lack of effective monitoring and law enforcement mechanism

What can we achieve through the Multi-Stakeholders' Dialogue?

The case of the Palar basin:

- The MSD meeting – First brainstorming meeting in January 2002

Thus the, '*Multi-stakeholders' Meeting of Water Users of the Palar River Basin*' was held during 28th and 29th January 2002 at Chennai, with 120 participants with the following objectives

- To take stock of use and abuse of water in the basin in the overall context of urban and industrial expansion and in the context of poverty, food security and hunger
- To assess and examine who are the defaulters of law, their positive and negative contributions to society and economy
- To bring together various stakeholders for a fruitful dialogue with a view to hear, debate, document and make public their voices
- To find ways for preventing further degradation of natural resource in question and to work towards sustainable development with a common agenda within a framework acceptable to all stakeholders

Most important of all is to find ways to turn situations of conflict and distrust into opportunities for mutual aid and cooperation

Basically, the dialogue centered around the following main issues

Deteriorating livelihoods and local water supply options

Rapid environmental degradation, the use environmental laws – Do we need new laws?

Legal remedies – filing public interest litigation cases; Would it help the cause?

Technologically more efficient IETPs and CETPs; Use cleaner technologies and recycle the treated water. Do we have an efficient monitoring mechanism?

Put pressure on the Loss of Ecology Authority for the reversal ecology. Is it possible?

(Farmers and farmer's leaders presented papers)

Outcome of the MSD brainstorming meeting – truly unanticipated

The formation of the Multi-stakeholders' Committee of Water Users' of the Palar river basin with 32 members drawn from all sectors

Publication of proceedings of entire dialogue as a book – a kind of public document

Objectives of the committee

Reversal of ecology: Reversal of ecology is a package, which involves

Revamping of traditional irrigation sources such as tanks and springs as a measure of providing adequate irrigation water as well as to recharge groundwater

Channeling water into the Palar River in order to increase water flow

Preventing sand mining

Preventing polluted water (both from industries and from domestic sewage) from entering the river – whether treated or untreated

Removing encroachments in the Palar River

Suggesting cleaner technology for water treatment (RO technology)

Developing a rapport with various government agencies

Major outcomes of the MSD process in the Palar basin

- All stakeholders have been meeting periodically with the mindset of finding a solution rather than to get into fight or challenge each other
- It has been unanimously agreed that the closure of tanneries is not the solution
- Unanimity to share information among members; it is significant that tanners have agreed to part with their information on all aspects concerning tanneries
- Tanners have agreed to provide access to other members into the tanneries and CETPs
- There is a proposal to handover the entire effluent to a private company for treatment; tanners have agreed to cooperate fully for this proposal; we are still exploring and talking to companies engaged in this activity
- A few individual tanners have set up their own RO plants for treating TDS in the effluent
- Tanners have agreed recently to provide access to farmers to inspect the functioning of the CETPs

- But still we have a long way to go although the MSD process in this basin is 2 years old

MSD experience in the Cauvery basin – the most conflict-ridden river basin in India

Background

- Cauvery dispute - The most disputed and litigious rivers in contemporary India
- Built up mistrust overtime between farmers of both States
- Lack of information flow and communication gap due to restrictions / confidentiality imposed by respective States
- All successive governments / political parties made use of Cauvery water dispute for their own short-term political gains, which contributed to regional chauvinism
- Eruption of violence – 1997 episode in which Tamils had to flee KAR and there huge damage to life and properties
- Institutional interventions at the highest level: CRA and CMC
- Judicial interventions at the highest level: Supreme Court’s interventions, constitution of the Cauvery Water Tribunal and the interim award.
- Unpleasant events: By disobeying the Supreme Court’s Order, the KAR CM in the year 2003 had to face the contempt of Court and had to tender an unconditional apology
- Great expectations and undue delay in the declaration of the Final Award by the Tribunal
- Overall institutional failure

Rationale for dialogue

Built up mistrust and misapprehensions

That Karnataka was cheated and discriminated by the then British Govt. which acted only in favor of their own territory (Madras Presidency) through 1874 and 1924 agreements and

prohibited them from developing their irrigation command
That TN farmers grow three crops a year but never allow Karnataka farmers to grow even one crop
That TN has massive unutilized GW potential and wastes lots of water
That Karnataka was unjust in developing a series of reservoirs in the 1970s
That TN farmers refuse to grow any crop other than paddy
That Karnataka never appreciates the prior appropriation rights of TN
That Karnataka never understands the soil conditions in the old TN delta where plastic clay soil conditions never permit any crop other than paddy;
That Karnataka releases water only during flood conditions and uses the river only as a drainage source
All these have taken deeper roots and have created a mindset among farmers of both States due to communication gap

Two dialogue meetings were held, one in Chennai and the other at Bangalore, in the year 2003, attended by 120 farmers from both in Chennai (4-5th April) and Bangalore (4-5 June)

Objectives of the MSD meeting

To bring together farmers of all riparian States on a common platform for a fruitful dialogue

- To reduce differences and communication gap among farmers of all riparian States
- To undo all misapprehensions and misgivings built up over time and to create a climate of warmth, sense of caring and sharing and to promote an intense feeling of fraternity
- To take a pragmatic view of the current situation in the Cauvery basin
- Most of all, *to find a way forward for the benefit of the entire Cauvery family in the larger interest of the country*

Realize the fact before it is too long

Complexity, uncertainty, deficit nature of the basin, emotional attachments and anxiety contribute negatively to sustainable water management in the Cauvery basin in both states. What is the need of the hour?

Acknowledge the fact that the Cauvery basin is a deficit basin

Total claims of all the contending states

Total demands by the riparian states: 1135 TMC

Availability at 75% dependability 670 TMC

50% .. doo.. 740 TMC

Hence final allotment can not satisfy the requirements

Therefore the crux of the issue in the Cauvery basin (unlike many other river basins in the country) is not the sharing of the unutilized surplus water but re-sharing of the available water

Do not forget, hard bargainers eventually lose opportunities – because of speedy industrialization and rapid urbanization

Adaptation is what is most needed at the moment – adapt to the changing needs and changing socio-economic and ecological conditions; To put it crudely, adapt for a better living and for a better livelihood resilience or else perish

Outcome of these two large dialogue meetings:

- There was an overwhelming response from the farming community of both States; they developed a long-term perspective and focused on usage of currently available water in the basin in the best interest of Cauvery farmers
- Farmers have shown enormous faith in the farmer to farmer contact and supported the dialogue process whole heartedly
- A tentative or ad-hoc Committee was formed with 6 members from each State
- And, a resolution was passed unanimously which reads as follows:

We agree to care for each other, share each other's problems and also agree not to indulge in counter productive activities. We also endorse this initiative, affirm our faith in dialogue and commit ourselves to its progress

At the end of the second dialogue workshop, a body called '*Committee of the Cauvery Family*' was constituted with 15 members from each State with three advisors and one facilitator cum convener

Undertaken two field visits and arrived at some important decisions

The Committee has met already 13 times since 2003 and the last one was held in Bangalore on 26th March 2010

Major outcomes of the Committee meetings

- The central issue for the Committee continues to be arriving at a formula for sharing of water both in normal and deficit years; both sets of farmers have agreed to workout a formula which will be discussed in the next meeting scheduled to be held at Hassan, Karnataka, in Feb 2005
- The Committee has requested the Convener to prepare a paper on entire dialogue proceedings both in Tamil and in Kannada with a view to disseminating the message to farmers in respective States
- The Committee is also preparing a visual CD on this issue as a part of the dissemination exercise
- Memorandum to the president
- Mindset has been created that numbers do not matter
- Different water sharing models – reduced from 6 to 4 to 2
- The meeting scheduled for August 2011 in Bangalore is crucial
- At the moment we are stuck with finalizing the distress sharing formula

MSD experience in the context of negotiating Chennai and peri-urban water conflicts

- Unequal power
- Unequal contracts
- Unexplained conflicts
- Between urban, peri-urban and rural areas

To What extent cities act as engines of rural development?

- Cities obviously absorb the migrating population from rural to urban areas
- Most of the migrant population try to get employment but only some succeed; a large number is absorbed in the unorganized sector
- Cities expand and have experienced phenomenal population growth thanks to R-U migration and the massive growth of slums
- This creates huge stress on the urban infrastructure, in particular drinking water, sanitation and solid waste disposal
- But do cities provide enough linkages to rural areas by way of decentralized industrial activities and in the creation of decentralized non-farm employment growth?
- The answer is NO;
- On the contrary, available evidence in India suggests that cities have been playing rather a negative role in the rural development by way of eating into natural resources available in rural areas as well as treating rural areas as dumping yards for the 'wastes' generated in the cities; this is not however, to deny the fact that city development has contributed significantly to the growth of the economy

More specifically,

- Industries are relocated or many industries prefer outer locations due to better land and water availability and also find it easy to dump their wastes
- Dramatic change in land use pattern: The land in the peri-urban areas is bought over for urban use
- Pollution and degradation of natural resources such as land and water due to increasing expansion of urban activities
- Water, hitherto claimed only by the agricultural sector is used more and more for non-agricultural urban uses – resulting in competing demand for water
- water transport from rural to urban areas

- Agricultural employment declines and agriculture as an occupation weakens causing serious livelihood problems for the people living in peri-urban areas
- The village commons –land and water bodies – are either encroached or left in disuse
- In the transition stage, peri-urban areas stressed due to institutional vacuum which leads to inadequate or lack of provisions for infrastructure development; what one would encounter is a `neither here nor there situation’.
- Women, who have lost agricultural employment, are the worst hit among the peri-urban population

Let us take the specific case of water in the context of Chennai

A few important questions arise here:

Does Chennai face scarcity for water?

To what extent the persisting water crisis in Chennai is due to lack of integrated – long-term planning?

All the successive governments in the State spent lot of resources in getting water to Chennai; Amount spent on various schemes during the past four decades – around Rs.4000 crores

Net result: Either crisis management and unsustainable solutions

City’s future water requirement

- Estimated water requirement for the city population is about 900 mld at a low 150 lpcd for an estimated population of 6 million in 2011
- For the rest of the Madras Urban Agglomeration, for an estimated 3 million population 300 mld will be required
- The estimated industrial requirement in 2011 will be another 250 mld
- Therefore, the total requirement for all purposes for the city and urban agglomeration will be of the order of 1190 mld
- But the current supply position from the surface sources is nowhere near the need.
- Is there a way out for Chennai population?

Co-existence of City, Peri-urban and Rural areas is very important because they support each other and have lots of common interests – But -co-existence should be just and conflict free – green area

MSD initiative

A series of multi-stakeholder meetings have been initiated since Feb 2004 and finally a Committee of water users of urban and peri-urban areas was constituted with 65 members; The Committee met five times during 2004-06 with full – active participation of all members A few government officials participated in the meeting but refused to talk

Outcome of the MSD initiative in Chennai PU area

All out efforts to protect the traditional water bodies such as tanks and ponds

To fight against all illegal encroachment – including by the government

Represented to the government for the protection of water supply and livelihoods

In the PU villages

But at the same time accepted the need for coexistence

But could not sustain the MSD Committee beyond two years

Summing up MSD initiative in three cases

Palar: Threshold level of crisis exist – carried on quite enthusiastically – even now people show interest but in a sporadic fashion

Judicial pronouncements helped initially and utter lack of law enforcement and monitoring mechanisms helped the state-market nexus to flourish

Cauvery: Threshold level of crisis exist - Heading for a solution

Judiciary and legal measures: Helped to leave the dark tunnel only to enter into a darker tunnel

Chennai PU: Initial momentum existed – but there was never a threshold level of crisis – very difficult to sustain the MSD – PU areas got absorbed into the City expansion wave

Lessons from the MSD experience

- A sound research is a necessary condition; dialogue should be preceded by research and a comprehensive stakeholder analysis
- Degree of success or failure of dialogue initiatives depends upon active and sustained state support
- A threshold level of crisis will make dialogue initiative more sustainable and will ensure active participation of all contending stakeholders;
- otherwise, only one set of stakeholders will participate
- Need for an untiring facilitator who can carry on with the job of facilitating and arranging a platform for the dialogue to continue
- Dialogues are never smooth; there will be lots of ups and downs; this should be expected
- Final outcome is uncertain; difficult to judge; But in the absence of a viable alternative there is a case of pushing the dialogue initiative as far as possible until one reaches any where near a viable solution

The Cauvery Family gains enormous significance precisely because the judiciary has not been able to deliver while at the same this initiative has attracted several international audience and institutions such as UNESCO, EU, NBI etc.

CF formed in the year 2003 continued dialogue process in the last 8 years, met for 17 times; its progress has been scintillating, positive and result oriented except on the last occasion when we met in 2010 in Tiruchi.

LESSON: Towards the end, once after clearing the air, and at the time of striking the real issue of sharing during distress years, one finds a deadlock.

For various reasons conflicts escalate, de-escalate or reach a stalemate

Similarly, in the conflict resolution process (through MSD) may result in de-steaming, reduce tension, smoothening the situation but may after some time it could result in re-escalation / re-emergence of conflicts

In a dialogue process there is a real danger: It is smooth and conflicts and tensions get dissipated over time. If the solution is found on the same tempo and with the commitment, it is fine. If not, the tension may peak again. It may even be the end of the dialogue process. This is where the crucial role of the Convener lies. What have I done? What have I proposed to do?

Build an incentive or disincentive package or Matrix through interactive process - for each stakeholder / riparian

Gains from cooperation (Incentive package)

Loss from non-cooperation (Disincentive package)

Prove that loss from lack of cooperation is huge compared to the substantial gain from the sustained cooperation – that hard bargainers always lose

Incentive package: Water saving and conservation through modernization of canal net work and changed crop pattern is estimated to result in water saving of 45% of water or around 300 TMC feet which would help a great deal to resolve the conflict

Disincentive package: increasing salinity, increasing claimants of non-agricultural users, raising pollution load, climate change threat etc. The river itself may disappear

Lessons learnt

Going beyond the initial bargaining positions is the most important precondition for arriving at any kind of solution and conflict resolution (The dialogue and the dispute gets prolonged because both TN and Karnataka never want to depart from their initial positions. This is the first step towards conflict resolution)

Mental preparedness and commitment for a negotiation and dialogue - if not it is not going to be easy to carry on with a sustained dialogue

It is extremely important that the stakeholders engage in developing options for win-win solutions – Be optimists

The dialogue process is not unidirectional – there can be reversals – be prepared to anticipate such a situation. I am precisely there at the moment in Cauvery

Summary of Discussion

Lots of discussion took place about the data and figure in the above table showing the degree of stakes enjoyed by various stakeholders and their status in society. Participants raised a fundamental question whether the figures mentioned in the table are absolute and how did one arrive at these figures?

Prof. Janakarajan replied that these figures are all hypothetical figures and it can be changed according to the different region and situation.

Day Five

Conflict negotiations: Mumai Pheiga, Manipur

View of conflict

- Conflict happens because of good reasons and bad reasons
- Many people think conflict can be healthy “Overthrown oppressive regimes, stopped rapacious aggressors, changed land tenure patterns, stopped gender recrimination achieving political and economic justice”
- In conflict & peace-people always who Gains & who loses “here comes... fish out of trouble water, mileage, limelight, marriage of convenience etc”.
- Many people think that conflict is being manipulated by few people. “We are dragged into it, they do not represent the community”
- Today many conflicts are absence or erosion of root cause “worsened injustice and uncertainty of end of conflict”
- Proximate cause are becoming more important “when hegemony and power bloc downfall ...feeding warlords, inter-groups fighting, struggling for leadership, manipulation started etc.”
- Today Conflicts are rarely started by poor or marginalized people
- Conflict happens mostly where there are rich natural resources

- In conflict setting NGOs are branded to be 'neutral' or 'non-partisan' but impact of any aid/resource given is never neutral.

How is conflict sustained?

Systems & Institutions:

- Armies and organized gangs
- Production of and distribution of arms
- Propaganda
- Social systems that historically & traditionally discriminate, exclude, dominance
- Religious systems
- Acts. Charter... treaty...etc.

Attitudes and Actions

- Violence
- Threats
- Torture
- Brutality
- Rape
- Lawlessness
- Displacement
- Expulsions

The above conflicts are reinforced by suspicion, mistrust and hatred. When these attitudes and actions are promoted as tool of conflicts dehumanization happens.

Different values & Interest

- Define by location
- Occupation
- Identity , religion & culture

- Education pattern and curriculum
- Homogeneous
- Affinity ('here lies blood is thicker than water')
- Perpetual power

Here comes 'insecurity of power shift', intervention of outsider or same party

Happens instability of the country serves domestic or security interests.

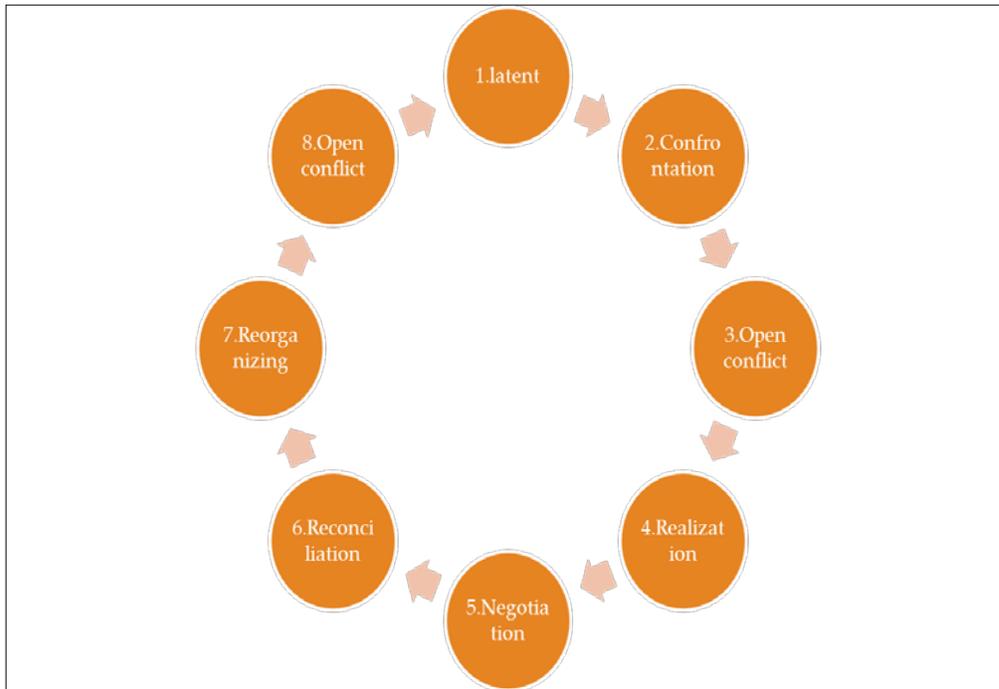
Different experience

- Perception of the world, 'right' or 'wrong'
- While some people see the system as providing 'safety' some people see as a 'threat'

Symbols and Occasions

- Black Day
- Martyrs Day
- Holidays
- Festivals

Cycle of conflict



Conclusion

- The challenge is 'violent conflict' and searching for an option
- Peace cannot exist without justice-subverted or negated justice lead to conflict
- And every good thing has a price!

Summary of discussion

Mumai was requested to share some of his experiences of conflict negotiation. He described a couple of incidences from Manipur. He beautifully explained his experience with a group that was demanding very large amount of money against the release of a German hostage. He also described during his negotiation how he was threatened to loose his life by the group involved in the case. Finally he succeeded in releasing that hostage through repeated visits and negations.

Presentations of the group work and discussions

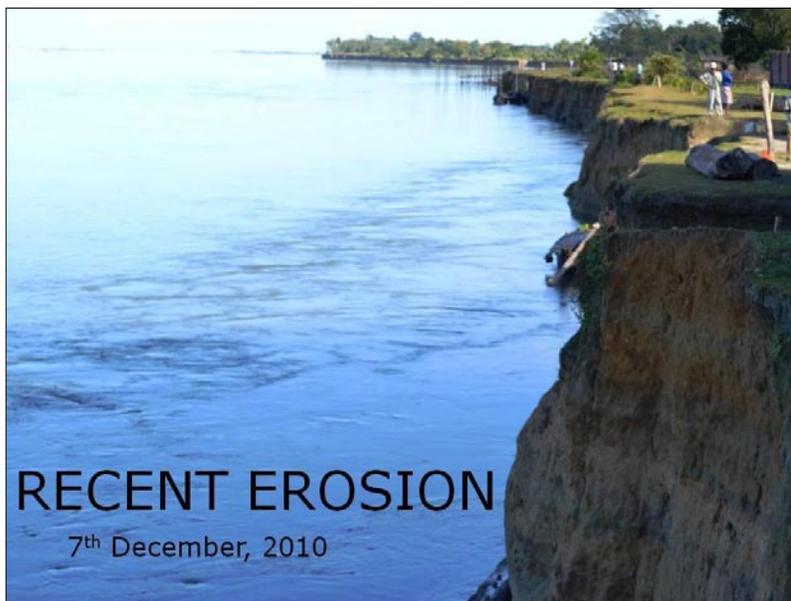
Group 1: Bramaputra Bank Erosion in Rohmorja: State's Response and People's Struggle

Group 1 presented the case study of Bramaputra Bank Erosion in Rohmorja in Assam.

Context

- Rohmorja is situated 20 kms away from Dibrugarh town in the upstream direction of the south bank of the Brahmaputra River, situated in Dibrugarh District of Assam.
- Main problem: Massive river borne erosion and people's struggle against state apathy.
- Main impact of riverbank erosion: loss of land, natural water bodies, forest resources, adverse impact on livelihood, displacement, social unrest.

Century Scale Evolution of Rohmorja



Main Causes of Erosion in Rohmorja

- Avulsion of Lohit river in Anantanallah
- Rapid expansion of the width of the upper segment of Brahmaputra river
- Shifting of the confluence point in downstream direction
- Massive toe cutting and subsequent slumping

- Inflated river bed
- Deforestation in the upstream

Effects of Unprecedented Riverbank Erosion

- Land loss
- Loss in livelihood specially by farmers and fishermen
- Massive displacement
- Increased rate of internal migration
- Expansion of illegal activities
- Social unrest

Primary Stakeholders

- Affected people and people's organisations
- State government

Secondary Stakeholders

- Political parties (national and regional)
- Civil society: academicians, researchers, media
- Financial institutions: Asian Development Bank
- Other organisations: student unions, people's movements, grassroots organisations, etc.

Stakeholders' Interest/ Response

People's Expectations

- Want long term, sustainable solutions.
- Alternative livelihoods for displaced people
- Skill development support wherever necessary.
- R& R policy to cover the displaced people adequately and effectively.
- Democratising political processes for stronger, active and participatory alternatives.

State Response

- Ad-hoc approach to check erosion.
- Huge gap between declaration of schemes and their implementation.
- Interested in land revenue, mineral resources but least enthusiastic in protecting the land from erosion.
- Legitimizes the auctioning of logs ceased from illegal saw mills.
- Inadequate R & D support



Political Parties

The erosion problem in Rohmoria is treated as a trump card for electoral win; highly used to of making "false promises" before election and to break the same after government formation.

Environmentalists

Environmental sustainability; loss of forest resources, deforestation, encroachment problem

Civil Society

Equity, sustainability etc; unfortunately, the affected people sometimes doubt the efforts of the civil society.

Organizations Formed During the Resistance Struggle

- Rohmorla-Lahoal-Rongagara-Bokdung Baan (Flood) Protirodh Samity (RLRBBPS)(1979)
- Rohmorla Khahaniya-O-Baan Protirodh Samity (RKPBS)(1997)
- Sadau-Asom-Baan-Khahoniya-Protirodh-Sangram- Mancha(SABKPSS)(2000) [Local Committee: Rohmorla-Gora-Khahoniya-Protirodhi Manch (Rgkpm)]
- Dibrugarh Tinsukia Baan- Khahoniya Protirodhi- Mancha (2006)
- Baan Khohonia Protirodh Sangram Samity, Assam (2011)

Organisational Activity during Resistance Struggle

- Putting memorandum
- Public gathering
- Protest rally
- Oil blockade
- Formation of alliance with other pro-people organizations
- Conducting political workshop
- Conducting workshop with different stakeholders
 - Affected people,
 - Political and social activist
 - Government officials
 - Academicians
 - Scientists
 - Technocrats

Brief Chronology of Events

- 1979: D. R. T. road, the main connecting link got cut off. Formation of the “RLRBBPS”
- 1997: 6 wooden spurs were constructed under “RKBPS”
- 1998: Oil India Limited (OIL) discovered a big oilfield in Rohmoria.
- 1999: Oil blockade started in protest of non-response of the oil. Still going on in on-off mode.
- 2000: Bolo Gohain become the first “martyr”.
- 2003: 10 iron pipe based dampeners raised by oil as a pilot project.
- 2004: District administration played the role of mediator between the “RGKPM” and oil.
 - Oil promised to raise 360 iron pipe based dampeners, based on this assurance, about 4½ years old oil blockade was lifted.
 - 2005: oil blockade imposed again in protest of oil’s non response
 - 2006: PM Man Mohan Singh visited Rohmoria.
 - 2007: oil raised 24 metal pipe based dampeners. Plan implementing agency was DRDA, Dibrugarh.
 - 2007: central water resources minister Saifuddin Saiz visited the erosion affected places, promised to incorporate Rohmoria issue in the next five year plan.
 - 2011: the geo-fabric technology project launched by then state water resources minister. Residents dissatisfied with the progress, CWC inspection team reveals anomalies, project postponed till the end of rainy season.

Framework for Conflict Resolution

- People still retain faith in democracy.
- Multi-stakeholder dialogue (MSD) ongoing, but loosely structured.
- Pre-dialogue is required because of the failure of earlier meetings.
- Principal task is to rebuild the deteriorated environment of mutual trust between people and state representatives.
- Priority is to be given to answer the needs of the affected people, keeping in mind livelihood, sustainability, equity and participation/ democratisation.

Project/ Policy Initiatives

- The State Water Policy (draft), 2007 recognises the problem of land and river bank erosion.
- It proposes large scale bank stabilisation and bio-technical or combined controlling measures to be given preference
- Natural erosion control measures to be applied which is suited to the landscape, wherever possible
- ADB is also supporting two projects – Assam Integrated Flood and Riverbank Erosion Management Project and North-Eastern Integrated Flood and Riverbank Erosion Management Project

Group 2: Parching the Chambal River Basin: Unrelenting irrigation schemes wring the unique Chambal dry

Group 2 presented the case of Chambal river.

The presence of over 200 irrigation projects and 4 major dams on the Chambal River has severely reduced water levels, and the river does not flow below the Kota barrage (left), for most of the year. The Chambal on average is 400m wide, but several sections (as seen on the right), shrink to less than 10-15 m. This situation increases anthropogenic threats to the river several fold, and such areas are no longer viable gharial and river dolphin habitat.

Effects of low flow

- Habitat fragmentation for aquatic species.
- Isolated pools vulnerable to anthropogenic activities e.g. Netting, dynamiting (Dubey & Mehra, 1959; Humraskar & Velho, 2009).
- Fish stocks determined by low water carrying capacity of deep pools.
- Increased access to people for river crossing by foot and tractor, fishing, sand mining (Nair, 2010).
- Reduced number of inaccessible islands, resulting in increased nest destruction of skimmers, gharial, turtles, terns, pratincoles (Sundar 2004, Nair 2010).

Effects of irregular/unnatural flow regimes

- Flooding of nesting habitat during critical times. Affects ground-nesting species. Eg: terns, skimmers, pratincoles, gharial, batagur turtles. Gupta (1998) mentions faulty operational procedures of the Gandhisagar Dam.
- Insufficient flooding to maintain morphology of deep pools.
- Insufficient flooding to maintain siltation rates/sand bank formation.

As a case in point, the Environment Assessment Document of the Dholpur Water Supply Sub-project does not acknowledge the National Chambal Sanctuary, in an attempt to by-pass a notification which states that projects located within 10 km from the boundary of protected areas requires Environmental Clearance (EC) from the National Ministry of Environment and Forests (MoEF). The document also categorically states that “As there is no significant flora and fauna in or around Chambal River, there should also not be any ecological impacts from the increase in abstraction”; and that ” There are no uncertainties in the analysis, and no further studies are required to comply with Asian Development Bank procedure or national law.”

Threat to derecognise its “World Heritage Site”

What really aggravated the situation further was the construction of 25 km canal from Panchna dam towards South-West to Karauli and Sewai Madhupur, pointed out the sources. “This became the bone of contention, as the canal from the dam catered to about 30 villages with 15,000-18,000 population, belonging to the powerful Meena tribe of Rajasthan, ignoring the nearly 15 lakh Gujjar and Jat population spread over 400 villages downstream and also spelling trouble for KNP,”

‘proposal to get about 125 MCF water from the Chambal River at Dholpur through construction of 84-km pipeline that started in 2000 is nearly 90 per cent complete. However, the last stretch of 10 kms, passing over the protected area of Chambal sanctuary is pending clearance from the National Board of Wildlife.’

The opposing stands

‘The average quantity of water used for irrigation through the 4 dams has decreased by 22.6% and 41.4% respectively in the last 17-18 years, whereas the use of water for non-irrigation (industrial and drinking water purpose) has increased three folds resulting in shortage of water in the downstream. By the year 2002-03 the net water use for non-irrigation purpose was almost 41%.’

‘In the present flow regime, 78.1% and 82.1% of the river stretch between Jaitpura and Panchhnada respectively, was found to be suboptimal for adult gharial and river dolphins respectively.’

‘Data provided by the Central Water Commission shows that the flow at Udi often reaches as low as 6.13 m³/sec. The combined water requirements of the 4 lift irrigation projects (Pinahat, Dholpur, Aisah & Kanera) is ca. 31.5 m³/sec. If these projects become operational, there will be no flow in the river and there will be deficit in water availability in the downstream stretches of the river.’ (References: Wildlife Institute of India (2010), Gupta and Attari (2007))

India’s water use policy seems to be based on the surmise that all freshwater is for human disposal and that no quantity of it shall be ‘wasted’ into the sea. The political and administrative classes are under the impression that only large-scale water impoundment and abstraction can solve the country’s water requirements, without any concern to the ecological and socio-economic costs involved, which are in any case considered as externalities.

These disruptions to natural flows, flood pulses and other hydrological processes are not only a dire threat to the unique faunal assemblages of the Chambal, but also have serious implications for downstream fisheries, that provide livelihood and sustenance to millions of dependent people.

Numerous studies have documented how large dams and river-linking have displaced people, destroyed fisheries and damaged ecosystems. Yet, there seems to be no paradigm shift in an effort to maintain the integrity of rivers and ensure long-term water security.

Scope for dialogue

Natural hydro-biological processes and the interactions of the various aquatic biotic communities regulate the quality of freshwater, and this needs to be appreciated by all stakeholders. Rivers must be maintained as functional, dynamic entities; and river basins need to be recognised as single ecological units. Binding guidelines in the form of legislation, combined with coordinated policies across sectors, are required to mitigate the impacts of land use and water abstraction, through integrated river basin management.

Group 3: Water Conflicts in Sason Command Area of Hirakud Reservoir

Group 3 presented the burning case of Hirakud reservoir and Sason command area in Odisha.

Hirakud Dam

- 1937 : Flood in Mahanadi Delta and Vishweshwarya committee report
- 1945 : Cuttack conference and proposal of dams
- Priorities of Flood control, irrigation and electricity generation
- Direct irrigation- Bargarh Canal
 - Sason canal
 - Sambalpur Distributory
- Delta irrigation- Mundali- Puri Canal
 - Jobra Taldanda and Machagaon
- Reservoir operations and rule curve
- Injustice towards land outstees.

Command region: 03 blocks of Sambalpur District (63,000 acres)

Discharge rate of 636 cusecs through Sason canal and Sambalpur distributory.

Nearly 60,000 families are beneficiaries of this irrigation system

Sason Command 1957-2010

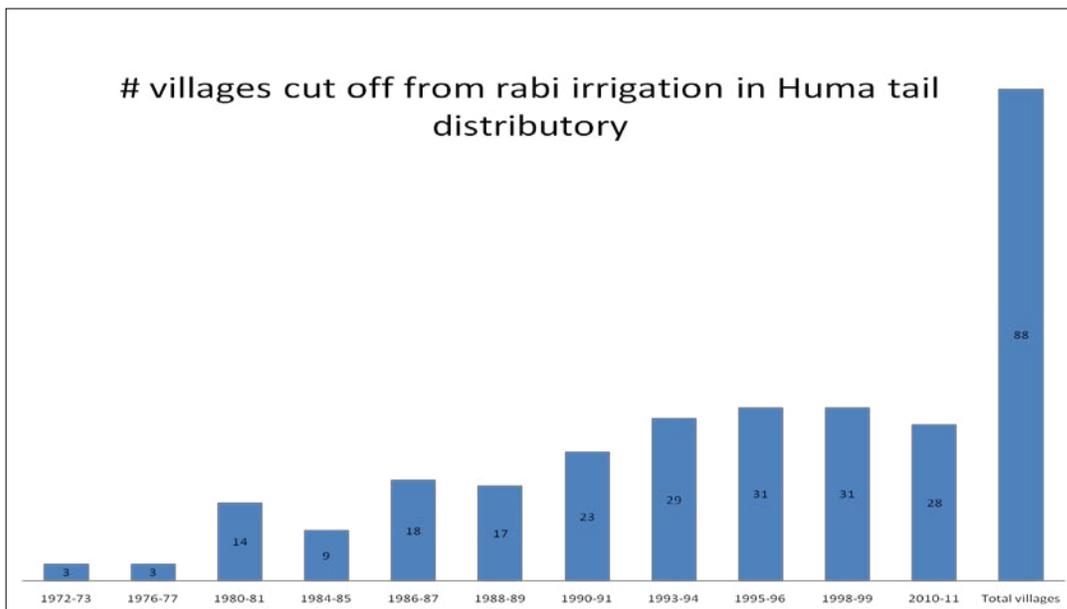
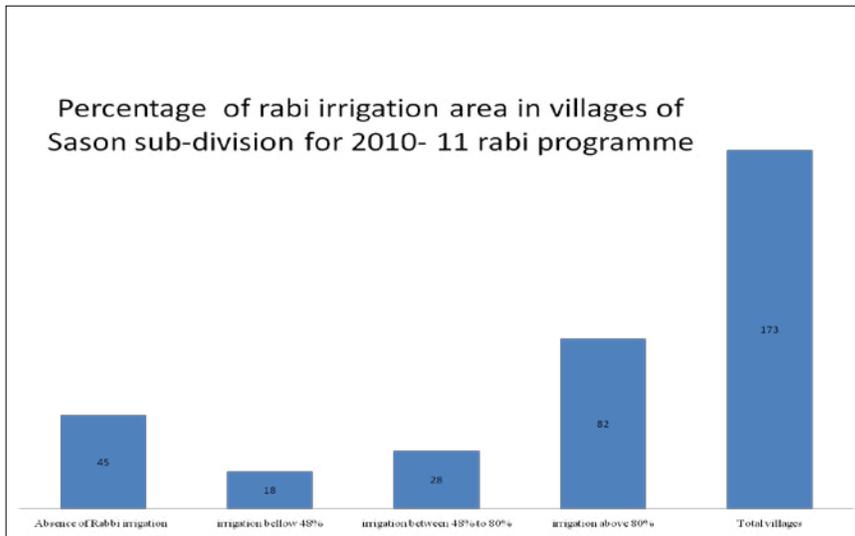
- Early water demands and increase in irrigation area after 1963
- De-functioning of irrigation system due to absence of proper canal survey and infrastructure.
- Huma Tail distributory villages started to cut off from irrigation system
- AIBP renovation in 2003- 05 and controversies and farmers agitations from year 2005 to 2007.
- Recent renovation works and present situations in command region.
- Dam water connection issues and level of Dam water related to Sason canal water

Diversity of Water conflicts

- Head end Vs tail end
- Farmer Vs Irrigation Dept
- Pani Panchayats Vs Irrigation Dept
- Pani Panchayats Vs Village Panchayats
- Command Area Development Agency (CADA) Vs Villagers
- Agriculture Vs Industry

Conflict Incidences

- Direct fights, confrontations and daily disputes
- Night duties during khariff irrigation
- Disputes between powerful and powerless villages
- Village institutional level disputes
- Violent conflicts between villagers on distribution of irrigation water.



Issues

- CADA canals and problems in region
 - Lack of Land Consolidation
 - Damaging canal infrastructure (Lack of water measurements and regulations)
- Differential water availability in Head and Tail ends
- Water seepage and leakage (Water logging)

- Exclusion of water bodies during planning stage
 - Livelihood of marginal farmers and water bodies

Impacts

- Loss of agro-sustainability (cropping pattern, agro chemicals, flood irrigation)
- Transition from broadcasting to transplantation techniques of rice and increase in command area
- Crop failure due to erratic rainfall and other climatic conditions is increasing
- Minimum support price and less returns from agriculture

Opposing stands

- Irrigation Dept. claiming increase in Ayacut areas and farmer union are claiming Ayacut area is decreasing
- Water wastage is due to improper infrastructure and water wastage due to crop pattern, confrontations and destroying infrastructure by farmers.
- Pani Panchayats are not working and lack of funding and support.

Efforts to reduce water conflicts

- Renovation and maintenance funds allocated in year 2007.
- Water supply to Sason canal is assured according to requirement.
- CADA with special funds for constructing field channels at Pani Panchayats

Issues need to be addressed

- Infrastructure renovation and maintenance
- Changing crop pattern
- Alternative solutions to improve agriculture
- Water pollution and decrease in production
- Pani panchayats and irrigation management

Group 4: 1: Inter-State Dispute on Barrage Construction over Mahendra Tanaya River (Barrage or No Barrage)

There were two presentations by group 4. The first presentation was about the interstate dispute on the barrage construction over the Mahendra Tanaya river in Odisha and the second presentation was about the case of traditional water management practices and changing scenario in the Himalayan valley of Lahaul.

Description

- Mahendra Tanaya River - Traverses across the two states of Odisha and Andhra Pradesh
- Tributary of Vansadhara River originating in the Mahendragiri mountain range located in Gajapati district of Odisha, at an altitude of 1,525 m above sea level amid ever green forests.
- Its length is 56 km out of which four-fifth traverses through Gajapati and Rayagada districts of Odisha.
- It flows at around 35 km in Odisha prior entering into the neighboring state of Andhra Pradesh. Then again enters into the origin state of Odisha
- four-fifth of the River flows in Odisha, whereas only one-fifth of its length flows in Andhra Pradesh.
- Odisha and Andhra Pradesh shared the water of Mahendra Tanaya River 50:50 as per the bi-lateral agreement between these two states in 1962.
- It was agreed then that if any kind of dispute arises, both the states would disuse the matter of dispute and final conclusion would be drawn in a bi-lateral talk.

Point of Discussion on Conflict

- AP proposed an upstream project near Chapara taking the waters of Mahendra Tanaya through a canal to some of the areas in order to irrigate the agricultural lands.
- Andhra Pradesh was designing this offshore project with a view to irrigate 24,600 acres of land located in the border region in Andhra Pradesh. The Government had already earmarked 124 crores for the project.

- The Project was a danger for as many as 30 villages of Odisha affecting more than 8, 00 families living in the area.
- 1,100 acres of agricultural land would be submerged and Gajapati district in Odisha would be hit severely.
- The farmers of Odisha would be especially deprived of water to irrigate their lands.

Conflict

- The Project foundation stone was laid on April 4, 2008 by Andhra government.
- Local people in Odisha who feared to be affected by this decision reacted sharply as the neighboring state was designing to built a project ignoring the bi-lateral agreement of 1962
- The Odisha Government was silent over the issue concerning the people of the state - particularly lakhs of people living in Gajapati and Rayagada districts of state.
- Thus, in opposition to the issue, the Mahendra Tanaya Bachao Andolan (MTBA) was formed by the people of Gajapati district.

Highest point

- MTBA started by writing letters to concerned authorities, appraising this matter to the Odisha government
- No one responded to the letters and no action was taken then
- The MTBA also launched a hunger strike in front of the Odisha Legislative Assembly while it was in session
- The MTBA even launched an agitation in front of the Gajapati District Collector's office at Paralakhemundi and called for Paralakhemundi Bandh (TOTAL STRIKE) that received a good response from the local people.
- Astonishingly, the AP government had not sought the permission of Central Water Commission (CWC) for the said upstream project as it was being designed at the River flowing through two states which was an inter-state matter issue ought to be settled through bi-lateral talks between the states.

- Members of the Odisha Legislative Assembly had a meeting onwards following the public reaction and expressed concern over the design of neighboring state breaching the earlier agreement.
- Despite the objection of Odisha government, Andhra Pradesh Chief Minister YS Reddy had laid the foundation stone for the irrigation project at lower stream of Mahendra Tanaya River on April 04, 2008.

Odisha Govt. Responds

- Angry over the neighboring state's move to construct a dam on Mahendra Tanaya River allegedly violating inter-state river agreement, Odisha Government then announced its plan to set up a dam and other irrigation projects at upstream of the river.
- "We will start construction of the irrigation project at upstream of the river Mahendra Tanaya as soon as possible," the then Revenue Minister of Odisha stated in the Assembly.
- Then the Government of Odisha had taken the decision and the technical advisory committee of the Water Resources Department headed by Odisha Chief Minister Naveen Patnaik had given the green signal for the construction of two barrages on the upstream of River Mahendra Tanaya.
- It was a tit for tat policy by the Government of Odisha.

Mahendra Tanaya irrigation project by Odisha government

- proposed to provide immediate irrigation facilities to Gumma, Gosani and Rayagada blocks of Gajapati district and to cater to the needs of domestic needs of Paralakhemundi, the district headquarter town of Gajapati.
- proposed construction of two (2) diversion across the River at Jalanga and Mahendra Tanaya in the upstream for the instant utilization of the water will provide irrigation to 3050 hectares.

Response by the Government

- The design flood of River Jalanga corresponding to catchments area of 260.86 Sq KM has been calculated and as per Unit Hydrograph, it is 1789.00 cumecs.
- An exchange of letters between both the Chief Ministers of Odisha and Andhra Pradesh has also aggravated the situation as AP Chief Minister YS Reddy had denied of having any such inter-state agreement claimed by Odisha Chief Minister Naveen Patnaik.
- AP Chief Minister YS Reddy, in a letter to the Odisha Chief Minister had mentioned that there was no 'inter-state agreement' on sharing of water either at Damidigam check dam or on Mahendra Tanaya River.
- However, the ayacut to an extent of 1,000 acres located in the villages of Kosamala, Vasundhara, Nadasandra and Rattani of Malyaputti Mandal is being irrigated since time immemorial. The government of Odisha should not close the existing vents unilaterally by which action the supply of water to the existing age old ayacut undermining the lower riparian rights of the ryoths, is deprived, mentioned YS Reddy in his letter requesting Odisha Chief Minister to personally intervene in the matter and issue suitable instructions to the officials to restore the vents to supply water to the existing ayacut in Vasundhara, Nadasandra, Kosamala and Rattani villages of Malyaputti Mandal of Srikakulam district in Andhra Pradesh.

Current status

- Meanwhile 3 years already passed since laying of foundation stone by both the Chief Ministers of Odisha and Andhra Pradesh. The then AP Chief Minister YS Reddy had laid the foundation stone for their off shore project on April 04, 2008 while Odisha Chief Minister Naveen Patnaik had laid the foundation its two barrages on April 30, 2008.
- The present picture and development is quite different on both sides, though the issue had led to bitterness between both the neighboring states. While Andhra Pradesh had went ahead with the construction of the said off shore project, on the other hand the Odisha Government had yet to start the projects on those two barrages for which foundation had been laid.
- Ruing the inactiveness and non reactive attitude of Odisha Government, the convener of Mahendra Tanaya Bachao Andolan Srikant Padhi stated that the AP government had

already completed more than 80 percent of the construction work on the offshore project. But Odisha Government has yet to start the construction work and even moved a single inch over the proposed barrage construction. It was a sad thing that the Odisha Government is taking the plea of Naxal menace as a hurdle for the construction, alleged Srikant adding “we have then proposed to hand over the construction work to the Military engineering service department”.

Possible Future Action

- The Central Water Commission (CWC), the appropriate authority in the Central government, had approved in 2002 our project proposal to build a Dam on this river at Kaithapadar.
- Downstream, we can also have a barrage at a point just before the river enters Andhra. Through this barrage we can provide irrigation in areas around Parlakhemundi and meet the drinking water requirement and requirement of industries of the area. Through the Dam at Kaithapadar and through the barrage, we can irrigate 20000 hectares of land during Khariff and 10000 ha in Rabi.
- After obtaining approval for the Dam at Kaithapadar we should have immediately gone ahead with the implementation of the Project. In stead of immediate response to utilize our own water, our Chief Minister has, after six years of inaction over the River, has now taken a “decisive step” which appears bold to some but which to me looks to be no more than mere lollypop to our people by laying the foundation stone for two small barrages at Champapur and Dambapur which would utilize only a fraction of our share of water of the River and irrigate a small area of 2000 ha only at at a cost of Rs. 37 crore.

Group 4: 2: Water and People: A case of Traditional Water Management Practices and Changing Scenario in the Himalayan Valley of Lahaul

- Study discussing the water-people relations in the Lahaul Valley of Himachal Pradesh
- Part of a project that analyses CPRs & traditional institutions for water management at a water scarce, high altitude region

- A micro case study of sustainable community-based water resource management
- Outlines emerging conflicts due to issues related to water scarcity, and pressures due to environmental and developmental changes

Lahaul

- Located in Himachal Pradesh at an altitude of 3156 m; dry, rocky terrain
- Cut-off from the world in winters, with the closure of Rohtang pass from November to March
- Chandra and Bhaga rivers drain this area which meet together at Tandi village to form Chenab
- Main source of water is snow melt, drinking water available from chashma (local spring)
- Vegetation belts are found along the water courses
- Climate of the region limits availability of water only in the summer season
- Agriculture is widely practiced (April to September)

Agriculture

- Potatoes and peas are most commonly cultivated. Kuth, hops, apples, almonds, apricot, walnuts etc. are also grown
- Shift from subsistence to commercial crops
- Irrigation is provided by the perennial streams or springs
- To bring this water to the fields a unique water management institution has emerged comprising of the Kuhls

Kuhls

- Kuhls - central to the agriculture system in the valley and are one of the largest community managed irrigation systems of the world (ADB)
- Small water channels, mostly cemented/ earth made used for irrigation – through which water brought from source to the fields – diverted through small water channels to individual land holdings

- Built along the hill gradient - natural gravitational flow of snow water is harvested
- Repaired and cleaned before each agricultural season. Built, operated and maintained by the user community for generations. Cultural significance
- Time-tested, community-made water channels for sharing the glacial water and ensuring irrigation in otherwise dry and porous soils.

Informal Institution: Bari System

- Need for equitable distribution and efficient management of water from the *kubls*, has led to the emergence of an institution locally known as the 'Bari system'.
- Gives rights to water use to the owners of land. 'Bari' refers to the turn each farmer gets for irrigating the fields.
- Community divided on the basis of the number of farm families. If there are 20 farm families in a village, *bari* is after 20 days. But two families, on mutual understanding may decide to share the water for half a day and get their next turn after 10 days instead of 20.
- Amount of water and time allocated dependent on the size of land holdings
- Allotment of time to use the resource, done on lottery basis

Case of water conflict: Tandi Panchayat

- Located uphill of the confluence of rivers Chandra and Bhaga, population 260
- High water shortage due to drying up of sources
- Source of water is 3-4 km away from the village – dependence on nearby village for water
- Water brought at night by the 2 families in *bari* to the village through *Kubls*, stored in tanks, and irrigation is carried out the next day through sprinklers in their fields (using less water)
- Shift to sprinklers has occurred recently to prevent the loss of precious water
- While earlier each house had an individual tap, at present there are only three in the entire village.

- To address the water needs, lately water from the Chandrabhaga is being lifted for drinking purposes but it is also being opposed by few villagers since pipelines are crossing through their fields.
- Due to non-granting of the no-objection certificates (NOCs), a lot of government budget is left unutilized.
- IPH planned to divert an adjacent village's (Billing) water to Tandi
- One village out of 10 objected & did not sign the NOC – filed case against authorities

Formal Institution

- The Department of Irrigation and Public Health (DIPH) is responsible for management and maintenance of large Kuhls, 6-7% budget
- System of irrigation by *kuhls* duly recognised by the officials
- Supply water, distribution by villagers. Work by forming WUAs – not successful, villagers do not depend on the IPH
- allocates funds for its repair and maintenance which is carried out by the villagers
- To meet water shortages and vulnerabilities, DIPH in the process of moving towards the development of larger pumped schemes from secured sources supplying multiple villages
- To indirectly support lift irrigation (16%), HP government in the 11th 5 year plan has promoted diversification in agriculture – much more dependence on water

People's Perception on Climate Change

- Vegetation belt is shifting slowly “*Apples are being grown here which was formerly restricted to the Kullu belt..*”
- Snow is decreasing, fast melting leading to high volume in shorter span
- “*Earlier, there were many sources of water, now the springs are drying up*”
- People have resorted to storage of water due to reduced snowfall.
- Disenchantment with agriculture

Climate Change Impacts and State Intervention

- Climate Change is likely to result in longer dry seasons and reduction of water flow – rights over water may become very important
- Uncertainty in the glacial melt – uncertain water access.
- People gradually opting out of the traditional practices and occupation; sustainability of the system is questioned
- In such a scenario *Kuhls* can be an efficient adaptation for climate change
- Example of *Kuhls* shows ability of the CPR to help the community adapt and strengthening of this system is an important tool to adapt more than any intervention
- State's attempt at bureaucratization of *Kuhls* is weakening this system and moreover, it is promoting commercial agriculture
- In case of water scarcity, irrigation and water schemes are taking away water from a village that has traditional rights over it – increasing the risk of conflicts
- Irrigation Department is taking over the control of *Kuhls* where male farmers are used as labours and the informal system is being formalized. Women farmers are losing their stakes in the system.

Discussion

- *Kuhls* not just serve the purpose of irrigation, but also an important instrument for bringing community together through collective action - serving a greater ecological and social purpose
- These associations have traditionally utilised the networks of interdependence – reducing vulnerability to environmental change
- Bottom-up approach of irrigation management being followed at the grassroots successfully until any political intervention
- Gravity water schemes have low O&M costs than the lift schemes but still they are being discouraged in the policy discourse, and pumped schemes being encouraged
- These areas have small irrigators who usually come from single caste households in small hamlets that are relatively homogenous
- While potential for conflicts is relatively low, yet there have been few cases on water sharing and distribution. 3 broad groups of stakeholders - villagers, State, market forces

- In such a situation, State must play its responsibility of providing water and look at strengthening these traditional systems

Recommendations

- The experiences snow-melt dependent communities must be studied to build cases to be integrated in the climate/water policy
- Cost benefit analysis done to determine the suitable intervention
- State must intervene and take decision in favour of protection of these communities and traditional systems
- Community managed systems should be studied better to improve efficiency in the water delivery mechanism
- Measures like snow harvesting to be adopted, conservation of local knowledge, agro-biodiversity, local produce – mono cropping discouraged

Feedback from Participants

Content

1. Given the timeframe of the training programme, do you think that the various sessions cover the important dimensions of the topic of the training, namely, “Understanding and Resolving Water Conflicts”?

Participants felt that given the timeframe of the training programme, the sessions have covered the important dimensions. There were suggestions regarding altering the name of the training as it gives an impression that it is going to cover resolved cases and participants felt that they could carry something specific in terms of methodology or approach though it is understood that the training programme is a process for and not an end. It was mentioned that there is need for an advanced training and to focus on basic principles and methodology. The resolving component and dialogue process should have been given more time. Smaller conflicts were missing and more focus was on the larger picture. One of the participants has mentioned the need to include human & wildlife conflict, tribal rights, forest (protected area) conflicts. Participants expressed that some of the sessions were very interesting.

2. In case you think that something important is missing, then can you give suggestions about topics that need to be included?

Topic Suggestions

- Best approaches if any. Positives and shortcomings of approaches across few cases to give an overview can be discussed.
- Conflicts in the context of human & wildlife, tribals, forests/national parks.
- More stress should have been on negotiation part and identification of conflict resolution magnitude (peaks).
- How to resolve conflicts, methodology and process, socio-economic indicators.
- More presentations on resolved conflicts.

- Minor conflicts, Urban conflicts related to drinking water, inequity, etc.

Other Comments

- Need to present more case studies.
 - A single case study should have been analysed thoroughly to understand the nuances of conflict and conflict resolution.
 - Some of the topics were not presented systematically.
 - Care must be taken when allotting 2 sessions to a single resource person.
 - Need to allocate more time for discussion after each session.
 - Though training was organised in Chilika Lagoon conflict regarding natural resources was lacking.
 - Harvesting products from water should be considered as conflict.
 - Impacts of watershed development both positive and negative can be elaborated
 - Disputes in sea water between nations can be included in the discussion
 - Emphasis has to be given on identifying conflict: Since disputes over water are common (inter- and intra-community), at what scale does it manifest as ‘conflict’ that merits attention and action. How does one identify stakeholders? Does everybody who claims a ‘stake’ become a stakeholder? Or, is there a mechanism for stakeholder verification? Who decides that? Basic concepts like ‘local’ which is not defined needs to be discussed. Does that depend on the spatio – temporal scales? Discussion on these issues can be included.
3. What is your opinion about the coverage of each of the topic that was dealt -- any important gaps here? Were they dealt with in sufficient details? Any suggestions?

Most participants agree that the topics were covered in details. Some of the specific gaps or suggestions that were given by the participants are mentioned below:

- The topic “Stakeholder Processes, Dialogues and Resolutions of Conflicts around Water” was rushed through as the programme was running behind schedule.
- Some sessions need to be divided into theory and practice.

- Theoretical inputs on stakeholder analysis were not clear.
- Instead of looking at many case studies a single case study would have served the purpose.
- More time should have been allocated to the session on “Legal and Institutional Issues in the Water Sector” and “Water, Conflict and Laws in India”. Many participants were not from the field of law so understanding the legal aspects was important.
- The conflict of Chilika Lagoon should have emphasised on natural resource management.
- Dealing with 1 or 2 case studies in details would have helped in understanding the concept better.

Methodology/pedagogy

1. Class room lectures and discussions: Give your comments and suggestions regarding the resource persons’ ability to communicate effectively? Time for discussions? Was the time enough to cover the topic properly? Suggestions for improvement.

Most of the participants mention that the methodology was effective but gave several comments and suggestions regarding the same:

- The sessions were rushed at times. There wasn’t much time for discussion after the sessions and more time should be allocated for post session discussions.
- Sessions that were high on concept should have been interspersed with activities.
- Some of the resource persons were communicative and effective. At times they were very fast and participants found it difficult understand those sessions.
- Audibility of some resource persons was a problem.
- Some of the session has a large no. of power point slides and these need to be reduced.

Field visit

1. Give your comments and suggestions regarding the field visit on issues like the logistics, whether it served the purpose and give insights about the conflict? Any suggestions for future in case we have to organize such visits as part of the training programme?

The logistics were average and there was lack of time management.

Most of the participants feel that the field visit served the purpose and some suggestions and comments regarding the same have been mentioned below:

- Focus should have been on insights rather than chronology of events.
- The visit to the village should have been planned a day in advance to make it more productive.
- The discussion in both the villages was very general in nature and didn't capture the problem.
- Time spent was not enough as well as the team also lacked energy.
- The field visit saw only one side of the conflict.
- A simple conflict/case for field visit should have been selected though this may not be always possible due to logistics.
- Some of the participants felt that translation was an issue and that the flow of the discussion was broken due to translation. It may not be logistically possible but 2 or 3 translators could share the work during the discussion.
- Participants should have been provided with material related to the field visit in advance so that they would have been prepared with questions.
- A discussion on the learning and analysis of the field visit should have been included
- Case studies should have been related to field visit.
- A couple of participants felt that the field visit was organized for the sake of organizing a visit and referred to it as rural tourism
- Some felt that they were introduced to only one side of the conflict, and didn't get any perspectives on how the 'other' communities perceived this conflict.

Reading material

1. Comments and suggestions on content, structure and presentation and so on

Participants found the content and structure of the training good and informative. They especially found the reading material to be elaborate and excellent and mentioned that it would serve as a useful resource.

Group Work

1. What are your comments and suggestions about the suggested protocol for the group work? Any problems and constraints? Any suggestions for improvement?

The suggestions and comments have been listed below:

- Printouts of case studies should be circulated since all participants do not have laptop.
- Since participants were part of a single group for the entire period of the workshop it did not provide an opportunity to interact with participants in terms of knowledge on the subject and also their areas of specialisations.
- Groups should be formed for presentations on the basis of presentations, themes, specialisations and should have an inter-disciplinary approach.
- Group arrangement was very methodical. Group should be assisted by the resource person. Not all participants contribute to the group work. Group should have a leader to guide the process of group work.
- Instead of asking the participants to choose a case study, all participants should have been given the same case study to get different viewpoints on the same case study and groups could have approached the conflict in the different ways.
- Case study assignment could have been allocated 2 days. Choosing one case, different groups could have played the role of different stakeholders and tried to resolve the conflict and apply their learning from the sessions.

General comments and suggestions

1. What is your overall comment about the training programme? Did it meet the stated objectives? Did it meet your expectations? Any suggestions for improvement?

Most of the participants felt that the training programme met the expectations to a large extent. It was found insightful, informative, educative and a learning experience.

Specific comments and suggestions:

- Achieved the objective of understanding the conflict but it missed on the resolution part.
- There should be an expansion of the training to 10 days.
- More national and international resource persons should be invited for the training.

- The material (hard copies) should have been distributed during the training instead of giving on CDs/pendrive.
 - The Chilika conflict should have been presented by a local resource person.
 - More modules like the one conducted by Meta-Culture can be included in the workshop
2. What is your overall comments and suggestions about the methods used like classroom lectures and discussions, field visit, reading material, group work and so on? Any scope for improvement and any other methods could be brought in?
- Lectures were good but overloaded at times and should have been activity based, there was less time for discussions and there was too much input in terms of power point presentations which should be avoided.
 - Need for more planning in terms of field visit, it should have been more focused and specific material related to the field visit should have been provided.
 - Field visit should have been more organised and there was no follow up of the field visit.
 - Reading material could have been circulated through emails.
3. Any comments and suggestions regarding the logistics – right from the call for nominations/applications to the process of selection, communications with the selected candidates, sending materials, stay and food arrangements and so on

Comments and Suggestions:

- Overall arrangement were good though some participants have complaints regarding staying arrangements, mosquitoes and also regarding lack of power supply and suggest that alternative arrangements should have been made.
 - There was a long break in communication between deadline for sending the applications and confirmation of participants.
 - Reading material should have been sent in advance.
4. Do you think that this type of a training programme can make a contribution in engaging with water conflicts in India? Do you suggest that this type of a programme could be offered again (of course with revisions and improvements)? If yes, then who all could benefit from this training programme?

Participants felt that this kind of training programme can make a contribution in engaging with water conflicts in India and it should be offered again. Conflicts in the water sector are bound to increase hence it is necessary to deliberate upon these. There was a suggestion to think in terms of specialisations and that nothing has been discussed in terms of future actions and upgradation. This kind of training is beneficial for mid-career development professionals, government staff working in the water sector, people working in the water sector, researchers, academicians, water specialists, consultants, activist, journalists etc.

Conclusion

One could say that by and large the training workshop met the objectives it set out with. The comments and suggestions by the participants during the feed back session and also what they have written in the evaluation forms bear this out. By and large the participants were happy with all the components of the training workshop, namely, the preparations for the workshop, the reading material, sessions, field visit, group work and so on. This time we had made a conscious effort to strengthen the conflict resolution part of the training programme by bringing in Meta-Culture to take a few sessions on conflict resolution which went down very well with the participants. Still there have been suggestions that we have to still strengthen the conflict resolution part and may be provide more time to it and also give live examples of conflict resolutions.

Another important suggestion was that the sessions need to be little more participatory and should use different methods for the sessions, and not only the lecture mode. For example the sessions could be more activity oriented. Case studies, role plays also could be used.

One of the areas that need further thinking is the group work. The group work really did not go the way it was planned. Though time was provided everyday for group work as part of the programme, the presentations of the group work on the last day did not really come up with the group insights, but it was more of individual presentations. There have been also suggestion to improve this and that include a) group work to be related to the field visit, b) the case studies for the groups to be given by the organizers, c) if there are four groups then two groups work on one case study, etc.

The participants also wanted the association with the Forum to continue beyond the training. They also wanted inputs from Forum to improve the case studies that they had

brought. From Forum's side it was made clear that Forum would extend all support to them and also would help in improving their case studies and also make them part of the documentation by the Forum.

The participants also felt that there is a need to conduct more of such training programs for different stakeholders.

Annexure 1: Programme

Time	Topic	Resource Person
Day One: 18 July 2011		
10:00 to 11.30	Inaugural Session	
10:00 to 10:30	Welcome, introduction to the training programme and introduction of the participants	K. J. Joy, SOPPECOM & Forum Coordinator
10:30 to 11:30	Group work: Introduction to the group work Group formation Setting the norms, procedures, outcomes	K. J. Joy
11:30 to 11:45	<i>Tea/Coffee</i>	
11:45 to 13:30	Understanding water: the bio-physical and socio-cultural characteristics of water	K. J. Joy
13:30 to 14:30	<i>Lunch</i>	
14:30 to 16:00	Normative concerns around water: sustainability, equity and democratization	Suhas Paranjape, SOPPECOM, Pune
16:00 to 16:15	Tea/Coffee	
16:15 to 18:15	Inter-sectoral water use in India: trends and issues	Suhas Paranjape, SOPPECOM, Pune
20:00	<i>Dinner</i>	
Day Two: 19 July 2011		
08:45 to 09:00	Main learnings from the day one	Group
09:00 to 11:00	Water for ecosystem needs	A. Latha, CPSS, Thrichur

11:00 to 11:30	<i>Tea/Coffee</i>	
11:30 to 13:00	Legal and institutional issues in the water sector	Philippe Cullet, IELRC, New Delhi
13:00 to 14:00	<i>Lunch</i>	
14:00 to 15:30	Group work	K. J. Joy
15:30 to 16:00	<i>Tea/Coffee</i>	
16:00 to 17:30	Understanding water conflicts in India	K. J. Joy
19:00 to 20:30	Water, Conflicts and the Laws in India	Prof. Ramaswamy Iyer
20:30	<i>Dinner</i>	
Day Three: 20 July 2011		
	Field Visit	Pranab Choudhury
Day Four: 21 July 2011		
08:30 to 08:45	Main learnings from day two	Group
08:45 to 09:00	Main learnings from day three	Group
09:00 to 10:30	Methodologies for conflict resolution	Dr. S. Janakarajan, MIDS, Chennai
10:30 to 11:00	<i>Tea/Coffee</i>	
11:00 to 13:00	Conflict resolution: Common challenges and some approaches to creating sustainable solutions	Ashok Panikkar, Executive Director, Meta-Culture, Bangalore
13:00 to 14:00	<i>Lunch</i>	
14:00 to 15:30	Conflict resolution: Common challenges and some approaches to creating sustainable solutions	Ashok Panikkar

15:30 to 16:00	<i>Tea/Coffee</i>	
16:00 to 17:30	Stakeholder processes, dialogues and resolution of conflicts around water	Dr. S. Janakarajan, MIDS, Chennai
18:30 to 20:00	Group Work (Can continue after dinner)	Pranab Choudhury
20:00	<i>Dinner</i>	
Day Five : 22 July 2011		
08:30 to 08:45	Main learnings from day four	Group
08:45 to 10:15	Conflict negotiations	Mumai Pheiga, Manipur (South Asian accredited trainer on conflict and peace)
10:15 to 10:30	<i>Tea/coffee</i>	
10:30 to 13:30	Presentations of the group work and discussions	Pranab Choudhury
13:30 to 14:30	<i>Lunch</i>	
14:30 to 16:00	Concluding session <ul style="list-style-type: none"> • Distribution of certificates • Valedictory • Feedback from participants • Vote of thanks 	

Annexure 2: List of Participants

No.	Name	Organisation and Contact Details	Gender
1	B. Anjan Kumar Prusty	Scientist, Environmental Impact Assessment Division, Sálim Ali Centre for Ornithology and Natural History, Coimbatore, Tamil Nadu Email: anjaneia@gmail.com , anjaneia@sacon.in	Male
2	Bharathidasan Subbiah	Secretary, Arulagam, Coimbatore, Tamil Nadu Email: arulagamindia@gmail.com	Male
3	Bhupesh Chandra Sahoo	Research Associate, Shristi- Baitarani River Initiative, Bhubaneswar, Odisha Email: bhupesh.sahoo@gmail.com	Male
4	Bishnupriya Swain	Gopinatha Jubaka Sangha (Gopinath Yuvak Sangh), At/Post: Sarbodaya Nagar, Puri 2, Odisha. Email: gjsindia@hotmail.com	Female
5	Chandrasekhara Rao Mulukuri	Water and Land Management Training and Research Institute (WALAMTARI), Hyderabad, Andhra Pradesh Email: cmulukuri@gmail.com , dg.walamtari@gmail.com	Male
6	Gaurav Dwivedi	Researcher, Manthan Adhyayan Kendra, Badwani, Madhya Pradesh Email: manthan.kendra@gmail.com	Male
7	Jhansi Rani Gaddam	ID & CB Expert, Water and Land Management Training and Research Institute (WALAMTARI), Hyderabad, Andhra Pradesh Email: dg.walamtari@gmail.com , jhansirani7@rediffmail.com	Female
8	Jinda Sandbhor	Research Associate, Shristi- Baitarani River Initiative, Bhubaneswar, Odisha Email: jindadost@gmail.com	Male

9	Juli Borgohain	Research Scholar and Lecturer, Department of Economics, Dibrugarh University, Dibrugarh, Assam Email: juliborgohain@gmail.com	<i>Female</i>
10	Manasi. S	Assistant Professor, Centre for Ecological Economics, Institute for Social and Economic Change, Bangalore, Karnataka Email: manasi@isec.ac.in	<i>Female</i>
11	Mihir Kumar Jena	RESEARCHERS, Post: Panuspadu, Puri. Email: researchers2@rediffmail.com ; Phone: 9437513261	<i>Male</i>
12	Narendra Varma Killada	Research Intern, Ashoka Trust For Research in Ecology and Environment (ATREE), Bangalore, Karnataka Email: narendrakillada@gmail.com	<i>Male</i>
13	Ranjan Kumar Mallick	Independent Consultant cum Researcher , GIS Specialist, Bhubaneswar, Odisha Email: mallickgis@gmail.com	<i>Male</i>
14	Ruchi Shree	Research Scholar, Jawaharlal Nehru University, New Delhi Email: jnuruchi@gmail.com	<i>Female</i>
15	S. Unnikrishnan	Chalakudi Puzha Samrakshana Samiti, Chalakudy, Kerala	<i>Male</i>
16	Shanti Ranjan Behera	Director, Martin Luther King Centre for Democracy & Human Rights, Bhubaneswar, Odisha Email: livelydemocracy@yahoo.com	<i>Male</i>
17	Siddhartha Lahiri	Assistant Professor, Department of Applied Geology, Dibrugarh University, Dibrugarh 786 004; Email: siddharthalahiri2@gmail.com	<i>Male</i>
18	Tapan Kumar Padhi	Director, National Institute for Development (NID), Bhubaneswar, Odisha	<i>Male</i>

		Email: tapankpadhi@gmail.com	
19	Tarun Nair	Programme Coordinator, Gharial Conservation Alliance, Mamallapuram , Tamil Nadu Email: tarunnair@yahoo.co.uk	<i>Male</i>
20	Vasundhara Dash	Research Associate – Peri-urban Water Security Project, SaciWATERS, Secunderabad, Andhra Pradesh Email: vasundhara@saciwaters.org	<i>Female</i>

Annexure 3: The Resource Persons

A. Latha

Dr. A. Latha has a doctorate in Agriculture from the Kerala Agricultural University. She started her involvement in the field of environmental protection in the early 1990s through nature education activities amongst the schools and colleges of Kerala which later evolved into research and information based campaigns amongst communities and local self governments to conserve rivers in relation to dams, sand mining, pollution, deforestation etc.

Her area of interest include, restoring ecological flows in rivers, decentralised community led river basin management and restoration and watershed management. She has been serving as a resource person in several venues at state level and presented papers on the same at state and international level on these themes. She has been an AID Saathi since three years in recognition of her involvement in river conservation especially in the mobilization, analysis and interpretation of information, research and outreach to river basin communities in Kerala and at the national level especially in the ongoing people's movement to save the Chalakudy river from a seventh large dam namely the Athirappilly Hydro Electric project. She has played a key role in policy formulation and legal enactments related to river basin management, water policy, sand mining etc in Kerala. She was the State Coordinator in the first phase of the Forum for Policy Dialogue on Water Conflicts in India.

Presently she represents South Asia in the International Steering Committee of the International Rivers based at Berkeley, USA. She has co authored the book 'Tragedy of Commons' the Kerala Experience in River Linking. Latha is also the National Steering Committee member of the Forum for Policy Dialogue on Water Conflicts in India.

Email: rrckerala@gmail.com

Achyut Das

Mr. Achyut Das is a Director of Agramee, a group of professionals, activists and thinkers working with marginalized and underprivileged communities in the tribal Districts of Odisha.

He is a social Worker with over 20 years experience in the field of Rural and Tribal Development. Mr. Achyut Das was a member of the State Planning Board from 1991-1994 and has also had membership in various other state and National level committees. Mr. Achyut Das has played a crucial role in influencing state policy on tribal development and is widely known for his unequivocal stand on human rights of indigenous communities.

Email: achyutdas@agragamee.org

Ashok Panikkar

Ashok Panikkar is the Executive Director and Principal Consultant of Meta-Culture Consulting based in Bangalore. He has worked as conflict management consultant, mediator, facilitator, and educator.

Ashok has a graduate degree in Critical and Creative Thinking from the University of Massachusetts, Boston; undergraduate studies in Visual Communications from The National Institute of Design, Ahmadabad, India and advanced training in Conflict Resolution from leading institutes in the U.S.

He has conducted hundreds of workshops in communication, conflict resolution, critical thinking, and cross-cultural diversity in the U.S, India and Europe. He has been a lead Mediator and Director of Training and Workplace Mediation with a Conflict Resolution program in Cambridge, Massachusetts. Ashok has facilitated successful multi-party Dialogues with members of extremely polarized groups in both the corporate and public spheres.

He has presented well-received papers at professional conferences in India and the U.S. He has written for professional journals, and was elected to the board of the New England-Association of Conflict Resolution (NE-ACR) for 2004-2005. He is a member of Board of Mediators Beyond Borders, a non-profit, humanitarian organization established to partner with communities worldwide to build their conflict resolution capacity for preventing, resolving and healing from conflict. He was a Keynote speaker at MBB annual Congress, in Los Angeles in March 2011.

Email: ashokpanikkar@meta-culture.in

K. J. Joy

K. J. Joy has a Master's degree in Social Work from the Tata Institute of Social Sciences, Mumbai. He was a full time activist for about eight years in South Maharashtra with Mukti Sangharsh movement. He has been an activist-researcher for more than 25 years and has a special interest in people's institutions for natural resource management both at the grassroots and policy levels. His other areas of interests include drought and drought proofing, participatory irrigation management, river basin management and multi-stakeholder processes, watershed based development, water conflicts and people's movements. He has worked with Bharat Gyan Vigyan Samithi (BGVS), New Delhi in its watershed development and resource literacy programme. He was a Visiting Fellow with CISED, Bangalore for a year and was a Fulbright Fellow with University of California at Berkeley.

Joy has been the coordinator of the Forum for Policy Dialogue on Water Conflicts in India.

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