



**STRIVER**

**The Tungabhadra River Basin**

**Proceedings of the First Stakeholder Meeting**

Date: 9 - 10 January 2007

Venue: MYRADA Training center, Danapur, Hospet



**Society for Promoting Participative Ecosystem  
Management**

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Dundee University, Scotland**

## **Day One: 9 January 2007**

### **Inaugural Session: Welcome, Introduction of the STRIVER Project and Objectives of the Stakeholder Meeting**

K J. Joy from Society for Promoting Participative Ecosystem Management (SOPPECOM) welcomed all the participants including S. T. Patil, Director, WALMI, Dharwad; Ms. Dale Campbell of the UNESCO Centre for Water Law, Science and Policy at the University of Dundee, Scotland; Prof. Janakrajan, MIDS, Chennai; Doraiswamy from Pragathi, Bangalore; Dr. P. K. Mishra, from Centre for Soil and Water Conservation Research and Training Institute (CSWCRTI), Bellary; Dr. Devangi Prafullachandra, Devangi Agricultural Research and Extension Centre, Shimoga; Mr. Manohar, Arghyam Trust, Bangalore; and also the representatives from different stakeholder groups like the Irrigation Departments and Command Area Development Agencies (CADAs), Forest Department, Pollution Control Board, Fisheries' Department, NGOs and civil society groups from the Tungabhadra basin, representatives of Water User Associations and farmers. Only the representation from industries was lacking in this meeting. Altogether there were more than 40 participants. The list of participants is given as Annexure 1.

Joy also presented the major objectives of the meeting:

- To introduce the STRIVER project and how it could contribute to the Tungabhadra river basin management;
- To solicit the views and opinions of local experts and representatives of different stakeholders from the basin as to the current issues and challenges within the basin which can further shape the research agenda of the STRIVER project;
- To set up a mechanism for uptake and dissemination of the research results;
- To form a network to work towards the formation of a Multi Stakeholder Platform in the Tungabhadra basin; and
- To work towards a long-term process for managing the river basin.



*K. J. Joy setting the agenda for the workshop*

In the welcome address Joy explained the programme of the workshop for two days, which is included as Annexure 2. A round of introduction by the participants followed Joy's introductory remarks.

Dale Campbell from the UNESCO Centre for Water Law, Science and Policy, University of Dundee, Scotland explained the STRIVER project – the strategy and methodology for improved IWRM (Integrated Water Resource Management) in an integrated interdisciplinary assessment in four twinning river basins.

STRIVER is a research project where the research institutes involved study conditions, develop methods, and try to provide advice. She explained that both the scientific and water management communities have pointed out that there is the lack of clear methodologies, and that there are problems in the operationalisation of IWRM.

STRIVER will develop interdisciplinary methods to assess and implement IWRM. Based on the development of a multidisciplinary knowledge based assessment in all case studies (policy, social and natural sciences) and the development of an IWRM conceptual framework, the project will undertake IWRM analyses in the four selected twinned catchments covering six countries in Europe and Asia.

The objectives of the STRIVER project are:

- To develop strategy and methodologies for improved IWRM;

- To study the land and water use conditions in the river basin;
- To develop guidelines for IWRM;
- To understand the legal procedures and the legal framework; and
- To exchange experience among the river basins

The presentation was followed by a brief discussion. The discussion mainly centered on the nature and content of capacity building, dissemination and data. Some of the important points raised include:

- The emphasis of the project is on twinning meaning shared learning and the project also aims to share the learnings with non-project partners;
- Not much is happening in the implementation of IWRM due to conflicts, different viewpoints and growing trend of privatisation of water sector;
- Data needs to be compiled. Access and reliability of data: different stakeholders should share available data and available data should be digitalized at sub river basin level. Also it is important to put raw (unprocessed) data in the public domain. There is also large gap between government data and the reality on the ground;
- Reliability and acceptability of the data by the stakeholders is important. That's why such meetings (like the present one) are organized as part of consensus building. Here the stakeholder process is important. Also there should be social acceptability of the different components of IWRM; and
- Pollution Control Board (PCB) has collected reliable data from 25 points of the river Tungabhadra.

## **Session One: Introduction to Tungabhadra River Basin**

### **Presentation by Suhas Paranjape**

Mr. Suhas Paranjape from SOPEECOM presented the overall situation of the Tungabhadra River basin.

- The Tungabhadra River is a tributary of the Krishna River, 58% of the drainage area of the Krishna River falls in the state of Karnataka
- Tungabhadra sub basin: substantial irrigation, but not equitably distributed.
- The situation can be divided into three categories:
  - Rural - Upper catchment area
  - Rural - Middle and lower catchment
  - Urban areas

### **Rural–Upper Catchment Area**

- Mining;
- Bamboo/pulp;
- National park;
- No large scale irrigation systems;
- Area of water intensive crop is small; and

- Productivity is low.

## **Rural–Middle and Lower Catchment Area**

- Much lower rainfall, some portions drought conditions;
- Not so undulating terrain, mainly plains;
- Two large project commands – Tungabhadra and Bhadra projects;
- Sharp delineation between canal irrigated and other areas;
- Limited deep tube-well based irrigation;
- Private lift irrigation schemes exist, collective lift irrigation schemes have generally collapsed; and
- Rice is the predominant irrigated crop, the main water-consuming crop.

## **Urban Conditions**

- Small towns are flourishing;
- Lack of infrastructure; and
- Local pollution increased.

## **Issues**

- Siltation of reservoirs due to mining and deforestation;
- Pollution:
  - Soil erosion
  - Increasing mining and pulp industries
  - Increasing chemical fertilizers and pesticides usage in agriculture
  - Lack of pollution control treatment and proper sanitation
- Drinking water: Affecting rural and urban poor;
- Closure of canal for 4-5 months is affecting drinking water supply;
- Water quantity and quality;
- Water use prioritization;
- Live stock needs and livestock interactions;
- Governance and institutional issues:
  - Interstate issues
  - Move towards Participatory Irrigation Management (PIM)
  - Need for water regulatory authority-enforceable water rights and entitlements
  - Shift from crop area to volumetric supply and pricing
  - Need for multi-stakeholders' platform/processes
  - Need for improvement in the availability and access to the data
  - Watershed development

Based on the above issues, attention should be given to select the stakeholders from the following categories:

- Farmers from upper catchments area;
- Farmers from irrigated and dry land area of middle and lower catchments; and
- From mining and other industries.

## Session 2: Tungabhadra Basin: Stakeholder Perceptions

The purpose of this session was to hear from as many stakeholders as possible from the basin about the different issues in the basin. Efforts were made to see that each of the stakeholder group got a chance to speak.

1. **Ms. Shama Pawar** from The Kishkindha Trust (TKT): Ms. Shama shared a few incidences regarding the Tungabhadra River around the Anegundi area of Gangavathi taluk:
  - In 1992, due to broken barrages there was severe loss to farmers, along with her the farmers from that area agitated for timely repairs of the canal
  - Few years back, a distillery unit in that area discharged 6000 tonnes of molasses into the river resulting in fish death. After public protests, the government instructed distillery unit to discharge water only after proper effluent treatment. Also efforts were made to pump in oxygen into the affected area
  - Application of chemical fertilizers to the paddy field is another problem
  - Increased water hyacinth in the river
  - In that area, major water usage is for agriculture and cottage industries
  - The UN is developing a management plan for Hampi, heritage site conservation, so attention should be given to resource conservation as well
  
2. **Dr. P. K. Mishra**, Head, Central Soil and Water Conservation, Research and Training Institute, Bellary, shared his views on soil and water related problems:
  - No proper study on the impact of watershed treatment on the water storage in the downstream tanks
  - Drainage line treatments are affecting the water storage in the tanks (in some cases water storage is reduced by 33%), till now there are no proper guidelines regarding the extent of watershed treatment that should be done
  - Silt from mines and forest affect the storage level of reservoir, so a proper study should be done to assess the effect of mining on silt accumulation
  - An integrated view on water and land management is needed
  
3. **Mr. K. M. Lingaraju**, Environmental Officer, Davangere and **Mr. Madhusudhan**, Environmental Officer, Bellary shared their perceptions on the pollution issues in the river basin. According to them the major factors causing pollution in the area are as follows:
  - Industries
  - Run off from agricultural fields
  - Urbanization - discharge of sewage from municipalities
  - Mining

### Situations

- In town municipalities, there is no proper Underground Drainage (UGD) and sewage treatment plans and sewage is discharged into the river

- In the Tunga River basin, there are four hot spots of pollution, which include Kudremukh, downstream of Bhadrawathi, downstream of Harihara and downstream of Hospet
- In the river basin, four major industries are permitted to discharge treated effluents into the river as per the law, among them two are from private and other two are government sector
- The above four industries are discharging about 90,000 m<sup>3</sup> per day of treated effluents into the river. There is regular monitoring of the effluents discharged and the quality of the river by the Pollution Control Board
- Two major iron mining areas, i.e., Kudremukh and Hospet, exist in the river basin:
  - There are no proper mining standards for iron ore extraction, which is open cast mining. Earlier mining was restricted to mine heads, but now it is done at the foothill level also
  - There is no study conducted to assess the damage of air pollution caused by mine dust on crop losses.
  - There are no mining related pollution standards especially for open cast mining. Air pollution and dust nuisance are mainly caused due to movement of trucks
  - Agriculture is getting affected because of this pollution (mining related dust pollution) and farmers are selling their lands to mine owners
- Sand mining from the riverbed using mechanized boats though they are not permitted. Apparently district-wise task force has been set up to look into the issue of sand mining and other related activities.
- Lots of chemicals and pesticides are used in agriculture in this area, which needs better management and policies for regulation. There are no systematic studies about these non-point pollution sources. There was a recent incident of spraying of pesticides intensively for the paddy crops that affected the water in the river, which also caused lot of foul smell

The issue of pollution is becoming all the more serious, as there is less water in the river for dilution.

4. **Mr. Gireesha**, Assistant Director of Fisheries, Shimoga, shared his thoughts about the effects of pollution on the river and its ecosystem especially on fish. The number of families depending on fisheries in the river basin is as follows - 3000 in the Tunga River, 2000 in the Bhadra River and 6000 families in the Tungabhadra – altogether 11,000 families.

### **Issues**

- Fisheries development activities are controlled by the 1996 Karnataka Inland Fisheries Act, which includes preservation, development and regulation
  - There were nearly 120 species of fishes in the river, among them 28 species are threatened due to over exploitation and pollution
  - More attention should be given to conserve and develop local fish species
5. **Mr. Laxminarayana**, Research Forest Officer (RFO), Hospet explained forest-related issues in the river basin.

The Tungabhadra River is adjacent to a forest reserve. In the forest area 1100 ha area is mined, resulting in deforestation. The iron ore is concentrated on the ridge of the forest.

- Forest area is not a catchment for the Tungabhadra and there is no siltation in the reservoir from this forest area
- Rs. 4.72 lakh/ha<sup>1</sup> (about 10,490 USD) is collected as royalty for mining
- Afforestation has to be taken up in the catchment area

6. **Mr. K. H. Bhaskar** Assistant Director of Agriculture, CADA, Tungabhadra (TB) Project shared about the agricultural situation in the Tungabhadra command area. In the Tungabhadra command area there are 3.63 lakh ha of land under irrigation.

### Issues

- Agriculture production is declining over the years
- System of Rice Intensification (SRI) method of paddy cultivation is not popularized because it is cumbersome and weed control is a major problem
- 96,000 ha of land is in a waterlogged condition due to continuous cropping and 25% of the area is in an alkaline condition
- The soil condition is deteriorating due to excessive use of chemical fertilizers and pesticides and farmers are not following any natural practices like using farmyard manure (FYM), crop rotation, etc.

7. **Dr. Devangi Prafulla Chandra** of the Devangi Agricultural Research and Extension Centre (DAREC). Dr. Prafulla is a progressive farmer and a Food and Agriculture Organisation (FAO) awardee from the Shimoga area. He shared experiences of water and nutrient practices and activities of DAREC:

- Use of Toruleena plants on the bunds and roadside helps reduce evaporation losses.
- Use of mixed crops and intercrops helps to maintain soil fertility.
- Use of sewage and animal waste in agriculture helps fulfill nutrient demands of the plants.
- Use of low cost technologies for effective energy management.

DAREC also publishes booklets on agriculture related-issues, which can be very useful for farmers.

8. **Ms. Shobha Karjagi**, a social activist from Ranebennur and President of the Tungabhadra Watchdog Committee shared her experiences of work on pollution issues, which are caused by the Harihara Polyfibres and Grasim industries.

From 1969, the India Development Service (IDS), an NGO, has been active in the Harihara area to control industrial pollution. After the Birla group of companies started two companies there were some pollution hazards in the area, which included:

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<sup>1</sup> 1 lakh equals: 100,000



- Sudden death of fish and decreased fish population in the river.
- Deteriorating water quality.

Finally the Government of Karnataka responded and formed a Watchdog Committee to check the pollution hazards of industries. Now this committee is regularly checking and monitoring the measures to control pollution.

9. **Mr. Sitaramareddy**, farmer and a member from the Water Users' Council (WUC) shared his thoughts about the activities of WUC and some of the related issues.

- Effective water management practices are followed in the area. Now the carrying capacity of the distribution channel is reduced from 8.70 cusecs<sup>2</sup> to 6.70 cusecs
- There is a shift from paddy cultivation to Jowar, where returns are almost the same
- Illegal lift irrigation occurs both in Andhra Pradesh and Karnataka.
- The storage level of the Tungabhadra reservoir is reduced by 40 TMC (Thousand Million Cubic Metres) due to silt accumulation and the government is planning to install one more power station at the dam site. Litigation is going on in the Supreme Court regarding this issue
- Tail end deprivation in the irrigation command area is a big problem
- Non-availability of good quality seeds and lack of proper post-harvest technology in the area, mean that farmers need training on these aspects of production

10. **Mr. Doraiswamy** from Pragathi, an NGO, working in the area talked about water conflicts, tail end deprivation and also about the tussle for power between two regimes in Andhra Pradesh – one represented by the Telugu Dessam Party which was in power earlier and the Congress party which is in power now.

- Tail end deprivation in the Krishna project is about 30,000 ha
- Distribution Committee (as part of participatory irrigation management) is completed
- Now project level management issues are coming up
- There is a shift from paddy to horticulture crops taking pace and the return from paddy and Jowar (Sorghum), which is an irrigated dry (ID) crop, is more or less the same

11. **Mr. Balappa**, a progressive farmer and Ex Zilla Parishad (ZP) member from Gangavathi area (Rice Bowl of Karnataka) shared his views on agricultural issues in the Tungabhadra command area.

- Agriculture is becoming more expensive, with the increased cost of cultivation and due to low yield levels; some farmers are using 6 quintals<sup>3</sup> of fertilizers instead of required quantity of 1.5 quintals and the land is getting spoiled because of the overuse of fertilizers

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<sup>2</sup> Cusec is a flow rate meaning cubic foot per second or 28.317 litres per second

<sup>3</sup> 1 quintal equals: 100 kg.

- The soil is becoming alkaline and the waterlogged area is increasing due to continuous and sometimes excessive irrigation
- Paddy is major crop in the area, but most of the varieties used are susceptible to pests, disease and pest attacks
- There are no horticultural crops in the area and fisheries are also not undertaken
- Capacity building of farmers on crop management and water management is needed
- Different departments should work together; Irrigation Department officials are not favourable towards Water User' Associations (WUAs)
- Landowners would soon become labourers in irrigated areas

12. **Mr. Purushoththam**, Administrator, Command Area Development Authority (CADA), Bhadra project:

- Forest: a valuable species like sandalwood has almost become extinct because of smuggling and spike disease
- Rules are not enforced with regard to mining. For example while transporting the ore, the trucks should be covered by tarpaulin and the ore should be sprinkled with water, but these regulations are not adhered to and there is no public outcry about this
- No proper maintenance of canals and channels is done after reservoir construction.
- Meeting the cost of maintenance of channels and canals is becoming difficult for the government, as water charges are insufficient to cover the costs of maintenance. In the case of the Bhadra project, some money is given for canal maintenance
- Faulty and excessive use of water leads to all sorts of problems
- PIM: Out of every three WUAs formed, two are registered. Memorandum of Association (MoU) has been signed for about 100 WUAs
- Drinking water supply during summer season is becoming very difficult

Mr. S.T.Patil, the Chairperson of the session summed up the session by highlighting the main issues in the basin that emerged from the various presentations and discussions. He also talked about some of the policy issues related to water allocation. According to him, as of now, there are no proper guidelines for allocation of water for different sectors, so assessing the needs of different stakeholders in the river basin is a must.

## **Session 3: Scenarios and Scenario Building in the Context of IWRM**

### **Presentation by Dale Campbell**

The five main characteristics of IWRM are:

- Multifunctionality;
- Users rights/multiple use;
- Multiple management;

- Asymmetric power regulation; and
- Technical complexity.

Central issues of water management and water policy are:

- Scientific information;
- Socio-economic conditions;
- Public participation;
- Legal system; and
- Institutions.

Analyzing the present scenario is very important for decision-making, which includes demographics, agriculture, fisheries, economics, politics, environment, and administration.

Key factors for scenarios are economic development and international cooperation.

High International cooperation			
Low Economic	Business as usual scenario	Fast development scenario	High Economic
	Crisis scenario	Isolation scenario	
Low International cooperation			

High Bio-Physical vulnerability			
High Human vulnerability			Low Human vulnerability
Low Bio-Physical vulnerability			

The main purpose of WP 6 (Work Package 6) of the STRIVER project is to create baseline and alternative scenarios, so these will be done based on the information gained

through the stakeholder workshops and presented to the stakeholders at the following workshops for their comments.

## **Session 4: Stakeholder Processes: Concept and Experiences**

### **Presentation by Prof. S. Janakarajan**

Prof. Janakarajan presented the definition and steps involved in conflict management and the concept and role of a multi-stakeholder platform (MSP) or multi-stakeholder dialogue (MSD) in addressing river management issues, especially conflicts.

### **What is Conflict?**

- It arises due to individual rationality vs. collective rationality

### **Puzzling Questions**

- Why do conflicts remain unresolved?
- Whose responsibility?
- What is the role of government?
- To what extent the laws can solve the conflicts or are they the right measures for solutions?

### **Concept of Multi-stakeholder Platform (MSP) and Multi-stakeholder Dialogue (MSD)**

- Why does someone get into MSP or MSD?

Due to:

- Lack of effective policy implementation, law enforcement and monitoring mechanism;
- Mismatch between government policies and people's expectations; and
- High incidence of corruption at all levels.

### **Steps Involved in MSD**

- Problem identification;
- Research-analysis and documentation;
- Stakeholders' analysis;
- Examine whether there is case for dialogue? Legal or constitutional measures taken to resolve conflicts?
- Whether there is a threshold level of crisis, which would make the MSD process somewhat easy;
- Initial MSD workshops-brain storming;
- Constitution of MSD committee; and

- Have a series of committee meetings.

### **Critiques of MSD**

- Legitimacy of stakeholders;
- Government - Do they find it as a challenge?
- How would political parties view MSP?
- What are the responses from the cooperative sector? and
- Responses from NGOs, acceptance from civil society and media.

Prof. Janakarajan detailed out the process of Multi Stakeholder Dialogue (MSD) that he had initiated in the Palar basin and the Cauvery basin. According to him, MSD can deliver when every other option has been tried out and where everything else has failed.

## **Day Two: 10 January 2007**

The day began with a recap provided by Abraham Samuel of SOPPECOM. Then Mr. S. R. Hiremath, from Samaj Parivarthan Samudaya (SPS), Dharawad, shared his experiences of struggles against Harihara Polyfibres and Grasim industries on the issue of pollution.

He gave an overview of their initiatives and the results:

- Brief overview of Grasim industries and the impact of its activities on air and water pollution;
- Prepared report with scientific studies, submitted to Pollution Control Board;
- Case was registered in the Karnataka High Court, and based on the conditions of fisheries and occupational health; the Court asked the industries to clean up the river; and
- Finally a local watchdog committee was formed to monitor the pollution control measures.

He also raised issues like:

- Issue of equity in water sharing;
- Need for local water harvesting – watershed development;
- Need to keep the larger picture in mind/framework for decisions and recommendations;
- Along with management, policy and governance are also important issues;
- Upstream-down stream linkages;
- Need for minimum environmental flows to be kept in the river;
- Alternative land use and cropping pattern; and
- Issue of salinity and land degradation.

## **Session 5: Breakout Groups: Pollution and Land-Water Interactions**

The two issues for twinning Tungabhadra with other basins are pollution (water quality) and land-water interactions. Right at the outset Joy and Dale explained how these two broad topics have been further disaggregated and what would be the possible important issues under these broad topics for research under STRIVER Project.

### **Pollution**

- Industrial pollution;
- Non point pollution - from agriculture through chemical fertilizers and pesticides; and
- Urban pollution.

### **Land – Water Interactions**

- Strategies for integration of rainfed and irrigated agriculture;
- Flows and relations in the system;
- Land use changes;
- Fisheries and reforestation;
- Strategies for improved livelihoods;
- Water use technology and policies; and
- Valuation of water services.

Participants were divided into two groups for discussion: first group discussed the topic land-water use interaction and the second group discussed pollution issue. It was suggested that they discuss the topics as per the following guidelines:

- Important issues in each topic;
- Prioritization of the issues; and
- What are the possible solutions?

After the discussion each group presented a summarized version of their discussions.

### **Group 1: Land-Water Use Interaction**

- Water entitlements across different sectors is an important issue. Presently there is a compartmentalized approach for different sectors (like micro watershed development, drinking water, irrigation industry, etc.);
- Sectoral water allocation keeping in mind the future scenario; and
- System improvement: participatory policies, crop diversification, crop management, soil improvement, etc.

### **Possible Solutions**

Carry out studies on these three aspects and groups working on these issues in the basin are willing to collaborate with STRIVER project.

## Group 2: Water Pollution

### Critical issues

- Discharge of huge quantity of treated trade effluents from the industries, discharge of untreated sewage from municipalities into the river. Colour is the main culprit in the trade effluents.
- Fish yield decreased by 50% over 10 years – fish catch decreased from about 1200 tonnes to 650 tonnes in a year – and 28 species are under threat of extinction out of a reported total species of 120; and
- Indiscriminate and unscientific use of water, over use of chemical fertilizer and pesticides in agriculture.

### Possible Solutions

Extensive research study on pollution in the river basin, involvement of local communities in sample collection, regular monitoring by the committees and timely inspection, capacity building of farmers on pollution hazards and management practices, need for awareness creation and education of wider public, coordination with NGOs who have done innovative work and experiments and extensive study of groundwater and monitoring.



*Group Discussions: Land Water Use (left) and Water Pollution (right)*

## Session 6: Way Forward

Prof. Janakarajan chaired this session. He asked the participants to share three important major problems in the river basin and some of the important problems as suggested by the participants are:

- Bio-chemical pollution of river by industries, municipalities and from agriculture (point and non-point pollution);
- Improper use of water;
- Reduction in fish population (fish biomass), thereby affecting the livelihoods of fisher folk;
- Inter-sectoral allocation of water;
- Problem in drinking water supply during summer;

- Non-regulation of water use, increased pumping, no concept of minimum environmental flows;
- Interstate water dispute;
- Sand mining and its effects on water ecosystem. Silt accumulation in river and reservoirs;
- Lack of participatory water management practices, no participatory policy making; and
- Agriculture problems - deteriorating soil health, increasing micro-nutrient deficiency, mono-cropping, indiscriminate use of chemicals.

Pollution, water allocation across sectors and water management (tail end deprivation, efficiency, nutrients/pesticides, crop diversification) got the maximum number of preferences from the participants.

It was reported that the scarce water in summer (as the availability goes down drastically in the summer months) is being used by Harihar Polyfibers. A small sub-committee was formed to study the issue. The committee members include: S. R. Hiremath, S. T. Patil, Lingaraju, Nagaraj, Palakshapa, Simha, Hemantraju, and Shobha Karjagi. The members of this committee have agreed to work on a voluntary basis.

### **Some of the important decisions taken:**

- To form a Tungabhadra River Basin Multi-stakeholder Committee: One of the strong suggestions was that whatever institutions or stakeholder platform that we set up should not be restricted to only the STRIVER project period, but should be continued and should meet more often than provided for in the project. This was agreed upon. It was decided to form the Tungabhadra River Basin Multi-stakeholder Committee (TRBMSC) and in this meeting an *ad hoc* committee has been formed to sustain the ongoing process with the following members:

<b>Sr. No.</b>	<b>Name</b>	<b>Organisation/Department</b>
1	S. T. Patil	WALMI, Dharwad
2	Purushoththam	CADA, Bhadra project Shimoga
3	Rajashekhar	CADA, TB project, Munirabad
4	P. K. Mishra	CSWCRTI, Bellary
5	Laxminarayana	RFO, Hospet
6	Madhusudhan	PCB, Bellary



7	K.M.Lingaraju	PCB, Davanagere
8	Shanmughappa	PCB, Shimoga
9	Hemanthraj	DD, Fisheries, Shimoga
10	Manohar Rao	ARGHYAM, Bangalore
11	Arun Balamatti	AME Bangalore
12	S. R. Hiremath	SPS, Dharawad
13	Shobha Karjige	Tungabhadra Watchdog Committee, Ranebennur
14	Shama Pawar	TKT, Anegundhi
	Y. A. Thakur	BAIF, Hospet
15	Doraiswamy	Jalaspandana
16	Chakarapani	WEDS, Bellary
17	H. K. Ramesh	MYARADA, Bellary
18	R. N. Simha	REACH, Harihara
19	Puttaswamy	ISEC-STRIVER Project, Bangalore
20	Ballappa	Farmer, Koppal
21	Palakshappa	Farmers from Gangavathi
23	Pampanagowda	
24	Sharanappa	
25	Kashayya Gavimath	
26	G. K. Veeressa	Farmer from Shimoga
27	Seetharamareddy	Farmers from Kurnool of AP
28	Bhaskar Reddy	
29	Sree Prafulla Chandra	Devangi Research institute
30	Raghavendra Rao	
31	Gangadharaswamy	SOPPECOM-STRIVER Project

31	K. J. Joy	SOPPECOM-STRIVER Project, (Convener)
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As mentioned above, this is only an *ad hoc* committee and more members can be taken in to represent some of the stakeholders who are not represented in the present committee.

Prof. Janakarajan suggested that the TRBMSC could take up the following studies/activities:

- Scientific information – data, documentation, analysis, etc.
- Develop the communication network – Striver website, we can start a website for the Tungabhadra Basin (maybe with Arghyam’s help)
- Vulnerability mapping in the basin – who are the most vulnerable groups?
- Impact of drought – vulnerability, migration, impact on livelihoods
- Socio-economic mapping
- Environmental mapping, including water quality
- Agricultural mapping, changing land use pattern
- Ecosystem mapping – how are the different sectors interlinked

With the above exercises/activities we would be able to pinpoint the problems, which require immediate and sustained attention and then possible solutions could be thought about.

- Sequencing of activities: Though there are many things the TRBMSC can do we also need to keep in mind the objectives STRIVER project and we need to synchronise the wider mandate/objectives of TRBMSC with the research objectives of the STRIVER project
- Resource Mobilisation: With the resources available from the STRIVER project we can only organize about three meetings during the three years of the project. So additional funds have to be obtained if we have to take up all the activities that are planned and also to organize more meetings, and continue the dialogue process beyond the life of the project. It was decided to make effort in this regard and Dale and Janakarajan have promised to help with fund mobilisation. This issue can be discussed at the next meeting
- Outreach and training: There is a need to publish materials in local languages, and also take up training, capacity building and awareness campaigns
- Circulation of proceedings: proceedings would be circulated to all the people who have participated in the meeting
- Bring in more stakeholders: Some of the stakeholders like industry, municipalities etc., could not participate and representation from different government departments from Andhra Pradesh was also limited. Some of the NGOs, who had agreed to come, could not make it. Efforts would be made to bring in all these stakeholders to the next meeting.

## Next Meeting

The next meeting of TRBMSC is scheduled for 4 April 2007<sup>4</sup> and it would be held at Davanagere. Mr. Lingaraju, Environmental Officer with the Pollution Control Board, has agreed to coordinate the meeting along with SOPPECOM team.

Mr. Gangadharaswamy from SOPPECOM, who is working fulltime on Tungabhadra basin as part of STRIVER Project, proposed the vote of thanks. He specially thanked all the people who came for the meeting and contributed to the discussions in a very lively manner and also the MYRADA personnel for making excellent arrangements for the workshop.



*All Participants at the First Stakeholder Meeting*

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<sup>4</sup> The date of the meeting has now been postponed to 29 May 2007

## List of Participants

No	Name	Address
1	Mr. B. H. Patil Land Development Officer	Command Area Development Authority (CADA) Tungabhadra Project, Munirabad-583233 Phone: 08539-270241
2	Mr. K. H. Bhaskar I/C, LDO	Command Area Development Authority (CADA) Tungabhadra Project, Munirabad-583233 Phone: 08539-270241 Phone-9448407624
3	Mr. B. R. Nagaraja Shashtri Sr.Inspector of Co-operative Societies	Command Area Development Authority (CADA) Tungabhadra Project, Munirabad-583233 Phone: 08539-270241
4	Mr. K M Lingaraju Environmental Officer	Karnataka State Pollution Control Board No 501, C Block, Near Central Excise and Custom Office Devaraj Urs Layout, Davanagere-577006 Phone: 08192-252895 09845311298
5	Mr. D. S. Purushotham, IFS	Administrator, Bhadra. CADA, Shimoga.Karnataka Phone-08182-240021
6	Mr. Madhusudhan Environmental Officer	Karnataka State Pollution Control Board # 7,Ward 1 KHB Colony Near S P Circle, Parvathinagar Bellary-583103 Phone: 08392-267514/98459-67317
7	Mr. Laxmi Narayana	Research Forest Officer, Hospet, Bellary Karnataka Phone-9448318261
8	Dr. P.K. Mishra, Head.	Central Soil & Water Conservation Training & Research Institute, (CSW&RTI) Opp- Pola Hotel, Cantonment, Bellary.583104

		Karnataka Phone: 08392-242164 (Fax):-08392-242665
9	Mr.Manohar Rao Project Officer	Arghyam, No-840, 5 <sup>th</sup> Main, Indiranagar I Stage Bangalore-38 Phone-080-25252003/25210378/ 9342879500
10	Mr. G. N. Simha Project Director	REACH (Rural Environment Awareness and Community Help) Harlapura, Guttur colony Opposite Lakshmi factory Harihara Phone -09449687275
11	Mr. Y.A.Thakur Joint Programme Director	BIRD-K P.B.No.3, Near Hassan Circle Sharadanagara, TIPTUR- 572202 Tumkur District, Karnataka Tel: 08134- 250659; 250658; 254421; 251337
12	Mr. H. K. Ramesh Project officer	MYRADA Danapura post, Mariyammanahalli Hobli, Hospet Tq, Bellary district -583222 Phone: 08394-24468/230216/ 9449980341
13	Mr. Ravindranath Reddy Area Unit Coordinator	AME Foundation Near Sanjaya Gandhi Polytechnic College Bellary Phone:08392268558/9448765061
14	V. Chakrapani Chairman	WEDS (Women and Env't Dev't society) Ramanjeya Nilayam 2 <sup>nd</sup> Cross, Kolagal Road Indiaranagar, Bellary-583104 Phone-09449263231/9243239377/(R)- 08392-645378
15	Ms Shama Pawar Founder trustee	The Kishkinda Trust Anegundi-583227 Koppal Zilla 08533-2667777/267791
15	Ms.Farah Vakil	The Kishkinda trust Anegundi-583227 Koppal Zilla 08533-2667777/267791
16	S. R. Hiremath Samaja Parivarthana Samudaaya	Asha Deepa, Jaynagar Cross, Sastapur Road Dharwad – 580 001 Phone: (Office) 0836- 2774472/9448145930/6577255 (Home) 2777430 & 6577266

17	Mr. S. T. Patil Professor	WALMI Dharwad – 580 011 Karnataka Cell: 9448386889
18	Mr. Palkshappa Secretary	Neeru balakedaarara sangha Budugumpa, Gangavathi taluk, Koppal dist Karnataka Mobile:09900880223
19	Mr. Balappa Ex ZP Member and Progressive farmer WUC Member,	Nagankal P.O.Bevinhal Gangavathi Dist: - Koppal Karnataka Home:08533275696 (M)-9901196226
20	Mr. Pampanagouda WUC Member	Dolali Bazar, Karatagi, Post-Karatagi, Gangavathi taluk, Koppal dist. (M)-9945894900
21	Mr. Sharanappa WUC Member	Dolali Bazar, Koratgi, Post-Koratgi, Gangavathi taluk, Koppal dist. Karnataka (M)-9945894900
22	Kaashaiah Veeraiah Gavimath President,	Neru Balakedaara Sangha, Bandiharlapura, Koppal Dist Karnataka
23	Mr. Veerasha Secretary	Water Users Cooperative society Hosahalli Post, Shimoga Dist Karnatka Phone: 09480058336 Cell:9449171034
24	O. Gireesha Asst Director of Fisheries	Aquarium and Reservoir, M.G.Park, P.B.Road, Shimoga-577201. Karnataka Phone-08182-290423/94482-13726
25	J. Umesh Asst Director of Fisheries	Training Center, B.R.Project Shimoga, Karnatka Phone-08282-256252/94487-28256
26	G.M.Shiva Kumar Asst Director of Fisheries	Fish Farmers Development Agency, B.H.Road, Shimoga-577201 Phone-08182-223697/9880044919
27	Mr. Prafulla Chandra Agriculturist, Innovative Farmer	Chairman DARCE, B-6, APMC Yard Shimoga-577201 Phone:08182-272730
28	C. V. Raghavendra Rao Professor (Rtd)	Special Correspondent The times of India Director DAREC. Taluka-Shimoga-577202,

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31	Umesh Babu. M.S Research Assistant,	CEENR, ISEC, Bangalore. -560072 Phone-080-23215468 (Ext- 232) 9846768175
32	Dr.Nagaraja R.S Phone-9844271637/9845697050	SRI Ranganatha Nilay, PARISARA 'NGO' (R) 5 <sup>th</sup> Cross, 'A' Block Sharavathi nagar, Shimoga. -577202
33	H. Kiran.Asagodu	"Raghava", Pampa Nagara II Main Road, Sagar Road, Shimoga-577203 Phone-9242205632/08182-255862
34	G. Seetaram Reddy D.C.President R.D.S	Tana Sala Post, A.P.Mahbubnagar, Wadapali (Mandal) Phone-9440759121
35	B. Bhaskar Reddy D. C. President	R.D.S, A.P.Mahbubnagar (DT), Bonkur Village, Alampur Taluka. Phone-9440005534/9985931151/08502- 204519(R)
36	Shobha Karjgi Chairperson	Tungabhadra river (Near Harihara), Environment Management Committee, (Past President Samaj Parivartan Samudaya), "Sanjeevani", clinic Station Road Ranebennur Phone-9880012642
37	K. J. Joy	SOPPECOM, 16, Kale Park, Someshwarwadi road, Pashan, Pune 411 008 Tel. 020-25886542/25880786
38	Shruti Vispute	SOPPECOM, 16, Kale Park, Someshwarwadi road, Pashan, Pune 411 008

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39	Abrham Samuel	SOPPECOM, 16, Kale Park, Someshwarwadi road, Pashan, Pune 411 008 Tel. 020-25886542/25880786
40	B P Gangadharaswamy	SOPPECOM, 16, Kale Park, Someshwarwadi road, Pashan, Pune 411 008 Tel. 020-25886542/25880786



## STRIVER Project

## First Stakeholders' Meeting: Tungabhadra Basin

9 and 10 January 2007  
MYRADA Training Centre, Hospet

Programme**Date: 9 January 2007**

09.30 –10.00	Registration
10.00 – 10.30	Welcome, Objectives and Introductions
10.30 to 11.00	Introduction to the STRIVER Project and the Stakeholder process
<i>11.00 to 11.30</i>	<i>Tea/Coffee</i>
11.30 to 11.45	Introduction to Tungabhadra basin
11.45 to 12.00	Issues in Tungabhadra basin
12.00 to 13.00	Tungabhadra basin: Stakeholder perceptions
<i>13.00 to 14.00</i>	<i>Lunch</i>
14.00 to 15.00	Tungabhadra basin: Stakeholder perceptions (contd.)
15.00 to 15.30	Stakeholder Processes: Concept and experiences
<i>15.30 to 16.00</i>	<i>Tea/Coffee</i>
16.00 to 17.30	Group Discussion: 1) Pollution 2) Land-Water interactions

**Date: 10 January 2007**

9.30 to 10.30	Reports from Groups and Discussion
<i>10.30 to 11.00</i>	<i>Tea/Coffee</i>
11.00 to 12.00	The Way forward: Forming a Network to work towards a Multi Stakeholder Platform in the Tungabhadra basin
12.00 to 13.00	Follow up Arrangements, Winding up, Vote of thanks
<i>13.00 to 14.00</i>	<i>Lunch</i>