

## **Mobilization of Community Groups for Fish Seed Rearing : An Institutional Innovation of Tribal Fisherfolk at Tawa Reservoir, M.P.**

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The importance of local institutions in natural resource management is widely recognised across the globe. Studies in different countries for different forms of natural resources have empirically shown the success of local groups and institution in management of natural resources. It is believed now that new configuration of social and human relationship are prerequisites for long term improvement in nature. There is growing evidence to show that when people are well connected in groups and networks, and when their knowledge is sought, incorporated and build upon during planning and implementation of conservation and development activities, then they are more likely to sustain stewardship and protection over the long term (Cernea, 1991, Pretty 1995; Singh & Ballabh, 1997; Krishna, 2002; Uphoff, 2002; Mcneely & Scherr, 2003).

### **METHODOLOGY**

The present case study describes a new institution initiative undertaken by the tribal fisherfolks' living and working in the Tawa reservoir area, under the leadership of Tawa Matsya Sangh a federation of primary fishing cooperative societies of fisherfolk, in the Hoshangabad district of Madhya Pradesh (M.P.). The study was conducted during November, 2006. Data was collected by informal and interactive interviews of the representatives of TMS and tribal fishermen and fisherwomen, with the help of a specially prepared checklist. Secondary sources such as published literature, as well as annual reports and records of TMS were also utilized for substantiating primary data.

### **RESULTS AND DISCUSSION**

#### **The Tawa reservoir**

The Tawa reservoir is located in the Hoshangabad distt. of Madhya Pradesh on the river Tawa, a tributary of the Narmada. The Tawa Dam was started in 1956 and completed in 1974. The average area of the reservoir is 12,145 ha. Tawa was the first major dam of Narmada valley. About 21,000 ha of land including 44 villages (mostly of tribal people) and thick forest were displaced and submerged due to dam.

#### **Management of fisheries at Tawa reservoir**

The Madhya Pradesh State Government began fish production in the reservoir in 1975. The responsibility was transferred to the M.P. Fisheries Development Corporation in 1979, which continued until 1994. During 1994-95, right were auctioned to a private contractor. The local community was not involved in fishing during these periods and fishing was done mostly by employing fishermen hired from out side. The local communities were not even allowed to catch fish from the reservoir for their self-consumption (Jyotishi and Parthasarathy, 2007).

#### **Emergence of new institutions of tribal fisherfolk in Tawa reservoir**

The denial of access to the natural resources and other livelihood and displacement related problems, created unrest and awareness among tribal communities. The local displaced tribal people, in search of livelihood, learned the skills of fishing enterprise. Communities, mostly tribals

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(Gonds & Korkus), organized protests under the banner of NGO, Kisan Adivasi Sangthan. After a long struggle, the tribal communities got the exclusive fishing rights in the name of Tawa Displaced Tribal Fish production and Marketing Cooperative Fish Federation, popularly known as Tawa Matsya Sangh (TMS), Kesla. This lease was extended for another five years in 2001. However, the lease has not been renewed after December 2006, due to legal and technical objections from the forest and wildlife department. The TMS is a central federation of 34 primary fishing cooperative societies at village level (mostly of tribal people) and 6 affiliated fishing cooperative societies. Total membership of all the 40 societies is 1679 out of which 1445 are tribal members.

The tribal fishermen's cooperative societies in Tawa reservoir, under the leadership of TMS, had not only increased fish production and fishermen's income during the last ten years ( TMS Annual Report of various years), but also concentrated on sustainable utilization and conservation of fishery resources. Moreover, in Tawa, the dam-displaced people, who traditionally did not belong to the fishing communities, got fishing rights through a sustained struggle. Therefore, the implication of such cooperative in terms of fishing rights are different from the usual cooperative regime ( Jyotishi and Parthasarathy 2007). It has created model of sustainable fisheries in big reservoirs with community participation.

### **Evaluation of community groups for fish seed rearing at Tawa reservoir**

TMS has undertaken a unique experiment of developing low cost fish rearing ponds at the periphery of the reservoirs, by forming groups of tribal men and women, to rear seed . This new initiative, which emerged out of a need to make available fish seed for stocking in the reservoir, has now grown to serve more than one purposes. As we know, the large reservoir are an example of stocking-cum-capture type of open water inland fisheries, in which stocking of fish seed is one of the most important factor in determining production. Learning this fact early, the TMS, since its inception has made concerted efforts to enhance the stocking of seed of preferred fish species in Tawa reservoir. The TMS started purchasing fish seed from M.P. Fish Federation and two private seeds producers. Over the years, however, it realised a few problem in this, for instance: it is costly, the mortality of the fish seed brought from distant sources is high, etc. Realizing these problems, the TMS made sustained

efforts to develop capacity among the local tribal communities to rear and harvest fingerlings, which has come up effectively.

The specific aims of initiating these groups were two fold: to make available fish fingerlings (seeds) at low

**Table1. Fish fingerlings produced by fisher folks at Tawa reservoir under the guidance of TMS.**

<b>Year No. of fingerlings</b>	<b>(in lakhs)</b>
1997-1998	00.20
1998-1999	00.20
1999-2000	04.77
2000-2001	05.45
2001-2002	05.96
2002-2003	08.61
2003-2004	09.80
2004-2005	03.96
2005-2006	11.37

**Source:** TMS Annual Report 2005-2006.

cost, for stocking in the Tawa reservoir, and to provide additional employment to the tribal people.

### **Present status of fish seed rearing groups**

The experiment was started as early as 1997-98, but it gathered momentum from 1999 onwards. The fingerlings (fish seed used to stock the waterbodies like, reservoirs, ponds, tanks, etc.), reared by tribal fisher folk under the supervision and assistance from TMS, has increased from mere 0.20 lakh in 1997-98 to 11.37 lakhs in 2005-06 (Table 1), which is 40 per cent of the total fingerlings stocked in the reservoir.

The initiative has been implemented in 9 villages of tribal people, so far, where a total of 11 group of tribal men and women have been formed to rear fish seed and earn money. These are located in villages namely Chatua, Bhumkapura, Wardha, Madikhoh, Dhaba, Pipariya Kala, Naya Cheecha, Malini and Jhunkar. Two groups are formed exclusively by tribal women-one each in the village Chatua and Medikhoh. On an average 5-12 members are in one groups.

### **How the groups work ?- The Modus-operendi**

The TMS Staff encourage and motivate willing fishing co-operative society members to formed a

small groups for under taking this enterprise, as an additional income generating activity. Available low-lying land on the periphery of the Tawa reservoir is used to prepare ponds, with contribution of labour from local community group. After preparation, water is pumped into ponds from the reservoir. The TMS provides all the capital and material inputs to the local group in terms of fish spawns (purchased from private or state hatcheries) fish feed other inputs (like line, oil cake, manures, etc.), technical supervision and packing and transportation facilities.

The basic idea is to purchase fish spawn (which is very cheap) from external sources and rear it to the stage of fingerlings in local ponds in the vicinity of the reservoir. The fisher folk groups have to contribute day-to-day care, maintenance and other labour inputs to the enterprise. The TMS buys back all the seed reared and harvested in this way from these groups at the prevailing market rates (deducting nominal Rupees 10 per thousand towards various services provided by the TMS). The seed thus produced is used by the TMS for stocking in the reservoir. At the time of giving payments for the seed produced, the cost of inputs provided by the

TMS is deducted and rest of the amount is given to the group as the gain for their efforts and labour inputs. Every group has to open an account in the bank at Kesla and the payment is disbursed through this account, which is distributed among all the members of the group. The whole exercise is done through the President of the concerned fishing co-operative society of the village where the group is located. Thus, by providing day-to-day supervision and labour contribution, the group members are able to earn additional income in 8-10 weeks time. This can be illustrated with the following example.

#### **An illustration- Community Groups at Chatua village**

In Chatua village, there are two groups – a men and a women group comprising of five and six members, respectively. These groups were formed in 1999. The men group is maintaining four ponds where as the women group has two ponds. The input (expenditure) and output (income) of the men group during the year 2006-07 is given in tables 2 and 3, respectively. As clearly indicated by the data, each member of the men group could earn Rs.11,396 in just two and half months time, which comes to approximately Rs. 4559 per member per month.

**Table 2. Expenditure incurred by the Men Fish Seed Rearing Group at Village Chatua (2006-07)**

<b>Input</b>	<b>No./Quantity</b>	<b>Rate</b>	<b>Expenditure (Rs.)</b>
Fish spawn (Catla)	20 lakhs	Rs. 1000/- thousand	20,000
Fish spawn (Rohu and Mrigala )	21 lakhs	Rs. 600 /- thousand	12,600
Packing charges	---	Rs. 10 /- packing	1640
Mustard Oilcake	280 kg	Rs. 6 /- kg	1680
Rice Bran	180 kg	Rs./3.50 /- kg	630
Actomin	200 ml	---	244
<b>Total</b>			<b>36,794</b>

Source: TMS records.

**Table 3. Income from fish seed rearing to the Men Fish Seed Rearing Group at Village Chatua (2006-07)**

<b>Output</b>	<b>No.</b>	<b>Rate</b>	<b>Expenditure (Rs.)</b>
Fingerlings (Catla)	1,83,800	Rs. 330/- thousand	60,656
Fingerlings (Rohu and Mrigala)	1,84,000	Rs. 180/- thousand	33,120
Total Income			93,774
Expenditure			36,794
Net Profit to the Group			56,980

Source: TMS records.

### Benefits emerging from the initiative

The benefits realized from this new initiative include : (1) With the success of this arrangement, the TMS has been able to mobilize the availability of good quality fish fingerlings for stocking in the reservoir at low – cost than purchasing whole quantity of fingerlings from the external sources.(2) Though the fish spawn for rearing is still purchased from the external sources, the arrangement is cost – effective as the cost of spawn is very less, and even after cost of fingerlings , thus reared, is less than their market price , because it does not include profit margin of the external sources/ suppliers. (3) The mortality of the fingerlings reared in the vicinity of the reservoir, using the same water is far less, than the fingerlings purchased from external sources. This is because, during the period of raising the spawn to the fingerlings stage, they get acclimatized to the conditions of the reservoir. This increases their survival rate on a stocking in the reservoir. (4) The enterprise has provided an opportunity to the local fisherfolk to earn additional income by contributing their labour in a short period of time .(5) In an indirect way, the initiative has also succeeded in enhancing the self- confidence of the participating fisherfolk towards entrepreneurship, even without any support from the state fisheries agencies .

### CONCLUSION

The case study clearly shows the adaptive capability of local organization . It is an instructive example, which shows how people’s organizations can conceive need- based, and locally relevant solution to their problems and devise institutional mechanisms

to implement the solution effectively, even without any support from the state agencies. Several such small but innovative and effective ideas might be conceived and practised by local communities, and their formal or informal organizations, in the fishery sector of the country. Such community efforts need to be documented, analysed, shared , supported and strengthened. Such initiatives offer tremendous potential for community – based, low-cost efforts towards sustainable resource development, as well as, generation of sustainable livelihoods in rural areas

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