

# Reservoir Fisheries Management Policy



*Department of Fisheries Himachal Pradesh.*

## An overview:

Since independence, harnessing of state's various rivers for power generation and irrigation has been the main focus of development activities in the state of Himachal Pradesh. This has resulted in emergence of number of river valley projects with primary objective of power generation and irrigation. One of the direct results of these projects is the creation of several man made water bodies. Major water bodies harnessed for fish production are:

1. Gobindsagar reservoir:	16000 ha
2. Kol Dam:	1302 ha
3. Pong reservoir:	24483 ha
4. Chamera reservoir:	1500 ha
5. RanjitSagar reservoir:	500 ha (State's share)
	(Total area= 9615 ha.)

For the purpose of fisheries management, reservoirs have been classified as small (<1000 ha.), medium (1000-5000 ha.) and large (>5000 ha.) reservoirs. Fish yields from these different categories of reservoirs has been estimated as 50kg/ha./yr., 12kg/ha/yr. and 11kg/ha/yr. respectively. This low level of yield can be attributed to lack of proper seed stocking policies, inappropriate gear and crafts, poor landing and marketing facilities, poor governance, weak cooperatives and also due to non-observance of proper fishing close season.

In large reservoirs managed on capture fishery norms, there is very little room for altering the habitat variables and the scope of effective change in biotic communities is limited to stocking. Selective stocking is resorted to for correcting imbalances in species spectrum and to fill the vacant ecological niches.

Himachal Pradesh reservoirs has been adjudged as best managed reservoirs in terms of fish production and also in terms of fetching highest rates of the fish catches from amongst the large reservoirs in the country. Gobindsagar reservoir has the distinction of producing highest per hectare fish (149.2kg./ha./yr.)whereas fish of

Pong reservoir is getting highest price of the fish for the fishermen (Rs. 250/- per kg.).

Various management measures being adopted by the state Fisheries Department to get sustainable yield from its reservoirs are mentioned below:

### **1. Seed Stocking:**

Prior to construction of Bhakra Dam, river Satluj used to harbor 51 species of fish, of which *Tor putitora*, *Lebeo dero*, *L. dyocheilus*, *Schizothoracids* were the dominant ones. The main question which confronted the policy makers during early stages of fisheries development in Gobindsagar reservoir was whether the resident indigenous species of Satluj would be able to effectively populate in the lacustrine conditions of reservoir or new species are to be introduced. It was general consensus that none of the indigenous species would be able to offer viable commercial fishery and it was recommended that the reservoir should be stocked with Indian and exotic carps. Taking this into consideration, the state Fisheries Department stocked 3500 gravid spawns and 0.5 million fingerlings of Indian Major Carps ranging from 100-150mm during 1966-67 and stocking in subsequent years also continued. A number of fish farms has been setup for the purpose of producing seed for stocking in reservoirs. Stocking programmes in Pong reservoir were initiated during 1974-75 when first consignment of 1.30 lakhs fry of Mirror carp were stocked in Pong reservoir. Since then regular stocking of IMC as well as exotic carps of desirable size is being stocked in the state reservoirs.

### **2. Organization of fishermen into Cooperative fold:**

During the first phase of reservoir fisheries development in 1964-65, Department issued fishing licenses @ Rs. 10/- per gill net and fishermen were free to dispose off their catch as they wished. During 1976, a state Level Reservoir Development Committee was constituted in the state under the chairmanship of Secretary Incharge of Fisheries Department with

departmental officers posted at reservoirs, officers of other allied departments and representatives of stakeholders, for framing fishing policy for reservoir development. As a first step it was decided to organize the reservoir fishermen under Fisheries Cooperative Societies. Fish caught by fishermen was now brought to fixed fish landing centres for handing over to further Fish Federation, an apex body entrusted with the job of fish marketing. This Federation, an intermediary body between the societies and the contractors was made fully responsible for making payments to the fishermen at the rates fixed in the beginning of every year. This federation was later dissolved during the year 2007 as it failed to serve the purpose assigned to it and since then marketing job is handled by primary fish co-operative societies only. In Pong reservoir, 3 societies with total membership of 303 fishermen were registered during 1976. Number of fish cooperative societies has now increased to 57 with following details:

#	Name of reservoir (s)	No of societies	Member (s)	License holders
1	Gobindsagar	34	3872	2401
2	Koldam	4	359	151
3	Pong reservoir	15	3631	2473
4	Chamera reservoir	4	192	130
5	Ranjit Sagar reservoir	1	65	43
	<b>Total</b>	<b>58</b>	<b>8119</b>	<b>5198</b>

Department of Fisheries issues licenses to the reservoir fishermen @ Rs. 50/- annually for each gillnet of size 80x5 m with 5cm mesh size (knot to knot). Fish caught by the fishermen is brought to fixed landing centres where it is weighed in the presence of representatives of Fisheries Department, cooperative societies and that of contractors. The rates are fixed in the beginning of every year either through open auction or through negotiation for summer (1<sup>st</sup> April to 30<sup>th</sup> September) and winter (1<sup>st</sup> October to 31<sup>st</sup> March). Department charges

15% royalty on the total sale proceeds of fish whereas cooperative societies after deducting 5-7% commission, makes the payment to the fishermen on weekly /10 days, basis regularly. In this way, fishermen get 78-80% of cost of their catch.

To avoid conflict between the societies, regarding area of operation, reservoirs has been divided into beats demarcated on the basis of area and productivity of the water body.

### **3. Strict conservation and implementation of close-season:**

One the most important factor responsible for sustained fishery development in any large reservoir is its conservation. In Himachal Pradesh, Assistant Director Fisheries posted in the reservoir are solely responsible for the conservation which is done through staff posted at the landing centres. In addition, Department has provided Hi-tech FRP motor boats in reservoirs to check illegal fishing. During the months of June and July every year, fishing is banned in these reservoirs as this period coincides with the breeding period of fish resulting in auto-stocking of the reservoirs. In order to achieve the motive of strict implementation of close-season, Department of Fisheries, constitutes a flying squad during close season in each reservoir which is fully equipped with vehicle and motor boat. This flying squad conducts regular patrolling in their respective reservoirs/beats to avoid illegal poaching. In addition, the staff posted on the landing centres are also involved in day & night (24x7) patrolling to avoid catching or killing of fish.

### **4. Enforcement of HP, Fisheries Act/ Rules:**

Himachal Pradesh Government notified HP Fisheries Act-16-1976 and later to implement this act, HP Fisheries Rules, 1979 were framed in order to achieve sustained yield from these water bodies. Various provisions made under these rules includes fixation of size of gill net (80mx5m), mesh size (5cm-Knot to Knot). Maximum size of fish to be caught (Rohu-40 cm, Catla-45 cm, Mirgal-30 cm, Mirror carp-30 cm, Silver carp-45 cm, Mahseer-50 cm). breach of which has been made punishable. Killing of fish using explosives poisons or killing or

catching of fish using a net during close-season has been made a cognizable and non-bailable offence.

Further, with a view to enforce effective management and to formulate a concerted approach of fisheries development in the reservoirs. The State level Reservoir Development Committee meets on annual basis to discuss various aspects related to reservoir management and to find out their solutions.

## **Welfare Schemes**

**Department of Fisheries has initiated number of fishermen welfare schemes in the state, which are detailed as under:-**

### **1. Group Accidental Insurance Scheme for active Fishermen:-**

All active fishermen working in the reservoirs, riverine & aquaculture sector have been insured for Rs. **1,00,000/-** in case of partial permanent disability and a cover of Rs. 10,000/- towards hospitalization expenses. In case of death or permanent total disability, the fisherman is insured for Rs. **2,00,000/-**. The insurance premium is being shared by the Government of India and Government of Himachal Pradesh in **50:50** ratio.

### **2. Saving-cum-Relief Scheme (Close Season Assistance):-**

Under this scheme each fisherman who is member of the cooperative society deposits Rs. **100/-** for ten consecutive fishing months from August to May. An amount of Rs. **2000/-** is contributed by the Central and State Governments with contribution of Rs. **1600/-** and **400/-** respectively. The total amount of Rs. **3000/-** thus, raised is distributed to the fishermen in two installments during the '**closed season**' when fishermen will not do fishing.

### **3. Fishermen Risk Fund Scheme:-**

Under this scheme, each reservoir fishermen contributes Rs. **20/-** annually, to be collected from him at the beginning of the year while issuing the licenses. The State Government contributes an amount equal to the total contribution of the fishermen. The assistance from the fund to the fishermen is given only on loss of gill nets, wooden boats, and tents.

Based on the present value of the equipments the compensation is given up to **50%** of the loss of each item. Maximum assistance is given in case of total loss/destruction of the equipment.

#### **4. Development of Model Fishermen Villages-Housing scheme:-**

The scheme envisages construction of low cost houses exclusively for fishermen community working in reservoir sector. Under this component, assistance in the form of Grant-in-Aid for identified activities shall be provided to an individual fisherman beneficiary of reservoir sector living in a fishermen village which shall consist of not less than 20 houses. Fishermen owning land or kutcha structure shall be considered for allotment of house under this component. Expenditure under this component will be shared on 50:50 basis by Govt. of India and State Govt. The upper limit for plinth area and cost of construction would be limited to maximum 25 sqmtrs and Rs. 1,30,000/- respectively.

#### **5. Distribution of Fishing equipments to Reservoir Fishermen:-**

Himachal Pradesh has five man-made reservoirs with 43,785 ha. of water area and approximately 6,000 fishermen families are engaged in capture fishery in these reservoirs. Department has witnessed increase in fish production from these open waters during 2012-13 and 2013-14 which probably is the result of good quality fishing gears which were provided to reservoir Fishermen under RKVY funds during last 3-4 years. In this scheme 25% assistance is given to fishermen and 75% is paid by them through their own pocket.

## **6. Distribution of Insulated Ice Boxes under Cold Chain:-**

For creation of post-harvest and value addition facilities, under National Mission for Protein Supplements (NMPS)- a component of Rashtriya Krishi Vikas Yojana (RKVY) Insulated Boxes of 25 liters capacity each is being provided to all active fishermen working in reservoir sector in a phased manner for safe transportation of fish catches to landing centers in order to maintain the quality of flesh of fish. Further 3 insulated boxes of 100 liter capacity are being provided to each fisheries cooperative society also.

## **7. Up-gradation of Fish Landing Centers:-**

Reservoir fishermen display their gill nets daily in the evening, collect the fish caught every morning through co-operative folds. For smooth collection and weighing of individual fish catches, presently 30 Fish Landing centers have been identified for landing of caught fish in the state out of which there are fifteen in Pong Dam, eight in Gobind Sagar, three in Koldam, three in Chamera and one in Ranjeet Sagar Dam. Department has initiated the process of up-gradation and Modernization of Landing centers so as to maintain the hygienic conditions and quality of post harvest fish.

## **8. Reservoir Fishermen Training :-**

Himachal Pradesh is an agriculture state where most of families are involved in the agriculture activities. More than 5000 fishermen are engaged in reservoir fishery. Department imparts training to these reservoir fishermen every year in the field of reservoir management enabling them to know about the latest techniques and practices of fishing so that they may get good catches.

## **9. Cage Fish Culture:-**



A proposal for Cage Fish Culture in reservoirs was sanctioned under National Mission for Protein Supplements (NMPS)- a component of Rashtrya Krishi Vikas Yojana (RKVY) during the year 2013-14. The basic objective of the scheme is to increase fish production from the reservoirs. Under this scheme, funds to the tune of Rs 334.00 lac has been transferred to Central Inland Fisheries Research Institute (CIFRI) (Indian Council of Agricultural Research) Barrackpore-Kolkata for demonstrating the technology of cage fish culture for raising table size fish in state's two reservoirs. The infrastructure thus created will be handed over to the concerned Fisheries Cooperative Societies after successful implementation of the scheme for carrying it on further. In addition, Department has also initiated this scheme on pilot basis with the installation of a battery of 4 cages of size (6x4x4m) each in Gobind Sagar and Pong reservoir from 2015-16 only, where fish seed of *Pangasius sutchi* has been introduced.

#### **10. Training to Reservoir Fishermen:-**

Department of Fisheries H.P. organizes training camps for skill development and upgradation of fishermen from time to time.

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