**Baseline study for Fisheries Development in Telangana state**

**ANN - 3.7**

Fish seed demand and supply

**Demand and supply Gap**

* Estimated total fingerlings requirement of the state: around 58 crores and is being met both through internal production and also by outsourcing.
* Anticipated fish seed production from the DOF seed production and rearing farms: Est. about 11 crores fry or 4 to 5 crores fingerlings at 35- 45% survival (accounting for 6.9% share).
* Contribution of private sector (8-10 Pvt. fish seed rearing farms); Est. about 11.3 crores (19.5% of state fish seed requirement).
* Total internal supply anticipated: around 15-16 crores fingerlings (25%).
* Outsourced: 75% mainly from neighbouring state of AP, and also West Bengal to bridge the existing gap.
* The total seed requirement of the 9 study districts is around 23.5 crores which is about 40.5% of the states requirement (58 crores) while seed production in the study districts is only around 2.31 crores and contributes only 9.83% of the requirement of study districts and 3.98% of the state’s total seed requirements. Nearly 90% of the seed requirement is being outsourced.

**Fish seed procurement**

* To meet the present demand for spawn by the private seed growers, large quantities of spawn are being outsourced from neighbouring state of Andhra Pradesh on a regular basis during the season.
* Unmonitored seed flow of both fish and freshwater prawn as spawn, fry and fingerlings, Pl and juvenile at different levels of production chain is happening.
* Most private farmers procure their own spawn / seed requirement directly from private hatcheries seed growers of AP.
* In the absence of data base maintained at district level, precise estimates of seed in flow to the state are not available.

**Procurement process**

The DOF is following Aquaculture Seed (Quality Control) Act 2006 and all clauses in the Act are not being enforced at present. Tender was issued by all the districts for identifying seed suppliers for the seed stocking program and the L1 suppliers have entered into agreement with the districts. Members of District Purchase Committee (DPC) inspect the seed farms to ensure that seed farms are capable of supplying the requisite fish seed for the stocking program. QC for seed that are being stocked is being carried out by the concerned District Fisheries Officers and the society members and no QC is being carried out for inflow of seed into the state through other channels of supply / procurement directly by the fish seed growers.

**Status of DOF initiatives**

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| * **DOF schemes** |
| * Support for construction of captive fish seed rearing ponds. * Strengthening of existing fish seed farms to improve internal seed production. * Leasing of government defunct seed farms to private entrepreneurs. * Construction of new fish seed farms, seed hatcheries, etc.   **Approaches**   * Positioning of region focused new seed production hatcheries (Chinese/eco hatcheries) and seed rearing farms. * Organizing exposure visits for entrepreneurs, farmers and DOF staff on eco-hatcheries. * Proposed to sanction Seed farms and hatcheries under IFDS for interested societies and members of societies all over the state. * Upgrading existing govt. farms into integrated fish seed farms with emphasis on enhancement of hatchery capacity for spawn production of multiple species of cultivable carps and also seed rearing throughout the year. |
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**Initiatives / programs of DOF and progress made**

**In progress**

* Eco-hatchery has been established in LMD Karimnagar and provisions are made for exposure visits to fishermen, entrepreneurs and department staff.
* Out of 32 Govt. Seed farms, at present 5 seed farms have been taken up for strengthening.
* More govt. seed farms are being identified for further strengthening in a phased manner.
* Incentivizing private seed production farms to upgrade infra for higher capacity, technology and training support, other types of handholding support including seed buy-back for govt. schemes etc. to encourage/promote private participation in seed production.
* Under IFDS program, subsidy of 75% is provided to PFCS members for captive fish seed rearing units.
* Farmers and private entrepreneurs are being encouraged to establish fish seed rearing farms and take up quality seed rearing under Blue revolution program availing GoI subsidy.
* Seed rearing in 40 cages with technical support from CIFRI is being pursued.
* Suitable site locations are being identified in different water bodies for pen culture in all the districts. But no specific policy or guidelines is issued yet.
* In support of stocking freshwater prawn seed in reservoirs, seeds are being procured through tender process.

**Establishment of Brood fish bank**

* Brood bank is being established in Pochampad, Nizamabad at a cost of 5 cr. Efforts are on to procure brood stock of quality strains from CIFA. It is intended to supply quality spawn produced and supplied to Government seed farms and private seed farms and help in rearing good quality seed.

**Planned**

* Support for construction of fish seed hatcheries are being planned for members of cooperative societies under IFDS. Private entrepreneurs can avail subsidy through Blue Revolution scheme (Components under IFDS for enhancing seed production). At present there is buyback arrangement for fish seed from government seed farms. DOF has contemplated buyback arrangements.
* Promotion of seed rearing both at PFCS level and private entrepreneurial level (spawn rearing to fry, fingerlings and beyond/ fry rearing to fingerlings and beyond, production of stunted fingerlings/ yearlings etc.) are being planned.
* Exclusive support programs for Captive seed rearing activity, *in situ* seed rearing, peripheral rearing, pen seed rearing and other non-conventional seed rearing practices by integrating with existing resources and ongoing fisheries /aquaculture activities is planned under IFDS.
* Usage of seasonal water bodies for seed rearing is being contemplated.
* Establishment of fish seed villages, hubs and mandal level seed rearing / and supply units and promotion of fish seed multiplication/seed rearing farms.
* Breeding of exclusive fish species of commercial importance viz., murrel, improved tilapia, pangasius, Ompak, freshwater prawn, selected indigenous fishes etc are under various phase of discussion and partnerships with institutions like NBFGR, CIFRI, CIFA.

**Summary points on fish seed production and rearing**

**Spawn production:**

* The state has altogether 6 Government hatcheries and 5 private seed rearing farm cum hatcheries functioning with a cumulative internal spawn production capacity of around 223 crores.
* The spawn production capacities of govt hatchery range from 2 to 6 crores with a cumulative designed capacity of about 27 crores. In case of private hatcheries, the production capacity varies between one crore to 175 crores and the cumulative production capacity of 195 crores.
* The share of govt. hatcheries to the designed spawn production potential of the state is meager (12%).

**Fish seed rearing:**

* The state has altogether 32 fish seed rearing farms under DOF management with farm area of over 200 ha and production of 11.38 crores fry. The 8 farms are under private ownership with nearly about 40 ha and fish production as fingerlings of 11.3 crores.
* The fry production under govt. sector in the govt. seed production and rearing farm was 3.26 crores during the year 2016-17 (with share of IMC 2.93 crores and CC 0.34 crore).
* The active hatcheries are mainly involved in production of Indian major carp and common carp spawn and the focus of activity will be on production of rohu and catla spawn during the monsoon months.
* Most private farmers procure their own spawn requirement directly from private hatcheries of AP and hence precise estimates of spawn in flow to the state are not available.
* In govt hatcheries, the utilization is only up to 40% of the designed capacity.

**Fish seed demand:**

* The estimated fish seed requirement as fingerlings of 80-100 mm for stocking different water bodies during 2016-17 was 46 crores in order to stock reservoirs and department tanks.
* In general, the estimated total fingerling requirement of the state is around 58 crores and is being met both through internal production and also by outsourcing.
* Strengthening of existing govt. fish seed farms is being taken up to improve internal seed production.
* Promotion of seed rearing both at PFCS level and private entrepreneurial level (spawn rearing to fry, fingerlings and beyond/ fry rearing to fingerlings and beyond, production of stunted fingerlings/yearlings etc.) are being planned.
* Seed rearing in 40 cages with technical support from CIFRI is being pursued.
* Establishment of fish seed villages, hubs and mandal level seed rearing / and supply units and promotion of fish seed multiplication/seed rearing farms are not planned yet.
* It is intended to supply quality spawn produced and supplied to Government seed farms and private seed farms and help in rearing good quality seed In support of freshwater prawn seed stocking of reservoirs, seeds are being procured through tender process.