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

**Posers for DOF District Level Officers - Reservoirs**

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|  | **Name of the Reservoir** | **Location** | **TWSA** | **EWSA** | **River basin** |
| 1.0 |  |  |  |  |  |
| 2.0 |  |  |  |  |  |
| 3.0 |  |  |  |  |  |
| 4.0 |  |  |  |  |  |
| 5.0 |  |  |  |  |  |

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|  | **River against which dam has been constructed** | **Ownership (irrigation dept./ public health /others )** | **surrounding villages** | **Year of construction** | **community rehabilitation** |
| 1.0 |  |  |  |  |  |
| 2.0 |  |  |  |  |  |
| 3.0 |  |  |  |  |  |
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***Note: Please comment on the historical perspective of the reservoir.***

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| **1.0** | **Pre impoundment details** |
| **2.0** | **Agro – ecological aspects** |
| **3.0** | **Morphometric data** |
| **4.0** | **Seed stocking data** |
| **5.0** | **Fishing activities** |
| **6.0** | **Fishing practices** |
| **7.0** | **Fish catch composition** |
| **8.0** | **Fish production** |
| **9.0** | **Landing centers/spots marketing and consumer preference** |
| **10.0** | **Fishery development initiatives** |
| **11.0** | **PFCS in operation** |
| **12.0** | **Participatory resource management** |
| **13.0** | **Role play, stakeholder participation and convergence** |
| **14.0** | **Infrastructure development** |
| **15.0** | **Access rights, resource use policies and sustainability** |
| **16.0** | **Scenario analysis and trends** |
| **17.0** | **Feedback and perception analysis** |

**1.0 Pre impoundment details (if available) – reservoir wise**

1.1 Hydro- biological characteristics of water:

1.2 Soil characteristics of catchment and basin:

1.3 Native fish fauna of river stretch:

1.4 Contour maps specifying locations of trees/tree stumps, rocks/ hillocks, other obstructions, etc): if available

1.5 Presence of shallow bays:

1.6 Presence of coves:

1.7 Any others (pl. specify):

**2.0 Agro – ecological aspects – reservoir wise**

**Details of agro-ecological information**

2.1 Rainfall patterns viz., Intensity and seasonality:

2.2 Soil and land use pattern in catchments:

* 1. Water usage, priorities and demand:

**3.0 Morph metric data – reservoir wise**

Are there any morphmetric related key issues

3.1 Area ha

3.2 Water depth: m

3.3 Water fillings:

3.4 Flooding:

3.5 Water usage for agriculture:

3.6 Drinking:

3.7 Industrial:

3.8 Catchment related activities:

**4.0 Seed stocking data – reservoir wise**

Details of fish seed stocking taken up by the Dept. under various schemes and by FCS during the past 3 years

1. No. of Catla/Rohu/Mrigal/Common and grass carps/prawns and others -
2. Size
3. Ratio
4. Density
5. Source of seed and quality
6. Month/ season of stocking
7. Periodicity of stocking and stocking locations

4.1 Do you feel that the reservoir is being regularly stocked annually as per recommendations with fish seed of quality and numbers?

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**5.0 Reservoir development for fishing activities**

5.1 What are the other fishery development initiatives taken up during the past 3-5 years for the reservoirs of your district?

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5.2 What is the process adopted in implementing the initiatives/ program?

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5.3 What are the constraints experienced during implementation?

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5.4 What steps were taken to overcome these constraints?

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5.5 Pl. comment on the innovative management enhancement strategies/practices in adoption for each category of reservoirs in your district (information of past 3-5 years)

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5.6 Comment on the use of production enhancing inputs for increasing fish production of small reservoirs

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**6.0 Fishing practices**

6.1 Comment on the fishing practices in adoption (reservoir wise if any difference in practices) in your region

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6.2 Pl. provide details of Gear- fisher inventory

1. Fishing intensity (No. of fishers and no. of craft and gears used in fishing activity)
2. Duration of fishing in the year ( Month/ season wise fishing days during the year)
3. Comment on the season wise fish catch/day/fisher (CPUE)

6.3 Do you feel that the present fishing practices (craft and gears and fishing techniques) in adoption needs modification? If yes what are your suggestions?

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**7.0 Fish catch composition**

Comment on the general fish catch composition of different categories of reservoirs

1. volume of total catch
2. species wise fish catch composition
3. Size structure
4. share of stocked IMC species
5. share of indigenous fishes/ self populating fish species of commercial value
6. share of freshwater prawn
7. share of banned exotic /alien fish species etc.

**8.0 Fish production**

8.1 What is the average fish production /ha observed during the past 3-5 years for the different categories of reservoirs in your district

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8.2 What was the total fish production of your district during the past 3-5 years

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8.3 What is the share of reservoirs to district total fish production?

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8.4 Do you think there is further scope to enhance fish productivity of reservoirs in your district?. If yes how do you think it can be improved?

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8.5 Are you aware of any scientific studies undertaken by any Research /Academic institutions for estimation of fish productivity and fish biodiversity of reservoirs in your district? ,if yes, provide the details

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**9.0 Marketing arrangements and consumer preference**

9.1 What are the marketing arrangements in practice and do you think it needs certain changes/ modifications/ interventions. If yes, Pl. provide your suggestions for improvement

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9.2 Comment on the consumer preference for different fish species of the reservoir?

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9.3 Are there any special preference/ geo tag status for the fish of your district reservoirs?

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9.4 Details of reservoir wise no. of major landing spots/ centers

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**10.0 Fishery development initiatives**

10.1 What are your opinions on Integrated Development of Reservoir Fisheries in your district?

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10.2 Do you think cage fish farming is possible in the reservoirs of your district, if yes pl. comment on its potentials and way forward for development, if not why?

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10.3 Do you think pen fish seed rearing / fish farming in the reservoirs of your district is possible, if yes pl. comment on its potential and way forward, if not why?

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10.4 Are your reservoirs being stocked with freshwater prawn seed? If not pl. comment on its possibilities for future development

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10.5 In your opinion what are the native/ indigenous fish and prawn species exclusive to your reservoirs

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10.6 What are the steps taken for rehabilitation and restoration of native fish species and prawn species

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10.7 Do you feel that the exotic species of fishes viz., tilapia, big head carp, silver/ grass carp , banned species viz., African catfish, paccu etc. is causing problem to native/ stocked Indian major carp fish yes/ no; if yes what are your suggestion to overcome

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10.8 Was there any instances of stocking local/ indigenous fish species that are self recruiting into the reservoirs of your district? if yes pl. provide the details and what is the status of establishment of stocks

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10.9 Was there any instances of intensive capture/harvesting of predatory /economically less important fish species in the reservoirs of your district ?if yes pl. provide the details and what is the status of its impact on fish production

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10.10 Have you observed instances of auto stocking of IMCs, and prawns

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10.11 What is the status of natural recruitment of native and endemic carps ?

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**11.0 PFCS in operation**

11.1 Number of PFCS, details of members and active fishers into fishing?

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11.2 What are your comments/ observations on the functioning of reservoir PFCS and role of members towards development of reservoir fisheries?

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**12.0 Participatory resource management**

12.1 What do you feel on the community participation in the development of reservoir fisheries in your district?

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12.2 Comment on the participatory process followed in the reservoir development initiatives adopted (planning, implementation and management phases)

* Pre-stocking
* Stocking
* Post stocking management

12.3 According to you what are the key issues constraining adoption of participatory process in Development of Reservoirs

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12.4 Are the fishers aware of various **schemes**/ initiatives of DOF and others for reservoir development Yes/no, if yes how they are being educated on a continued basis?

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12.5 Are the fishers given supportive trainings on the advances in reservoir fisheries development and Management?

1. Capacity building on use of appropriate /improved crafts and gears
2. Skill training on effective harvesting
3. Handling and post harvest
4. Fisheries related IG activities for supplementary/ complementary income
5. Scientific resource management
6. Collective action and participatory process in development
7. Institutional management (including financial)
8. Record keeping
9. Others

**13.0 Role play, stakeholder participation and convergence**

13.1 What is the role played and support extended by the District PFCS to the local reservoir PFCS

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13.2 Comment on the role played by Fisheries Federation for the improvement of reservoir fisheries in your district

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13.3 In your opinion what could be the new role play by the Fisheries Federation for the overall growth of both reservoir fisheries and the fishers dependent exclusively on reservoir fisheries for their livelihood.

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13.4 What are the other supporting institutions assisting reservoir fisheries development and growth in the district (Fisheries Federation, NFDB/ Ministry of Cooperative, welfare, irrigation, agriculture, watershed etc.)

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13.5 What are the common conflicts observed within PFCS and between members; Fishers and Fisheries Dept, With merchants, local villagers; Irrigation, Forest depts., Power corporations, Water supply boards, Village Panchayaths

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13.6 Do you think there is a need for participation of social organizations in both development activities and conflict resolution?

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13.7 What are the various schemes/ programs of DOF exclusively designed and implemented for reservoir fisheries development?

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13.8 Do you feel there is need for positioning additional new programs/initiatives for the reservoir fisheries development at the state level. Yes/ no

If yes, what could be the new schemes/ programs?

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13.9 Do you feel there is an opportunity for promoting reservoir based **Eco tourism** in your district? If so what are your suggestions?

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13.10 Do you feel there is necessity for a ‘**Mission Mode program** ‘at the State level for the Integrated Development of Reservoir with focused approaches and implementation?

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13.11 What are the various opportunities for cluster approach development of reservoir?

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**14.0 Infrastructure development**

14.1 What are the infrastructure developed adjacent/ dam site of reservoirs?

1. Fish seed hatchery
2. Fish seed rearing farms
3. *In situ* facilities(peripheral tanks, pens, cages etc.) for seed rearing/ fish culture
4. Landing centers/ spots
5. Ice factories
6. Fish marketing kiosks
7. Others (specify)

**15.0 Access rights, resource use policies and sustainability**

15.1 How the reservoirs are provided access rights for fishing by fishers (lease/ license/auction)

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15.2 Pl. comment on the criteria’s followed for consideration to issue license to fishers / lease to PFCS

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15.3 Pl. furnish details of no. licenses issued

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15.4 Do you consider that there is more fishing pressure due to licensing policy for fishing in reservoirs?

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15.5 In your opinion, which system of resource access (License/ lease is good for the sustainable reservoir development? and why

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15.6 What is your opinion on fish seed stocking (species, density, size, ratio, frequency etc) policy? should it be based on resource characteristics v/s present centralized stocking policy approach in practice?

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15.7 What are the measures to be taken by DOF to protect natural fish breeding and nursery grounds?

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15.8 How close season for fishing is being implemented and monitored

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15.9 Are you witnessing any change in reservoir fish production associated to implementation of closed fishing season?

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15.10 What are the constraints encountered for implementation of closed season ? suggest your views for improving implementation

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15.11 Comment on the regulation of fishing efforts?

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15.12 What are the measures taken for regulation of mesh size and destructive fishing methods?

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15.13 What is your opinion on permission to use shore seines (drag nets) and conflicts there off

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15.14 What are your suggestions for improving field level adoption?

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15.15 Pl. comment on the fisher’s participation in policy planning of reservoirs

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15.16 Comment on the forward price fixing for fish to ensure better sale price and minimize exploitation of fishers by market intermediaries

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15.17 How do you feel that positioning of exclusive reservoir development policies delineating multiple institutions, defined roles and responsibilities is needed for the sustainable development of reservoir fisheries in the district?

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**16.0 Scenario analysis and trends**

16.1 Do you feel that the number ofmembers involved in reservoir fishing is increasing over the period of 3-5 years? If so,

Earlier no: ------------ and Present no -----------

16.2 Are the fisher/fisher group getting regular income throughout the year from the activity.If yes, how much?

In Rs. ---------------------------------

16.3 Are they witnessing progressive increase in fish catch compared to past 3-5 yrs: yes/ no

If yes, to what per cent: 25%/ 50%/ 75%/ 100% / >100% ………………………………

If no, indicate if there is any decline in fish catch

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16.4 Do you wish to attribute this increase in fish catch to:

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|  | Tick(✓) |
| 1. Regular Fish seed stocking |  |
| 1. Improved management |  |
| 1. Change in craft and gear |  |
| 1. Increased fishing effort |  |
| 1. Any other (specify) |  |

16.5 Do you feel that the activity has also facilitated fishers for asset building, if so list the assets acquired by fishers over the period of 3-5 years

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16.6 Do you feel that due to the increased activity, availability of fish in the region and per capita fish consumption has increased over the period of 3-5 years.

If yes to what an extent?10%/ 20%, 30%, 40% -----------------------

16.7 Do you feel that their family fish consumption has increased over the period of 3-5 years. If yes, to what an extent?

10%/ 20%, 30%, 40% -----------------------

16.8 Do you feel that the activity is ensuring them economic security? If so, how

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Any others (Specify)

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**17.0 Perception analysis**

**17.1 What are your Perception on the following?**

How do you rank the following key issues constraining development of reservoirs?

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| **Constraints** | **Ranking from 1 to 6** |
| * Resource access |  |
| * Equity in allotment of water bodies |  |
| * Availability of quality fish seed for timely stocking |  |
| * Inadequate institutional support including marketing |  |
| * Governance- mesh size regulation etc |  |
| * Any others ( specify) |  |

17.2 What are the likely causes for these issues?

1. Inadequacy in code of conduct for leasing of water bodies
2. Inequality in benefit accruals to the community
3. Seed deficit and dependence on outsourced seed
4. lack of knowledge on resource management
5. Exclusive dependence on the resource for livelihood
6. Poor literacy and socio economics of fishers
7. weak PFCS and lack of participatory management
8. Any others ( specify)

17.3 What could be possible solutions/suggestions for improvement?

1. Positioning better code of conduct for leasing of water bodies
2. Strengthening seed production in local vicinity
3. Effective governance, participatory collective action
4. Improving functioning of PFCS and other local institutions
5. Strengthening institutional arrangement and net work
6. Improvement of landing centers and marketing channels
7. Any others ( specify)

17.4 In your opinion who has to address the above solutions

1. DOF
2. FCS
3. Other institutions
4. Any others (Specify)

17.5 What are your roles and responsibilities in finding these solutions?

1. Participation and support in development process of Integrated Reservoir Development
2. Compliance to the COC
3. Play active role in community participation and overall governance
4. Involvement in sector related activities and institutional collective action
5. Others (specify)

17.6 What are yourexpectations on the other institutions/ stake holders?

1. Federation:
2. PFCS:
3. Research and Extension institutions:
4. Seed supplier:
5. Input dealers (net, craft, other accessories):
6. Financial institutions:
7. Insurance:
8. Community welfare Depts.:
9. Any others (specify):