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

**Posers for DOF District Level Officers – Tanks**

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**1.0 General aspects**

1.1 Name of Tanks: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1.2 Name of river/rivulet/stream: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1.3 Name of river basin: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1.4 Water retention: Short Seasonal ( ) Long Seasonal ( ) Perennial ( )

1. 5 Primary ownership of resource - Irrigation Dept ( ) Gram Panchayath ( ) others ( )

1.6 Any others (Pl. specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2.0 Agro – ecological aspects**

2.1 Rainfall patterns viz., Intensity and seasonality: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.2 Nature of soil: Red ( ) Black ( ) laterite ( ) others ( )

2.3 Soil and land use pattern in catchments: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.4 Catchment activities: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.5 Water usage, priorities and demand: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.6 Weed infestation: Types of weeds and extent of infestation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.7 Pollution – From nearby towns/canals that feed water: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.8 Productivity of tank: Low ( ) Medium ( ) High ( )

2.9 Any others (specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3.0 Morph metric data**

Are there any morpho metric related key issues

3.1 Area:

3.2 Water depth:

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 strategies**

4.1 Strategies adopted for development of SS, LS and Perennial tanks

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4.2 What is the status of using these water bodies for seed rearing?

1. Spawn to fry: …………………………………………………………….
2. Fry to advanced fry: ……………………………………………………
3. Advanced fry to fingerling: …………………………………………
4. Fingerling to adults: ……………………………………………………

4.3 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 (Fry/Fingerling/Stunted fingerling)
3. Ratio
4. Density
5. Source of seed and quality
6. Month/ season of stocking
7. Periodicity of stocking and stocking locations (Near embankment/Middle of tank/Near shore)

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

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**5.0 Tank management for fishery activities**

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

1. Weed clearance :
2. Desilting
3. Remedial measures for pollution mitigation
4. Seed stocking
5. Supply of crafts and gears/Ice Boxes/Motor cycles/others

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

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5.3 What are the constraints that posed challenges during implementation?

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5.4 What steps were taken to overcome these challenges?

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

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**6.0 Production input and fishing practices**

6.1 Comment on the use of production enhancing inputs for increasing fish production of Tanks

1. Manuring
2. Feeding
3. Health care
4. Any others (specify)

6.2 Comment on the fishing practices in adoption (Tank category wise if any difference in practices) in your region, Pl. provide details of Gear- fisher inventory

1. Fishing intensity (No. of fishers and no. of craft and gears – gillnet/dragnet/castnet/traps used in fishing activity):
2. Duration of fishing in the year ( Month/ season wise fishing days during the year):
3. Time of setting and hauling nets
4. 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 Tanks

1. Volume of total catch: ………………………………………………………………………………………………………………………………
2. Species wise fish catch composition: ………………………………………………………………………………………………………..
3. Fish Size structure: ……………………………………………………………………………………………………………………………………………
4. Share of stocked IMC species: …………………………………………………………………………………………………………………..
5. Share of indigenous fishes/ self populating fish species of commercial value

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1. Share of freshwater prawn: ……………………………………………………………………………………………………………………….
2. Share of banned exotic /alien fish species etc: …………………………………………………………………………………………..

**8.0 Fish production and productivity**

8.1 What is the average fish production /ha observed during the past 3-5 years for the different categories of Tanks 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 Tanks to district total fish production?

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8.4 Do you think there is further scope to enhance fish productivity of Tanks 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 Tanks in your district? ,

If yes, provide the details

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**9.0 Landing centers/spots marketing and consumer preference**

9.1 Details of Tank wise no. of major landing spots/ centers

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9.2 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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9.3 Comment on the consumer preference for different fish species of the Tank?

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

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**10.0 PFCS in operation**

10.1 No. of PFCS :

10.2 Details of members :

10.3 Active fishers into fishing :

**11.0 Resource management and participation approach**

11.1 What are your opinions on Integrated Development of Tank Fisheries in your district?

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

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

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

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

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11.6 In your opinion what are the native/ indigenous fish and prawn species exclusive to your perennial Tanks

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11.7 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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11.8 Was there any instances of stocking local/ indigenous fish species that are self-recruiting into the perennial Tanks of your district? if yes pl. provide the details and what is the status of establishment of stocks

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11.9 Was there any instances of intensive capture/harvesting of predatory /economically less important fish species in the perennial Tanks of your district?

If yes pl. provide the details and what is the status of its impact on fish production

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11.10 Have you come across any instances of auto stocking of IMCs, and prawns in the perennial Tanks?

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11.11 What are your comments on the natural recruitment of native and endemic carps?

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11.12 Do you feel Aquatic macrophytes in the perennial tanks is affecting fishing activity and also fish productivity

If so, what measures are being taken to overcome the issue?

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11.13 Who has to take initiative for its clearance?

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11.14 According to you what could be the role of PFCS in this:

What are your comments/ observations on the functioning of Tank PFCS and role of members towards development of Tank Fisheries?

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

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

1. Pre-stocking
2. Stocking
3. Post stocking management

11.17 According to you what are the key issues constraining adoption of participatory process in Development of Tanks

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

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11.19 Are the fishers given supportive trainings on the advances in Tank 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

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

12.1 What are the role played and support extended by the District PFCS to the local Tank PFCS?

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12.2 Comment on the role played by Fisheries Federation for the improvement of Tank fisheries in your district

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

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12.4 What are the other supporting institutions assisting Tank fisheries development and growth in the district

1. Fisheries Federation
2. NFDB/ Ministry of Cooperative
3. Welfare
4. Irrigation
5. Agriculture
6. Watershed etc.

12.5 What are the common conflicts observed between PFCS and other institutions

1. Fishers and Fisheries Dept
2. With merchants
3. Local villagers
4. Irrigation
5. Forest depts
6. Water supply boards
7. Village Panchayaths

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

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

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

If yes what could be the new schemes/ programs

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

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

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12.11 What are the opportunities to promote cluster approach for the development of Tanks?

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**13.0 Infrastructure development**

13.1 What are the infrastructures developed adjacent to perennial Tank bunds?

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)

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

14.1 How the Tanks are provided access rights for fishing by fishers (lease /auction)

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14.2 Pl. comment on the criteria’s followed for consideration to issue lease to PFCS

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14.3 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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14.4 What are the measures taken by DOF to protect natural fish breeding and nursery grounds in the perennial tanks?

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14.5 Comment on the regulation of fishing efforts for perennial tanks?

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

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14.7 What is your opinion on according permission to use shore seines and conflicts there off

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14.8 What are your suggestions for improving field level adoption?

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14.9 Pl. comment on the fisher’s participation in policy planning of Tanks

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14.10 Do you feel that positioning of exclusive Tank development policies delineating multiple institutions, defined roles and responsibilities is needed for the sustainable development of Tank fisheries in the district?

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**15.0 Scenario analysis and trends**

15.1 Do you feel that the number of members involved in Tank fishing is increasing over the period of 3-5 years? If so,

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

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

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

15.3 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

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

1. Regular Fish seed stocking
2. Improved management
3. Change in craft and gear
4. Increased fishing effort
5. Any other (specify)

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

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15.6 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% -----------------------

15.7 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% -----------------------

15.8 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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**16.0 Feedback and perception analysis**

16.1 What is your Perception on the following?

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

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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) |  |

16.2 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)

16.3 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)

16.4 In your opinion who has to address the above solutions

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

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

1. Participation and support in development process of Integrated Tank 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)

16.6 What are your expectations 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):