GOVERNMENT OF ODISHA
FISHERIES & ARD DEPARTMENT

No. 7302 / FARD, Dt. 02.07.2020

From
Shri Gangadhar Nayak, OAS (SAG)
Addl. Secretary to Government

To
The Director of Fisheries, Odisha, Cuttack


Sir,

With reference to the subject cited above, I am directed to send herewith three nos. of guidelines for introduction of the following new State Plan Schemes for your kind information and necessary action.

1. ‘Input to Women Self-Help Groups for Pisciculture in Gram Panchayat Tanks (Input Assistance to WSHGs)’
2. ‘Scheme for Promotion of Bio-floc Technology for Intensive Shrimp and Fish Farming in Odisha’
3. ‘Scheme for Promotion of Polylining Technology for Intensive Shrimp Farming in Odisha’

Yours faithfully

Additional Secretary to Govt

Memo No. 7303 / FARD, Dt. 02.07.2020

Copy along with copy of enclosures forwarded to all the Zonal Deputy Directors/ DFOs for information and necessary action.

Additional Secretary to Govt
Scheme for promotion of Bio-floc Technology for Intensive Shrimp and Fish Farming in Odisha

1. Bio-floc technology for intensive shrimp and fish farming

Promotion of sustainable intensification of the freshwater fish and brackish water shrimp farming for boosting productivity and production of fish and shrimp and generating high income in a limited area through Bio-floc based farming, which is a latest technology.

Bio-flocs are micro-balls of unused feed and excreta of fish/shrimp along with bacteria and other microbes in the water, which are kept in suspension with continuous churning of the water by aeration in the tank. Useful concoction of microbes (bacteria) which is called as probiotic is added to tank water so that these microbes settle on bio-floc surface and start digesting the nitrogenous waste from the organic particles in the presence of carbon source and oxygen.

Bio-floc plays an important role in recycling the nutrients and maintaining the water quality in the culture tanks. The consumption of bio-floc by shrimp and fish has demonstrated numerous benefits such as improvements in growth rate and Feed Conversion Efficiency (FCR) thus reducing the cost of production and increasing the profit margins to the farmers. Growth enhancement has been attributed to both bacterial and algal nutritional components, which up to 30% conventional feeding ration can be lowered due to bio-floc consumption by shrimp. Also, consumption of bio-flocs can increase the nitrogen retention from added feed by 7-13%. In this context, bio-floc technology has driven opportunities to use alternative diets.

1.1: Benefits of Bio-floc Technology

- It is an eco-friendly system, which reduces negative environmental impact due to organic waste recycling.
- It improves water and land use efficiency.
- It can be taken up in urban and rural areas.
- It is a limited or zero water exchange system. Therefore, it prevents water pollution and risk of spreading pathogens outside the system.
- It supports higher fish/shrimp productivity with reduced feed utilisation thus increasing the profit margin to farmers.

1.2: Objectives of the Scheme

- To promote high-yielding intensive fish farming in small area using Bio-floc technology.
- To encourage farmers, entrepreneurs and unemployed youth in to income generation through small-scale bio-floc farming system.
1.3: Steps to set-up bio-floc fish/shrimp farming system

- Identification of suitable site and setting up of tanks.
- Development of inoculum (Pond soil – 20 g/L, Ammonium sulphate- 10 mg/L, Carbon source -200 mg/L). Development may take 20-30 days to attain 20-25 mg/L imhoff reading.
- Stocking of Fish Fry/Fingerlings and Prawns.
- Feeding and management.
- Periodical addition of Carbon supplements (maintained at C:N ratio of 15:1)
- Periodical removal of bottom sludge and refill.
- Harvesting of crop.

2. Implementation guidelines

2.1 Eligibility and Selection of Beneficiaries

Interested Fresh water Fish and brackish water shrimp farmers (grow-out tanks, nursery and seed tanks); fish and shrimp hatchery operators; private entrepreneurs are eligible to avail the assistance under this State plan scheme. Priority will be given to unemployed educated youths. Since Biofloc farming involves advanced technology, the beneficiary has to undergo specialized training on Biofloc before operation of the unit.

- The eligible brackish water shrimp farms / nursery and seed tanks / hatchery beneficiaries must have concerned license from Coastal Aquaculture Authority.
- The support will be in the form of back-ended assistance for installation of bio-floc system inside a shed with PVC/tarpaulin tanks, water supply, drainage and aeration units.
- The assistance under the special package will be available to the above categories of beneficiaries with a minimum of 2 tanks and a maximum of 6 tanks.

2.2 Modalities of Implementation

2.2.1 The scheme shall be advertised through the Departmental website, press release, newspapers and wall posters in the District and Block Fisheries Offices across the state. The Director of Fisheries shall undertake wide publicity of the scheme.

2.2.2 Interested farmers (grow-out tanks, nursery and seed tanks); fish and shrimp hatchery operators; private entrepreneurs; unemployed youth shall apply in the prescribed format as specified in Annexure-I.

2.2.3 The filled in application forms should be submitted to the respective District Fisheries Officers through hard copy or through email. The applications can also be submitted online to Directorate of Fisheries, Odisha, Cuttack through email: director.odifish.inland@gmail.com.
2.2.4 The applications received by the Directorate of Fisheries, Odisha, Cuttack through email will be forwarded to the respective DFOs for necessary action.

2.2.5 The DFOs on receipt of the applications will forward it to the concerned AFOs for necessary site inspection.

2.2.6 The initial geo-tagged photographs of the site/ fish farm along with the beneficiary and field verification report shall be prepared by the AFO and submitted to the DFO as per format enclosed at Annexure - II. The AFO should ensure that the project proposed by the beneficiary is completely new.

2.2.7 Each beneficiary will select two persons including himself/herself for undergoing training on Bio-floc technology and the list (trainee) shall be submitted to the DFO.

2.2.8 List of such trainees shall be submitted to the Directorate of Fisheries by the DFO concerned before issue of Go Ahead to the beneficiary.

2.2.9 Directorate of Fisheries will organise the training on Bio-floc technology for the beneficiaries nominated by the DFOs at the Zonal Level. (Cost of the training shall be met out of the IEC component of the budget provision)

2.2.10 The DFO shall issue a Go Ahead letter to the selected beneficiaries to take up the biofloc farm unit installation based on the feasibility report of the AFO.

2.2.11 Beneficiaries shall install the bio-floc farm unit and complete the stocking of fish/shrimp seed. The beneficiary will be eligible for back ended subsidy only after stocking of fish/shrimp seed in the newly installed Bio-floc tank.

2.2.12 Upon completion of the unit the beneficiary will intimate the concerned AFO.

2.2.13 A District Level Inspection Team (DLIT) comprising of the following members shall undertake joint field inspection of the site and keep record.

- District Fisheries Officer-
- Assistant Fisheries Officer/SFTA/JFTA I/C of the block-
- Panchayat Extension Officer

2.2.14 The beneficiaries shall submit the GST bills / receipts provided by the beneficiaries towards installation of bio-floc farm unit.

2.2.15 Only the items mentioned in the unit cost (tarpaulin/PVC/Poly liner circular tanks, blower, water pump, genset and shed) are eligible under subsidy upon submission of actual GST bills for those items.

2.2.16 Geo-tagged post- installation photographs of the bio-floc units along with the beneficiary will be taken by the District Level Inspection Team (DLIT) upon completion of the installation and stocking.

2.2.17 The DFO shall release the subsidy to the beneficiaries through DBT only on the eligible items in the Bio floc units after proper verification of the GST bills / receipts.
2.2.18 The respective DFO shall maintain all relevant records, inspection reports and geo-tagged photographs (in 2 stages, i.e; Pre and Post installation) of each beneficiary assisted under this scheme.

2.2.19 A complete digitalised database shall be developed and uploaded on the website so that all information relating to support provided under the scheme can be easily assessed.

2.2.20 The DFO shall submit a monthly progress report on the implementation of the scheme to the Director of Fisheries, Directorate of Fisheries, Odisha, Cuttack in the format enclosed at Annexure-III.

2.2.21 The selection of beneficiary shall be made in a transparent manner by the District Fisheries Officers.

2.2.22 Identification of beneficiaries must be made with Aadhar linking at the time of submission of application. The District Fisheries Officers must ensure Aadhar number of the beneficiary and the land records to check multiple benefits.

2.2.23 Subsidy of 40% for general category and 60% for SC, ST and women beneficiaries for the scheme will be followed.

2.2.24 The subsidy amount shall be released to the beneficiaries Aadhar linked bank account in two phases. 40% of the subsidy shall be released after installation of the Bio-floc Farm Unit. The rest 60% back ended subsidy will be released after completion of the project and a joint report by the concerned District Fishery Officer.

2.2.25 No additional manpower or Consultant shall be engaged for implementation of the scheme.

2.2.26 The District Fisheries Officers should co-ordinate with Lead District Managers of the concerned districts for bank loan to the beneficiaries as beneficiary has to invest upto 60% of the cost of the unit which comes to Rs. 0.90 lakh, Rs. 1.80 lakhs and Rs. 2.40 lakhs for three models.

2.2.27 All the projects under the scheme must be Geo tagged and the list of beneficiaries is to be uploaded in the website of Directorate of Fisheries for maintaining transparency.

2.2.28 While selecting beneficiaries preference should be given to Women SHGs, Migrant workers and unemployed youths for this scheme.

2.2.29 The District Fisheries Officers must ensure that the beneficiaries directly purchase items for installation of Bio-floc Farm unit from genuine firms with GSTIN number. Only GST bills of beneficiaries are to be accepted by the District Fisheries Officers for release of subsidy.

2.2.30 An administrative cost of 1% for implementation of this scheme is approved. The expenditure towards training and other capacity building activities shall be met from the IEC budget released to the Directorate of Fisheries.

2.2.31 Since Bio-floc technology is new and advanced technology, the Director of Fisheries shall form an expert team from OUAT and ICAR-Central Institute of Freshwater Aquaculture (CIFA) at Kausalya Ganga, BBSR to monitor the progress of scheme and to provide technical advice to beneficiaries, if required.
2.3 Implementing Agency and Area of Operation

The Scheme shall be implemented all over the State in freshwater and brackishwater sectors by the Directorate of Fisheries through the District Fisheries Officers and their field functionaries under the supervision of Zonal Deputy Director of Fisheries. This shall also be supervised and cross-checked by the other higher officers of the Directorate of Fisheries, Odisha, Cuttack.

3. Project Management, Monitoring and Supervision

3.1 A State Level Monitoring Committee will be constituted at Directorate of Fisheries, Odisha under the Chairmanship of the Director of Fisheries, Odisha. The committee members are:

- Director of Fisheries (Chairman)
- Additional Director (Technical)
- Joint Director (Inland)
- Joint Director (Planning and Training)
- Deputy Director Fisheries (Inland & Brackish Water)

The Monitoring Committee shall meet once in a month to monitor and review the progress of scheme implementation.

3.2 The committee shall review the progress of work made by the DFOs and suggest necessary guidance and advice.

4. Source of Funding:

This shall be implemented through a newly created State Plan Scheme “Promotion of Intensive Aquaculture: Introduction of Bio-floc and Polylining Technology in Fisheries” under the Intensive Aquaculture and Inland Fisheries Development as per the budgetary provisions made under the scheme.

5. Timeline for Project Implementation:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Activity</th>
<th>Time line</th>
<th>Responsible Officer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Submission of the application through email/online</td>
<td>-</td>
<td>Beneficiary</td>
</tr>
<tr>
<td>2</td>
<td>Initial scrutinizing of applications and Geo tagging /Field feasibility report by AFO</td>
<td>Within 15 Days of receipt of application</td>
<td>AFO</td>
</tr>
<tr>
<td>3</td>
<td>District Fisheries Officer shall issue Go ahead project report, in case of Bank Finance to concerned Bank or to the Beneficiary in case of Self Finance</td>
<td>Within 15 Days of receipt of field verification report by AFO</td>
<td>DFO</td>
</tr>
<tr>
<td>4</td>
<td>Joint field inspection of the installed bio-floc farm unit by District Level Inspection Team (DLIT)</td>
<td>Within 15 days on receipt of intimation from the beneficiary regarding completion of the unit.</td>
<td>DFO</td>
</tr>
<tr>
<td>5</td>
<td>Release of subsidy by DFOs to the beneficiaries through DBT</td>
<td>Within 15 days of completion of Joint Inspection</td>
<td>DFO</td>
</tr>
</tbody>
</table>
## 6. Unit Cost and Pattern of Assistance

### 6.1 Type-1

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Items</th>
<th>No of Units</th>
<th>Total cost (Rs.)</th>
<th>Maximum subsidy amount per unit @ 40% of the total cost (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bio-Floc Tank: PVC/Tarpaulin/Polyliner tank with frames, solid base, drain pipe and fish net covering (4 m dia x 1.3 m depth tank = 12,500 L capacity each) for two tanks</td>
<td>2</td>
<td>40,000</td>
<td>16,000</td>
</tr>
<tr>
<td>2</td>
<td>Electric water pump (0.5 HP)</td>
<td>1</td>
<td>4,000</td>
<td>1,600</td>
</tr>
<tr>
<td>3</td>
<td>Ring Blower / High pressure air pump (100-120 W, single phase AC) 2 nos. Alternately one blower will run 24 x 7</td>
<td>2</td>
<td>20,000</td>
<td>8,000</td>
</tr>
<tr>
<td>4</td>
<td>Electronic weighing balance</td>
<td>1</td>
<td>1,000</td>
<td>400</td>
</tr>
<tr>
<td>5</td>
<td>UPS unit with Inverter (1100 VA) and battery (150 Ah) or Portable Genset (1 Kilo Watt)</td>
<td>1</td>
<td>25,000</td>
<td>10,000</td>
</tr>
<tr>
<td>6</td>
<td>Green house shed for 1 unit consisting of 2 tanks (GI Frames covered with shade net) Floor area: 50 m² (10m length x 5 m width) Height: 3 m Specification and drawing in Annexure-IV</td>
<td>1</td>
<td>60,000</td>
<td>24,000</td>
</tr>
</tbody>
</table>

**GRAND TOTAL**

|                   |                           |             | 1,50,000       | 60,000                                                      |

*Financial assistance @ 40% for general category & 60% for SC/ST & Women of the unit cost.

Items from SI No. 2 to 6 are optional. However the beneficiary shall have to procure the Biofloc tank at SL 1 which is mandatory.

### 6.2 Type-2

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Items</th>
<th>No of Units</th>
<th>Total cost (Rs.)</th>
<th>Maximum subsidy amount per unit @ 40% of the total cost (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bio-Floc Tank: PVC/Tarpaulin/Polyliner tank with frames, solid base, drain pipe and fish net covering (4 m dia x 1.3 m depth tank = 12,500 L capacity each) for four tanks</td>
<td>4</td>
<td>80,000</td>
<td>32,000</td>
</tr>
<tr>
<td>2</td>
<td>Electric water pump (1.0 HP)</td>
<td>1</td>
<td>8,000</td>
<td>3,200</td>
</tr>
<tr>
<td>3</td>
<td>2 units of 2 HP Roots Blower (or 4 units of Ring Blower. Alternately one blowers will run 24 x 7</td>
<td>2</td>
<td>60,000</td>
<td>24,000</td>
</tr>
<tr>
<td>4</td>
<td>Electronic weighing balance</td>
<td>1</td>
<td>1,000</td>
<td>400</td>
</tr>
<tr>
<td>5</td>
<td>Portable Genset (2.5Kilo Watt)</td>
<td>1</td>
<td>40,000</td>
<td>16,000</td>
</tr>
<tr>
<td>6</td>
<td>Green house shed for 1 unit consisting of 4 tanks (GI Frames covered with shade net) Floor area: 100 m² (10m length x 10 m width) Height: 3 m Specification and drawing in Annexure-IV</td>
<td>1</td>
<td>1,11,000</td>
<td>44,400</td>
</tr>
</tbody>
</table>

**GRAND TOTAL**

|                   |                           |             | 3,00,000        | 1,20,000                                                    |
Financial assistance @ 40% for general category & 60% for SC/ST & Women of the unit cost

Items from SI No. 2 to 6 are optional. However, the beneficiary shall have to procure the Biofloc tank at SL 1 which is mandatory.

### Type-3

**Type-3: Bio-floc technology for Shrimp and Fish Farming for 6 tanks as one unit**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Items</th>
<th>No of Units</th>
<th>Total cost (Rs.)</th>
<th>Maximum subsidy amount per unit @ 40% of the total cost (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bio-Floc Tank: PVC/Tarpaulin/Polyliner tank with frames, solid base, drain pipe and fish net covering (4 m dia X 1.3 m depth tank = 12,500 L capacity each) for six tanks</td>
<td>6</td>
<td>1,20,000</td>
<td>48,000</td>
</tr>
<tr>
<td>2</td>
<td>Electric water pump (1.0 HP)</td>
<td>1</td>
<td>8,000</td>
<td>3,200</td>
</tr>
<tr>
<td>3</td>
<td>2 units of 2 HP Roots Blower (or 4 units of Ring Blower. Alternately one blowers will run 24 X 7)</td>
<td>2</td>
<td>60,000</td>
<td>24,000</td>
</tr>
<tr>
<td>4</td>
<td>Electronic weighing balance</td>
<td>1</td>
<td>1,000</td>
<td>400</td>
</tr>
<tr>
<td>5</td>
<td>Portable Genset (2.5 Kilo Watt)</td>
<td>1</td>
<td>40,000</td>
<td>16,000</td>
</tr>
<tr>
<td>6</td>
<td>Green house shed for 1 unit consisting of 2 tanks (GI Frames covered with shade net) Floor area: 150 m² (15m length x 10 m width) Height: 3 m, Specification and drawing in Annexure- IV</td>
<td>1</td>
<td>1,71,000</td>
<td>68,400</td>
</tr>
</tbody>
</table>

**GRAND TOTAL**

<p>| | | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>4,00,000</td>
<td>1,60,000</td>
</tr>
</tbody>
</table>

* Financial assistance @ 40% for general category & 60% for SC/ST & Women of the unit cost

Items from SI No. 2 to 6 are optional. However, the beneficiary shall have to procure the Biofloc tank at SL 1 which is mandatory.

### Proposed units to be taken up

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Type</th>
<th>No of units</th>
<th>Subsidy requirement (Rs. in Lakh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Type 1: 2 tanks as one unit</td>
<td>40</td>
<td>24.00</td>
</tr>
<tr>
<td>2</td>
<td>Type 2: 4 tanks as one unit</td>
<td>100</td>
<td>120.00</td>
</tr>
<tr>
<td>3</td>
<td>Type 3: 6 tanks as one unit</td>
<td>100</td>
<td>160.00</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td>240</td>
<td><strong>304.00</strong></td>
</tr>
</tbody>
</table>

### Tentative Requirement of Funds

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Purpose</th>
<th>Units</th>
<th>Amount (Rs. In Lakhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Financial Assistance to Beneficiaries for taking up bio-floc fish/shrimp farming in 1080 tanks in 240 units @ 40-60% of the unit cost</td>
<td>240</td>
<td>307.00</td>
</tr>
<tr>
<td>2</td>
<td>Administrative Cost @ 1%</td>
<td></td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td><strong>Grand Total</strong></td>
<td></td>
<td><strong>310.00</strong></td>
</tr>
</tbody>
</table>
Application Form

1) Name of the Applicant:
2) Name of the Farm / Hatchery:
3) Address, a. Plot No.: b. Khata No.:
c. Village: d. G.P.:
e. Block: f. District:
4) CAA License No. for brackish water farm / shrimp hatchery:
5) Mobile number
6) Category (Gen/SC/ST/OBC):
7) Male/Female:
8) Age:
9) Educational Qualification:
10) Employed / Unemployed
11) Whether supported under any Govt. Schemes during last 2 years? If yes, which scheme?
12) Identification proof (Aadhaar card)
    (Enclose a Photocopy of the Aadhaar Card)
13) Number of Bio-floc farm units to be installed:
14) Bank Finance/ Self Finance:
15) Banking Details
    a. Name of the Account:
    b. Account no.:
    c. IFSC No.:
    d. Name of the Bank:
    e. Branch name:
    (Enclose a Photograph of the first page of the bank pass book)
16) Self declaration:
I do hereby declare that the above facts are true to the best of my knowledge and I am willing to avail the "financial assistance under the scheme on Bio-floc technology for fish and shrimp farming in Odisha" and utilise the govt. assistance for the said purpose.

Recommending Officer (AFO)                  Signature of the applicant
Field Verification Report by AFO

I hereby certify that the proposed sites of the following applicants have been physically verified by me and found feasible for Bio-floc technology for fish and shrimp farming. The information provided by the applicants in their application form found to be correct.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the applicant</th>
<th>Block and District of the applicant</th>
<th>Category of unit (Fresh water Fish farm / Nursery / Seed tank / Hatchery OR Brackish water Shrimp farm / Nursery / Seed tank / Hatchery)</th>
<th>Bio-floc Units to be installed</th>
</tr>
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<tr>
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</tbody>
</table>

AFO
### Monthly District-level Progress Report Format

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Target (no. of Unit)</th>
<th>No. of Application received</th>
<th>No. of applications verified by AFO</th>
<th>Go ahead issued by DFO</th>
<th>No. of beneficiaries completed the installation of Biofloc units verified by the DLIT</th>
<th>No. of beneficiaries who received assistance</th>
<th>Amount of assistance disbursed to beneficiaries (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No./ Unit</td>
<td>No./ Unit</td>
<td>No./ Unit</td>
<td>No./ Unit</td>
<td></td>
<td>No./ Unit</td>
<td></td>
</tr>
</tbody>
</table>

District: ____________________________  
Date: ____________________________
MODEL PLAN OF BIOFLOC UNIT (2 tanks, 4 tanks, 6 tanks) FOR SHRIMPS & FISH.

SPECIFICATION
- Vertical members: M.S tube 2" x 1" x 1/2"
- Horizontal Tie: M.S tube 2" x 1/2"
- Posts: M.S Angle 2" x 2" x 1/2"
- Purlins: M.S Angle 2" x 1/2"
- Walling & roofing: Agro shade Net (Medium)