

**TECHNICAL MANUAL**

**ESTABLISHMENT OF FISH FEED  
MILLS IN PRIVATE SECTOR  
(MINI-MISSION-II)**

## NOTICE

Applications are hereby invited from Individuals /Self Help Groups/Fish Farmer Co-operative Societies/Entrepreneurs/etc. from the State of Meghalaya possessing a minimum land of 0.5 hectares, for the establishment of 3 (three) Fish Feed Mills (i.e. one each for Ri-Bhoi, East Khasi Hills and West Garo Hills District) to be assisted under the Meghalaya State Aquaculture Mission (Mini Mission – II) during 2013 – 14. The area of 0.5 hectares will include construction of 49 sq. m of warehouse and the rest will be for loading / unloading of materials, parking space, quarters, etc. The location should have a well connected motorable road. The scheme is meant for production of Fish Feed in the state and the details of the required critical infrastructure are elaborated under the Mini Mission II of the Aquaculture Mission document, hosted on the Website: [www.msam.nic.in](http://www.msam.nic.in) and can be downloaded free of cost.

Financial assistance under the scheme is as per NFDB's unit cost of Rs. 18 lakhs each, of which subsidy will be 60% i.e., 10.8 lakhs, 25 % will be credit linkage with MCAB/SBI financing the project i.e. Rs. 4.50 lakhs and 15% own contribution of the partner i.e. Rs. 2.70 lakhs. Applicants must have the financial capacity to bear 15% of the project cost, as also the capacity to make investment for other additional minor infrastructure and inputs, as the case may be, depending upon the location and other contingencies.

The application forms will be available at the offices of the Superintendents of Fisheries-cum-District Executive Officers/Sub-Divisional Fishery Officers-cum-Sub-Divisional Executive Officers on any working day and the last date for submission of the filled-in forms along with all the required documents is **30-06-13**. The filled-in application forms etc, are to be submitted to any of the above mentioned offices where the project(s) is located. The application forms, the detailed norms of the scheme, process chart and the entire technical manual for the implementation of the scheme, etc., also can be downloaded from the website [www.msam.nic.in](http://www.msam.nic.in) free of cost.

(Smti.I.R.Sangma)  
Director of Fisheries-cum-  
Chief Executive Officer, FFDA,  
Meghalaya, Shillong



## **MEGHALAYA STATE AQUACULTURE MISSION**

### **ESTABLISHMENT OF FISH FEED MILLS IN PRIVATE SECTORS**

**To be implemented under the Meghalaya State Aquaculture Mission (MSAM) 2012-13**

#### **Mini Mission - II**

Fishes like any other animals are provided with all the basic nutritional needs like proteins, carbohydrate, fats, minerals, vitamins etc for their growth, survival and multiplication, which has resulted in different feeding habits and diet selection. Over the years, cultured fish have shown to require additional feed as the available natural food in confined ponds are not in plenty as in the natural water bodies. Hence, adequate nutritional feed is important for fish cultured in ponds, tanks etc. to augment their growth as well as increasing immunity towards infection and eventually achieve the desired production.

Fish culture in the state is nothing new, but in the past it was more of a hobby rather than rearing for income generation. During the recent years fish culture has aroused great interest in the people that quite a number of fallow lands have been replaced by fishery ponds. The most practiced form of supplementary feeding is rice bran and mustard oil cake given in the ratio of 1:1. The feed is presently managed with the locally available rice bran and oil cake coming from nearby Assam, and concentrated feed is often negligibly given or not use at all.

With the intention of the MSAM to expand the area under fish culture by 10,000 Ha in 5 years, there is a great need for setting up of feed mills to produce formulated feed to enhance the growth performance, survivability rate and finally fish for consumption in the state. In the 1st year of the Mission, the projected water area expansion is 1600 ha, where feed requirement comes to 2400 MT per year (approx) at the rate of 1.5 MT /ha. The daily requirements come to 8 MT on the assumption that feed is required for 300 days a year. Feed requirement by the end of the 5<sup>th</sup> year comes to 12000MT/year or 40MT/day (approx).

With the Mission attempting to expand the area four times the present area, there will be pressure on feed supply. In this context, the Mission seeks to establish fish feed mills to introduce concentrated feed in the state which will be locally available to the farmers at a lower rate. The MSAM intends to set up "Fish Feed Mills" of 0.5MT capacity and to support at least 1 (one) Feed Mill in each District in the 1<sup>st</sup> year and the additional units will be added each year in each District depending on the demand.

The SHG's/Fishery co-operatives/progressive farmers/Entrepreneurs or individuals to whom assistance has been extended will be committed to the responsibilities of maintenance and upkeep of the Feed Mill throughout the year in accordance with the conditions laid down by the Department. One of the conditions will be fixation of the price of the produce and the revenue earned will exclusively go to the beneficiaries.

## **SETTING - UP OF FISH FEED MILLS IN THE PRIVATE SECTOR**

Fish Feed is another important aspect of fish farming. Presently, fish feed comprises mainly of Rice-Bran and Oil Cake and has to be procured by the fish farmers from the main markets where the rate is very high and in some District the feed is not available on regular basis. High cost and non-availability of feed affects fish production.

To ensure regular supply of fish feed at an affordable price by the farmers, it is very necessary for the installation of Mini-Fish Feed Mills in the State @ 1 (one) Feed Mill for each District. The Feed Mill will be of 500 Kgs/day capacity and will be exclusively utilized for the production of Mash feed/ pelleted feed. Financial assistance to private sector will be provided at 60% subsidy, 25% Bank Loan and 15% beneficiaries' contribution. The selected beneficiaries will be sent for training at CIFA, Bhubaneswar.

Raw Materials to be used:-

1. Mustard Oil Cake.
2. Rice Bran/Maize.
3. Wheat Flour.
4. Fish Meal/Animal waste meal.
5. Mineral Mixture.

**The Mash/Pellet Feed can be sold @ Rs 25 - 28/- per Kg.**

**ESTIMATED COST FOR ESTABLISHING OF FISH FEED MILL (PELLET FEED) IN  
PRIVATE SECTOR**

Sl. No.	Items/Particulars	Amount	
1	<b><u>HAMMER MILL</u></b> CAPACITY:150 KGS/HR ON 2.5mm SCREEN MOTOR REQ:3 HP FITTED WITH MAGNET	<b>1,75,000/-</b>	
2	<b><u>PULVERIZE</u></b> SIZE 13*5 CAPACITY:50-80 KGS/HR MOTOR REQUIRED 3HP FITTED WITH BLOWER AND CYCLONE	<b>2,25,000/-</b>	
3	<b><u>HORIZONTAL FEED MIXER</u></b> CAPACITY 100 KGS/BATCH MOTOR REQUIRED :3HP FITTED WITH GEAR BOX AND OIL DOSAGE TANK	<b>2,75,000/-</b>	
4	<b><u>FLAT DIE PELLET MILL</u></b> CAPACITY 80-100KGS/HR POWER REQ:7.5HP FITTED WITH DIE OF SIZE 5mm MANUAL FEEDING FITTED ON CHANNEL BASE	<b>1,75,000/-</b>	
5	<b>PANEL BOARD TO RUN THE MACHINES</b>	<b>40,000/-</b>	
6	<b>INSTALLATION WITH CIVIL WORK</b>	<b>60,000/-</b>	
7	<b>PACKING PLASTIC BAG (500 KGS. EACH)</b>	5KG @ Rs 7.50/- PER BAG	<b>3,750/-</b>
		10KG @ Rs 9.25/- PER BAG	<b>4,625/-</b>
		40KG @ Rs 20/- PER BAG	<b>10,000/-</b>
8	<b>100KG ELECTRONIC BALANCE</b>	<b>20,000/-</b>	
9	<b>BAG CLOSER</b>	<b>10,000/-</b>	
10	<b>COTTON THREAD (1000m) @ Rs 100/- EACH x 10 NOS.</b>	<b>1,000/-</b>	
11	<b>NYLON THREAD @Rs 95/- EACH x 10 NOS.</b>	<b>950/-</b>	
12	<b>BUILDING/WAREHOUSE</b>	<b>7,50,000/-</b>	
13	<b>MISCELLANEOUS</b>	<b>49,675/-</b>	
	<b>TOTAL</b>	<b>18,00,000</b>	
	<b>(RUPEES EIGHTEEN LAKH) ONLY</b>		

**NUTRIENT COMPOSITION OF SOME FEED INGREDIENTS:**

Ingredients	Protein(%)	Lipids(%)	Fibre(%)	Cost(Rs/kg)
Rice bran	8-10	3-4	10-15	22
M.Oil cake	30-35	9-10	6-9	30
Maize	9-11	4-6	2-3	30
Fish meal/Animal waste	50-65	8-12		70

**DIET FORMULATION FOR FRY WITH LOCALLY AVAILABLE INGREDIENTS**

<b>Sl. No.</b>	<b>Ingredients</b>	<b>Local Rate (in Rs)</b>	<b>Quantity (in %)</b>	<b>Quantity (in gm/ml)</b>	<b>Rate (in Rs)</b>
1	Rice bran	14/kg	35	350	4.90
2	Mustard oil cake	20/kg	35	350	7.00
3	Animal Wastes	50/kg	10	100	5.00
4	Tapioca/wheat Flour	20/kg	15	150	3.00
5	Vitamin-mineral mix	150/kg	3	30	4.50
6	Vegetable oil	90/kg	2	20	1.80
	Total				26.20 Say 26

**DIET FORMULATION FOR FINGERLINGS WITH LOCALLY AVAILABLE****INGREDIENTS**

<b>Sl. No.</b>	<b>Ingredients</b>	<b>Local Rate (in Rs)</b>	<b>Quantity (in %)</b>	<b>Quantity (in gm/ml)</b>	<b>Rate (in Rs)</b>
1	Rice bran	14/kg	40	400	5.60
2	Mustard oil cake	20/kg	30	300	6.00
3	Animal Wastes	50/kg	10	100	5.00
4	Tapioca/wheat Flour	20/kg	15	150	3.00
5	Vitamin-mineral mix	150/kg	2	20	3.00
6	Vegetable oil	90/kg	3	30	2.70
	Total				25.30 Say 25

**DIET FORMULATION FOR JUVENILES/ADULTS WITH LOCALLY AVAILABLE****INGREDIENTS**

<b>Sl. No.</b>	<b>Ingredients</b>	<b>Local Rate (in Rs)</b>	<b>Quantity (in %)</b>	<b>Quantity (in gm/ml)</b>	<b>Rate (in Rs)</b>
1	Rice bran	14/kg	40	400	5.60
2	Mustard oil cake	20/kg	35	350	7.00
3	Animal Wastes	50/kg	10	100	5.00
4	Tapioca/wheat Flour	20/kg	10	100	2.00
5	Vitamin-mineral mix	150/kg	2	20	3.00
6	Vegetable oil	90/kg	3	30	2.70
	Total				25.30 Say 25

## DIET FORMULATION FOR BROOD STOCK WITH LOCALLY AVAILABLE

### INGREDIENTS

Sl. No.	Ingredients	Local Rate (in Rs)	Quantity (in %)	Quantity (in gm/ml)	Rate (in Rs)
1	Rice bran	14/kg	35	350	4.90
2	Mustard oil cake	20/kg	35	350	7.00
3	Animal Wastes	50/kg	10	100	5.00
4	Tapioca/wheat Flour	20/kg	15	150	3.00
5	Vitamin-mineral mix	150/kg	2	20	3.00
6	Vegetable oil	90/kg	3	30	2.70
	Total				25.60 Say 26

N.B.- The above rate is only the material cost excluding transportation cost, Electricity Bill, Labour charge, etc.

## **FISH FEED MILL**

### **Norms of the scheme:**

1. The minimum farm area eligible for financial assistance shall be 0.5 ha. This area is meant for construction of 49 sq. m warehouse and the rest will be for loading / unloading of materials, parking space, quarters, etc.
2. It should have motorable road for transport of raw materials.
3. Financial assistance under the scheme is as per NFDB's unit cost of Rs. 18 lakhs each, of which subsidy will be 60% i.e., 10.8 lakhs, 25 % credit linkage with MCAB/ Other banks financing the project i.e. Rs. 4.50 lakhs and 15% own contribution of partners i.e. Rs. 2.70 lakhs.
4. The financial assistance / loan will be in the form of medium term loan with repayment period of 5 years including gestation period of 1 (one) year i.e. the entire amount of the loan will have to be repaid in 4 equal yearly installments. The interest on the loan will have to be repaid as per the norms of the sanctioning bank.
5. Each Feed Mill should have a production capacity of 300 - 500kg/day.
6. The applicants should have the financial capacity to bear 15% of the cost for the construction of the Fish Feed Mill, etc as his/her own contribution.
7. Fixation on the price of the Fish Feed so produced will be worked out by the Department with the beneficiaries, tentatively at @ Rs 25-28/ Kg
8. The revenue generated from the sale of the feed will exclusively go to the beneficiaries.
9. Beneficiaries will be sent for short term training, exposure trips to CIFA, Bhubaneshwar/ CIFRI, Barrackpore, West Bengal or any other recognized institutions of the Country having functioning feed Mills in the area. Training cost will be borne by the Meghalaya State Aquaculture Mission in which an amount of Rs.2.28 lakhs has been budgeted for the purpose.



### **Selection/ Implementation Process:**

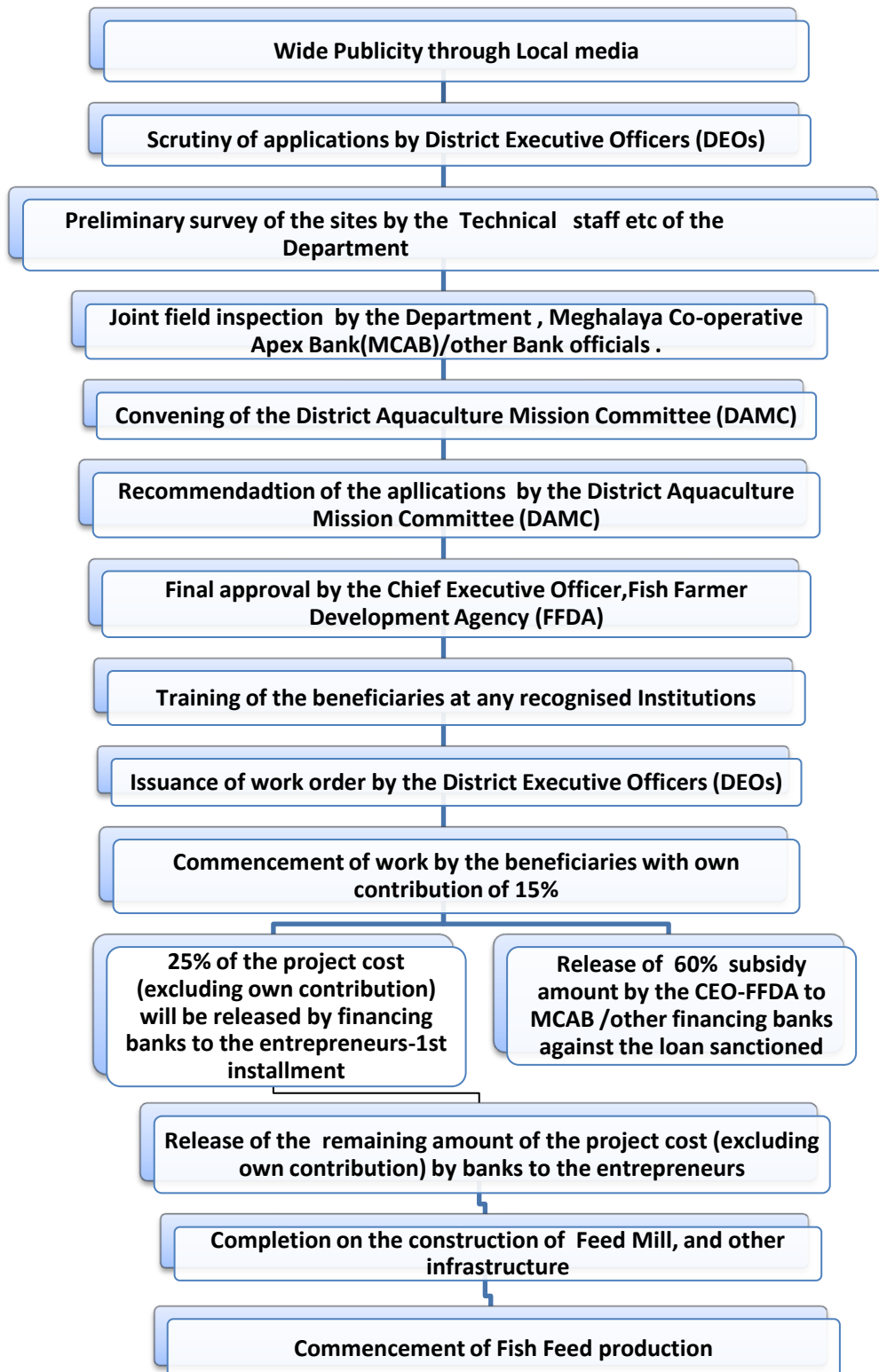
1. Wide publicity for the scheme will be given in the local media, both print and electronic, for the benefit of all the eligible individuals / Self Help Groups/Fish Farmer Co-operative Societies/Entrepreneurs etc of the state. The Fish farmers Co-operative Societies should submit the application through the Assistant Registrar of Co-operative Societies of the respective districts
2. The respective DEOs/S.Fs. will then scrutinize the applications, assess the validity of the ownership of the applicants, documents, etc. including financial capacity of the applicants to make 15% own contribution, as also to undertake other required infrastructure.
3. Preliminary survey of the site will be carried out by the Technical Staff/Programme Managers of the FFDA, as the case may be, and they will submit reports on the feasibility/non-feasibility of each site, to the respective District Executive Officers.
4. The DEOs will then organize joint inspection and verification with the MCAB/ Other banks officials before placing the list of probable beneficiaries in the District Aquaculture Mission Committee, headed by the Deputy Commissioners of the respective districts.
5. The Member Secretary will convene the Committee after obtaining due approval from the Chairman of the District Aquaculture Mission Committee (DAMC).
6. The DAMC will then scrutinize, select and prepare a list of recommended applications and submit the same to the CEO, FFDA for according final approval.
7. The approved list of beneficiaries, in order of priority will then be sent to the DEOs concerned with a copy to the Chairman, DAMC.
8. Beneficiaries will be sent for short term training, exposure trips to CIFA, Bhubaneswar/ CIFRI, Barrackpore, West Bengal or any other recognized institutions of the Country having functioning feed Mills in the area. Training cost will be borne by the Meghalaya State Aquaculture Mission in which an amount of Rs.2.28 lakhs has been budgeted for the purpose.
9. Work order will be issued by the DEOs to the Entrepreneurs immediately on the completion of the training, with a copy to the MCAB/ Other banks.
10. Initially, the entrepreneurs will have to start the work with their own contribution of 15%.
11. Construction of the Fish Feed Mill, etc to be done under the supervision, guidance of the DEOs, assisted by the Junior Engineers of the Department. Technical expertise may also be drawn from ICAR or any other reputed Fishery Institutes.
12. After due verification by the DEOs/EOs/Programme Managers that the initial work taken up by the Entrepreneurs commensurate with their own contribution (15%), the sanctioning bank will release the entire project cost excluding own contribution (15%) in

two installments. The first installment i.e. 25% of the project cost (excluding own contribution) shall be released as 1<sup>st</sup> installment to the entrepreneurs.

13. On sanction of the loans, the sanctioning bank will then claim the subsidy amount from the CEO- FFDA. Release of subsidy by CEO-FFDA to the sanctioning banks will be specifically only for those entrepreneurs against whom the loans were sanctioned.
14. After due verification by the DEOs/EOs/ Programme Managers/Bank Officials that the loan sanctioned has been utilized by the Partners for implementation of the schemes, the remaining amount of the project cost (excluding the own contribution) will be released by the sanctioning banks to the entrepreneurs.
15. On completion of the construction of the Feed Mill, the respective DEOs/SDEOs are to ensure that Feed production from the project commences immediately.
16. Inputs, machineries, etc required for the project should be procured by the entrepreneurs themselves under the guidance and supervision of the implementing officials of the Department.
17. The Superintendent of Fisheries-cum-DEOs, FFDA are to ensure that the beneficiaries assisted under different schemes are to procure the feed exclusively from these Feed Mills. Similarly, the owner of these Mills will give preference to the beneficiaries of the Department in providing the feed.
18. The Superintendent of Fisheries-cum-DEOs, FFDA will send an 'Advice List' of the beneficiaries to the owner of the Mills indicating the quantity of feed to be supplied. After supplying the materials, the owner will then furnish the bills, challan, etc to the respective SFs who would then forward the same to the Bank(s) for payment directly to the supplier/owner concerned.
19. Monthly reports, right from the stage of implementation to the completion of the project, are to be furnished by the DEOs etc to the CEO-FFDA, Shillong.
20. In respect of selection of entrepreneurs, preference will be given to the Educated, un-employed youth, established Self Help Groups, Fish Farmer Co-operative Societies and entrepreneurs etc of the state who have the capacity to bear 15% of the cost of the construction, etc as his/her/their own contribution.

Director of Fisheries-cum-  
Chief Executive Officer, FFDA  
Meghalaya, Shillong

**PROCESS CHART OF IMPLEMENTATION FOR ESTABLISHMENT OF FISH FEED MILLS IN PRIVATE SECTORS**



Director of Fisheries-cum-  
Chief Executive Officer, FFDA  
Meghalaya, Shillong