



**Results-Framework Document (RFD)  
for  
Central Marine Fisheries Research Institute  
(2012-2013)**

**Address**

**P.B. No.1603, Ernakulam North P.O.,  
Kochi-682 018, Kerala**

**Website ID**

**<http://www.cmfri.org.in>**

## **Section 1 Vision, Mission, Objectives and Functions**

### **Vision**

Sustainable marine fisheries through management interventions and enhanced coastal fish production through mariculture for improved coastal livelihood.

### **Mission**

To develop information based management system for changing over from open access to regulated regime in marine fisheries, augment coastal fish production through mariculture and sea ranching and restore critical marine habitats.

### **Objectives**

1. Marine fishery resources assessment
2. Productivity and production enhancement through mariculture
3. Transfer of technology, training and consultancy services

### **Functions**

1. To monitor the exploited and assess the under-exploited stock of the marine fisheries resources of the Exclusive Economic Zone (EEZ)
2. To understand the fluctuations in abundance of marine fisheries resources in relation to change in the environment
3. To develop suitable mariculture technologies for finfish, shellfish and other culturable organisms in open seas to supplement capture fishery production
4. To act as a repository of information on marine fishery resources with a systematic data base
5. To conduct transfer of technology, post-graduate and specialized training, education and extension-education programmes
6. To provide consultancy services

**Section 2 - Inter se Priorities among Key Objectives, Success indicators & Targets**

Objectives	Weight (%)	Actions	Success Indicators	Unit	Weight (%)	Target / Criteria Value				
						Excellent	Very Good	Good	Fair	Poor
						100%	90%	80%	70%	60%
Marine Fishery Resources Assessment	47	Assessment of marine fishery resources of the country and strengthening of the National Marine Fisheries Information System	Estimation of Marine fish landings and data base updation	Date	10	27.03.13	28.03.13	29.03.13	30.03.13	31.03.13
			Digitization of historical data -Number of years completed	Number	2	2	1	0	0	0
		Formulation and dissemination of regional marine fisheries management plans	Rapid assessment of the status of exploited stocks, in maritime states	Number	7	20	18	16	12	10
			Assessment of stock size of large pelagic species	Number	2	3	2	1	0	0
		Establishment of a National Fisheries Grid-GIS Platform	Development of regional spatio-temporal resource mapping of distribution and abundance of fishes off Indian coast -Centre-wise	Number	5	5	4	3	2	1
		Bio-inventorying and biodiversity evaluation of marine ecosystem	Development of GIS based data base and valuation of marine organisms (Species)	Number	3	20	17	15	13	10
			Survey of Coral reefs	Number	2	2	1	0	0	0
		Ecosystem monitoring	Observations for estimation of pollution levels in different eco-zones	Number	3	160	140	120	80	30

			Environmental impact paramters in hydrographic and benthic ecosystems	Number	4	25	20	15	10	7
			Estimation of carbon sequestration potential of Indian seaweed species	Number	2	2	1	0	0	0
		Economic evaluation of resource use & coastal livelihoods	Assessment of socio-economic performance of fishing methods and estimation of total factor productivity ratios, & fisheries subsidies State-wise	Number	7	8	6	4	2	1
Productivity and production enhancement through mariculture	26	Open sea cage farming	Brood stock of marine finfish & shell fish species	Number	2	2	1	0	0	0
			Seed production of marine finfish & shell fish species	Number	11	20000	15000	12000	10000	8000
			Development of technologies for Integrated Multitrophic aquaculture - Species	Number	4	2	1	0	0	0
		Bioprospecting of marine resources- marine algae, microorganism & seaweed	Development of products from marine resources	Number	5	2	1	0	0	0
			Indicators of fish health management	Number	4	4	3	2	1	0
Transfer of technology, training & consultancy services	15	Technology transfer	Process and product commercialization	Number	1	2	1	0	0	0
			Consultancy services	Number	3	2	1	0	0	0
			Analytical and advisory services	Number	1	2	1	0	0	0
		Training	Number of trainees	Number	10	450	375	250	200	125

Efficient functioning of RFD System	03	Timely submission of RFD for 2012-13	On-time submission	Date	2	Mar. 23, 2012	Mar. 26, 2012	Mar. 27, 2012	Mar. 28, 2012	Mar. 29, 2012
		Timely submission of Results for 2012-13	On-time submission	Date	1	May 1, 2013	May 2, 2013	May 3, 2013	May 6, 2013	May 7, 2013
Administrative Reforms	05	Implement ISO 9001	Prepare ISO 9001 action plan	Date	1	June 4, 2012	June 5, 2012	June 6, 2012	June 7, 2012	June 8, 2012
			Implementation of ISO 9001 action plan	Date	2	Mar. 25, 2013	Mar. 26, 2013	Mar. 27, 2013	Mar. 28, 2013	Mar. 29, 2013
		Implement mitigating strategies for reducing potential risk of corruption	% of implementation	%	2	100	95	90	85	80
Improving internal efficiency/ responsiveness/ service delivery of ministry/department	04	Implementation of <i>Sevottam</i>	Independent Audit of Implementation of Citizen's Charter.	%	2	100	95	90	85	80
			Independent Audit of Implementation public grievance redressal system	%	2	100	95	90	85	80

### Section 3 – Trend Values of the Success Indicators

Objective	Actions	Success Indicator	Unit	Actual Value for FY 10/11*	Actual Value for FY 11/12	Target Value for FY 12/13	Project ed Value for FY 13/14	Project ed Value for FY 14/15
Marine Fishery Resources Assessment	Assessment of marine fishery resources of the country and strengthening of the National Marine Fisheries Information System	Estimation of Marine fish landings and data base updation	Date	31.3.11	31.3.12	28.3.13	31.3.14	31.3.15
		Digitization of historical data - Number of years completed	Number	0	1	1	3	4
	Formulation and dissemination of regional marine fisheries management plans	Rapid assessment of the status of exploited stocks, in maritime states	Number	0	0	18	20	22
		Assessment of stock size of large pelagic species	Number	0	0	2	3	4
	Establishment of a National Fisheries Grid-GIS Platform	Development of regional spatio-temporal resource mapping of distribution and abundance of fishes off Indian coast - Centre-wise	Number	0	0	4	7	10
	Bio-inventorying and biodiversity evaluation of marine ecosystem	Development of GIS based data base and valuation of marine organisms (Species)	Number	0	20	17	20	22

		Survey of Coral reefs	Number	01	01	2	2	2
	Ecosystem monitoring	Observations for estimation of pollution levels in different eco-zones	Number	0	144	140	150	160
		Environmental impact parameters in hydrographic and benthic ecosystems	Number	0	15	20	22	25
		Estimation of carbon sequestration potential of Indian seaweed species	Number	0	01	1	0	0
		Economic evaluation of resource use & coastal livelihoods	Assessment of socio-economic performance of fishing methods and estimation of total factor productivity ratios, & fisheries subsidies - State-wise	Number	4	5	6	8
Productivity and production enhancement through mariculture	Open sea cage farming	Brood stock of marine finfish & shell fish species	Number	1	1	1	0	0
		Seed production of marine finfish & shell fish species	Number	0	0	15,000	20,000	25,000
		Development of Technologies for Integrated Multitrophic aquaculture -Species	Number	0	1	1	1	0
	Bioprospecting of marine resources-marine algae, microorganism & seaweed	Development of products from marine resources	Number	1	1	1	0	0
		Indicators of fish health management	Number	0	3	3	4	5

Transfer of Technology, Training & consultancy services	Technology transfer	Process and product commercialization	Number	0	0	1	1	1
		Consultancy services	Number	0	0	3	4	5
		Analytical and advisory services	Number	0	0	4	5	6
	Training	Number of trainees	Number	300	325	375	400	450
Efficient functioning of RFD System	Timely submission of RFD for 2012-2013	On-time submission	Date		Mar 29, 2011	Mar. 26, 2012		
	Timely submission of Results for 2012-2013	On-time submission	Date	Mar 28, 2011	April 9 2012	May 2, 2013		
Administrative Reforms	Implement ISO 9001	Prepare ISO 9001 action plan	Date	---	---	June 5, 2012		
		Implementation of ISO 9001 action plan	Date	----	---	Mar. 26, 2013		
	Implement mitigating strategies for reducing risk of corruption	% of implementation	%	----	---	95		
Improving internal efficiency/ responsiveness/ service delivery of ministry/department	Implementation of Sevottam	Independent Audit of Implementation of Citizen's Charter.	%	----	---	95		
		Independent Audit of Implementation public grievance redressal system	%	----	---	95		



## **Section 4**

### **Description and Definition of Success Indicators and Proposed Measurement Methodology**

#### **Objective1**

The fishery resource assessment refers to the estimation of marine fish landings in the country across the maritime states. The marine fish landings is estimated by collecting data on fish catch and effort from sample fishing units selected based on a multistage stratified random sampling method. The forecasting models are developed using statistical approaches like Bayesian approach for forecasting the fish catch from the selected zones or for selected fishery resources.

The bioinventorying process is accomplished by conducting underwater surveys and documenting the corals available. The indicators of coastal health are worked out by estimating the intensity of marine pollution, heavy metal concentration and extent of degradation of fragile habitats.

The valuation of marine organisms will be done by following the environmental economic valuation methods like direct valuation and indirect valuation method. Different types of values like use value, non-use value and tangible and intangible benefits will be evaluated.

The economic evaluation of fishing methods are evaluated by calculating the economic indicators like net profit, net operating income, capital and labour productivity, resource use efficiency and financial indicators like Net present value, Benefit cost ratio and internal rate of return.

Fisheries Management Plans for the respective maritime states are transformed into respective policy briefs.

#### **Objective 2**

Broodstock for marine fin fish are developed by adopting different induced breeding methods. The technology for open sea cage farming is developed by adopting different designs of cages and finding the most suitable one. For species diversification, different species are tried

and those which are suited for the particular location depending on parameters like seedling availability, percentage of survival, feed conversion ratio. Feeds are formulated considering the nutrient requirements and the species targeted.

### Objective 3

Few products are developed as the output of some of the research activities. Such products after successful testing are taken for commercialization. The expertise in different fields of marine fisheries management and mariculture are utilized to help those clients who seek our help for solving their research problems in the concerned field. Capacity building in fields of marine fisheries and mariculture is done through training of the fishers and fish farmers at regular intervals.

## **Section 5**

### **Specific Requirements from Other Departments**

1. Support of Department of Animal Husbandry, Dairying and Fisheries for funding for the cage farming projects and to support in formulating policies for the marine fisheries sector of India.
2. Financial support for funding from National Fisheries Development Board for financial support for setting up of open sea cage farms.
3. Fishery Survey of India's support to provide exploratory survey data for estimating the oceanic deep sea resource estimation.
4. Support from Ministry of Earth Sciences to conduct oceanographic studies and projects of Climate Change and its impact assessment.
5. Support from Department of Bio-technology and Science and Technology for marine biotechnology projects

## Section 6: Outcome /Impact of activities of organization Ministry

Sl .No.	Outcome/ Impact of organization/RC's	Jointly responsible for influencing this outcome/impact with the following organizations /departments / ministries	Success indicators	Unit	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
1	Annual Estimation of marine fish landings in India –State-wise		Estimation of Marine fish landings and data base updation	Date	31.3.11	31.3.12	28.3.13	31.3.14	31.3.15
2	Bio-inventorying and biodiversity evaluation of marine ecosystem: Development of GIS based data base and valuation of marine organisms		Development of GIS based data base and valuation of marine organisms (Species)	Number	0	20	17	20	22
3	Productivity and production enhancement through mariculture-Open sea cage farming: Seed production & species diversification	Ministry of Agriculture, National Fisheries Development Board	Brood stock of marine finfish & shell fish species	Number	0	1	1	1	0
4	Production of seeds of marine fin fish and shell fish		Seed production of marine finfish & shell fish species	Number	0	20000	20000	21000	22000
5	Assessment of economic performance of fishing methods, poverty ratios and total factor productivity ratios-State-wise		Assessment of socio-economic performance of fishing methods and estimation of total factor productivity ratios, & fisheries subsidies State-wise	Number	4	5	6	8	10

6	Bioprospecting of marine resources-marine algae, microorganism & seaweed		Development of products from marine resources	Number	0	1	1	0	
7	Training of personnel in stock assessment, taxonomy and open sea cage farming	National Fisheries Development Board	Number of trainees	Number	300	375	450	550	



