



Results-Framework Document (RFD)
for
Central Marine Fisheries Research Institute
(2014-2015)

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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 and Targets

Sl. No.	Objectives	Weight	Actions	Success Indicators	Unit	Weight	Target / Criteria Value				
							Excellent	Very Good	Good	Fair	Poor
							100%	90%	80%	70%	60%
1	Marine fishery resources assessment	53	Compilation of chlorophyll and other plankton abundance data using remote sensing and <i>in situ</i> observations for forecasting Indian marine fishery resources	Development of grid-wise time series data base on chlorophyll abundance, marine catch, effort and catch rate with geo reference tags	Number of grid-months	3.00	81	72 [#]	63	54	45
			Validation of satellite based Level-3 products for selected grids with relevant <i>in-situ</i> measurement	Number of grids	2.00	09**	08	06	04	02	
			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 updating for the year 2014	Date	14.00	25.03.15 [@]	27.03.15 [@]	29.03.15	30.03.15	31.03.15
			Formulation and dissemination of regional marine fisheries management plans	Rapid assessment of the status of exploited stocks, in maritime states and publication of policy briefs	Number of stocks	8.00	36	30	24	18	12

			Establishment of a National Fisheries Grid-GIS Platform	Development of regional spatio-temporal resource mapping of distribution and abundance of fishes off Indian coast	Number of fish species [@]	5.00	26	22	18	14	10
			Bio-inventorying and biodiversity evaluation of marine ecosystem	GIS based database for valuation of marine organisms such as coral and fish species	Number of species	5.00	34	28	22	16	10
			Ecosystem monitoring	Number of environmental impact parameters in hydrographic and benthic ecosystems	Number	6.00	32	27	22	17	12
				Number of surveys conducted to assess the health of the ecosystem	Number	4.00	84	70	56	42	28
			Socio-economic evaluation of marine fisheries sector	Estimation of indicators/indices of socio-economic development and marketing efficiency in marine fisheries	Number	6.00	19	16	13	10	07
2	Productivity and production enhancement through mariculture	14	Fish seed production through hatchery trials	Production of marine finfish seedlings	Numbers (in'000)	14.00	72	60	48	36	24
3	Transfer of	13	Technology	Process and product	Number	1.00	2	1	0	0	0

technology, training and consultancy services		transfer	commercialization	mbe r							
			Consultancy services	Nu mbe r of clien ts	2.00	6	5	4	3	2	
			Analytical and advisory service	Nu mbe r of clien ts	1.00	102	85	68	51	34	
		Training	Number of trainees	Nu mbe r	9.00	900	750	600	450	300	
Publication/Docu mentation	5	Publication of the research articles in the journals having the NAAS rating of 6.0 and above	Research articles published	No.	3	42	35	28	21	14	
			Timely publication of the Institute Annual Report (2013-2014)	Annual Report published	Date	2	30.06. 2014	02.07.20 14	04.0 7.20 14	07.0 7.20 14	09.0 7.20 14
Fiscal resource management	2	Utilization of released plan fund	Plan fund utilized	%	2	98	96	94	92	90	
Efficient Functioning of the RFD System	3	Timely submission of Draft RFD for 2014-2015 for Approval	On-time submission	Date	2	May 15, 2014	May 16, 2014	May 19, 2014	May 20, 2014	May 21, 2014	
		Timely submission of Results for 2013-2014	On-time submission	Date	1	May 1 2014	May 2 2014	May 5 2014	May 6 2014	May 7 2014	

	Enhanced Transparency / Improved Service delivery of Ministry/Department	3	Rating from Independent Audit of implementation of Citizens' / Clients' Charter (CCC)	Degree of implementation of commitments in CCC	%	2	100	95	90	85	80
			Independent Audit of implementation of Grievance Redress Management (GRM) system	Degree of success in implementing GRM	%	1	100	95	90	85	80
	Administrative Reforms	7	Update organizational strategy to align with revised priorities	Date	Date	2	Nov.1 2014	Nov.2 2014	Nov. 3 2014	Nov. 4 2014	Nov. 5 2014
			Implementation of agreed milestones of approved Mitigating Strategies for Reduction of potential risk of corruption (MSC)	% of implementation	%	1	100	90	80	70	60
			Implementation of agreed milestones for ISO 9001	% of implementation	%	2	100	95	90	85	80
			Implementation of milestones of approved Innovation Action Plans (IAPs)	% of implementation	%	2	100	90	80	70	60

Note: [#] This project commenced from 2013-14 only. The indicator is **grid month**. There are 9 grids and data collation will be for 9 months. Therefore, the maximum grid months expected is 9*9=81 grid months. Therefore, the indicators will be in multiples of 9.

** Maximum number of grid selected is '9'.

@Data will be ready only by 3rd week of March. Hence the earlier indicators are retained.

Section 3: Trend Values of the Success Indicators

Sl. No	Objectives	Actions	Success Indicators	Unit	Actual Value for FY 12/13	Actual Value for FY 13/14	Target Value for FY 14/15	Projecte d Value for FY 15/16	Projecte d Value for FY 16/17	
1.	Marine fishery resources assessment	Compilation of chlorophyll and other plankton abundance data using remote sensing and <i>in-situ</i> observations for forecasting Indian marine fishery resources	Development of grid-wise time series data base on chlorophyll abundance, marine catch, effort and catch rate with geo reference tags	Number of grid-months#	Nil	9 grids	72#	81#	81#	
			Validation of satellite based Level-3 products for selected grids with relevant <i>in-situ</i> measurement	Number of grids	Nil	Nil	8**	9**	9**	
			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 updating for the year 2014	Date	27.03.13	27.03.14	27.3.15	27.3.16	27.3.17
			Formulation and dissemination of regional marine fisheries management plans	Rapid assessment of the status of exploited stocks, in maritime states and publication of policy briefs	Number of stocks	24	28	30	34	36

	Establishment of a National Fisheries Grid-GIS Platform	Development of regional spatio-temporal resource mapping of distribution and abundance of fishes off Indian coast	Number of fish species	5@ centres	20 Species from 13-14	22	24	26
	Bio-inventorying and biodiversity evaluation of marine ecosystem	GIS based database for valuation of marine organisms such as coral and fish species	Number of species	20	26	28	30	36
	Ecosystem monitoring	Number of environmental impact parameters in hydrographic and benthic ecosystems	Number	25	26	27	28	30
		Number of surveys conducted to assess the health of the eco-system	Number	50	63	70	75	77
	Socio-economic evaluation of marine fisheries sector	Estimation of indicators/indices of socio-economic development and marketing efficiency in marine fisheries	Number	8 States	16 indicators from 13-14	16	17	17

2.	Productivity and production enhancement through mariculture	Fish seed production through hatchery trials	Production of marine finfish seedlings	Numbers (in'000)	22	147* The spawning was very high during July to September	60	65	70
3.	Transfer of technology, training & consultancy services	Technology transfer	Process and product commercialization	Number	1	1	1	1	1
			Consultancy services	Number of clients	02	06	05	05	05
			Analytical and advisory service	Number of clients	65	80	85	90	100
		Training	Number of trainees	Number	444	818	750	800	840

	Publication/D omentation	Publication of the research articles in the journals having the NAAS rating of 6.0 and above	Research articles published	Number.	30	34	35	40	45
		Timely publication of the Institute Annual Report (2013-2014)	Annual Report published	Date	–	–	02.07.2014	–	–
	Fiscal resource	Utilization of released plan fund	Plan fund utilized	%		–	96	–	–

	management								
	Efficient Functioning of the RFD System	Timely submission of Draft RFD for 2014-2015 for Approval	On-time submission	Date	-	-	May 16, 2014	-	-
		Timely submission of Results for 2013-2014	On-time submission	Date	-	-	May 2, 2014	-	-
	Enhanced Transparency / Improved Service delivery of Ministry/Department	Rating from Independent Audit of implementation of Citizens' / Clients' Charter (CCC)	Degree of implementation of commitments in CCC	%	-	-	95	-	-
		Independent Audit of implementation of Grievance Redress Management (GRM) system	Degree of success in implementing GRM	%	-	-	95	-	-
	Administrative Reforms	Update organizational strategy to align with revised priorities	Date	Date	-	-	Nov.2, 2014	-	-
		Implementation of agreed milestones of approved Mitigating Strategies for Reduction of potential risk of corruption (MSC)	% of implementation	%	-	-	90	-	-
		Implementation of agreed milestones for ISO 9001	% of implementation	%	-	-	95	-	-

		Implementation of milestones of approved Innovation Action Plans (IAPs)	% of implementation	%	-	-	90	-	-
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Note: # This project commenced from 2013-14 only. The indicator is **grid month**. There are 9 grids and data collation will be for 9 months. Therefore, the maximum grid months expected is $9 \times 9 = 81$ grid months. Therefore, the indicators will be in multiples of 9.

@ This project commenced from 2012-13. Initially the unit was number of centres covered, later changed to number of species covered from 2013-14 onwards.

* The seed production commenced from 2012-13 only

** The project commenced from 2013-14 and this indicator was included during the current year only. Hence there is no previous value.

Section 4(a): Acronyms

Sl.No.	Acronym	Description
01	EEZ	Exclusive Economic Zone
02	GIS	Geographical Information System
03	DAHD &F	Department of Animal Husbandry, Dairying and Fisheries
04	SAC	Space Applications Centre
05	NFDB	National Fisheries Development Board

Section 4(b): Description and definition of success indicators and proposed measurement methodology

Sl. No.	Success Indicator	Description	Definition	Measurement	General Comments
1	Development of grid-wise time series data base on chlorophyll abundance, marine catch, effort and catch rate with geo reference tags	A time series data base on various components like chlorophyll abundance from identified grids will be collected	A time series data base will be identified for each grid	For 9 grids in each sample month, time series data will be developed. The unit is grid months	Compilation of these information using remote sensing will assist in forecasting Indian marine fishery resources
2	Validation of satellite based Level-3 products for selected grids with relevant <i>in-situ</i> measurement	The data collected using satellite information and our sample data will be analyzed for validation	The satellite based data will be combined with <i>in-situ</i> observation for the selected grids	Number of grids	Validated Level-3 products will be used for grid wise database development
3	Estimation of Marine fish landings and data base updating for the year 2014	The marine fish landings in the country across the maritime states are assessed	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	Date of publication of the annual landing statistics	All 9 maritime states and 2 Union Territoryies (Puduchery and Daman-Diu) marine fish landing data will be estimated

			method		
4	Rapid assessment of the status of exploited stocks, in maritime states and publication of policy briefs	The status of exploited stocks in the year is assessed systematically	The biological data on length-weight relationship and the landings data are used to assess the stock	Number of stocks exploited	Vulnerability status of the stocks will be published
5	Development of regional spatio-temporal resource mapping of distribution and abundance of fishes off Indian coast	The details of the distribution of fishery resources will be mapped	Resource maps comprising various components will be prepared	Number of fish species	Species wise distribution maps will be prepared
6	GIS based database for valuation of marine organisms such as coral and fish species	The data base on the marine flora and fauna will be developed and used for valuation of the ecosystem	The list of marine flora and fauna will be listed, identified and their use & non-use values will be estimated	Number of species	Valuation of the marine bio-diversity
7	Number of environmental impact parameters in hydrographic and benthic ecosystems	The status of coastal health will be assessed by estimating the indicators of pollution	The intensity of marine pollution, heavy metal concentration and extent of degradation of fragile habitats decides the coastal health	Number of parameters such as pollution index, degradation index	Pollution indices for environmental impact assessment
8	Number of surveys conducted to assess the health of ecosystem	Water sampling surveys will be conducted to assess the health of ecosystem	Data on various components of sea water will be collected	Number of surveys	Various components of water will be collected in the survey
9	Estimation of indicator/indices of socio-economic development and marketing efficiency in marine fisheries	The economic indicators like net income, profit/loss, productivity, net present value and payback period indicates the efficiency of the production &	The different fishing methods will be economically evaluated and the marketing efficiency will be estimated by developing	Number of indicators	The indicators will measure the strength of the socio economic status of the fishers, economic performance of fishing

		marketing system	suitable indicators		methods and also marketing efficiency.
10	Production of marine finfish seedlings	Broodstock for marine fin fish are developed by adopting different induced breeding methods. Various species of marine finfish will be farmed in open sea cages	The production of various species of marine fin fish and their seed will be assessed	Fish production in tonnes and seed in '000 numbers	Mariculture production figures
11	Process and product commercialization	Few products are developed as the output of some of the research activities. Such products after successful testing are taken for commercialization	The products or the process developed will be shared with the knowledge or working partner to expand the production on commercial scale	Number of products /processes commercialized	Bio-prospecting outputs
12	Consultancy services	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	The consultancy services are taken up based on the requirement from the clients and worked on a project mode	Number of clients	Capture and culture related expertise provided to interested clients
13	Analytical and advisory service	Facilitating certain services like water testing, species identification	The services like water quality testing, disease & species identification are provided to farmers and students	Number of clients approached	Laboratory testing of samples
14	Number of trainees	Capacity building in fields of marine	Training is provided to fishers and fish	Number of trainees	Human resource development

		fisheries and mariculture is done through training of the fishers and fish farmers at regular intervals	farmers on various aspects of marine fisheries and mariculture		
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Section 5: Specific performance requirements from other departments that are critical for delivering agreed results

Location Type	State	Organization Type	Organization Name	Relevant Success Indicator	What is your requirement from this organization?	Justification for this requirement	Please quantify your requirement from this organization	What happens if your requirement is not met?
Central Government	All India	Government Department	DAHD &F	Production of marine fin fish seedlings	Policy formulation and implementation support	This Department is the organization that promulgates policies after getting approval from the Government	Support to translate our research findings to policy measures	There will be a delay for the impact of the research of the institution in reaching the clients
Central Government	All India	Government Department	Space Applications Centre (SAC), Indian Space Research Organization	Development of grid-wise time series data base on chlorophyll abundance, marine catch, effort and catch rate with geo reference tags	Providing past years time-series data and current data on remote sensing and chlorophyll collected through their satellite	This is the only organization that collects data through remote sensing using the satellites sent in the orbit	Time series data for the last few decades and the current data on chlorophyll	The results will be delayed

Section 6: Outcome /Impact of activities of Department/Ministry

Sl. No.	Outcome/ Impact	Jointly responsible for influencing this outcome/impact with the following organization(s) /department(s) / ministry(ies)	Success indicator(s)	Unit	2012-2013	2013-2014*	2014-2015	2015-2016	2016-2017
1	Annual estimation of marine fish landings in India and socio economic indicators –State-wise	Department of Animal Husbandry, Dairying and Fisheries	Number of organizations using our data base	Number*	80	90	102	105	110
2	Productivity and production enhancement through mariculture-Open sea cage farming: Seed production	Ministry of Agriculture, National Fisheries Development Board	Number of farmers/organizations purchasing our seeds	Number	40	52	75	85	100
			Increase in productivity from the existing benchmark	Per cent	NA	NA	25 [@]	30	35
3	Capacity building in stock assessment, taxonomy, open sea cage farming and hatchery technologies	Independently with funding from various agencies	Number of trainees	Number	588	375	650	800	840

Note: *We are retaining our original unit since it is the way in which our research efforts are measured

[@] Cage farming is in the initial phase of commercial farming by fish farmers and expected to pick up from this year with a few institutional and financial support from organizations like NFDB, DAHD &F and Banks.