

## **A value chain on oceanic tuna fisheries in Lakshadweep sea**

### **A. Basic information**

#### **1. Project Statistics**

Component code : 2  
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Name of CoPI : Dr. T.K. Srinivasa Gopal  
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Consortium partners :

1. Central Institute of Fisheries Technology (ICAR), Willingdon Island, Kochi
2. Fishery Survey of India (Ministry of Agriculture), Botawala Chambers, Sir P.M. Road, P.B. No. 1572, Mumbai 400 001
3. Department of Fisheries, Kavarati Island, U T of Lakshadweep

Associate Partners:

1. Marine Products Export Development Authority, Panampilly Avenue, P.B. No. 4772, Kochi 682036
2. Sri. Vinayaka, Mangalore
3. L.G. Seafoods, Palluruthi, Kochi- 682006

2. Date of Start : 01.04.2008
3. Planned duration : 4.5 years
4. Project cost : Rs.6.39 crores

#### **5. Project objectives**

1. To evolve effective fishing methods for Lakshadweep Sea to increase and sustain production of oceanic tunas, and related resources by assessing the status and health of the stocks and ecosystems

2. To develop technologies on hygienic and improved handling, processing and packaging and high value products
3. To transfer the new fishing and processing technologies and marketing strategies to the stakeholders and empower their efficiency and socio-economic status
4. To ensure seafood safety and health assurance to the consumers

## **6. Brief Project Description**

The potential yield of fish from the coastal waters of India is fully exploited, and hence, there is little scope to increase production. It has been realized that the possibility of increasing marine capture fisheries production is by exploiting oceanic waters. It has been estimated that only around 10% of the potential of Lakshadweep Sea is exploited at present.

Several factors such as lack of abundance estimates, infrastructure facilities, knowledge on improved harvesting and post-harvesting techniques, economics of oceanic fishing and societal entrepreneurship are impediments for venturing into oceanic fishing in the Lakshadweep Sea. The proposed project will address these concerns, and will intervene at five stages, namely resource assessment, production, processing, economics and consumption in the value chain of oceanic tuna fisheries in the Lakshadweep Sea, leading to an increase in fish production, income, foreign exchange earnings and socioeconomic empowerment of stakeholders. Options for management of natural resources for sustainable growth will also be recommended by devising fisheries advisories for the Islands. Central Marine Fisheries Research Institute (ICAR), Kochi is the Lead Consortium Institution and the three Consortium Partners are CIFT, FSI and Department of Fisheries, U.T of Lakshadweep. The three Associate Partners are MPEDA, Sri. Vinayaka, Mangalore and L.G. Seafoods.

There will be 23 Activities under 5 work elements (Resource Assessment, Production, Post-harvest & Value Addition, Economics and Food Safety & Health Assurance). Twenty outputs and outcomes are anticipated from this project. Increase in marine fish production from the Lakshadweep Sea by about 3 times; increase in the economic value of the produce; 100 well trained and skilled fishermen in tuna long-line fishing; and societal and economic empowerment of fishing communities, entrepreneurs and traders are the anticipated receipts and revenue in this production to consumption approach.

## **7. Environmental Category issues in the subproject (see Annexure I and II)**

- Social
- Environmental

**8. A. Safeguard Policies Triggered (World Bank Policies)**

<b>Safeguard Policies Triggered (World Bank Policies)</b>		
	<b>Yes</b>	<b>No</b>
Environmental Assessment (OP/BP 4.01)	[X]	[ ]
Natural Habitats (OP/BP 4.04)	[ ]	[ ]
Pest Management (OP 4.09)	[ ]	[ ]
Cultural Property (draft OP 4.11-OPN 11.03 -)	[ ]	[ ]
Involuntary Resettlement (OP/BP 4.12)	[ ]	[ ]
Indigenous Peoples (OD 4.20)	[ ]	[ ]
Forests (OP/BP 4.36)	[ ]	[ ]
Safety of Dams (OP/BP 4.37)	[ ]	[ ]
Projects in Disputed Areas (OP/BP 7.60)	[ ]	[ ]
Projects on International Waterways (OP/BP 7.50)	[ ]	[ ]

**B. Risk analysis and related Issues**

- Adoption of longline fishing technology may be a problem if financial support for boat modification is not ensured.
- The islands being far away from the mainland (400 kms), marketing of raw tuna may be difficult unless adequate cold storage and transportation facilities are provided.
- Fishermen may not be interested to catch yellowfin tuna, if they do not fetch good price.
- The price of improved ‘Masmin’ should be competitive and economically advantageous to adopt the technology.
- Marketing of new value added products may be difficult unless the prices are competitive.
- Logistic problems in executing the programme as the islands are scattered.
- Availability of entrepreneurs from the islands to carry out production of value added products on a commercial scale.
- Low availability of yellowfin tuna due to overexploitation if management advisories are not implemented.

**9. Impact Assessment**

Given below, and adequately addressed

**10. Potential indirect and / or long-term Impacts due to anticipated future activities in the project areas (Assessment of conflict / complimentarity with the likely anticipated activities current as well as proposed in the next five years in the areas of activities of the sub-project)**

Introduction of efficient new generation fishing practices, production of high value products and emerging national and international market for the new products may lead into unrestricted exploitation of natural resources. This can be effectively controlled by ceiling the number of vessels, fixing catch quotas and implementation of effective management plans.

**11. Identify the key stakeholders and describe mechanisms for consultation/ with and to them done/disclosure so far done including pre-project consultations with stake holders workshop before formulating the full proposal, discussing the full proposal with some stakeholders before submission to the PIU:**

**Public institutes:**

1. CIFA, Bhubaneswar
2. NFDB, Hyderabad
3. Coldwater Fisheries Research, Nainital, Uttarakhand
4. RRL, Trivandrum
5. KAU, Trissur
6. LDCL, Kavaratti

**Private participation:**

7. Fishermen of Agatti, Kavaratti
8. Aquari Society, Calicut
9. L.G. Seafoods, Kochi
10. Moon fisheries, Kochi
11. SAMRO Food Products Ltd., Chennai
12. Britto Exports, Tuticorin

**NGO**

13. Sevashram, Ernakulam

**12. Chronology of meetings/activities held in connection with preparation of the the concept note & full proposal**

<b>S. No</b>	<b>Date &amp; Location</b>	<b>Programme</b>	<b>Participants</b>	<b>Remarks</b>
1.	24 May 2007 CMFRI, Cochin	Preliminary meeting on the consortium concept of the NAIP project	CMFRI, CIFT, FSI, FD, Lakshadweep, LDCL and SAMRO	To evolve a consortium on oceanic tuna
2	28-29, May 2007 CMFRI, Cochin	Stakeholder's workshop	NAIP NC, CMFRI, CIFT, FSI, CARI, FD Lakshadweep, LDCL, MPEDA and SAMRO	To prepare a project proposal on oceanic tuna

3	6 July 2007 A & N Islands, Portblair	Discussion with CARI	CARI, CIFT, SAMRO, Dept. of Fisheries A & N Islands	To discuss the status and potential of tuna fisheries
4	18 July 2007 CMFRI, Cochin	Discussion with Fisheries Department UT of Lakshadweep	CMFRI, CIFT, FD, Lakshadweep	To discuss the potential of yellowfin tuna and prospects of exploitation and project preparation

### 13. Measures to Address the Issues:

Risk related factors will be addressed with the Department of Fisheries, Lakshadweep and Island administration regarding identifying funds for conversion of idling Pablo boats into longliners or procurement of new longliners. Transportation and marketing are the two crucial issues, which will have to be tackled with the co-operation of Island administration, private entrepreneurs, MATSYAFED and MPEDA. Issues such as cold storage facilities in the islands to preserve the fish until marketing and utilisation of the new *Mother vessel* for storage and shipping to mainland will be addressed. Collection and transportation of tuna wastes to one island for aquafeed preparation will be managed by adopting appropriate safety measures. Sustainable exploitation of yellowfin tuna from Lakshadweep will be addressed by implementing appropriate management measures.

### 14. Consultation/disclosures to be done in future:

Mechanism such as launch workshop, dissemination of progress through media and interactive workshops will be adopted. Important events will be displayed in the website and in local media from time to time.

Project brochures in vernacular languages explaining the objectives of the project and the benefits to islands were distributed among the fishermen of major islands. Training programmes in boat modification, gear operation, improved handling and preservation were imparted to the Agatti fishermen on board tuna longliners and in laboratories. Fishermen from other islands also will be trained in post-harvest product preparation, packaging, labeling, recipe making and tuna will be promoted as a health food.

The project findings (brochures/CDs/Videos/literatures) will be released time to time and necessary feed back will be collected for further improvement. Related organizations will be consulted for assistance.

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**Consortium PI**

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**National Co-ordinator**

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**National Director**

Annexure I  
**Environment safeguards**

Activities	Issues	Positive	Negative	Mitigation measures taken for negative impact	Progress on impacts
Resource assessment	Resource estimates inadequate	5			-
Introduction of new fishing practices	Carrying capacity of sea	3	2	Sustainability issues will be addressed in fishery management plans	
Waste utilisation	Bio wastes and biodegradable products	5	3	The waste generated from fish processing will be utilized for making fish feed and pet feed	Developed a <i>silofeed</i> from tuna waste for fish culture
Introduction of large boats	Effect of change in fishing pattern	4	2	Diversification of fishing will reduce pressure on exploited resources; fishery management advisories on scale of fishing will be suggested	Modification of Pablo boats in progress. Evaluation of fishing by medium type boats in progress
Diversification of fishing	Effect of fishing on other aquatic resources	5			-
Introduction of longline fishing	Effect on general biodiversity	0	1	Oceanic tuna fishing is a targeted fishing away from the coral systems around the islands and therefore will not have any impact on general biodiversity	Fishing data from long line fishing vessels is being collected and monitored
Increasing fishing intensity	Green house gases	0	2	Boats with fuel efficient engines will reduce green house gases; engines will be switched off during longline fishing; application of green technology for cold storage	-
Human health		4		.	
Assessment of hazards &HACCP plan	HACCP plan not available for new products	5			

0=> Nil      1=>Very Low      2 =>Low      3 =>Moderate      4 => High      5 =>Very High

**Annexure II**  
**Social safeguards**

<b>Activities</b>	<b>Issues</b>	<b>Positive</b>	<b>Negative</b>	<b>Mitigation measures taken for negative impact</b>	<b>Progress on impacts</b>
Introduction of new fishing practices	Vulnerability to economic loss		2	Market fluctuations may lead to price instability, which will be addressed through development of value added products and promotion of export.	Market intelligence data on tuna is being collected; discussions held with exporters on mainland
Increasing fishing effort	Greater competition to natural resources		2	Sustainability issues will be addressed in fishery management plans by regulation fishing effort	Data on commercial landing of tuna and stock assessment is being carried out
Diversification of fiashing	Change in income patterns	4			-
Introduction of new fishing practices	Change in occupational patterns	5			
Fishing in oceanic waters	Health and safety hazards		3	Insurance for boat and gear, life insurance. Safety at sea with the help of coast guard	-
Marketing of Yellowfin tuna	Increased role of middlemen /contractors	4	2	By direct sales through the Government and private agencies	Arrangements are being made with the Dept of fisheries Lakshadweep and Pvt agencies at mainland
New processing facilities and adoption of technology	Increased pressure on local infrastructure	3	2	Optimum use of land, electricity and water. Proposal for mother ship is taken up for taking fish and storing on board the ship for transportation to main land.	Proposal for mother ship for Lakshadweep is in progress.
Occupational hazards	Risk of life		2	GPS will indicate location of fishing area; island administration has already mechanisms to help fishermen to protect life at sea	GPS will be provided

0=> Nil    1=>Very Low    2 =>Low    3 =>Moderate    4 => High    5 =>Very High