

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL SOUTH ZONE CHENNAI

O.A No. 4 of 2013

O.Fernandes and C.H.Balamohan--- Petitioner

And

Union of India, MoEF New Delhi and others-- Respondent

REPLY AFFIDAVIT FILED ON BEHALF OF THE 19th RESPONDENT KCZMA

1. I, Chandrasekar S I.A.S, S/o Selvakumar N aged of 37 years presently working as the Member Secretary, Kerala Coastal Zone Management Authority residing at Thiruvananthapuram do hereby solemnly affirm and swear to this affidavit on behalf of 19th respondent.
2. The Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India is extending the World Bank assisted Integrated Coastal Zone Management known as Enhancing Coastal and Ocean Resource Efficiency (ENCORE) Project to all 13 Coastal States/Union Territories (Gujarat, Goa, Odisha, West Bengal, Andhra Pradesh, Tamil Nadu, Goa, Puducherry, Kerala, Karnataka, Daman and Diu, Andaman and Nicobar, Lakshadweep and Maharashtra). The Kerala Centre for Integrated Coastal Management (KCICM) is the State Project Management Unit (SPMU) under Directorate of Environment and Climate Change (DOECC), Environment Department, Govt. of Kerala, constituted and is mandated to implement the Integrated Coastal Zone Management Plan (ICZMP) in the State in association with stakeholder departments. The stakeholder(s)/Project Executive Agencies (PEAs) are given in Annexure 1.
3. The Preliminary Project Report (PPR) or the Project Proposal was prepared in consultation with all stakeholders department and submitted to MoEF&CC vide D.O Letter No. B3/125/18/Env't dated 04.05.2019 by the Principal Secretary (Environment), Govt of Kerala. The proposed project cost was Rs. 280Cr with the



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financial contribution of 30% by Govt of India, 50% by World Bank and 20% of the project cost by the Govt of Kerala.

4. The MOEFCC has approved the Preliminary Project Report submitted by KCICM and released sum of Rs. 30.00 Lakhs to KCICM to initiate the project, setting up of SPMU, preparation DPR/PPR and allied works vide F.No.11- 64/2011-SICOM Vol – IV-107274 dated 15.11.2019.

The major thematic areas of the project are given as follows;

- **Theme 1** - Conservation of Coastal & Marine ecological resources
- **Theme 2** - Coastal Pollution Management and related infrastructure upgrade
- **Theme 3** - Livelihood security of coastal communities and
- **Theme 4** - Capacity building and implementation of ICZMP Plans.

The major activities under each thematic area are summarized below;

Theme 1 - Conservation of Coastal & Marine ecological resources

- Community based Afforestation/ Restoration of mangroves
- Conservation of marine turtles and other marine animals
- Restoration of migratory pathways and other biodiversity habitats
- Marine Biodiversity Inventory
- Conservation of sacred groves
- Restoration of natural flow / water circulation of coastal wetlands
- Bio-shield for shore protection / shore stabilization
- Restoration of coastal wetlands - De-weeding and de-siltation
- Watershed management
- Conservation of cultural practices, historical monuments, traditional arts, rituals, folks, etc.
- Advanced technologies for shore and coastal wetland monitoring



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Theme 2 - Coastal Pollution Management and related infrastructure upgrade

- Removal of marine litter / Ghost nets
- Zero Waste Discharge – Septage and sewage treatment facilities
- Wealth from Wastes – Solid Waste Management
- Monitoring – Coastal Wetland Health Card

Theme 3 - Livelihood security of coastal communities

- Alternate livelihood for coastal communities
- Promotion of climate resilient integrated farming and sustainable fisheries
- Mussel cultivation, sea-weed farming and processing
- Provision of safe drinking water facilities
- Development of Responsible Tourism
- Combating Climate Change Issues in Coastal Areas
- Carrying Capacity of house boat operation.

Theme 4 - Capacity building and implementation of ICZM plans

- Establishment of KCICM – the State Project Management Unit (SPMU)
- Establishment of Capacity Building Training Centre
- Preparation of Detailed Project Report (DPR)




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- Preparation of ICZM Plan for the State
- Training and capacity building of the Project Executing Agencies
- Improving education facilities in coastal areas
- Data collection, analysis and interpretation, dissemination via. print, audio-visual, internet, etc.
- Training programmes, seminars, workshops, on conservation, sustainable way living, climate change adaptation, pollution etc.
- Empowering Biodiversity Management Committee (BMC), Bhoomithrasena Clubs for conservation and sustainable utilization of marine bio-resources
- Adapting to Climate Change and disaster management – Study and Installation of Tidal Measuring Instruments (Automatic) and Providing Cyclone Mitigation Shelters
- Monitoring and Evaluation

Timeline for implementation of ICZMP

1.The total duration of the project is four years.

> The details of project activities under four thematic areas are given in Table

Table 1 Project Activities under ICZM Project

Table 1 Project Activities under ICZM Project

S.N	ACTIVITY	I YEAR	II YEAR	III YEAR	IV YEAR	TOTAL
0	THEME I – CONSERVATION OF COASTAL AND MARINE BIORESOURCES					
	1.Afforestation / Restoration of Mangroves					




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1.1	Community-based Assisted Natural Regeneration / Afforestation & protection	69.50	69.50	69.50	41.50	250.00
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2. Conservation of Marine Turtles

2.1	Detailed Census and	24.00	---	---	---	24.00
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	Mapping of Marine Turtle Nesting Sites					
2.2	Establishment of Turtle Nesting Hatcheries	---	2.50	---	2.50	5.00
2.3	Incentive based Turtle Egg Conservation	1.20	1.20	1.20	1.20	4.80
2.4	Rescue Centres for Turtle and other Marine Animals	---	24.00	3.00	3.00	30.00
2.5	Interpretation cum Training Centres	---	60.00	40.00	20.00	120.00

3. Bio-shield for Shore Protection / Shore Stabilization

3.1	Protection of Sand Bars, Sand Dunes using Bio-shields	5.00	5.00	---	---	10.00
3.2	Shore / River bank stabilization using Mangroves & Associates	11.50	9.50	7.50	6.50	35.00
3.3	Shore Protection / Land Stabilization using Geotextiles (Coir based)	27.50	75.00	75.00	22.50	200.00
3.4	Establishment of Geosynthetic Tubes	---	3750.00	---	---	3750.00

4. ICZM Plan formulation

4.1	ICZM plan formulation for coastal stretch of Kerala	300.00	450.00	450.00	---	1200.00
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5. Watershed Management

5.1	Preparation of an Integrated Watershed Management Plan	140.00	140.00	---	---	280.00
5.2	Afforestation / Restoration of Vegetation Cover in River Basins	---	140.00	140.00	140.00	420.00



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5.3	Promotion of Contour Farming, Cover Cropping, Agroecological Measures	---	40.00	60.00	40.00	140.00
5.4	Promotion of Rainwater Harvesting, Rejuvenation of Ponds and other water resources	---	80.00	100.00	100.00	280.00
6. Conservation of Sacred Groves						
6.1	Installation of Signage's / Information Boards	10.00	40.00	20.00	--	70.00
7. Marine Biodiversity Inventory						
7.1	Coastal and Marine Biodiversity Inventory	100.00	125.00	125.00	50.00	400.00
7.2	Documentation of Indigenous knowledge	20.00	40.00	40.00	--	100.00
7.3	Coastal Resource Mapping	15.00	55.00	55.00	25.00	150.00
8. Conservation of Cultural Practices, Historical Monuments, Traditional Arts, Rituals, Folks, etc						
8.1	Documentation and Conservation of Cultural Identities, Traditional Rituals, Arts, Folks, Heritage Sites, etc	10.00	30.00	40.00	20.00	100.00
9. Restoration of Coastal Wetlands – De-weeding / De-siltation						
9.1	Cleaning of Suspended and Settled Solid Wastes	50.00	50.00	--	--	100.00
9.2	De-weeding of Backwaters& Canals	10.00	30.00	30.00	30.00	100.00
9.3	De-Siltation of Backwaters & Canals	--	50.00	50.00	25.00	125.00
10. Restoration of Migratory Pathways and other Biodiversity Habitats						
10.1	Establishment of Community Reserve for Migratory Birds	20.00	50.00	50.00	40.00	160.00
11. Advanced Technologies for Shore and Coastal Wetland Monitoring						
11.1	Shoreline change monitoring using modern technologies	100.00	70.00	55.00	55.00	280.00
THEME II- COASTAL POLLUTION ABATMENT AND RELATED INFRASTRUCTURE UPGRADE						
1. Removal of Marine Litter and Ghost Nets						




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1.1	Beach clean-up programmes in selected beaches, harbours	25.00	25.00	25.00	25.00	25.00	100.00
1.2	Providing incentives for fisher folk to collect Marine Litter and Ghost Nets	15.00	20.00	20.00	20.00	20.00	75.00
2.Zero Waste Discharge: Septage and Sewage Treatment Facilities							
2.1	Community based Decentralized Wastewater Treatment Systems	70.00	50.00	15.00	15.00	15.00	150.00
2.2	Standalone septage treatment plants &biomethanation plants	230.00	470.00	440.00	220.00	0	1360.00
2.3	Common Sanitation Facilities & Community Toilets	185.00	270.00	270.00	150.00	0	875.00
3. Wealth from Wastes: Solid Waste Management							
3.1	Establishment of Solid Waste & Plastic Waste Management Systems	27.00	17.00	13.00	13.00	13.00	70.00
3.2	Screens to remove floating garbage at Sewage inlets	20.00	40.00	--	--	--	60.00
3.3	Pollution abatement in coastal wetlands to reduce volume of micro-plastics load	300.00	150.00	150.00	130.00	0	730.00
4.Monitoring: Coastal Wetland Health Card							
4.1	Water & Sediment Quality Monitoring	25.00	25.00	25.00	25.00	25.00	100.00
4.2	Public Health Monitoring &Assessment	50.00	50.00	25.00	25.00	25.00	150.00
THEME III – LIVELIHOOD SECURITY OF COASTAL COMMUNITIES							
1. Alternate Livelihood for Coastal Communities							
1.1	Training and Skill Development for Micro-Enterprises	30.00	30.00	30.00	30.00	10.00	100.00
1.2	Development/Rejuvenation of Micro Enterprises - Coir, Bamboo, Cane, Value added Agricultural Products, Ice Plants,	70.00	50.00	50.00	30.00	50.00	200.00



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	Tailoring Units							
1.3	Promotion of Seaweed Cultivation, Aquaponics, Floating Farming	50.00	40.00	40.00	35.00	165.00		
1.4	Promotion of Animal Husbandry and Setup of Dairy Training Centres	30.00	30.00	20.00	20.00	100.00		
1.5	Capacity Building of Professionals in Service Sector (nature guides, boat drivers, water sports, etc.)	35.00	40.00	25.00	--	100.00		
1.6	Solar based Fish Drying Units	60.00	120.00	120.00	--	300.00		
2.Promotion of Climate Resilient Integrated Farming & Sustainable Fisheries								
2.1	Promotion of Climate Resilient Integrated farming for Kaippad cultivation, Strengthening of Infrastructure and Seed Banks	130.00	130.00	130.00	110.00	500.00		
2.2	Establishment of Mussel Hatchery, Fish/Shrimp Hatcheries and Seed Rearing Centres; Breeding of Native Species	100.00	100.00	100.00	--	300.00		
2.3	Packages for Cage Farming, Mussel Farming, Shrimp, Crab Farming, Pen Culture	430.00	285.00	285.00	--	1000.00		
2.4	Training and Skill Development in Cage Farming, Shrimp & Mussel Farming	80.00	40.00	40.00	40.00	200.00		




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2.5	Infrastructure & Promotion Programmes for value addition, branding & marketing of products	35.00	130.00	110.00	--	275.00
3.Provision of Safe Drinking Water Facilities						
3.1	Establishment of Rainwater Harvesting Structures	150.00	80.00	80.00	40.00	350.00
4.Development of Responsible Tourism						
4.1	Development of mangroveeco-parks, promoting canoeing through countryboats, bird watching and fishing in mangrove parks.	110.00	120.00	120.00	--	350.00
4.2	Promotion of PEPPER programme	100.00	75.00	75.00	50.00	300.00
4.3	Income generation activities among fisher women	20.00	40.00	40.00	--	100.00
4.4	Promotion of Farm Tourism, Beach & Backwater Tourism	25.00	35.00	40.00	--	100.00
4.5	Building the Capacity and implementation of Plastic Waste Management	140.00	280.00	280.00	--	700.00
5. Combating Climate Change Issues in Coastal Areas						
5.1	Mitigation/adaptation measures in coastal agro-ecological zones through community participatory plans	50.00	125.00	125.00	100.00	400.00
5.2	Formulation of adaptation strategies in response to climate change impacts in coastal environment with special reference to hydro- climatic indicators	70.00	50.00	40.00	40.00	200.00
5.3	Documentation of coastal water quality along the			25.00	20.00	



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	tidal influenced water bodies	30.00	25.00				100.00
6. Carrying Capacity of house boat operations in selected districts							
6.1	Carrying Capacity of house boat operations in Kannur, Alappuzha, Kottayam and Kollam districts	100.00	75.00	75.00	50.00	300.00	
THEME IV CAPACITY BUILDING & IMPLEMENTATION OF ICZMP							
1	Non-Recurring						
1.1	Computer, Laptop, Printer, Scanner and accessories	300.00	---	---	---	300.00	
2	Recurring						
2.1	Operational Cost & Office Maintenance	44.09	48.29	52.49	56.09	200.96	
2.2	Manpower	227.76	227.76	227.76	227.76	911.04	
2.3	Monitoring and Evaluation	85.00	85.60	86.20	87.40	344.20	
3	Establishment of Capacity Building Centre	312.50	312.50	312.50	312.50	1250.00	
4	Preparation of Detailed Project Report	600.00	---	---	---	600.00	
5	Sensitization / Extension Programmes	337.50	337.50	337.50	337.50	1350.00	
6	Climate Change Monitoring and Adaptation	---	500.00	500.00	500.00	1500.00	

The MoEFF&CC entrusted the Detailed Project Report (DPR) preparation to National Centre for Sustainable Coastal Management (NSCSM), a R&D centre of MoEFF&CC. The NSCSM has prepared the DPR in consultation with concerned stakeholders and submitted the DPR to MoEFF&CC on 2nd June 2020. The proposed project activities for the first year of the project is given in Table 2.

Table 2 DPR Submitted to MoEFF&CC for 1st year



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S.N	PROJECT ACTIVITY	Project Executing Agency	DPR STATUS	BUDGET (IN LAKHS)
[1]	[2]	[3]	[4]	[5]
1	Community based assisted natural regeneration	KERALA FOREST DEPT (KFD)	DPR received from KFD	250.00
2	Coastal and marine biodiversity inventory	KUFOS - Dept. of Education	DPR receive dfrom KUFOS	400.00
3	Documentation and conservation of cultural identities, traditional rituals, arts, folks, heritage sites etc. - safeguard and valorize the cultural heritage	KITTS- TOURISM	DPR receive dfrom KITTS	100.00
4	Beach clean-up programmes in selected beaches, harbours	KSCADC, Fisheries Dept	DPR received from KSCADC	100.00
	Providing incentives for fisher folk to collect Marine Litter and Ghost Nets	KSCADC, Fisheries Dept		75.00
5	Water & Sediment Quality Monitoring	CWRDM - S&T	DPR received from CWRDM	100.00
6	Training and Skill Development for Micro-Enterprises	SAF, Fisheries Dept	DPR received from SAF	100.00
7	Development/Rejuvenation of Micro Enterprises - Coir, Bamboo, Cane, Value added Agricultural Products, Ice Plants , Tailoring Units	SAF, Fisheries Dept	DPR received from SAF	200.00
8	Promotion of Seaweed Cultivation, Aquaponics, Floating Farming	ADAK, Fisheries Dept	DPR receive dfrom ADAK	165.00



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9	Training for Solar based Fish Drying Units	KSCADC, Fisheries Dept	DPR received from KSCADC	300.00
10	Packages for Cage Farming, Mussel Farming, Shrimp, Crab Farming, Pen Culture	ADAK, Fisheries Dept	DPR receive dfrom ADAK	1000.00
11	Documentation of coastal water quality along the tidal influenced water bodies	CWRDIM - S&T	DPR received from CWRDIM	100.00
12	Establishment of Mussel Hatchery and Marine Fin fish brood bank at Puthayangadi in Kannur District	ADAK, Fisheries Dept	DPR received from ADAK	300.00
13	Promotion of Climate Resilient Integrated Farming in Kaipad Cultivation	ADAK, Fisheries Dept	DPR receive dfrom ADAK	500.00
14	Training and skill development in Cage farming, shrimp farming, mussel farming and other innovative aquaculture practices	NIFAM, Fisheries Dept	DPR receive dfrom NIFAM	200.00
15	Infrastructure & promotion programmes for value addition of fish, branding & marketing of micro-enterprises products to ensure sustainable livelihood of coastal fisherwomen in Kerala	SAF, Fisheries Dept	DPR received from SAF	275.00
16	Establishment of coastal research and Training Centre in support of Capacity Building for Coastal Areas of Kerala	KUFOS - Dept. of Education	DPR receive dfrom KUFOS	1200.00
			Total	5365.00

The DPR submitted by NCSCM has been forwarded to MoEF& CC, Govt for approval. The implementation of the project will be commenced by KICCM after receiving the approval and financial assistance from the Govt of India.

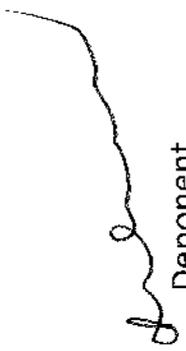


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It is therefore prayed that the Hon'ble Tribunal may be pleased to record the same.

All the above facts are true to the best of my knowledge, information and belief.

Dated this the 19th day of April 2021.



Deponent

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Solemnly affirmed and signed before me by the deponent who is personally known to me, on this the 19th day of April 2021, in my office, at Thiruvananthapuram.

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Attesting Officer

ADMIN. A-7
Section Office

Kerala Coastal Zone Management Authority
4th Floor, KSRTC Bus Terminal
Changanassery, Thiruvananthapuram-01
Ph: 0471-2539666



Annexure 1

List of Stakeholders/ Project Executive Agency

The KCIoCM will implement the ENCORE project through the following Project Executing Agencies (PEAs)/Stakeholder Departments;

- i. Kerala Forest Department
- ii. Kerala Tourism Department
- iii. Kerala Fisheries Department
- iv. Kerala Irrigation Department
- v. Kerala Public Works Department
- vi. Culture Department
- vii. Harbour Engineering Department
- viii. Suchitwa Mission
- ix. Agriculture Department
- x. Soil and Water Conservation Department
- xi. Department of Animal Husbandry
- xii. Kerala State Pollution Control Board
- xiii. Local Self Governments (LSGs)
- xiv. Kerala State Biodiversity Board
- xv. Kerala Forest Research Institute (KFRI)
- xvi. Centre for Water Resources Development and Management (CWRDM)
- xvii. Kerala State Coastal Area Development Corporation
- xviii. Land use Board
- xix. Central Marine Fisheries Research Institute (CMFRI)
- xx. Kerala University of Fisheries and Ocean Studies (KUFOS)
- xxi. Kudumbasree; and
- xxii. NGOs.