

COMPLIANCE REPORT TO YOUR ORDER DT. 16TH NOVEMBER 2010

SPECIFIC CONDITIONS:

- i. The total quantity of the dredged material of 35,00,000 cu.m shall be dumped at the specified offshore dumping site of Cochin Port at outer sea, about 15.6 km from the shore.

The dredging work has been completed. Material were dumped as per above direction.

- ii. The approach channel shall be properly demarcated with lighted buoys for safe navigation and adequate traffic control guidelines shall be framed. The fishermen shall be suitably educated and informed about the traffic guidelines.

The approach channel has been clearly marked with lighted buoys in association with Cochin Port. Cochin port trust provides Vessel Traffic Management Service (VTMS) to all vessels within port area.

- iii. The material dredged by cutter suction dredger will be used for land development work and for beach nourishment approved by Cochin Port Trust. Dredged material from Trailer Suction Dredger will be dumped at the specified offshore dumping site of Cochin Port at outer sea, about 15.6 km from the shore.

The materials dredged from Cutter suction Dredgerwere dumped on the western side of the terminal as per the instruction of Cochin Port Trust; this area has been allocated by Cochin Port Trust for dumping.

The Dredged material from Trailer Suction Dredgerwas dumped at the designated dumping site of Cochin Port at outer sea, about 15.6 km from the shore.

- iv. The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.

PLL has set up Environment Management Cell under Vice President – Operation & Maintenance, other members of the team includes Operation department, Material department, Technical department, HSE department, Civil Department and Lab operation department for effective implementing the stipulated environment safeguards. The SOP of the Environment Management Cell was revised on 20/03/2017 and the copy of the same is attached as Annexure-01.

- v. The project proponent shall take up mangrove plantation/green belt in the project area, wherever possible. Adequate budget shall be provided in the Environment Management Plan for such mangrove development.

In FY 2014-2015 Petronet LNG Ltd, Kochi, arrived at an agreement with Kerala State Social Forestry for a mangrove afforestation project in Ernakulum district, the total cost of the project is 71.05 lakhs. Petronet LNG Limited have already transfer fund of Rs.30.00 lakh for the Mangrove Afforestation Project which is entitled "Project for Mangrove afforestation in Ernakulam district" All details with regard to this project has already been submitted along with six monthly



compliance report dated 03th March-2015; and a updated progress report of the project was submitted along with six monthly compliance report dated 02nd June-2016. The latest progress report of the project, dated 23/12/2016, is attached along with this report as Annexure-02.

PLL has also developed green belt along the periphery boundary wall. Green belt is about 10.48% of total area of our site.

- vi. The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purpose.

Budget allocated for environment safeguard will not be diverted for other purposes.

GENERAL CONDITIONS:

- i. Adequate provision for infrastructure facilities including water supply fuel and sanitation must be ensured for construction workers during the construction phase of the project to avoid damage to the environment.

We have completed the construction and commissioning of our plant. During both the phases, adequate provisions were provided to avoid any damage to the environment.

- ii. Full support shall be extended to the officers of this Ministry/Regional Office at Bengaluru by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.

PLL will extend full support to the officers of this ministry's Regional Office, Bangalore and the officers of the Central and State Pollution Control Board during the inspection for monitoring purpose by furnishing full details and action plans including the action taken reports in respect of mitigate measures and other environmental protection activities.

- iii. A Six-Monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at Bengaluru regarding the implementation of the stipulated conditions.

PLL is submitting required six monthly monitoring reports to the Regional Office of MoEF, Bengaluru.

- iv. Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.

PLL will comply with additional conditions, if any suggested by the ministry or any other competent authority in writing.



- v. The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.

PLL is aware about the rights of the ministry and have noted this condition.

- vi. In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment and Forests.

PLL has not carried out any deviation or alteration in the project. PLL will comply with this requirement and will take permit from the Ministry prior to any deviation, alteration and modification in the project.

- vii. The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.

PLL had already informed the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project vide letter dated 5th Sept-2008, from Director (Technical) addressed to Additional Director, MoEF, Delhi and copy marked to regional officer.

- viii. A copy of the clearance letter shall be marked to concern Panchayat/Local NGO, if any, from whom any suggestion/representation has been made received while processing the proposal.

No specific suggestion/representation has been made/received from any authority while processing the proposal.

- ix. Kerala Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Centre and Collector's Office/Tehsildar's office for 30 days.


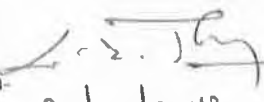
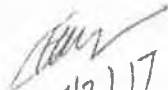
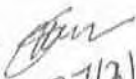
Complied by Kerala State Pollution Control Board.





**PETRONET
LNG
LIMITED**

ENVIRONMENT MANAGEMENT CELL

 PETRONET LNG LIMITED	Prepared By Sign-  Date - 20/03/2017	Approved By Sign-  Date - 27/3/17	Issued By Sign-  Date - 27/3/17
--	--	---	---

REVISION DETAILS

Date of Issue	Revision / Amendment	Details	Page No
10-02-2014	Rev-00		
26-08-2016	Rev-01	Inclusion of Sr.Mgr(Operations) and Change of Head (HSE) and Head (Projects)	02
20-03-2017	Rev-02	Inclusion of Mgr(Materials) & Mgr(Technical)	04

CONTENTS

1. PURPOSE.....	04
2. SCOPE.....	04
3. Environment Management.....	04
A. Members of Environment management.....	04
B. Structure of Environment Management	04
C. Roles and responsibility of Environment Management	05
D. Functioning of Environment Management	05
E. List of team members & designation	05

1. PURPOSE:

Purpose of this document is to establish an Environment Management to monitor all plant activities, in order to ensure that they are carried out in an environmentally friendly manner.

2. SCOPE:

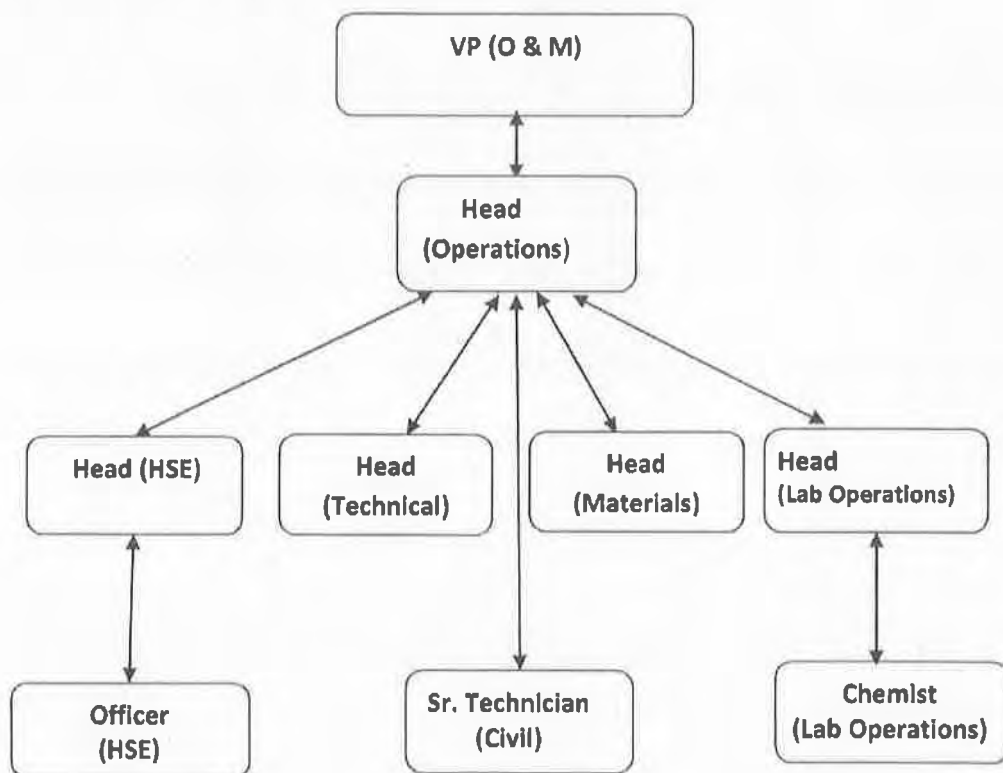
This document outlines the different aspect of the Environment management like its members, structure, roles and responsibility and mode of working.

3. ENVIRONMENT MANAGEMENT CELL:

A) Members of Environment management:

Environment management will be headed by Vice President (O&M) and other members are Head (Operations). Head (HSE), Head (Technical), Head (Materials), Head of Lab Operations ,Officer (HSE), Chemist (Lab Operations) and Sr. Technician (Civil); the cell will be reporting to Vice President (O&M)

B). Structure of Environment Management:



Environment Management Cell

C). Roles and Responsibility of Environment Management Cell:

Roles and responsibility of Environment management cell are listed below, but not limited to:

- Advice management on issues related to environment.
- Identify activities which have potential to harm environment and to suggest measures to mitigate them.
- Create awareness among employees, staffs, contractors, visitors and public regarding the importance of environment protection and means to protect it by conducting tree plantations, campaigns, training programs, posters etc.
- Developing plans and implementing the same in order to reduce, reuse and recycle wastes.
- Plan, develop and implement environment management projects by coordinating with different departments, government agencies, NGO etc.
- Monitor and review different environment monitoring reports of ambient air, noise, vibration, stack emission, liquid effluents, and will take measures to ensure it is well below the permissible limit prescribed by central/ Kerala state pollution control board.
- Take review of the status of solid waste, hazardous wastes, biological waste, etc. that are generated either by operation or domestic activities of our plant.
- Ensure all activities of the plant are carried out in an environmentally safe manner and as mentioned in consent to establish and operate.
- Ensure Environment related statutory compliance, i.e. MoEF, CRZ clearance, KSPCB etc.
- Ensure adequate vegetation cover in the premise by develop and maintain green belt.
- Ensure plant and its premises are kept clean from waste.
- Ensure that all liquid effluent generated as a result of operation or domestic activities of our plant should be treated well to the standard as prescribed by central/ Kerala state pollution control board before discharging.
- Take measure to prevent/minimize/control plant fugitive emission, if any.
- Ensures proper handling (collecting and segregating), storage and disposal of hazardous wastes i.e. used oil, solid and biological waste.
- Identifying contactors qualified by central/ Kerala state pollution control board for disposing different categories of waste.
- Carry our work environment/industrial hygiene survey internally or externally for health hazards for employees.

D). Working of environment management cell:

- Environment management cell shall meet once in a month.
- Date, time, venue and the agenda of the meeting will be identified by Head Operations and the same will be informed to its members, at least one day in advance.
- The meeting shall be convened by the Head -Operations, initial discussion will be on the agenda, then on the progress of the decision taken on the previous meeting.
- Members can share any other information or raise any concern pertaining to the environment and the same will be discussed in detail.
- Minutes of the meeting points shall be recorded and a report for the same will be prepared and documented.
- Meeting minutes shall be reviewed and concluded by the Head of the Environment Management Cell after listing out the outcome of the meeting and setting of goals.
- Members shall be responsible to execute the decision taken in the meeting, by coordinating with different departments, and the progress has to be reported in the next meeting.

E). List of team members & designation:

1. Shri. Sanjay Kumar Rastogi (VP-O&M)
2. Mr.Veerasley Manimaran – Sr.Manager (Operations)
3. Mr. Suresh P – Manager (Materials)
4. Mr.Jaiganesh Dakshinamurthy – Manager (Technical)
5. Mr. L.S.Raja – Deputy Manager (Lab Operations)
6. Mr. Vijith T V – Sr.Officer (HSE)
7. Mr. Nishant A – Officer (HSE)
8. Mr. Anish Kumar – Sr.Technician (Projects & Civil)
9. Ms. Selsa Rajesh – Chemist (Lab Operations)

Note: EMC group e mail id emc_kochi@petronetlng.com is created for communication.

E2-461/2014

Office of Assistant Conservator of Forests
Social Forestry Division, Ernakulam
Manimala Road, Edappally
Ph:0484 2344761
Email: acf.sf-ekm@forest.org.in
Date: 23-12-2016

From
K.J. Martin Lowel
Assistant Conservator of Forests

To
The Vice President (O&M)
Petronet LNG Ltd.
Sir,

Sub: Project on Mangrove Afforestation in Ernakulum Dist. – progress report -reg.

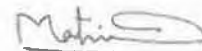
Ref: That office let. No. PLL/KOCHI/HSE/2013-14/C-02

I am submitting herewith progress report of the Mangrove Afforestation Project funded by Petronet LNG Ltd. Up to the period of 30.11.2016 for your kind perusal. The project was launched in March 2015 since then a lot of activities were undertaken as per the project proposal. A progress report in this regard has been submitted in March 2016. This report cover entire activities done under this project and activities done after the submission of last progress report (ie. this financial year) has been separately mentioned with expenditure incurred. The bills for payment of about five lakh ruppies is pending in this office for want of money. The bills are pertains to wages of mazdoors engaged for protection and maintenance of mangrove seedlings planted at Kumbalangi, Njarakkal and Malippuram areas, habitat improvement works and development of mangrove information centre at Malippuram. The works of Mangrove information centre is reached in a finishing stage and it shall be inaugurated within a short period.

I request your goodself to kindly deposit second installment of the project fund so that we shall continue our project in the current pace and start production of seedlings for next year palnting season. More areas have been Identified for plantng at Kadamakkudy and Vpin for coming palnting season.

Wishing you a happy and prosperous new year

With Regards



K.J. Martin Lowel
Assistant Conservator of Forests
Social Forestry, Ernakulum

**Progress Report of Mangrove Afforestation Project in Ernakulam Dist., Kerala as on
30.11.2016**

Background of the Project:

The coastal region of the Ernakulam dist. blessed with rich natural heritage of mangroves were severely destructed for various reasons such as setting up of developmental projects, shortages land for housing of indigenous communities, higher land value, changes in lifestyle, lack of awareness on importance of mangrove ecosystem etc. As an attempt to compensate the ecological loss due to mangrove destruction, Petronet LNG Ltd. has provided financial assistance to Kerala Forest Department through implementation of the project called "Mangrove Afforestation in Ernakulam District". This project is implemented by Social Forestry Division, Ernakulam. The major components of the project are 1) Mangrove planting 2) Protection of existing mangroves by taking up habitat improvement programmes 3) Providing incentives to owners of mangrove areas 4) Conducting awareness programmes 5).Establishment of mangrove information centers (Mangrove Park) etc.

Implementation of the Project:

First installment of the project cost of Rs. 30 lakhs was handed over to Kerala Forest Department on 16.3.2015.

- a) **Planting Operations:** Forest department raised mangrove seedlings suitable to the locality and carried out planting through indigenous people especially fishermen community. Planting was done mainly by women group called "Kundumbasree". The details of the planting are given below

Sl. No.	Name of place and status of land	Species planted	No. of seedlings planted
1	Kadaekurishu Canal Bank in Nayarambalam Panchayath land (on22.06.2015)	<i>Rhizophora mucronata</i>	4000
2	Canal bank at Pachuvekkar (North), Nayarambalam Panchayath land (on 23.06.2015)	<i>Rhizophora mucronata</i>	2500
3	Vijayan Canal Thodu, Chellanam Panchayath land (on 09.07.15)	<i>Rhizophora mucronata</i>	2500
4	Banks of Pvt. Fish Farm at Chellanam, owned by Sri. Thankachan (on 07.10.15)	<i>Rhizophora mucronata</i>	1500
		<i>Bruguiera gimnorrizha</i>	1500
5	Canal bank at Pachuvekkar (south), Nayarambalam Panchayath land (on 04.12.2015)	<i>Bruguiera gimnorrizha</i>	2500

6	Along the banks of Anjiliathara bund road, Kumbalangi, Kumbalangi Panchayath land (on 27.01.16)	<i>Bruguiera gimnorrhiza</i>	2200
Total no. of mangrove seedlings planted			16700



Three months old *Rhizophora mucronata* seedlings



Transporting seedlings for planting



Panchayath President and Ward Member
Planting seedlings at Kadekusheru on 22.06.2015



A view after planting (23.6.15)



Mangrove planting at Pachuvekkar North by Panchayath Member Sindhu and Uthaman(23.6.15)



V P (O&M) inaugurating planting of mangroves
At Chellanam on 07.10.2015



V P (O&M), Manager (HSC), ACF (SF) at planting
area, Chellanam on 07.10.2015



Inauguration of Mangrove planting at Pachuvekker South by Panchayath Member on 04.12.2015



Assistant Conservator, Social Forestry Ernakulam District planting mangrove seedlings (4.12.15)



A view of *Bruguiera gimnorrizha* nursery at Kumbalangi



Seedlings transported for field planting



A view of established *Bruguiera gimnorriszha* seedlings at Kumbalangi (photo taken on 26.03.16)



Seedlings of *Bruguiera gimnorriszha* growing at Pachuvekker south (29.01.2016)



Seedlings of *Bruguiera gimnorriszha* growing at Pachuvekker south (29.01.2016)



Seedlings of *Rhizophora mucronata* growing at Njarakkal Panchayath area (26.03.2016)

- b) Incentives to mangrove owners:** Wide publicity was given through mass media such as newspaper for inviting application to prove incentives to mangrove owners. Some of such news appeared in leading news dailies are given below. Even though, a lot of queries were received via telephone a very few people was willing to participate in the project. This is because they feared that once they received any benefit from forest department they could not use their land for any other purposes in future. When compared to land cost, benefit they get is also less. Only because of the hard work of forest department staff a few are now come forward to participate in the project. Fish fingerlings were supplied to persons who are willing to participate in the project. In the coming years more people are expected to be involved in this programme.



Deccan Chronicle- 30.7.15



Mathrubhoomi -26.7.15



Forest Dep. notification-24.7.15



Malayala Manorama-11.7.15



Hindu - 22.6.15



V P (O&M) inaugurating distribution of

Fingerlings to Farmer at Chellanam on 07.10.2015



Farmer releasing fingerlings to pond
(7.10.15)

- c) **Extension Activities:** One of the objectives of this project is to create awareness among the local people on ecological and socio-economic importance of mangrove ecosystem and involve them in the protection of existing mangrove forests. In connection with this, several training classes was conducted for indigenous community especially for fishermen. The self-help group of women was given primary importance. In addition to indigenous groups, students, citizen conservators, elected members of Panchayaths, nature clubs etc. were also included in extension programmes. Details of classes are given below.

Sl. No.	Date	Place or where camp/class conducted	No. of Days	Target group	Topic/ subject dealt with	Name and designation of faculty	No. of person attended classes
1	25.07.2015	Nayarambalam Panchayath	1	Kudumbasree members Ward-12	Planting, protection, conservation of mangroves and nature awareness	Rajendran D., DCF (Retd)	77
2	27.07.2015	Nayarambalam Panchayath	1	Kudumbasree members Ward-5	"	Rajendran D., DCF (Retd)	68
3	29.07.2015	Chellanam Panchayath	1	Kudumbasree members	"	John C.V., Environmentalist & Citizen Conservator	61
4	08.08.2015	Vazhachal	1	Ghadhi Vichara Dhara, Ghandi Padanakendram, Njarakkal	Importance of wet lands and mangroves	Joseph Puthuserry, Citizen Conservator	57

5	03.09.2015	Mangalavanam	1	Citizen Conservators	Mangrove Conservation & Tree felling in public places	K.J. Martin Lowel, ACF, Social Forestry, Ernakulam	30
6	30.12.2015	Edavanakkad Gramapanchayath	1	Kudumbasree members & students of balasabha	Planting, protection, conservation of mangroves and nature awareness	John C.V., Environmentalist & Citizen Conservator	125
7	04.01.2016	Kumbalangi	1	Kumbalangi Gramapanchayath Kudumbasree members	"	John C.V., Environmentalist & Citizen Conservator	67
8	14.01.2016	S.S. Araya U.P. School, Pallipuram	1	Students	"	Rajendran D., DCF (Retd)	60
9	15.01.2016	Mangalavanam, Ernakulam	1	Hidayathul Islam H.S.S. Students	"	John C.V., Environmentalist & Citizen Conservator	65
10	16.01.2016	Mangalavanam, Ernakulam	1	St. Mary's U.P.S., Njarakkal	"	John C.V., Environmentalist & Citizen Conservator	52
11	02.02.2016	Malippuram Aquarium Hall	1	High School, Edavanakkad	Importance of wetland & mangroves	K.J. Martin Lowel, ACF, Social Forestry, Ernakulam.	40
12	17.03.2016	Chellanam Grama Panchayath	1	Kudumbasree members	"	John C.V., Environmentalist & Citizen Conservator	100
13	21.03.2016	Elamkunnappuzha Panchayath Hall	1	Selected members of Panchayaths, Academicians, Govt. Officials	Importance of mangrove forests & water conservation	Dr. C.M. Joy Professor & head of Botany Dep. SH College, Thevara	45



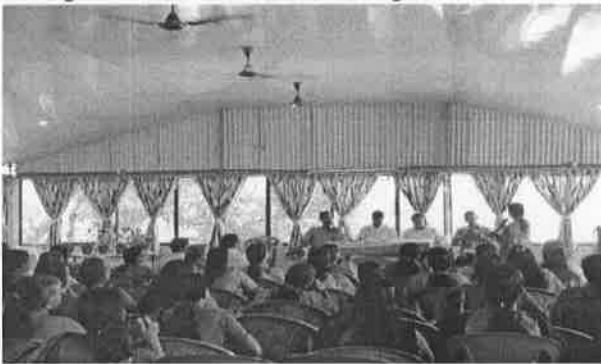
Mangrove awareness class at Nayarambalam for Kudumbasree Members on 27.7.15 & 28.7.15



Meeting of Citizen Conservators at Mangalavanam on 3.9.15.



Camp at Vazhachal on 8.8.2015



ACF, SF & Panchayath President, Kumbalangi Inaugurating training on mangrove planting at Kumbalangi Panchayath Hall on 04.01.16



Petronet LNG Engineer Sri. Nishanth Addressing gathering in a Citizen Connect workshop on Mangrove Conservation held at Elakunnapuzha Panchayath Hall on 21.03.2016



ACF, SF, Ernakulam addressing gathering in Citizen Connect workshop on Mangrove Conservation held at Elakunnapuzha Panchayath Hall on 21.03.2016



Petronet Officials discussing mangrove conservation issues with renowned environmentalist Prof. Seetha Raman on World Wet Land Day celebration held at Malippuram

In addition to various training classes and workshops, several Boards showing importance of mangroves were installed at various places



One of the board (6 x4 feet size) written the message “why should we conserve mangroves” is exhibited at Malippuram (26.03.2016)

d) Setting up of Mangrove Information Centre: A mangrove Information Centre was developed in 2 acre mangrove forest owned by Fisheries Department adjacent to Malippuram Fish Farm where a large numbers of people are visited everyday as part of Aqua Tourism. The Mangrove Park is on the way to the Fish Farm. This park will give good information on ecological importance of mangrove ecosystems and necessity for conserving mangrove forests. The work of the Park is expected to complete by the end of May 2016. People will have a resting facility and could feel the beauty of mangrove forests. Details of plants, animals and birds found in mangroves will be exhibited scientifically inside the Park.



View of Mangrove Information Centre before development (9.10.15)



Entrance of Mangrove Information Centre (Park) at Malippuram (26.03.2016) - after development



View of Entrance of Mangrove Park, Malipuram (26.3.16)



Inside view of Park (IInd and IIIrd bridges)



Inside view of Mangrove Park at Malippuram (26.3.16)



Saplings of mangrove associated species planted along the way to Mangrove Park (26.3.16)

- e) **Habitat Management:** Many people treating mangrove areas as a site for waste dumping. It promotes mosquito population and it becomes a big problem to local people. Due to scarcity of land, waste disposal is a big issue for Panchayath / Municipal Corporation authorities. As the part of this project waste dumped in mangrove areas are taken up with the involvement of local people. Removal of plastics and cutting of climbers were done occasionally which helped several mangrove plants to grow up well.



Plastic waste deposited in mangrove area at Malipuram (1.2.16)



Removal of waste by Women group at Malippuram on 02.02.2016



Inaguration of Habitate Improvement programme in Mangrove area at Kumbalangi Paresh Prest on 12.01.2016



Mangroves infested by climbers at Kumbalangi

Women group cutting climbers at Kumbalangi on 12.01.15



Habitate improvement work by school students at Malippuram mangrove area on 2.2.16

Petronet staff along with students in habitate improvement programme at Malippuram on 2.2.16

Activities undertaken since 1.4.2016 onwards

- a. **Production of mangrove seedlings:** 7500 seedlings of *Bruguiera gimnorriszha*, a mostly preferred species by local people were raised. Five thousand was raised at Kumblangi and 2500 seedlings at Elamkunnapuzha. *Bruguiera gimnorriszha* (Kara kandal) is one of the mangrove tree species widely preferred by public because of its straight bole and attractive foliage and flowers. It is used for fencing purpose. Production of seedlings of *Bruguiera gimnorriszha* is very difficult when compared to *Rhizophora* and other mangrove species and its survival percentage is also very less. However, these seedlings were raised because of large acceptance by public.



Three months old seedlings of *Bruguiera gimnorriszha*

- b. **Planting of mangrove seedlings:** Five thousand seedlings of *Bruguiera gimnorriszha* was planted at Azhikkal Srevaraham Farm land owned by Devaswam at Kumbalangi. Planting was done in June 2016. A care taker has been posted for protection and maintenance of seedlings. Now the seedlings are growing well.



View of mangrove seedlings planted at Azhikkal Srevaraham Farm land at Kumbalangi

One thousand seedlings each was planted in Fish farms at Njarakkal and Malippuram owned by fisheries department. In both places caretakers were posted for protection and maintenance of

seedlings. Four hundred seedlings were planted at Malipuram Mangrove Information Centre and 100 seedlings were planted at Kdamakkudy in Kadamakkudy Panchayath area. Planting was done during June and July 2016



Mangrove seedlings planted at Njarakkal fish farm Seedling planted at Malippuram fish farm



Mangrove seedlings planted at Malippuram Mangrove Information Centre in August 2016

Demonstration garden: a demonstration garden to familiarize different mangrove species growing in Kerala is established in Mangrove Information Centre at Malippuram. Seedlings are planted in concrete rings filled with slurry. The work is in progress



A view of mangrove demonstration garden at Malippuram (work in progress)

c). **Habitat Improvement Programme:** Habitat improvement programme was carried out at four locations with the objective of improving the habitat of mangrove ecosystem and associated areas. The removal of plastic wastes and other debris and cutting of climbers and weeds which prevents growth of mangroves and associated species were taken up in habitat improvement programme. Most of these activities were taken up in association with college students and local community. Waste collected was handed over to LSGs for safe disposal. Prior to habitat improvement work an awareness class was given to students regarding importance of mangrove ecosystem and its role in reduction of impact of global warming.



Habitat improvement programme taken up at Fortcochi region on 03/8/2016 in association with Nature Club members of UC College, Aluva



Habitat improvement programme at Edavanakkad on 22.08.16 & 24.08.16 in association with Student Police cadets of HISH and SDPY Schools, Edavanakkad



Habitat improvement work at Chakkiyath area on 15.08.2016



Habitat improvement work at Cherrai on 27.8.16 to 30.8.16 in association with NSS members of Gov. Polytechnique, Kalamassery and Kudumbasree unit Cherrai

d). Providing Drinking Water Facility: One of the components of the project is to provide drinking water facility to people living in and around mangrove areas. This incentive is to be given for people those who are protecting mangrove area. As the part of this objective ten water purifier having 20 lit capacity was supplied to class rooms of Gov. Higher secondary school at Kadamakkudy as an incentive to plant and conserve mangrove trees by Forestry Club members of the school. It was done on 6.4.2016.

e). Development of Mangrove Information Centre, Malippuram: The works of development of Mangrove Information Centre is in progress and is near to the completion. Works of exhibiting information boards are remaining. Clearing of non mangrove species, planting of mangrove species, development of demonstration garden consists of different mangrove species in Kerala, exhibition of sculptures of birds and animals seen in mangroves with their ecological significance, construction of walkways, providing resting facilities to visitors etc. are the major works undertaken. Payment is pending for some of the works done for want of fund. As soon as funds receive rest of the works shall be completed and inauguration of the Information Centre shall be done immediately.



Resting facility for visitors and boundary at entrance region of at Malippuram Mangrove information centre



Sculpture of Bird fixed at Malippuram



Seating facility at Malipuram Mangrove Centre

f) **Mangrove Conservation Board:** Awareness boards to conserve mangrove forests and its ecological importance have been placed at some of the areas in Ernakulam. One of such board is given below



g.) **Monitoring and Evaluation:** Head of Forest Force and Principal Chief Conservator of Forests was inspected sites of mangrove conservation programme taken up under Petronet LNG scheme on 17.09.2016. The same was done by Principal Chief Conservator of Forests (Social Forestry) on 12.05.2016.



Principal Chief Conservator of Forests (Social Forestry) inspecting mangrove information centre at Malippuram on 12.05. 2016

h). **Expenditure Incurred from 1.4.2016 to 30.11.2016**

Sl no.	Particulars of work	Quantity	Amount
1	Production aand maintenance of mangrove seedlings	7500 nos	1,27,723.00
2.	Planting and maintenance cost of seedlings	7500 nos	4,13,433.00

3.	Habitat improvement programme	4 sites	17,898.00
4.	Conducting awareness class and incentives to Kadamakkudy Gov. Higher Secondary School	1 class and 10 water purifier	22,850.00
5.	Signages (boards)	2 nos	3000.00
6.	Ecotourism initiatives and entry point activities (development of mangrove information centre)	One site	3,10,244.00
	Total		Rs. 8,95,148.00

Progress report of Mangrove Afforestation and Protection Project funded by Petronet LNG Limited up to 30.11.2016

Total outlay of Project : 71.50 Lakhs
 Amount deposited in A/C : 30,00,000.00
 Expenditure as on 31.11.2016 : 29,30,878

Sl. No.	Physical				Remarks	
	Particulars of work 2015-16		Work actually executed			Expenditure incurred
	As per Project	Qty.	Name of work	Qty.		
1	Production of Mangrove seedlings	12500 Nos.	Production of Mangrove seedlings	19500 Nos.	351,890.00	
2	Planting of mangrove seedlings	12500 Nos.	Planting of 12000 mangroves at Kadaekurisu River Bit I, Bit II, Pasuvekkar Fish farm, Vijayan Canal, Anjilithara areas, Sreevaraham Fish farm	24200 Nos.	988,843.00	
3	Habitat improvement including climber cutting, waste and plastic removal Etc.	3 Sites	Habitat improvement works done at Kumbalangi, Kadaekurisu & Malippuram	3 sites	78,198.00	
4	General Awareness & Extension Activities	30 Nos.	Awareness Class, seminar Etc. and other extension activities	11 Awareness classes, 2 Seminars, and procurement of documentation and exhibition aids.	125,595.00	
5	Signages	18 Nos	Acrylic board for mangrove conservation message, Bord of mangrove areas etc.	6 Nos	89,500.00	
6	Silvi-fisheries	LS	Silvi-fisheries	54300 Nos.	25,000.00	
8	Incentives to existing mangrove owners	LS	Mangrove planting in private land and incentives by supplying fishes.	3000 mangrove plants planted & 14 KG Crabs	267,458.00	

				given as incentives.	
7&9	Eco tourism initiatives involving the local community and Other Entry point activities	LS	A mangrove Information Centre has developed at Malippuram owned by Fisheried Department Mangrove area (2 Acre), Construction of walk way, Bridges, entrance arch etc.	1 No.	906,758.00
10	Overhead charges and other office expenses	LS	TA of staff & other office expenses	ls	84826
11			Engaging Man Mazdoor for conducting survey of Mangrove areas in Ernakulam Dist.		12810
			TOTAL		2,930,878.00

Assistant Conservator of Forests
Social Forestry, Ernakulam



SAVE MANGROVES, SAVE LIFE

Thanks