Appendix for Chapter 7

Implementation of Pilot Projects

Source	Source reference	Title 1	Title 2	Item	Detailed item	Unit		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
							15 DS Total	Delft	Islands South (Velanai)	Islands North (Kayts)	Karainagar (Valanthalai)	Jaffna (Chndikuli)	Nallur (Thirunelvely)	Valikamam South-West (Sandilipay)	Valikamam West (Chankanai)	Valikamam South (Uduvil)	Valikamam North (Tellippalai)	Valikamam East (Kopay)	Tehnmaradchchi (Chavakachcheri)	Vadamarachchi South-West (Karaveddy)	Vadamarachchi North (Point Pedro)	Vadamarachchi East (Maruthankerney)
Population																						
Project Director of Rehabilitation Secretariat, GA Office			Population as of 30 April, 2010	Population (2010)			625,761	4,893	18,729	16,067	10,564	55,134	66,974	61,985	50,961	53,396	27,283	77,049	74,453	48,258	53,724	6,291
				Population (%)		%	100	1	2	3	2	9	11	10	8	9	4	13	10	8	8	3
				Total families (2010)			193,462	1,449	5,553	4,888	3,479	16,811	22,020	16,932	15,414	18,176	8,375	23,307	22,152	15,469	17,520	1,917
Study Team				Population growth from 2007 to 2010		%	112	119	153	117	119	113	112	109	108	105	114	108	134	104	123	39
Department of Census and Statistics, June 2008, Basic population information on Jaffna District 2007			Ethnicity	Sinhalese			67	-	1	-	-	29	8	12	-	2	3	1	5	6	-	-
				Sinhalese (%)		%	-	-	0	-	-	0	0	0	-	0	0	0	0	0	-	-
				Sri Lanka Tamil			559,142	4,124	12,243	13,740	8,856	48,570	60,021	56,877	47,011	50,991	23,997	71,075	55,469	46,322	43,520	16,326
				Sri Lanka Tamil (%)		%	-	100	100	100	100	99	100	100	100	100	100	100	100	100	100	100
				Indian Tamil			46	-	3	-	-	7	10	12	-	4	6	4	-	-	-	-
				Indian Tamil (%)		%	-	-	0	-	-	0	0	0	-	0	0	0	-	-	-	-
				Sri Lanka Moor			350	-	-	-	4	283	22	5	-	12	1	14	4	-	5	-
				Sri Lanka Moor (%)		%	-	-	-	-	0	1	0	0	-	0	0	0	0	-	0	-
				Burgher			8	-	-	-	-	-	5	-	-	-	3	-	-	-	-	-
				Burgher (%)		%	-	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-
				Other			6	-	-	-	-	-	-	5	-	-	-	1	-	-	-	-
				Other (%)		%	-	-	-	-	-	-	-	0	-	-	-	0	-	-	-	-
Preparatory study related to support to the northern Sri Lanka (Dec. 2009)		Table 3.4a	Number and percentage of population by DS/AGA division and religion, 2008	Total			560,181	4,184	12,687	8,592	13,740	49,702	61,485	56,520	46,474	50,220	24,030	70,605	56,110	45,625	43,455	16,752
				Hindu			484,358	1,696	10,879	8,428	7,900	23,435	58,225	47,142	43,906	45,772	21,537	67,053	54,394	43,921	37,667	12,403
				Hindu (%)		%	1,231	41	86	98	58	47	95	83	95	91	90	95	97	96	87	74
				Christian			75,357	2,488	1,708	164	5,840	25,927	3,260	9,347	2,568	4,495	2,493	3,521	1,714	1,703	5,780	4,349
				Christian (%)		%	267	60	14	2	43	52	5	17	6	9	10	5	3	4	13	26
				Islam			452	0	98	0	0	298	0	16	0	1	0	30	1	1	7	0
				Islam (%)		%	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
				Buddhist			29	0	2	0	0	7	0	15	0	2	0	1	1	0	1	0
				Buddhist (%)		%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
				Others			50	0	0	0	0	35	0	15	0	0	0	0	0	0	0	0
				Others (%)		%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IDP																						
Project Director of Rehabilitation Secretariat, GA Office			Resettled Families from Newly Cleared Areas as of 31 April, 2010	Total families			25,492	264	1,706	619	731	1,743	1,942	1,926	1,423	1,299	962	2,519	4,325	1,517	3,474	1,042
				Total members			74,649	806	5,463	1,984	2,157	5,057	5,392	5,701	4,431	3,749	2,888	7,175	12,355	4,166	10,024	3,301
				Scoring					1					2				3	5		4	
				IDP rate out of population		%	12	16	29	12	20	9	8	9	9	7	11	9	17	9	19	52
				Scoring					4		3								1		2	5
Department of Census and Statistics, 2008			Relief dry ration 2008	Total number		Families	19,916	59	500	1,091	406	1,403	1,304	1,544	1,503	2,612	1,694	2,295	868	471	3,766	400
				Out of population		%	10	4	9	22	12	8	6	9	10	14	20	10	4	3	21	21
				Scoring						5						1	2				3	3
Agricultural production/population/CBO																						
Jaffna District Statistical Information 2009		Table4.1	Paddy gross extent sown and harvested	2007/2008	Sown		8,068	20	101	36	402	7	63	906	1,282	188	263	714	2,522	1,357	127	79
					Harvested		7,832	12	49	29	391	7	63	898	1,212	187	237	663	2,522	1,357	127	79
		Table 4.22	Farm families, farm labours 2008	Farm families			65,411	450	1,580	1,370	240	89	990	8,600	9,694	4,344	3,026	12,650	12,544	6,000	3,232	602
				Scoring										2	3			5	4	1		
				Farm labourers			30,000	150	731	305	220	46	544	2,200	5,458	2,440	2,584	6,830	3,171	3,129	1,886	306
Dept. of Agrarian Development, Jaffna		Rehabilitation of village irrigation schemes 2010		Requested village irrigation schemes		Numbers	20		4					1	1		1	3	10			
				Scoring					4									3	5			

Source	Source reference	Title 1	Title 2	Item	Detailed item	Unit		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
							15 DS Total	Delft	Islands South (Velanai)	Islands North (Kayts)	Karainagar (Valanthalai)	Jaffna (Chndikuli)	Nallur (Thirunelvely)	Valikamam South-West (Sandilipay)	Valikamam West (Chankanai)	Valikamam South (Uduvil)	Valikamam North (Tellippalai)	Valikamam East (Kopay)	Tehnmaradchchi (Chavakachcheri)	Vadamarachchi South-West (Karaveddy)	Vadamarachchi North (Point Pedro)	Vadamarachchi East (Maruthankerney)
Fishery production/population/CBO																						
Jaffna District Statistical HB, 2009		No. of families and population in fishing village (2008)		Fishing population			50,690	1,611	4,135	4,063		14,737		8,511					2,503		15,130	
				Fishing families			11,391	440	1,025	1,105		3,485		1,785					506		3,045	
				No. of fishermen			12,351	446	1,484	1,332		3,935		1,357					475		3,322	
Jaffna District Statistical Information 2009		Table 4.16		Fishing population			50,290	1,611	4,063	4,135		14,737		8,311					2,303		15,130	
				Active fishermen			12,131	446	1,112	1,484		3,935		1,357					475		3,322	
				Fishing families			11,394	440	1,108	1,025		3,485		1,785					506		3,045	
				Scoring					1	2		5		3							4	
				Fisherman CS			77	6	10	9		11		13					8		20	
				Fisherman pension scheme			217	7	3	3		108		34					1		61	
				Number of fishing villages			66	4	9	9		9		8					8		19	
Department of fisheries, Jaffna				Request of Jetty Rehabilitation			10	1	1			5		1							2	
				Scoring								5									4	
				Request of Harbour contruction																	1 harbour	
Public facilities																						
Jaffna District Statistical Information 2009		Table 2.6	Number of Service Centers by Local Authority 2008	Public library			54	2	5	4	2		3	4	4	3	4	5	9	4	5	
				Community Centre			803	11	36	18	14		44	81	76	53	45	113	121	92	99	
				Health Centre			75	2	3	13	-		4	3	-	-	6	11	16	11	6	
				Market			81	1	8	4	2		3	9	10	5	3	10	7	8	11	
				Play Ground			22	-	-	7	2		-	3	4	1	-	2	1	-	2	
				Public Tube Well			194	1	-	-	-		12	14	13	20	4	8	93	9	20	
				Public Open Well			834	42	46	30	15		19	6	76	12	11	52	368	40	117	
				Ayurvedic Dispensaries			30	-	3	2	-		3	1	4	2	3	5	3	3	1	
				Cemetries			229	6	16	10	3		9	14	18	12	5	41	43	12	40	
				Public Toilets			205	12	5	8	2		13	10	9	8	8	19	21	11	79	
Road, access																						
Jaffna District Statistical Information 2009		Table 5.1	Length of roads by type and DS/AGA division 2008 (Maintained by Road development authority and Road development department)	A class			280	-	34	6	5	17	17	16	26	4	29	29	66	11	20	-
				B class			246	-	7	6	7	10	8	28	14	14	29	25	23	37	14	26
				C class		Km	482	23	56	25	19	1	26	20	26	14	45	42	80	32	28	45
				D class			90	14	6	2	1	6	2	8	2	5	4	5	4	-	10	22
				Total			1,098	38	103	38	32	35	52	72	67	38	106	101	172	80	72	92
		Table 5.2	Length of roads by type and DS/AGA division 2008 (Maintained by Local authorities)	Type of road	Tarred road	Km	1,189	13	64	25	45	114	67	87	118	70			131	169	286	
					Gravel road		718	56	42	40	12		3	68	48	68			283	43	54	
					Earth road		782	41	202	17	22	24	3						433	33	8	
					Total		2,689	110	308	82	79	138	72	155	166	138			848	245	348	

Source	Source reference	Title 1	Title 2	Item	Detailed item	Unit	15 DS Total	01 Delft	02 Islands South (Velanai)	03 Islands North (Kayts)	04 Karainagar (Valanthalai)	05 Jaffna (Chndikuli)	06 Nallur (Thirunelvely)	07 Valikamam South-West (Sandilipay)	08 Valikamam West (Chankanai)	09 Valikamam South (Uduvil)	10 Valikamam North (Tellippalai)	11 Valikamam East (Kopay)	12 Tehnmaradchchi (Chavakachcheri)	13 Vadamarachchi South-West (Karaveddy)	14 Vadamarachchi North (Point Pedro)	15 Vadamarachchi East (Maruthankerney)
Mines																						
		Ongoing tasks as at 31 Jul. 2009		GN division						Karampon			Chiviyateru West			Punnalaikadduvan North	Vasavilan East	Atchuvely West, Neervely South	Chavakachcheri Town, Kirambuvil, Kaithady, Madduvil Nunavil, Thamputhoddam Allaral, Navatkull West			
				Localities/villages covered						Karampon			Chiviyateru West			Punnalaikadduvan North	Vasavilan East	Konavalal, Neervely South	Chavakachcheri Town, Kirambuvil, Kaithady, Kaithady IDP site Part C, Madduvil Nunavil, Thamputhoddam Allaral, Navatkull West			
				Task size		m2	601,950			45,916			23,156			116,223	1,390	62,693	352,572			
				Clearance progress	Minefield	m2	105,318			21,705			5,683			-	816	7,008	70,106			
					BAC	m2	90,027			-			-			18,278	0	0	71,749			
					Surveyed	m2	0			-			-			-	0	0	-			
				Explosive devices removed	Anti-Personnel		1,327			131			5			0	0	17	1,174			
					Anti-Tank		0			0			0			0	0	0	0			
					Small arms and ammunitions		1,298			0			135			0	0	0	1,163			
					UXO		57			0			11			0	0	3	43			
Donor activities																						
Director of Planning, GA Office		World Bank	Re-awakening Project		Livelihood	Credit / Infrastructure		Delft Centre	Velanai South, Analaitivu North, Velanai East	Analaithivu South	Karainagar West, Karainagar North	Fort	Kokuvil West	Mareesankoodal, Mullanai, Suthumalai South, Chulipuram Centre	Araly North, Chankanai East, Vaddu South	Uduvil Southwest, Inuvil Southwest, Chunnagam Town West	Pannalai, Thurkkapuram, Mallakam North	Irupalai East, Urumpirai North, Avarankal, Uralu, Siruppeddy West	Kaithady North, Meesalai South, Kaithandy Navatkuli, Koyil Kudiyiruppu	Karanavai West, Karaveddy East	Karaveddy East, Manthikai, Polikandy South	
NECORD Website		Asian Development Bank	North east commmunity restoration and development project (NECORD)		Livelihood	Agriculture / Fishery	*Reconstruction of Building for Agrarian Service Sub Office at Ariyalai *Reconstruction of Fishermen Resting Rooms at Vadamarachy East *Reconstruction of a Fish Market at Valanthalai in Karainagar *Re-extension and Deepening of 5 Anchor Points at Vadamarachy North D.S.Division *Supply of Fishing Equipment to 18 FCSS in Vadamarachy East and North DS Divisions *Completion of the Construction of Fish Market at Valvettiturai														
			North east commmunity restoration and development project (NECORD Extension)		Livelihood	Agriculture	*Strengthening of Vaddukkoddai, Chavakachcheri & Kopay Veterinary Surgeon's Offices and Extension Activities of the Dept. of AP&H, Jaffna *Supply of Four Tractors with Trailers and Disc Ploughs to Chavakachcheri, Ampan, Urumpirai and Pungudutivu Agrarian Kendra Nilayas *Strengthening the Agricultural Research Station, Thirunelvely and Establishing a Mobile Soil Testing Unit *Support for Department of Animal Production and Health to Improve Livestock Breeding in the Jaffna District														
3W Data Collection Sheet - Jaffna District	UNDP	DFID	Early Recovery Livelihood Support Programme in Jaffna District	Save the Children in SL	Livelihood / Economic recovery	Credit / Grants			Nainativu North, Nainativu Centre, Nainativu South, Velanai East, Velanai South East, Velanai Centre East, Velanai South, Velanai West Center	Karampon / Karampon West / Naranthanai North												

Source	Source reference	Title 1	Title 2	Item	Detailed item	Unit		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
							15 DS Total	Delft	Islands South (Velanai)	Islands North (Kayts)	Karainagar (Valanthalai)	Jaffna (Chndikuli)	Nallur (Thirunelvely)	Valikamam South-West (Sandilipay)	Valikamam West (Chankanai)	Valikamam South (Uduvil)	Valikamam North (Tellippalai)	Valikamam East (Kopay)	Tehnmaradchchi (Chavakachcheri)	Vadamarachchi South-West (Karaveddy)	Vadamarachchi North (Point Pedro)	Vadamarachchi East (Maruthankerney)
		BMZ/WHH	Early Recovery of Resettlers in the North of Sri Lanka	Sewalanka Foundation	Livelihood / Economic recovery	Business Promotion			Pungudutivu South East Pungudutivu East South Pungudutivu South Pungudutivu North Pungudutivu Centre North Pungudutivu Centre West Pungudutivu Center East Pungudutivu North West Pungudutivu West Pungudutivu South West													
		DFID/SliSL	Supporting livelihoods of the Returnee IDPs for early Economic recovery in Jaffna	Sewalanka Foundation	Livelihood / Economic recovery	Cash for Work											Valikamam North					
		Embassy of Japan	Project for supporting Socio economic needs of returning Communities in Puliyankoodal Village, Jaffna District	Sewalanka Foundation	Livelihood / Economic recovery	Irrigation Tank, Channel				Puliyankoodal												
		PARCIC		PARCIC	Livelihood / Economic recovery	Fisheries																Kudathani
		SIDA	Livelihood Assistance for Resettlers	IOM	Livelihood / Economic recovery	Business Promotion			Mankumban													
			Disaster Risk Reduction	Christian Aid	Infrastructure	Irrigation Tank, Channel Renovations										Uduvil						
			Sustainable livelihoods through training and capital inputs	Christian Aid	Agriculture	Tank Renovation							Nallur									
			Promoting agriculture in rural area	Christian Aid	Agriculture	Tank Renovation, Organic farming									Chankanai							
			Promoting crab farming	Christian Aid	Fishery	Promoting crab farming									Chankanai							
Scoring Result								0	10	7	3	10	0	7	3	1	2	11	15	1	17	8

Indicator Scoring

*Scoring is based on the indocators as follow: 1) Total IDP numbers, 2) Ratio of IDP within DS Division, 3) Ratio of the population receiving dry rations, 4) Number of farm families, 5) Number of requested village irrigation schemes from Department of Agrarian Development, 5) Number of fishing families, 6) Number of requested jetty rehabilitation from Department of Fisheries at the moment. The highest 5 DS Divisions receive marks for each parameter, top-5 points, 2nd-4 points, 3rd-3 points, 4th-2 points and 5th-1 point. Adding up the points, Point Pedro, Chavakachcheri, Velenai, Jaffna, and Kopay are selected as potential DS Divisions for pilot projects target areas.

**The balance of ethnicity will be considered when selecting the target communities.

***The mine clearance certificate must be confirmed before selecting the target commnities.

Appendix 7-2
To
Appendix 7-20

Project Appraisal Statement
for Proposed Project Proposals

Project Appraisal Statement (A-1) Strengthening of Seed Production Cooperative Society

17 August 2010

Project Number: A - 1

Project Name: Strengthening of Seed Production Cooperative Society

Implementing Institution: Seed Production Coop (Seed-Co) and Department of Agriculture (Ext)

Estimated Total Cost of the Project: LKR 5.0 million

Requested cost to PDP Jaffna: LKR 4.6 million

Project Details: as attached

Result of Appraisal:

1. General Comment

This project is highly recommended to implement. This project will increase the supply of quality seeds and is expected to increase the crop production and farmers income significantly.

2. Appraisal: Total Score of Appraisal: 22

2-1 Overall Effectiveness and Efficiency: 4

Justification of score: Good quality improved seeds could increase the crop yield by 10-20%. This project will increase the supply of quality seeds and is expected to increase crop production and farmers income significantly.

2-2 Expected Technological Impact: Score of appraisal: 4

Justification of score: Introducing technology will definitely increase productivities and is indeed feasible to implement.

2-3 Expected Economic Impact: Score of appraisal: 4

Justification of score: Considerable economic benefits would accrue to local farmers if they can buy quality seeds at reasonable prices.

2-4 Expected Social Impact: Score of appraisal: 3

Justification of score: Farmers would be liberated from the burden of self-producing paddy and several vegetable seeds.

2-5 Expected Environmental Impact: Score of appraisal: 3

Justification of score: There is neither negative nor positive environmental impact.

2-6 the Capacity of Implementing Institution: Score of appraisal: 4

Justification of score: Seed-Co was established in the year 2001; has been producing high quality seeds of paddy and local vegetables and supplying to the local farmers. Seed-Co has 15 Nos. of board of directors including ten farmers and five heads of the various departments. They have proper management efficiency. Seed-Co has agreed to exchange a MOU with JICA regarding the effective and independent management of the Seed-Co during and immediately after the project implementation.

3. Risks

There are no serious risks.

4. Necessary follow ups

Detailed production plan.

5. Remarks

Construction of the building should be initiated as soon as possible and roofing should be completed before starting rainy season.

Project Details

Name of Project (Project Number)	Strengthening of Seed Production Cooperative Society (A -1)
Overall Objective	Seed Production Coop (Seed-Co) plays an important role in agriculture of Jaffna by supplying quality paddy and vegetable seeds. But their share to Jaffna seed requirement is only 20% and the balance is satisfied by self seeds production of farmers and from Southern part of the Island. It is further necessary to up-grade seed cleaning capacity so that more famers would be able to obtain better quality seeds.
Planned Activities within PDP Jaffna	Machine and hardware needed for establishing a seed cleaning unit would be provided.
Project Components	1. Provision of seed cleaning machine and accessories - They target 500 tons of seed paddy to clean annually at the rate of 03 tons per day. Probably, they will have to work 167 days in a year. 2. Construction of a small structure to house the cleaner 3. Provision of Dunnage - The dunnage is very essential to keep seeds from moistened floor and pests attacks. Seed-Co is unable to meet such big expenses of Dunnage as they run on service oriented.
Implementation Schedule	September 2010 – January 2011
Implementing Entity	Seed-Co and DOA - Seed-Co has 15 Nos. of board of directors including 10 farmers and 5 heads of the various departments. They have proper management efficiency. - They can continue their trainings on seed production techniques to hired seed producers/contract growers under the government fund allocation. - Two staffs / technical assistants will be trained on how to operate and do

	maintenance of the seed cleaner. They will be trained at Farm Mechanization Training Center (FMTC) at Anuradhapura.
CBO	
Community	Seed Cooperative Society
DS	District-wise
Targeted Beneficiaries and Their Number	62,000 faming households in Jaffna
Benefits to Socially Vulnerable People	When returnee farmers begin to cultivate paddy, they need good quality seeds in order to obtain better yield. Through this project, it would be able to provide good quality seeds regularly to more local farmers, including returnees.
Expected Technological Impact	The seed production technology of Seed-Co is superior to that of self production among ordinary farmers. Consistent supply of quality seeds is an important prerequisite for developing local agriculture.
Expected Economic Impact	Considerable economic benefits would accrue to local farmers if they can buy quality seeds at reasonable prices.
Expected Social Impact	Farmers would be liberated from the burden of self-producing paddy and several vegetable seeds.
Expected Environmental Impact	No noticeable environmental impact is expected.
Risks and Issues, If Any	

Project Appraisal Statement (A-2) Strengthening of Agricultural Extension Services and District Agricultural Training Center (DATC)

17 August 2010

Project Number: A-2

Project Name: Strengthening of Agricultural Extension Services and District Agricultural Training Center (DATC)

Implementing Institution: Department of Agriculture (Ext) (DOA (Ext))

Estimated Total Cost of the Project: LKR. 77.9 million

Requested cost to PDP Jaffna: LKR. 40.2 million

Project Framework: as attached

Result of Appraisal:

1. General Comment

This project is highly recommended to implement. DOA (Ext) and DATC will play an important role in technology transfer by providing quality training and extension services to develop appropriate cultivation techniques that are suited to the local condition of the district. The adoption of new technology will increase yield of better quality and provide more income to the farming families. The structure of DATC was constructed 72 years ago and most of the structures were damaged during conflict period. DOA (Ext) does not have appropriate modern training equipment. Also, due to shortage of extension officers and lack of their knowledge, extension service is not effectively provided. This project aims to strengthen the agriculture extension services to overcome those problems.

2. Appraisal

Total Score of Appraisal: Average: 21.6

Sub-Project Number	SP-1	SP-2	SP-3	SP-4	SP-5	SP-6	SP-7	SP-8
Total Score of Appraisal	22	21	21	22	23	21	22	21
1. Overall Effectiveness and Efficiency	4	4	4	4	4	4	4	4
2. Expected Technological Impact	4	3	3	4	4	4	4	3
3. Expected Economic Impact	4	4	3	4	4	3	4	4
4. Expected Social Impact	3	3	4	3	3	3	3	3
5. Expected Environmental Impact	3	3	3	3	4	3	3	3
6. Capacity of Implementing Institution	4	4	4	4	4	4	4	4

SP-1: Strengthening of Agricultural Extension Services

SP-2: Modernization of District Agriculture Training Center (DATC)

SP-3: Establishment of Model Integrated Farm at DATC

SP-4: Strengthening of mango growers society

SP-5: Promotion of Banana Dense Planting under micro irrigation system

SP-6: Strengthening of mobile agricultural extension services
SP-7: Establishment of mushroom cultivation and demonstration unit at DATC
SP-8: Establishment of Rain shelter unit at District Agriculture Training Center (DATC)

Appraisals of each sub-project are given as attached

3. Risks

There is a need to train DOA(Ext) officers about professional techniques of utilizing equipment so that they can utilize equipment properly after the support of PDP Jaffna.

4. Necessary follow ups

Detailed schedule on project implementation and monitoring.

5. Remarks

DOA (Ext) will be responsible for the maintenance and meet recurrent expenses. Department of Agriculture (DOA) has agreed to exchange a MOU with JICA regarding the effective and independent management of the extension and training activities during and immediately after the project implementation.

Attached:

Project Framework

Appraisal Statements of Eight (8) Sub-Projects

Project framework (A-2)

Project Title: Strengthening of Agricultural Extension Service and District Agricultural Training Center (DATC)
Project Period: From October 2010 to August 2011
Target Areas: Jaffna District
Target Group: All farmers in Jaffna District including IDPs and returnees, Extension officers of Department of Agriculture (Ext) in Jaffna
Implementing Organizations: Department of Agriculture (Ext) (DOA(Ext))

Ver.1 as of 17 September 2010

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Assumptions
Goal Provision of effective, quality needs based, sustainable Agriculture extension services to farming community for sound and sustainable socio-economic and livelihood development	Improved standard of living, raised prosperity and social status of the farming community		
Project Purpose 1. The quality and contents of Agriculture extension service is to be improved and expanded 2. Agriculture Development Road Map need to be clarified	1. Quality and Quantity of extension services 2. Contents of Agriculture Development Road Map	1. Annual report of DOA(Ext) 2. Agriculture Development Road Map proposed by the Team	
Outputs 1. Quality training will be provided in Agricultural Instructor's ranges and at District Agriculture Training Center (DATC)	1. Quality of training sessions	- Annual report of DOA(Ext) - Questionnaire to the participants	
2. DATC will be renovated and equipped with necessary infrastructure facilities for providing quality trainings	2. Quality of renovated DATC building	- Completion report of renovation work	
3. Needs based extension projects will be conducted	3. Farmers' acceptance of new technology	- Annual report of DOA(Ext) - Interview of the farmers	- Natural calamity will not occur
4. Necessary activities to achieve eco-friendly and sustainable agriculture will be clarified	4. Contents of proposed activities by the Team	- Agriculture Development Strategy proposed by the Team	

Appendix 7-3

Activities	**Inputs**	
1.1 Procuring audio visual equipment. (SP-1) 1.2 Providing technical training on audio visual equipment and training material making. (SP-1) 1.3 Conducting trainer training at DATC (SP-1) 1.4 Conducting farmer training sessions in AI ranges. (SP-1) 1.5 Conducting farmer training sessions at DATC. (SP-1) 1.6 Procuring a vehicle for Mobile Agricultural Extension Services (SP-6) 1.7 Conducting mobile extension service at remote areas (SP-6) 2.1 Renovating DATC building (SP-2) 3.1 Establishing Model Integrated Farm at DATC (SP-3) - Reconstructing model integrated farm - Conducting training on integrated farming 3.2 Strengthening Mango Growers' Society (SP-4) - Provision of pruning and training tools to mango growers' society - Providing essential training to mango growers' society 3.3 Promoting Banana Dense Planting under Micro Irrigation System (SP-5) - Providing micro irrigation unit to selected farmers - Providing technical guidance to selected farmers - Conducting field farmer training at selected farmers' field 3.4 Establishment of Mushroom Cultivation and Demonstration Unit (SP-7) - Constructing Mushroom cultivation hut for demonstration purpose at DATC - Conducting training session on mushroom cultivation at DATC 3.5 Establishment of Rain Shelter unit at DATC (SP-8) - Installing a rain shelter for vegetable cultivation at DATC - Conducting training session on rain shelter cultivation DATC 4.1 Monitoring above activities from the view point of agricultural development.	• PDP Jaffna 1. Supporting budget for purchasing equipments and constructing facilities 2. Supporting budget for conducting farmer training sessions 3. Providing technical support • DOA side 1. Building and facilities 2. Staff 3. Local cost for the Project	**Preconditions** - Adequate provision of fund and project approval by the authority

Project Appraisal Statement of Eight (8) Sub-Projects

Project Number: A-2 (SP-1)

Project Name: Strengthening of Agricultural Extension Services

Implementing Institution: Department of Agriculture (Ext) (DOA (Ext))

Estimated Total Cost of the Project: LKR. 1.570 million

Requested cost to PDP Jaffna: LKR. 1.525 million

Project Details: as shown below

Result of Appraisal:

1. General Comment

This project is highly recommended to implement. This project aims to strengthen the agriculture extension services via providing equipments and quality training. The equipments will be utilized to provide quality training to farmers, youth and farm women in order to increase the agricultural productivity, production and quality.

2. Appraisal: Total Score of Appraisal: 22

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: DOA (Ext) and DATC will play an important role in technology transfer by providing quality training and extension services to develop appropriate cultivation techniques that are suited to the local condition of the district. The adoption of new technology will increase yield of better quality and provide more income to the farming families.

2-2 Expected Technological Impact: Score of appraisal: 4

Justification of score: Farmers can access digitalized training aids, which will reflect the originality of the sources. Therefore, they can get clear picture of innovative and modern technologies and grasp valuable information. Provision and dissemination of modern and eco-friendly farming technology is an ideal opportunity to expose local farmers at all levels to enhance their productivity in a sustainable manner.

2-3 Expected Economic Impact: Score of appraisal: 4

Justification of score: New technology and practices introduced would be more economical and sustainable. It is expected that existing famers will increase their production while other farmers will also be attracted to follow the new technologies. The yield is expected to increase; hence, the cost of production will be reduced.

2-4 Expected Social Impact: Score of appraisal: 3

Justification of score: New technology on farming practices will be transferred to local farmers from the grass root level. Trainings on food preservation and value addition activities will help to improve the skills and knowledge of returnees, widows, disables etc.

2-5 Expected Environmental Impact: Score of appraisal: 3

Justification of score: Sustainable and eco-friendly farming practices will be introduced. Positive environment impact would be generated though it may be difficult to assess it in short term.

2-6 Capacity of Implementing Institution: Score of appraisal: 4

Justification of score: DOA (Ext) will be responsible for the maintenance and meet recurrent expenses. Department of Agriculture (DOA) has agreed to exchange a MOU with JICA regarding the effective and independent management of the extension and training activities during and immediately after the project implementation.

3. Risks

There is a need to train DOA(Ext) officers about professional techniques of utilizing equipment so that they can utilize equipment properly after the support of PDP Jaffna.

4. Necessary follow ups

Detailed schedule on training programs.

Project Details

Name of Project (Project Number)	Strengthening of Agriculture Extension Service (SP-1)
Overall Objective	Farmers of Jaffna must be provided with training on appropriate technology of growing banana, mango and vegetables. They must also be trained on micro-irrigation in place of the overuse of irrigation water which is unfortunately a common practice now. This project aims to strengthen the agriculture extension services via providing audio visual equipments and quality training. These equipments will be utilized to provide quality training to farmers, youth and farm women in order to increase the agricultural productivity, production and quality.
Planned Activities within PDP Jaffna	There would be two batches of training activities; one within 2010 and the other in 2011. The Team would undertake evaluation in-between.
Project Components	1. Provision of necessary equipments for the audio visual unit 2. Training of staff and farmers
Implementation Schedule	First Batch: Oct 2010 – Dec 2010 Second Batch: Mar 2011 – Aug 2011
Implementing Entity	DOA will be responsible for recurrent expenses and maintenance
CBO	
Community	

DS	District wise-Jaffna District
Targeted Beneficiaries and Their Number	1000 famers would be trained in 2010, and many more farmers would be benefited in the future with improved ability of the Training Center.
Benefits to Socially Vulnerable People	The 50% of farmers in Jaffna is said to belong to vulnerable groups. Of which half is woman-headed families. Some returnee farmers have lost the skill and knowledge of agriculture. This project would provide a refresher course specialized for returnee farmers.
Expected Technological Impact	Farmers can access digitalized training aids, which will reflect the originality of the sources. Therefore, they can get clear picture of innovative/modern technologies, in turn, they grasp valuable information on subject matter. This project is an ideal opportunity to expose local farmers to modern and more eco-friendly farming technology.
Expected Economic Impact	Considerable economic benefits will be attained by participated farmers. New technology and practices introduced would be more economical and sustainable. It is expected that existing famers will increase their production while other farmers will also be attracted to follow the new technologies. The yield is expected to increase; hence, the cost of production will be reduced.
Expected Social Impact	Modernized technology transfer to grass root farmers; it will lead to reduce cost of production and increase yield of crop components. Trainings on food preservation and value addition activities will help to develop the skills and the knowledge of returnees, widows, disables etc.
Expected Environmental Impact	Sustainable and eco-friendly farming practices will be introduced. Farmers will be directed to apply the low amount of inorganic fertilizers to improve the soil fertility while low dosage of agrochemicals will be sprayed for pest & disease management. This will reduce the ground water and environmental pollution. Positive environmental impact would be generated though it will be difficult to assess the effect.
Risks and Issues, If any	Field problems, outstanding indigenous/innovative technologies of Jaffna farmers should be documented for future references. The noted problems can be forwarded to other relevant departments for identification/remedy. In addition, dissemination of best practices can also be done via cyber extension. Therefore, provision of still cameras and computers are essential to document and disseminate field relevant facts. Beforehand, training on maintenance, operation and handling of electronic goods should be provided for them to get an effective, durable and safe usage.

Project Number: A-2 (SP 02)

Project Name: Modernization of District Agriculture Training Center (DATC)

Implementing Institution: Department of Agriculture (Ext) (DOA (Ext))

Estimated Total Cost of the Project: LKR 56 million

Requested cost to PDP Jaffna: LKR 20 million

Project Details: as shown below

Result of Appraisal:

1. General Comment

This project is recommended to implement. This project will modernize DATC, agriculture extension services and increase the number of trainees per year. The DOA targeted 7500 trainees per year and this will be achieved only by modernizing the DATC.

2. Appraisal: Total Score of Appraisal: 21

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: The existing DATC building is very old and running with minimum facilities. It could not be repaired due to its weakened structure and limestone wall. Reconstruction of new building, provision of infrastructure facilities and setting up essential units will modernize the agriculture extension services in Jaffna District.

2-2 Expected Technological Impact: Score of appraisal: 3

Justification of score: By modernizing and strengthening DATC, the technical strength of the training will also be improved. Therefore, there is a technically positive impact on it.

2-3 Expected Economic Impact: Score of appraisal: 4

Justification of score: Modernized DATC and its quality trainings will educate farmers to minimize cost of production and get better output.

2-4 Expected Social Impact: Score of appraisal: 3

Justification of score: Massive number of people including social minorities, other district farmers, and agricultural officials will be benefitted by modernizing DATC.

2-5 Expected Environmental Impact: Score of appraisal: 3

Justification of score: There is neither negative nor positive environmental impact.

2-6 the Capacity of Implementing Institution: Score of appraisal: 4

Justification of score: The DOA has capacity and proper management efficiency to implement this project. There are 17 staffs working for DATC, including one farm manager, one assistant farm manager and 15 relevant laborers. The DOA has agreed to exchange a MOU with JICA regarding the effective and independent management of the DATC during and immediately after the project implementation.

3. Risks

There are no any serious risks associated with this.

4. Necessary follow ups

Detailed production plan.

3. Risks

There are no any serious risks associated with this.

Project Details

Name of Project (Project Number)	Modernization of DATC building (SP 02)
Overall Objective	Modernizing and improving facilities of DATC will increase number of farming trainees and enhance good quality training.
Planned Activities within PDP Jaffna	Construction of DATC building
Project Components	Construction of Training Center, Store and Quarters.
Implementation Schedule	Jan 2011 onwards.
Implementing Entity	DOA
CBO	
Community	
DS	District wise
Targeted Beneficiaries and Their Number	62,000 farming families Staff of UoJ, DOA Students of UoJ and Schools
Benefits to Socially Vulnerable People	Since, the modernized DATC will be the core center for local farmers to obtain quality agriculture technical trainings; it will be useful to all social minorities in the district.
Expected Technological Impact	Modernized and latest agriculture technical trainings will be available to local farmers with well equipped facilities.
Expected Economic Impact	Modernized DATC trainings will educate farmers to minimize cost of production and get better output.
Expected Social Impact	All most all strata of people will be benefited.
Expected Environmental Impact	Farmers will get more training on eco friendly agricultural practices, which will minimize the environment damage.
Risks and Issues, If Any	No any serious risks.

Project Number: A-2 (SP-3)
Project Name: Establishment of Model Integrated Farm at DATC
Implementing Institution: Department of Agriculture (Ext) (DOA (Ext))
Estimated Total Cost of the Project: LKR. 5.62 million
Requested cost to PDP Jaffna: LKR. 4.95 million
Project Details: as shown below

Result of Appraisal:

1. General Comment

This project is recommended to implement. This project aims to establish an environmentally and economically sustainable agricultural production system, i.e., a model integrated farm at DATC. The model farm will be utilized to train the farmers on the principles and practices of integrated farming.

2. Appraisal：Total Score of Appraisal: 21

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: Integrated framing will help to maintain long-term ecological health of farmland and will lead to indefinite farming. Setting up a model integrated farm will be useful to farmers to have a clear picture of idea about crop - animal integration.

2-2 Expected Technological Impact: Score of appraisal: 3

Justification of score: Farmers will be technically trained on how to efficiently integrate animals with crops to get better output by optimum utilization of land, recycling of both crop and animal wastages and minimized environmental hazards.

2-3 Expected Economic Impact: Score of appraisal: 3

Justification of score: Wastages from one operation or subsystem can be used as an input for the other operation thus the risks will be minimized and cost of production will be reduced via optimum utilization of resources. The failures of either component (animal/crops) will be minimized or compensated.

2-4 Expected Social Impact : Score of appraisal: 4

Justification of score: Farmers will be motivated to establish the system in their own to produce the toxic less vegetables via better utilization of resources and they will be able to practice the multiple cropping systems to minimize the pest & disease attack. Therefore, health status will be improved via balanced nutrition and consumption of toxic less vegetable.

2-5 Expected Environmental Impact: Score of appraisal: 3

Justification of score: Since the animal wastages and effluents will be recycled/re-used via compost making/biogas plant, there is very less possibility for environmental hazards. However, it should be ensured via proper maintenance or continuous monitoring.

2-6 Capacity of Implementing Institution: Score of appraisal: 4

Justification of score: DOA (Ext) will be responsible for the maintenance and meet recurrent expenses of the project. Department of Agriculture (DOA) has agreed to exchange a MOU with JICA regarding

the effective and independent management of the model integrated farm during and immediately after the project implementation.

3. Risks

Most of the construction works are closely related to the animal husbandry; technical advice of Veterinary surgeon/DAPH is very essential. There is a risk of obtaining no DAPH's advice, but it is manageable

4. Necessary follow ups

Detailed design of Integrated Farm

Project Details

Name of Project (Project Number)	Strengthening of Agriculture Extension Service - Establishment of model integrated farm at DATC (SP-3)
Overall Objective	Setting up a model integrated farm will be useful to farmers to have a clear picture of idea about crop - animal integration. The integrated farming approach is used in many countries to remove the constraints faced in the intensive cultivation. Livestock is an important part of agriculture and it'll be taken care more effectively to increase the farm output and enhance the farmers' income via this integrated system. The approach will provide the needed means of production such as fuel, fertilizers and animal feed besides increasing productivity many folds. The crop wastages can be used for the animal feeds. A portion of animal excreta will be used for bio gas production; will be used as fuel for cooking operations at DATC. The remaining portion of the animals, birds' excreta and the slurry will be used to make compost. It'll help to maintain long-term ecological health of farmland and will lead to indefinite farming.
Planned Activities within PDP Jaffna	1) Construction of different sheds to animals and birds 2) Provision of animals and birds
Project Components	1) Construction of sheds 2) Construction of Biogas unit, drainage and irrigation unit 3) Provision of animals and birds 4) Training of one hundred farmers on Integrated farming.
Implementation Schedule	Oct 2010 to Aug 2011
Implementing Entity	DOA The DAPH will extend its technical support for construction of sheds and take care of animals (disease prevention, insemination etc.); The DOA already got professional technical advice from relevant private authorities;

	DOA structured its animal components by considering labourer availability and Farm Manager's capacity. The DATC has one Farm Manager, one Assistant Farm Manager, 15 labourers and 05 seasonal labourers. Therefore, they may have capacity to manage it.
CBO	
Community	
DS	District wise-Jaffna District
Targeted Beneficiaries and Their Number	- 100 farmers will be trained on integrated framing - Students of University and Schools
Benefits to Socially Vulnerable People	Socially vulnerable people will be trained on Integrated farming and this model will help them to understand the principles behind this practice.
Expected Technological Impact	Farmers will understand technically how can integrate animals with crops to get better output by optimum utilization of land, do recycling of both wastes and minimize environmental hazards.
Expected Economic Impact	Wastages from one operation or subsystem can be used as an input for the other operation thus the risks will be minimized and cost of production will be reduced via optimum utilization of resources. Better living standard of the farmers will be expected later on.
Expected Social Impact	It will promote the integrated farming approach in agriculture to create integrated, humane, environmentally and economically sustainable agricultural production system. They will establish farming in their own farms to produce the toxic less vegetables and they will practice the multiple cropping systems to minimize the pest & disease attack. Therefore, the human health will be improved by increasing the availability of the toxic less vegetables in the market.
Expected Environmental Impact	Since the animal wastages are recycled via compost making/biogas plant, there is less possibility for environmental hazards. However, it should be ensured via proper maintenance or continuous monitoring.
Risks and Issues, If any	1) Construction of biogas plant - expert advice is essential 2) Feeds for animals should be supplied by DOA without any hindrances.

Project Number: A -2 (SP 04)

Project Name: Strengthening of mango growers society

Implementing Institution: Department of Agriculture (Ext) (DOA (Ext))

Estimated Total Cost of the Project: LKR 1.2 million

Requested cost to PDP Jaffna: LKR 1.0 million

Project Details: as shown below

Result of Appraisal:

1. General Comment

This project is highly recommended to implement. This project will increase the supply of quality mango fruits and is expected to increase the production capacity and farmers income significantly.

2. Appraisal: Total Score of Appraisal: 22

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: Strengthening of mango growers and sales cooperative society is vital to enhance mango production in the district. By providing necessary training and essential tools, society members will expand their activities related to pruning old mango trees, producing good quality seedlings and facilitate marketing of fruits.

2-2 Expected Technological Impact: Score of appraisal: 4

Justification of score: Introduction of improved technology will definitely increase the bearing ability of old mango trees.

2-3 Expected Economic Impact: Score of appraisal: 4

Justification of score: Pruning and proper training of old mango trees will lead to remarkable yield increase and better quality.

2-4 Expected Social Impact: Score of appraisal: 3

Justification of score: This will induce more youths to become part of the society and encourage local farmers to shape up their old mango trees.

2-5 Expected Environmental Impact: Score of appraisal: 3

Justification of score: There is neither negative nor positive environmental impact.

2-6 the Capacity of Implementing Institution: Score of appraisal: 4

Justification of score: The office of the Deputy Director of agriculture extension will implement this project. The DOA has agreed to exchange a MOU with JICA regarding the effective and independent management of the mango producers and sales cooperative society during and immediately after the project implementation.

3. Risks

There are no serious risks.

4. Necessary follow ups

Detailed project plan.

Project Details

Name of Project (Project Number)	Strengthening of Mango growers society in Chavakacheri (SP 04)
Overall Objective	Increase the production capacity and bearing ability of mango trees by strengthening of mango growers' society.
Planned Activities within PDP Jaffna	Provision of essential tools and training to members of mango growers and sales society.
Project Components	Training of youths and farmers & supply of tools.
Implementation Schedule	Nov 2010 - Aug 2011
Implementing Entity	DOA
CBO	Mango growers and sales society in Thenmaraadchy
Community	
DS	Chavakacheri
Targeted Beneficiaries and Their Number	30 farmers and youths of the society and other fruit growers in the district.
Benefits to Socially Vulnerable People	The trained youths will do pruning and training to newly release areas of Chavakacheri DS at subsidized prices. Therefore, returnees will benefit by this.
Expected technological Impact	Introduction of improved technology will definitely increase the bearing ability of old mango trees.
Expected Economic Impact	Pruning and proper training of old mango trees will lead to remarkable yield increase and better quality.
Expected Social Impact	This will induce more youths to become part of the society and encourage local farmers to shape up their old mango trees.
Expected Environmental Impact	No any impact on environment
Risks and Issues, If Any	
Remarks	1) The mobile extension crew will do public awareness program to prune and train all mango trees in Chavakacheri / whole district. 2) Respective AI will be responsible for monitoring the societies, whether they prune or not.

Project Number: A-2 (SP-5)

Project Name: Promotion of Banana Dense Planting under micro irrigation system

Implementing Institution: Department of Agriculture (Ext) (DOA (Ext))

Estimated Total Cost of the Project: LKR. 1.45.million

Requested cost to PDP Jaffna: LKR. 1.24 million

Project Details: as shown below

Result of Appraisal:

1. General Comment

This project is recommended to implement. This project aims to promote Banana dense planting of tissue culture suckers to overcome the losses in the perennial planting system, also to introduce micro irrigation system to reduce the loss of irrigation water.

2. Appraisal: Total Score of Appraisal: 23

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: This is a new technology introduced by DOA to local banana farmers, which helps in the optimum usage of available resources to get maximum output. Planting population per acre will be increased to 800, because of the reduced spacing of 3 x 1.5 m. The micro irrigation system can increase the uniformity and water use efficiency up to 90%. Also the amount of irrigation water required will be cut down by 60% compared to flood irrigation. Reduction in the over usage of ground water will reduce the salinity level. It is also possible to maintain the field capacity throughout the cropping period. The temperature of the root zone will be maintained in the optimum range. All these positive effects will increase the crop production whilst conservation of soil and water.

2-2 Expected Technological Impact: Score of appraisal: 4

Justification of score: Micro irrigation under banana dense planting is already a new technology to the farmers.

2-3 Expected Economic Impact: Score of appraisal: 4

Justification of score: Plant population will be increased by two fold (400 to 800); hence, there is more possibility the income of these farmers will be increased in future. The flood irrigation is already a labour intensive method, which will increase the cost of production. But the micro irrigation will cut down this cost.

2-4 Expected Social Impact : Score of appraisal: 3

Justification of score: There is neither negative nor positive social impact.

2-5 Expected Environmental Impact: Score of appraisal: 4

Justification of score: Water and soil conservation, optimum usage of land and good weed management; dense planting allow for a high yield of biomass per plant as well as per hectare, which can be converted to energy. Formation of hard surface and soil erosion will be prevented, because of the dense plant population.

2-6 Capacity of Implementing Institution: Score of appraisal: 4

Justification of score: DOA (Ext) will be responsible for the maintenance and meet recurrent expenses.

Department of Agriculture (DOA) has agreed to exchange a MOU with JICA regarding the effective and independent management of banana dense planting under micro irrigation during and immediately after the project implementation.

3. Risks

Beneficiaries need to be selected carefully.

4. Necessary follow ups

Detailed project plan, List of beneficiaries from DOA, Reports on previous trials

5. Remarks

Selection criteria of the beneficiaries' may be included as follows,

- Resettled farming families.
- Interested farming families.
- Availability of land and commercial level of production.
- Households with unemployed youths.

Project Details

Name of Project (Project Number)	Promotion of Banana dense planting under micro irrigation system (SP-5)
Overall Objective	Demonstrating and introducing banana dense planting technique under micro irrigation system.
Planned Activities within PDP Jaffna	Training to farmers Planting material supply - tissue culture banana plants
Project Components	- Training of 10 farmers - Set up micro irrigation unit - Inputs supply
Implementation Schedule	Oct 2010 to Aug 2011
Implementing Entity	DOA will be responsible for recurrent expenses and maintenance
CBO	
Community	
DS	District wise-Jaffna District
Targeted Beneficiaries and Their Number	Training to 10 farmers - Eight beneficiaries will be selected in Kopay DS Division and two from Chavakachcheri DS Division Other banana farmers in the respective DS will also be beneficiaries.
Benefits to Socially Vulnerable People	The training will improve the skills and also the knowledge of IDPs, widows and disables. They can acquire more information in banana dense planting and micro irrigation systems. Hence, these people will get an idea of this new

	technology.
Expected Technological Impact	Already the BDP with micro irrigation system is a new technology to most of the farmers. Introduction of tissue cultured banana plants will reduce the diseases.
Expected Economic Impact	Comparatively high yield, economy water usage, and minimize labourer units. Plant population will be increased by two fold (400 to 800); hence, there is more possibility the income of the farmers will be increased in future.
Expected Social Impact	Neither positive nor negative social impact is expected.
Expected Environmental Impact	Water and soil conservation, optimum usage of land and good weed management. Ground water conserved thus reducing the salinity. Dense planting allow for a high yield of biomass.
Risks and Issues, If any	Beneficiary selection need to be very careful. Operation and maintenance of the micro irrigation system of each beneficiary farmer need to be monitored.

Project Number: A -2 (SP 06)
Project Name: Strengthening of mobile agricultural extension services
Implementing Institution: Department of Agriculture (Ext) (DOA (Ext))
Estimated Total Cost of the Project: LKR 10 million
Requested cost to PDP Jaffna: LKR 9 million
Project Details: as shown below

Result of Appraisal:

1. General Comment

This project is recommended to implement. This project will introduce modern agriculture technologies to grass root farming societies at their villages. Since, the mobile agriculture crew is sophistically equipped with essential equipments; it will solve lot of field problems at once mobile visit.

2. Appraisal: Total Score of Appraisal: 21

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: Good quality, modern and well improved mobile agriculture extension services will be reached to more grass root farmers and solved various field problems on the spot. The mobile agriculture extension services will be provided thrice in a week to various places of Jaffna to effectively disseminate the information.

2-2 Expected Technological Impact: Score of appraisal: 4

Justification of score: Introducing technology will definitely increase productivities and is indeed feasible to implement.

2-3 Expected Economic Impact: Score of appraisal: 3

Justification of score: The series of extension services will help farmers to minimize cost of production for cultivation and understand soil and water problems existing in field.

2-4 Expected Social Impact: Score of appraisal: 3

Justification of score: Almost all categorized farmers will be benefitted via this mobile set up. Socially vulnerable groups like disables will be more benefited as it is available at their farm gate.

2-5 Expected Environmental Impact: Score of appraisal: 3

Justification of score: Since, the mobile agriculture extension services will more consider on soil and farming water testing and conservation, there is a positive impact on existing environment.

2-6 the Capacity of Implementing Institution: Score of appraisal: 4

Justification of score: The DOA has proper management capacity and efficiency. Agriculture monitoring officers, Subject matter officers and AIs will do this type of mobile extension services and solve various problems at technically remote areas. The DOA has agreed to exchange a MOU with JICA regarding the effective and independent management of the mobile agriculture extension services during and immediately after the project implementation.

3. Risks

There are no any serious risks.

4. Necessary follow ups

Detailed production plan.

Project Details

Name of Project (Project Number)	Strengthening of mobile agricultural extension services (SP 06)
Overall Objective	Providing modern agriculture extension services at farmers' gate with good quality and latest technology.
Planned Activities within PDP Jaffna	Provision of mobile set up and essential equipments for agriculture extension services.
Project Components	1) Provision of mobile van 2) Provision of computer accessories and soil testing kits. 3) DOA is going to have mobile training sessions thrice in a week all around the Jaffna on various aspects of agriculture.
Implementation Schedule	Nov 2010 - Aug 2011
Implementing Entity	DOA The DOA will be responsible for training expenses and maintenance.
CBO	
Community	
DS	District wise
Targeted Beneficiaries and Their Number	All farming families in Jaffna District
Benefits to Socially Vulnerable People	The people, who are unable to come to DATC, will get modern extension services at their villages. It will be more reachable to all local farmers.
Expected Technological Impact	More farmers will have a chance to absorb new technologies via this mobile unit at their village.
Expected Economic Impact	The series of extension services will help farmers to minimize COP for crops cultivation and understand soil and water problems existing in field.
Expected Social Impact	Almost all categorized farmers will be benefitted via this mobile set up.
Expected Environmental Impact	No any environmental impact will be reported.
Risks and Issues, If Any	No any serious risks associated with this.

Project Number: A-2 (SP-7)

Project Name: Establishment of mushroom cultivation and demonstration unit at DATC

Implementing Institution: Department of Agriculture (Ext) (DOA (Ext))

Estimated Total Cost of the Project: LKR. 1.41 million

Requested cost to PDP Jaffna: LKR. 1.25 million

Project Details: as shown below

Result of Appraisal:

1. General Comment

This project is highly recommended to implement. Mushroom cultivation is one of the income generating activity with minimum capital cost investment. Current production of mushroom is insufficient to fulfill the requirements of the district. This project will promote the farmers to develop their production skills on mushroom cultivation and help them become commercial level mushroom cultivators.

2. Appraisal: Total Score of Appraisal: 22

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: The technical training on mushroom cultivation and establishment of demonstration unit at DATC are important activities to expand the mushroom cultivation and meet the demand of the district. Earlier the DOA, trained farmers about mushroom cultivation with limited facilities and there is no separate unit for mushroom demonstration.

2-2 Expected Technological Impact: Score of appraisal: 4

Justification of score: Technology behind the mushroom cultivation will be transferred to farmers and local people. Since, mushroom cultivation is growing as a new technology to Jaffna; it will be a promising opportunity for local farmers to newly establish or to expand their production via obtained technical skills.

2-3 Expected Economic Impact: Score of appraisal: 4

Justification of score: This unit will enhance local farmers and enthusiastic small scale households to have sustainable mushroom cultivation. Mushroom cultivation is one of the income generating activity with minimum capital cost investment.

2-4 Expected Social Impact: Score of appraisal: 3

Justification of score: Since, it is a simplest cottage industry to be established among local people in Jaffna, it will attract more women headed families and other socially vulnerable people.

2-5 Expected Environmental Impact: Score of appraisal: 3

Justification of score: No any direct and negative environmental impact can be reported. However, coir dust which is used as the medium for the mushroom production is recycled as compost; a positive environmental impact.

2-6 Capacity of Implementing Institution: Score of appraisal: 4

Justification of score: DOA (Ext) will be responsible for the maintenance and meet recurrent expenses. Department of Agriculture (DOA) has agreed to exchange a MOU with JICA regarding the effective and independent management of the mushroom production and demonstration center during and

immediately after the project implementation.

3. Risks

Proper awareness programs should be done to local people to increase number of mushroom consumers whilst producers in Jaffna.

4. Necessary follow ups

Detailed plan on production and demonstration.

5. Remarks

1) The DOA (Ext) agreed to do assistances to socially vulnerable groups via various project schemes.

2) Usually, the DOA (Ext) makes awareness programs via local newspapers, farmers' training sessions and various agriculture extension methods.

Project Details

Name of Project (Project Number)	Strengthening of Agriculture Extension Service - Establishment of mushroom production and demonstration center at DATC (SP-7)
Overall Objective	Provision of good quality training on mushroom production to farmers and socially weakened people.
Planned Activities within PDP Jaffna	Provision of equipments and construction of small huts for demonstration.
Project Components	1) 100 selected farmers will be provided with two days practical oriented training on promotion of mushroom cultivation. 2) Provision of equipments. 3) Construction of incubation and cropping sheds
Implementation Schedule	Nov 2010 to Aug 2011
Implementing Entity	DOA
CBO	Mushroom Producers and Sales Society
Community	
DS	District wise-Jaffna District
Targeted Beneficiaries and Their Number	Mushroom producer - 100 farmers Students/University and School WRDS members General public

Benefits to Socially Vulnerable People	More socially vulnerable people will be included in training process and this unit will promote them to start mushroom cultivation at their villages as small cottage industry. Since, this training will target more on socially vulnerable people in the district; they should be strengthened via provision of materials/ equipments to commence mushroom cultivation. The women headed families' ability can be blown up by engaging in house hold based mushroom production.
Expected Technological Impact	Transfer of Technology to local farmers and students. Since, mushroom cultivation is growing as a new technology to Jaffna; it will be a promising opportunity to local farmers.
Expected Economic Impact	Production of quality mushroom with low cost of production. Farmers will be able to get innovative technologies behind the mushroom cultivation via series of training sessions and routine demonstrations in order to improve their production capacity and quality. This unit will enhance local farmers and enthusiastic small scale households to have sustainable mushroom cultivation.
Expected Social Impact	Since, it is a simplest cottage industry among local people in Jaffna, it will attract more women headed families and other socially vulnerable people.
Expected Environmental Impact	No any environmental impact can be reported. The coir dust from coir industry cannot be directly recycled as compost. But, in mushroom cultivation the coir dust will be utilized as medium for mushroom and in turn recycled as compost. Therefore, negative environmental impact will be minimized due to coir dust.
Risks and Issues, If any	Proper awareness on mushroom to local people should be done to increase number of consumers in Jaffna.

Project Number: A -2 (SP 08)

Project Name: Establishment of Rain shelter unit at District Agriculture Training Center (DATC)

Implementing Institution: Department of Agriculture (Ext) (DOA (Ext))

Estimated Total Cost of the Project: LKR 1.4 million

Requested cost to PDP Jaffna: LKR 1.2 million

Project Details: as shown below

Result of Appraisal:

1. General Comment

This project is recommended to implement. This project will be the demonstration set up to local farmers to cultivate vegetable during off season/heavy rainy period.

2. Appraisal: Total Score of Appraisal: 21

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: Cultivation of vegetables still a difficult task to farmers during in off season, particularly in heavy rain period. Therefore, provision of training and introduction of rain shelter unit will be the strategic solution to local farmers to successfully cultivate vegetables during off season.

2-2 Expected Technological Impact: Score of appraisal: 3

Justification of score: Introducing new technology for off season cultivation will definitely help farmers to get steady income throughout the year.

2-3 Expected Economic Impact: Score of appraisal: 4

Justification of score: During off season / heavy rainy period there is a remarkable increase of vegetable prices in Jaffna. By setting up rain shelter unit, it is possible to cultivate crops and have good earnings.

2-4 Expected Social Impact: Score of appraisal: 3

Justification of score: no any social impact

2-5 Expected Environmental Impact: Score of appraisal: 3

Justification of score: There is neither negative nor positive environmental impact.

2-6 the Capacity of Implementing Institution: Score of appraisal: 4

Justification of score: The DOA has managerial capacity to implement this project. The DOA has agreed to exchange a MOU with JICA regarding the effective and independent management of the rain shelter unit during and immediately after the project implementation.

3. Risks

There are no any serious risks.

4. Necessary follow ups

Detailed production plan.

Project Details

Name of Project (Project Number)	Establishment of rain shelter unit at DATC (SP 08)
Overall Objective	Introduction of new technology to successfully cultivate vegetable crops during off season/heavy rain periods.
Planned Activities within PDP Jaffna	Establishing a rain shelter unit in DATC
Project Components	1) Training farmers on principles of poly tunnel 2) Setting up a ploy tunnel structure in DATC
Implementation Schedule	Nov 2010 - Aug 2011
Implementing Entity	DOA
CBO	
Community	
DS	District wise
Targeted Beneficiaries and Their Number	Initial target 100 farmers for training. All farming communities in the district.
Benefits to Socially Vulnerable People	This new technology will be demonstrated to social minorities as well.
Expected Technological Impact	Since, it is a technically new thing to local farmers, there is a technically positive impact.
Expected Economic Impact	Especially during rainy season this will be more effective to harvest good earnings as there is lack of local vegetables in market.
Expected Social Impact	no any social impact
Expected Environmental Impact	No any environmental impact will be reported.
Risks and Issues, If Any	No any serious risks.

Project Appraisal Statement (A-3) Promotion of Organic Farming in Jaffna District

19 September 2010

Project Number: A-3
Project Name: Promotion of Organic Farming in Jaffna District
Implementing Institution: Local NGO
Estimated Total Cost of the Project: LKR 2.3 million
Requested cost to PDP Jaffna: LKR 2.3 million
Project Details: as attached

Result of Appraisal:

1. General Comment

This project is recommended to implement. This project aims to develop production and marketing methods for organic products to promote environmentally sustainable farming.

2. Appraisal: Total Score of Appraisal: 21

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 3

Justification of score: Organic farming will help to maintain long-term ecological health of farmland and will lead to sustainable farming. Establishing a model of organic farmers' group which have good linkage with consumers will be a good start for further expansion of organic farming. Given period of implementing the project is not enough to obtain substantial result.

2-2 Expected Technological Impact: Score of appraisal: 4

Justification of score: Organic farming is an environmentally friendly sustainable agriculture. Successful implementation of the project will promote technology of environmentally friendly sustainable agriculture

2-3 Expected Economic Impact: Score of appraisal: 3

Justification of score: In the long run, organic farmers would benefit from better price and fertile soil if the project succeeds marketing.

2-4 Expected Social Impact: Score of appraisal: 4

Justification of score: From the organic food campaign, consumers will better understand environmental issues such as groundwater pollution, chemical residue of food and health.

2-5 Expected Environmental Impact: Score of appraisal: 4

Justification of score: Organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Therefore positive impact for the environment is expected.

2-6 Capacity of Implementing Institution: Score of appraisal: 3

Justification of score: Capable local NGO will be selected as an implementing institution.

3. Risks

The project period is rather short to establish good linkage between farmers and consumers. It is essential to have following up scheme.

4. Necessary follow ups

Detailed terms of references for implementing institution. Detailed implementation plan.

Project Details

Name of Project (Project Number)	Promotion of Organic Farming in Jaffna District (A-3)
Overall Objective	To develop production and marketing methods for organic products to promote environmentally sustainable farming.
Planned Activities within PDP Jaffna	Establish a model of organic farmers' group which have good linkage with consumers.
Project Components	1) to establish and strengthen a farmers group of organic/semi-organic farming, 2) to formulate framers group's regulation including vision, mission, activities and rules, 3) to train organic/semi-organic farming, 4) to establish linkage between farmers and consumers, 5) to teach consumers about organic farming practices, and 6) to conduct marketing campaign.
Implementation Schedule	October 2010 to August 2011
Implementing Entity	Local NGO
CBO	
Community	
DS	
Targeted Beneficiaries and Their Number	30 farm household in a targeted DS division
Benefits to Socially Vulnerable People	Social minority people are first priority during the beneficiaries' selection of the project.

Expected Technological Impact	It will promote environmentally friendly sustainable agriculture.
Expected Economic Impact	In the long run, farmers will have benefit from better price and fertile soil.
Expected Social Impact	Consumers will have better chance to buy chemical free food. Consumers will better understand environmental issues such as groundwater pollution, chemical residue of food and health, through the campaign.
Expected Environmental Impact	Organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Therefore positive impact for the environment is expected.
Risks and Issues, If Any	The project period is rather short to establish good linkage between farmers and consumers. It is essential to have follow up scheme.

Project Appraisal Statement (A-5) Establishment of Mushroom Spawn Production Unit in Jaffna

19 August 2010

Project Number: A-5
Project Name: Establishment of mushroom spawn production unit in Jaffna
Implementing Institution: Department of Agriculture (Ext) (DOA(Ext))
Estimated Total Cost of the Project: LKR. 3.8 million
Requested cost to PDP Jaffna: LKR. 3.7 million
Project Details: as attached

Result of Appraisal:

1. General Comment

This project is highly recommended to implement. This project aims to provide required amount of spawn to the small scale mushroom producers in time; hence to improve productivity of local mushroom producers, and consequently to uplift the living standards of small scale farmers.

2. Appraisal: Total Score of Appraisal: 22

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: The mushroom production becomes popular among farming societies and as one of the simplest cottage industries in Jaffna. Supplying required amount of spawns in time is effective measure to increase its production and productivity.

2-2 Expected Technological Impact: Score of appraisal: 5Justification of score: Introduction of technology will increase productivities and is indeed feasible to implement. Since there is no any other spawn production facility in Northern Province, there is a possibility that this unit will become a core center for the expansion of mushroom cultivation in Northern Province.

2-3 Expected Economic Impact: Score of appraisal: 3

Justification of score: Since this project will provide required amount of mushroom spawns in time, it is expected that existing famers will increase their production and more farmers will be engaged in mushroom cultivation. Also, the cost spent for buying and transporting the mushroom spawns from Colombo will be cut.

2-4 Expected Social Impact : Score of appraisal: 3

Justification of score: Social minorities such as women headed families, IDPs, returnees and disables can join mushroom cultivation as it is one of the simplest cottage industry to establish. Since mushroom has several good effects on health, if the mushroom consumption can be increased through this project, it may help to improve the health condition of local consumers.

2-5 Expected Environmental Impact: Score of appraisal: 3

Justification of score: There is neither negative nor positive environmental impact.

2-6 the Capacity of Implementing Institution: Score of appraisal: 4

Justification of score: DOA(Ext) will be responsible for maintenance and meet recurrent expenses. Department of Agriculture (DOA) has agreed to exchange a MOU with JICA regarding the effective

and independent management of the mushroom spawn production unit during and immediately after the project implementation.

3. Risks

There are no any serious risks.

4. Necessary follow ups

Detailed cost estimation, production plan and training program.

5. Remarks

Construction of laboratory should be initiated as soon as possible and roofing should be completed before starting rainy season.

Project Details

Name of Project (Project Number)	Establishment of mushroom spawn production unit in Jaffna (A-5)
Overall Objective	Ensure continuous and enough supply of good quality mushroom spawns and encourage the social minorities to engage in mushroom production as it is an efficient cottage industry.
Planned Activities within PDP Jaffna	Construction of laboratory and provision of essential equipments to produce spawns
Project Components	1. Construction of Laboratory 2. Provision of laboratory equipments 3. Training of staff and farmers
Implementation Schedule	Oct 2010 - May 2011
Implementing Entity	DDA(Ext), DOA or DOA (Ext) - DOA will be responsible for recurrent expenses. - Two staff of DOA will be trained thoroughly on spawn production and certification and they will be acting as Biologist for this unit. - DOA will be whole responsible for releasing quality spawns. - DOA has land for construction of mushroom spawn production unit.
CBO	Mushroom Producers and sales society
Community	
DS	District wise-Jaffna District

Targeted Beneficiaries and Their Number	1. Farmers and interested youths 2. Students and staff of University of Jaffna (UoJ) and staff of DOA 3. General Public - Farmers/society members (10) will also be included in training program related to spawn production. Training will be held in Mushroom Development and Training Center (pvt) Ltd, Colombo.
Benefits to Socially Vulnerable People	Encourage socially vulnerable people to do more mushroom cultivation as it is simplest cottage industry to establish and can be run with low cost. They will get further trainings on sustainable mushroom production.
Expected Technological Impact	Introducing varieties of viable spawns with required amount continuously. Creating chances in order to perform related researches.
Expected Economic Impact	Purchasing prices for spawns and Cost of Production of mushroom will be reduced.
Expected Social Impact	Project will increase the number of mushroom producers in the district. Social minorities such as women headed families, IDPs, returnees and disables can join this simplest cottage industry and make good earnings. Since mushroom has several good effects on health, if the mushroom consumption can be increased through this project, it may also help to improve the health condition of local consumers.
Expected Environmental Impact	No any environmental impact.
Risks and Issues, If Any	This project should be implemented along with the extension program of mushroom cultivation.

Project Appraisal Statement (A-6) Rehabilitation of Atchchuveli Coconut Seedlings Nursery

19 August 2010

Project Number: A-6
Project Name: Rehabilitation of Atchchuveli Coconut Seedlings Nursery and Productivity Improvement
Implementing Institution: Coconut Cultivation Board (CCB)
Estimated Total Cost of the Project: LKR. 15.6 million
Requested cost to PDP Jaffna: LKR. 10.3 million
Project Details: as attached

Result of Appraisal:

1. General Comment

This project is highly recommended to implement. This project aims to recover local coconut production to the pre-conflict level, hence to improve livelihood of farmers including IDPs and returnees as well as to uplift the local economy.

2. Appraisal: Total Score of Appraisal: 24

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 5

Justification of score: Coconut is an indispensable crop for farming families including poor farmers, IDPs and returnees in Jaffna. However, 75% of the total extent of coconut fields has been damaged and destroyed by war and currently only 20-30% of the total demand is produced locally. Rehabilitation of facility and function of this nursery is an urgent need; it is a very effective practice in order to satisfy the local needs and to improve the livelihoods of farmers including IDPs and returnees in Jaffna District.

2-2 Expected Technological Impact: Score of appraisal: 3

Justification of score: Introducing technology and genetically superior coconut seedlings will increase productivities and is feasible to implement.

2-3 Expected Economic Impact: Score of appraisal: 4

Justification of score: Significant economical impact is foreseen. Production of local coconuts in Jaffna is expected to recover as of pre-conflict level. And the amount of money spent to buy coconuts from outside Jaffna is expected to be reduced if the nuts can be bought locally in Jaffna.

2-4 Expected Social Impact: Score of appraisal: 4

Justification of score: Provision of coconuts seedlings to IDPs and returnees will fulfill their home consumption as well as give an extra income to them.

2-5 Expected Environmental Impact: Score of appraisal: 4

Justification of score: There is a positive environmental impact. More green earth coverage would be resulted in abandoned sandy and coastal areas of the district. This also will act as green belt to check tidal waves in future.

2-6 the Capacity of Implementing Institution: Score of appraisal: 4

Justification of score: CCB is a national organization. It has funds to run the nursery continuously and

manage it regularly. CCB has agreed to exchange a MOU with JICA regarding the effective and independent management of the rehabilitated nursery during and immediately after the implementation work.

3. Risks

There are no serious risks.

4. Necessary follow ups

Detailed cost estimation, production plan and training program

5. Remarks

- Fencing should be done as soon as possible to protect from stray cattle and wild boar.
- Improvement of water supply system, especially renovation of agro-well, should be completed before starting rainy season.

Project Details

Name of Project (Project Number)	Rehabilitation of Atchchuveli Coconut Seedlings Nursery and Productivity Improvement (A-6)
Overall Objective	The war and the Tsunami destroyed about 50% of the coconut trees in Jaffna. The seedlings of genetically superior coconut are demanded for replanting and infilling. This nursery thus must be urgently rehabilitated so that seedling production would recover to the pre-conflict level.
Planned Activities within PDP Jaffna	The recovery of Atchchuveli Coconut Nursery, including construction of facilities and the provision of machines and hardware
Project Components	1. Reconstruction of nursery facilities and infrastructure 2. Provision of machines and hardware needed in the nursery 3. Provision of training to farmer
Implementation Schedule	Sep. 2020--May 2011
Implementing Entity	Coconut Cultivation Board The Coconut Cultivation Board has funds to run the nursery continuously and to manage it regularly.
CBO	
Community	
DS	District-wise
Targeted Beneficiaries and Their Number	All farmers, IDPs and returnees are targeted beneficiaries. It is estimated that around 200 million coconuts seedlings are required to fulfill the demand in the district. Consumers of coconut are also beneficiaries since

	more local production could lead to a price reduction.
Benefits to Socially Vulnerable People	Many returnees would benefit from planning quality coconut in their home gardens as local demand for coconut is high. Vulnerable people get benefit of subsidized price as follow; - The nursery directly sells to farmers at subsidized price (LKR.50) but actual cost of production is LKR.70. - They are also distributing seedlings under the government schemes on free of charge, 76 seedlings per ac., via DS / GS or under some NGO programs. Now, they are going to distribute 05 seedlings per family (only for returnees) at resettled places.
Expected Technological Impact	Genetically superior coconut seedlings would bring better production than the regeneration of the existing ones.
Expected Economic Impact	Significant economical impact is foreseen. Production of local coconuts in Jaffna is expected to recover as of pre-conflict level and the money spent to buy coconuts from outside Jaffna is expected to be reduced if the nuts can be bought locally in Jaffna. A significant economic impact for individual farmer would bear at least 10 more nuts per bunch per month per tree. This means additional LKR 200 can be earned per month by a farmer. If he will plant 20 seedlings, future income will increase by LKR 4000 per month, which is not an insignificant value to the poors.
Expected Social Impact	For small famers in Jaffna, particularly in sandy soil areas such as in islands, Chavakachcheri and Point Pedro, coconut is a very important cash crop. Provision of coconuts seedlings to IDPs and returnees will fulfill their home consumption as well as give an extra income to them.
Expected Environmental Impact	This is an effort to recover the coconut production to the pre-conflict level. More green earth coverage would be resulted in abandoned sandy and coastal areas of the district.
Risks and Issues, If Any	Production capacity of the nursery is up to 150,000 seedlings per year. They'll be produced throughout the year.

Project Appraisal Statement (A-8) Improvement of Milk Processing Facility in Point Pedro

17 August 2010

Project Number: A-8
Project Name: Improvement of Milk Processing Facility in Point Pedro
Implementing Institution: Department of Animal Production and Health (DAPH), Northern Province and Livestock Breeders' Co-operative Society (LIBCO), Point Pedro
Estimated Total Cost of the Project: LKR 6.2 million
Requested cost to PDP Jaffna: LKR 5.4 million
Project Details: as attached

Result of Appraisal:

1. General Comment

This project is highly recommended to implement. This project involves many women and returnees, contributes to improve livelihood of member farmers and employees as well as nutrition of local peoples.

2. Appraisal: Total Score of Appraisal: 22

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: Its objective is to address the issue of poverty alleviation and activities are effective to solve it. Beneficiary (milk producer) of the Milk Processing Facility will be able to increase their supply to the Facility into double (500 liters/day to 1000 liters/day), and this means it can double the number of milk farmers to service if the production level of individual farmers is unchanged. Also, the number of employees of the Coop will be increased by 25% (15 to 19).

2-2 Expected Technological Impact: Score of appraisal: 3

Justification of score: Introducing technology will increase productivities and is feasible to implement.

2-3 Expected Economic Impact: Score of appraisal: 4

Justification of score: The production capacity of the facility will increase to double. Total project cost is expected to be recovered within three years. Milk producers will have a better chance to increase their income by increasing the production.

2-4 Expected Social Impact: Score of appraisal: 4

Justification of score: Hygienic and nutrient rich dairy products will be made from locally produced milk.

2-5 Expected Environmental Impact: Score of appraisal: 3

Justification of score: There is neither negative nor positive environmental impact.

2-6 the Capacity of Implementing Institution: Score of appraisal: 4

Justification of score: This Coop has been engaged in milk collection and distribution for the last 18 years. Recently the Coop has successfully developed milk processing and marketing at four centers with donor support. Department of Animal Production and Health (DAPH) (Northern Province) has been supporting this Coop since its establishment. DAPH has agreed to exchange a MOU with JICA to successfully implement the project and regularly monitor the Livestock Breeders Cooperative Society

(LIBCO), Point Pedro, towards the independent management of the milk processing facility after the project implementation.

3. Risks

There are no serious risks.

4. Necessary follow ups

Detailed cost estimation

5. Remarks

Construction of the building should be initiated as soon as possible and roofing should be completed before starting rainy season.

Project Details

Name of Project (Project Number)	Improvement of Milk Processing Facility in Point Pedro (A-8)
Overall Objective	Livestock Breeders' Co-operative Society (LIBCO), Point Pedro has been engaged in milk collection and distribution for 18 years. Recently the Coop successfully developed milk processing and marketing at four centers with donor support. Now further development is envisaged.
Planned Activities within PDP Jaffna	1. Construction of facilities 2. Provision of processing equipment Prioritized requirements are; Purchasing of mini truck, building construction, pouching filling machine, homogenizer, cream separators, generator, improvements of basic facilities in out lets, laboratory inputs, incubators, and establishing a new sale outlet.
Project Components	1. Construction of facilities 2. Provision of processing equipment
Implementation Schedule	Sep. 2010 - April 2011
Implementing Entity	Department of Animal Production and Health (DAPH), Northern Province and Livestock Breeders' Co-operative Society, Point Pedro. Currently, this COOP society has 3100 life members, 15 employers and General Manager to successfully run several livestock projects. Annual turnover is around 01 million and last year they run several projects worth of 12 million. DAPH has been supporting this COOP since its establishment. DAPH can assist the LIBCO with 0.1 million annually for their improvement.
CBO	Livestock Breeders' Co-operative Society, Point Pedro

Community	
DS	Point Pedro
Targeted Beneficiaries and Their Number	- At least 50 additional dairy farmers - The consumers in Point Pedro - Additional 10 employees at the Coop. In future milk processing capacity and number of sales centers will be increased; hence more men and women will get some job opportunities.
Benefits to Socially Vulnerable People	- Some returnees and women-headed families would be able to sell their milk through the Coop. The having two or three milk cows is one of good livelihood opportunities for returned families and women-headed families. This milk processing facility will encourage the IDPs and returnees to raise more milking breeds in future. It'll help them uplift their living standard through livestock sector, since most of these people not having enough land to do crop cultivation. - Since, the products of COOP are available at reasonable prices, even poor families can afford it. - Already, in this COOP more women are engaged in operation and administration works. Most of the suppliers are women; number of women headed families is also already engaged in rearing cattle as an income generating activity. The Lolly packs are prepared by girls; the earning will definitely contribute to the betterment of their living standard.
Expected Technological Impact	Works currently performed manually would be replaced with the provided equipments and thus raise the level of hygiene in milk processing; improving the quality of the products to reach the ISO standards. Some new products would be possibly made with the usage of homogenizer.
Expected Economic Impact	The project would help increase the purchase of milk up to 1000 litter per day and processing capacity up to 500 liter per day.
Expected Social Impact	A social impact would be felt since a hygienic and nutrient dairy products from locally produced milk would be available in local market. More women would be employed at the milk stand.
Expected Environmental Impact	No negative effects on environment are foreseen.
Risks and Issues, If Any	Dr. S. Vaseeharan, long time adviser for this COOP and a key person for this project, has been promoted to Deputy Director of Provincial Department of Animal Health and Livestock, Northern Province (effective from 1st of September).

Project Appraisal Statement (F-1) Preliminary Study on Construction of Fishing Harbor in Point Pedro

5 September 2010

Project Number: F-1
Project Name: Preliminary Study on Construction of Fishing Harbor in Point Pedro
Implementing Institution: Department of Geography, University of Jaffna
Estimated Total Cost of the Project: LKR. 500 million
Requested cost to PDP Jaffna: LKR. 1.1 million
Project Details: as attached

Result of Appraisal:

1. General Comment

This project is highly recommended to implement. Because off-shore fisheries development is a vital issue for the sustainable fisheries development in Jaffna District, and Point Pedro is an ideal location for constructing fishing harbor for off-shore fishery with multi-day boats.

2. Appraisal: Total Score of Appraisal: 24

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: There is not any available fishing harbor for multi-day boats in Jaffna District at present, thus construction of a fishing harbor available for multi-day boats is very effective for fisheries development in the district.

2-2 Expected Technological Impact: Score of appraisal: 5

Justification of score: Introduction of multiday boat is necessary to exploit off-shore fishing ground, and a fishing harbor capable for multi-day boats is indispensable infrastructure for it.

2-3 Expected Economic Impact: Score of appraisal: 5

Justification of score: Construction of fishing harbor in Point Pedro would generate fish production increase due to off-shore fishing ground exploitation and new employment accordingly.

2-4 Expected Social Impact: Score of appraisal: 4

Justification of score: IDP families and women members belonged to Fishermen's Cooperative Societies located in Point Pedro will benefit from the project.

2-5 Expected Environmental Impact: Score of appraisal: 3

Justification of score: It is necessary to conduct an environmental assessment prior to the construction of the harbor.

2-6 the Capacity of Implementing Institution: Score of appraisal: 3

Justification of score: Preliminary study is carried out by Department of Geography, University of Jaffna which must be one of the most suitable entities for this kind of study in the district though the research capability of the UOJ is yet to be known.

3. Risks

Not particular.

4. Necessary follow ups

It shall be discussed on the specific output for the study and work schedule with the Department of Geography, University of Jaffna.

Project Details

Name of Project (Project Number)	Preliminary Study on Construction of Fishing Harbor in Point Pedro (F-1)
Overall Objective	A fishing harbor with anchorage and shore facilities is required to promote deep sea fishing and thus avoid over-exploitation of coastal resources. The harbor construction is a precondition for the deployment of multiday boats in Jaffna.
Planned Activities within PDP Jaffna	A preparatory review over the feasibility of the Harbor project would be carried out by University of Jaffna or other institute.
Project Components	Preparatory review (research) only
Implementation Schedule	January--March 2011
Implementing Entity	University of Jaffna (UOJ) and DF
CBO	Point Pedro Fisheries Cooperative Union and FCSes in the area
Community	
DS	Point Pedro
Targeted Beneficiaries and Their Number	1. Generally over 12,000 fishermen operating in Point Pedro DS, and especially 5000 future fishermen engaging in multi-day boats 2. Fish middlemen, fishing input suppliers and fish processors in Point Pedro.
Benefits to Socially Vulnerable People	Many returnees would be recruited as crew members of multi-day boats and as workers in fish trading and processing.
Expected Technological Impact	This research is vital because it would pave a way for systematic feasibility study on a full-scaled deep sea fishing harbor in Jaffna.
Expected Economic Impact	After the proposed research, we can know how much economic benefit would be generated by the construction of the harbor.
Expected Social Impact	A significant social impact would be felt since a source of employment would be created to absorb many under-employed people.

Expected Environmental Impact	Fishing efforts currently concentrated on the coastal water would be diverted to deep sea so that pressure on Jaffna's coast fish resources would be eased. It is necessary to conduct an environmental assessment prior to the construction.
Risks and Issues, If Any	1. The research capability of UOJ is yet to be known. 2. In case an alternative source of expertise must be mobilized, the cost of the research would be considerably raised. 3. Capability of the Union must be examined in terms of O&M.
Remarks	A preparatory review will be conducted in 2010 so that a full-fledged F/S can be undertaken in the future.

Project Appraisal Statement (F-4) Integration of Community-based Fishery Management Systems on the District Level

24 September 2010

Project Number: F-4
Project Name: Integration of Community-based Fishery Management Systems on the District Level
Implementing Institution: Jaffna District Fishermen's Cooperative Society Unions' Federation (Ltd.)
Estimated Total Cost of the Project: LKR. 1.1million
Requested cost to PDP Jaffna: LKR. 1.1million
Project Details: as attached

Result of Appraisal:

1. General Comment

This project is highly recommended to implement. Because there are many seeds of conflict in fishing activities among fishermen in different areas of the district so far, thus it is necessary to prepare institutional mechanism for the coordination and appeasement through empowerment of the concerning organizations.

2. Appraisal: Total Score of Appraisal: 24

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: Many fishermen in several areas of the district are facing difficulties in intrusion of outer fishermen into their waters, thus this project is effective to coordinate and avoid conflicts among fishermen at present and in the future.

2-2 Expected Technological Impact: Score of appraisal: 4

Justification of score: This project is useful for empowerment of the Fishermen's Cooperative Society Unions' Federation through preparation of an inventory for the present and past fisheries regulation, self-control and traditional customs, and facilitation with fishermen's cooperative society unions.

2-3 Expected Economic Impact: Score of appraisal: 4

Justification of score: Even though there is not any direct positive economic impact, this project must bring indirect economic impact if it will prevent conflicts among fishermen in the long run.

2-4 Expected Social Impact: Score of appraisal: 5

Justification of score: This project would promote mutual understanding and appeasement among fishermen in different areas of the district.

2-5 Expected Environmental Impact: Score of appraisal: 4

Justification of score: The project has positive environmental impact because it will promote community-based fishery resources management which enhances self-reliance of environmental management.

2-6 Capacity of Implementing Institution: Score of appraisal: 3

Justification of score: Jaffna District Fishermen's Cooperative Society Unions' Federation (Ltd.) must be the most suitable implementing institution for the project, however, implementing this kind of project requires the organizational empowerment.

3. Risks

Not particular.

4. Necessary follow ups

The Team has to assist Jaffna District Fishermen's Cooperative Society Unions' Federation (Ltd.) for its empowerment under the supervision of the DFAR.

Project Details

Name of Project (Project Number)	Integration of Community-based Fishery Management Systems on the District Level (F-4)
Overall Objective	Community-based fishery management systems are well coordinated, integrated and formalized on the district level.
Planned Activities within PDP Jaffna	1. Inventory preparation for the present and past fishery regulation, self-control and traditional customs in the district. 2. Recognition and coordination of the present fishery regulation, self-control and traditional customs through workshops in each FCS Union. 3. Integration and formalization of the present fishery regulation, self-control and traditional customs through workshops in FCS Unions' Federation.
Project Components	1. Preparation of inventory on fishery regulations, self-controls and traditional customs being implemented by each FCS or FCS Union. 2. Integration and formalization of community-based fishery management system on the district level.
Implementation Schedule	January 2011--July 2011
Implementing Entity	Jaffna District Fishermen's Cooperative Society Unions' Federation (Ltd.)
CBO	Fishermen's Cooperative Societies Unions
Community	Fishermen's Cooperative Societies
DS	all the DS
Targeted Beneficiaries and Their Number	About 18 thousands fishermen in the district

Benefits to Socially Vulnerable People	All the fishermen operating in the district waters
Expected Technological Impact	This project is useful for empowerment of the Fishermen's Cooperative Society Unions' Federation through preparation of an inventory for the present and past fisheries regulation, self-control and traditional customs, and facilitation with fishermen's cooperative societies unions.
Expected Economic Impact	This project will contribute sustainable fisheries development, thus, all the fishermen in the district will benefit from it.
Expected Social Impact	Integrating fishing ground management system relieves fishermen who are threatened to operate in their waters by poachers or fishermen from outside.
Expected Environmental Impact	Sustainable fisheries resources management will materialize in the future.
Risks and Issues, If Any	Empowerment of the Fishermen's Cooperative Society Unions' Federation would be necessary to attain the project purpose.

Project Appraisal Statement (F-6) Seaweed Farming as an Alternative Livelihood for Vulnerable Fishing Communities in Jaffna

3 September 2010

Project Number: F-6

Project Name: Seaweed Farming as an Alternative Livelihood for Vulnerable Fishing Communities in Jaffna

Implementing Institution: Sewalanka Foundation

Estimated Total Cost of the Project: LKR. 3.1 million

Requested cost to PDP Jaffna: LKR. 3.1 million

Project Details: as attached

Result of Appraisal:

1. General Comment

This project is highly recommended to implement. Because the project aims to enhance income generation for poor fishing families including women headed families and newly returned people in fishing communities with sustainable manner of marine resources utilization.

2. Appraisal: Total Score of Appraisal: 26

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: The needs of developing seaweed culture and promoting as an export commodity is now increasingly stressed since there are huge demands for seaweed such as *Gracilaria sp.* and *Eucheuma sp.* used in processed food, cosmetics, soil conditioners and pharmaceutical products. In Sri Lanka, the Sewalanka Foundation initiated a community-based pilot project for *Eucheuma* farming in Ampara District, with a fund from International Union for Conservation of Nature (IUCN). The result showed that it was possible to produce sufficient quantity for propagation and expansion of seaweed farming in the district. No significant growth difference is acknowledged in culturing seaweed among different areas of the country; only constrain is to find suitable farming sites of depth of 1-2m and calm condition. Fortunately, we find many such farming suitable sites in Jaffna District. thus, there is a high possibility to succeed it in waters of Jaffna District.

2-2 Expected Technological Impact: Score of appraisal: 5

Justification of score: Introducing seaweed technology is quite new and innovative in Jaffna District.

2-3 Expected Economic Impact: Score of appraisal: 4

Justification of score: Significant economic impact is foreseen, and it is expected that this will provide the coastal people with an alternative source for income generation with little investment. This will be particularly so if the introduced seaweed is a dominant species in given waters. People can harvest it every two months and six times a year. The proposed project targets 30 fishing families, and each family can earn LKR.67,500/year (LKR.5,625/month) from the project.

2-4 Expected Social Impact: Score of appraisal: 5

Justification of score: The introduction of seaweed farming will also provide alternative income opportunity to women-headed families and newly returned families as well; seaweed farming requires less physical labor and those people can earn a certain amount of income with little investment.

2-5 Expected Environmental Impact: Score of appraisal: 4

Justification of score: There is a positive environmental impact. Seaweed farming is one of the best strategies to reduce CO_2 effect on global warming since seaweed absorbs CO_2 dissolved in ocean water and releases O_2.

2-6 Capacity of Implementing Institution: Score of appraisal: 4

Justification of score: Sewalanka Foundation was incorporated in 1992 and is considered as one of the most active Sri Lankan non-governmental organizations. It has an experience of implementing a project on seaweed farming funded by IUCN in the east coast of the country.

3. Risks

Any original *Eucheuma sp.* is not found in the country and the same species being cultured in the country was introduced from out of the country in recent years, so acquiring channels of the same species for mother plant are still limited.

4. Necessary follow ups

Clearing program for awareness of community people and detailed sketch of seaweed culture facilities are necessary.

5. Remarks

It is necessary to start the project before rainy season since rough sea conditions will make it difficult to install facilities for mother plant stock in the sea.

Project Details

Name of Project (Project Number)	Seaweed Farming as an Alternative Livelihood for Vulnerable Fishing Communities in Jaffna (F-6)
Overall Objective	The project aims at introducing the techniques of commercial seaweed (*Eucheuma. sp*) farming which has become common in Southeast Asian countries. Particularly, it is intended to create an alternative livelihood activity in island areas of Jaffna District.
Planned Activities within PDP Jaffna	The completion of a pilot production cycle starting from training up to marketing.
Project Components	1. Awareness and training to coastal communities, 2. Rearing healthy mother plant stock, 3. Commercial scale farming, 4. Assisting for marketing,

	5. Monitoring
Implementation Schedule	September 2010 – August 2011
Implementing Entity	Sewalanka Foundation
CBO	Pungudutivu East Fisheries Cooperative Society
Community	
DS	Velanai
Targeted Beneficiaries and Their Number	1.30 fishing households in Punkudutivu Island, Velanai as pilot producers. 2. Depending on the degree of success of the pilot production, many more households would be trained as producers in the future.
Benefits to Socially Vulnerable People	Out of 30 initial pilot producers, 28 were returnees and woman-headed households. Similar arrangements would be made so as to give priority to socially disadvantaged people living in isolated islands.
Expected Technological Impact	This pilot project would aim at introducing a new seaweed farming which is completely unknown in Jaffna, and relatively new in Sri Lank as a whole.
Expected Economic Impact	The seaweed farming could play a vital role in uplifting the living standards of fishing community where few alternative income sources exist. Additional income raised by seaweed is calculated around LKR.67,500/year per participating household. The same has happed in many outer islands of the Philippines and Indonesia.
Expected Social Impact	A significant social impact would be felt since a source of employment would be created to absorb many underemployed people.
Expected Environmental Impact	Seaweed farming is very eco-friendly by reducing CO_2. No serious environmental damage from seaweed farming is known.
Risks and Issues, If Any	1. Any original *Eucheuma sp.* is not found in the country and the same species being cultured in the country was introduced from out of the country in recent years, so acquiring channels of the same species for mother plant are still limited. 2. The pilot activities should include trial marketing within Jaffna. 3. The pilot project should include a comparative study with and without fish net protecting seaweed from fish eating them.
Remarks	This pre-feasibility study would lead to a full-fledged feasibility study in the near future.

Project Appraisal Statement (F-7) Sea Cucumber Farming as an Alternative Livelihood Enhancement for the Vulnerable Fishing Communities

13 September 2010

Project Number: F-7

Project Name: Sea Cucumber Farming as an Alternative Livelihood Enhancement for the Vulnerable Fishing Communities

Implementing Institution: Department of Animal Science, University of Jaffna

Estimated Total Cost of the Project: LKR. 2.1 million

Requested cost to PDP Jaffna: LKR. 2.1 million

Project Details: as attached

Result of Appraisal:

1. General Comment

This project is recommended to implement. Because it is obvious that the sea cucumber resources would deteriorate sooner or later if the present catch continues without any consideration on stock management. The fattening of the sea cucumber is not so difficult; it would open business opportunity even for the people in vulnerable communities with little investment.

2. Appraisal: Total Score of Appraisal: 23

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: It is known that sea cucumber feeds on the bottom sediment and is cultured without any feed in China, thus the people in vulnerable communities can fat it with little investment.

2-2 Expected Technological Impact: Score of appraisal: 4

Justification of score: Sea cucumbers are not cultured so far in the Jaffna Peninsula; only the matured sea cucumbers are collected manually or by one-day boat trawlers. Success of the project will open not only the sea cucumber fattening business but also sea cucumber farming including spat production in the future.

2-3 Expected Economic Impact: Score of appraisal: 4

Justification of score: High economic impact is foreseen if spat of sea cucumber can grow to commercial size in a certain period because it has high commercial value.

2-4 Expected Social Impact: Score of appraisal: 4

Justification of score: The introduction of sea cucumber fattening will provide alternative income opportunity to women-headed families and newly returned families as well; sea cucumber fattening requires less physical labor and those people can earn a certain amount of income with little investment.

2-5 Expected Environmental Impact: Score of appraisal: 4

Justification of score: Any negative environmental impact would not be foreseen from the fattening of sea cucumber.

2-6 the Capacity of Implementing Institution: Score of appraisal: 3

Justification of score: Department of Animal Science, University of Jaffna is a prominent institution in terms of bio-scientific knowledge of sea cucumber, however, they may have little experience in facilitation to community people.

3. Risks

Collection of the spat is possible only during rainy season.

4. Necessary follow ups

Forming a team in the Department of Animal Science, University of Jaffna requires for the project, and clarifying the implementing procedure including awareness to the community people is necessary.

Project Details

Name of Project (Project Number)	Sea Cucumber Farming as an Alternative Livelihood Enhancement for the Vulnerable Fishing Communities (F-7)
Overall Objective	The project aims at confirming sea cucumber culture potential in terms of biological factor, site suitability and cost effectiveness.
Planned Activities within PDP Jaffna	A pilot production cycle starting from training, stock the spat, fattening, monitoring up to analyzing.
Project Components	1. Awareness and training to coastal communities, 2. Collecting spat of sea cucumber, 3. Installation of pen net for sea cucumber fattening, 4. Stocking the spat and monitoring, 5. Analyzing the growth rate and survival rate.
Implementation Schedule	November 2010 – June 2011
Implementing Entity	Department of animal Science, University of Jaffna
CBO	Mandaitivu FCS, Gurunagar FCS
Community	
DS	Velanai, Jaffna
Targeted Beneficiaries and Their Number	Fisher members of Mandaitivu FCS and Gurunagar FCS/ about 1,100 fishers and their families.
Benefits to Socially Vulnerable People	About 160 IDP members in Gurunagar FCS and Mandaitivu FCS.
Expected Technological Impact	Sea cucumber is one of valuable commodities, however, it would deteriorate sooner or later if stock management and enhancement is not implemented. This project is the first step for it.

Expected Economic Impact	The sea cucumber farming could play a vital role in uplifting the living standards of vulnerable fishing communities where few alternative income sources exist.
Expected Social Impact	A significant social impact would be felt since success of the project will create source of employment thus it is to absorb many underemployed people in the district.
Expected Environmental Impact	Any negative environmental impact would not be foreseen for this project.
Risks and Issues, If Any	Weather condition during rainy season may affect shape of pen net installed in the sea.
Remarks	This pre-feasibility study would lead to a full-fledged feasibility study in the near future.

Project Appraisal Statement (F-8) Construction of Fish Auction Hall to Assist FCSes

5 September 2010

Project Number: F-8
Project Name: Construction of Fish Auction Hall to Assist FCSes
Implementing Institution: Sewalanka Foundation (Tentative)
Estimated Total Cost of the Project: LKR. 28 million
Requested cost to PDP Jaffna: LKR. 28 million
Project Details: as attached

Result of Appraisal:

1. General Comment

This project is highly recommended to implement. Because Fishermen's Cooperative Societies in Jaffna District have been weakened during prolonged civil conflict due to loss of human resources and infrastructure, and regaining of FCSes' capability is the key issue to put a fisheries development in the district into action.

2. Appraisal: Total Score of Appraisal: 25

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: At present many fishermen face with difficulties in getting the needed organizational support from their FCSes since many FCSes have lost their fisheries infrastructure during the past 30 years. If such fishermen can receive the organizational support from the FCSes, they can further promote their fishing activities.

2-2 Expected Technological Impact: Score of appraisal: 4

Justification of score: By providing fish landing facilities, post harvest of landed fish should be improved.

2-3 Expected Economic Impact: Score of appraisal: 5

Justification of score: Construction of fish auction hall will generate income source for the FCS which promotes the activities of the FCS. At the same time, member fishermen will receive convenience for their fish sales.

2-4 Expected Social Impact: Score of appraisal: 4

Justification of score: At most, 659 newly returned people and 382 women members of FCSes will benefit from the project.

2-5 Expected Environmental Impact: Score of appraisal: 4

Justification of score: Providing toilet and water supply tank near the fish auction hall makes fish landing more hygienic.

2-6 the Capacity of Implementing Institution: Score of appraisal: 4 (If Sewalanka Foundation will be the implementing institution)

Justification of score: Sewalanka Foundation has much experience in constructing fish landing facilities after the 2004 Tsunami disaster in the district.

3. Risks

Fish auction hall is one of tax sources of Pradesiya Saba, Urban Council or Municipal Council, thus it is necessary to have a dialogue with such agencies before the project starts in order that the activity with fish auction hall will be one of income sources for concerning FCSes.

4. Necessary follow ups

- Having a dialogue with Pradesiya Saba or other concerning agencies on the project purpose and ownership of the facilities.
- Discussion with concerning FCSes on their specific plan.
- Implementing scheme: If the Team subcontracts the project to NGO such as Sewalanka Foundation.

5. Remarks

Time and budget constraints will determine how many landing sites can be dealt with.

Project Details

Name of Project (Project Number)	Construction of Fish Auction Hall to Assist FCSes (F 8)
Overall Objective	The project aims at activation of FCSes in the district which activities have weakened due to prolonged conflicts.
Planned Activities within PDP Jaffna	Time and budget constraints will determine how many landing sites can be dealt with.
Project Components	1. To hold workshop to share member's interest and provide training if necessary. 2. Construction of fish auction hall and other necessary facilities for fish landing. 3. Assistance to activate the FCS's activities in relation to newly constructed facilities.
Implementation Schedule	November 2010 - July 2011
Implementing Entity	
CBO	Concerning Fishermen's Cooperative Societies
Community	

DS	Four target DS (Point Pedro, Velanai, Jaffna, Chavakachcheri,)
Targeted Beneficiaries and Their Number	2,396 fishers belonged to 9 FCSes in the 4 DS.
Benefits to Socially Vulnerable People	591 newly returned fishers and 352 women's members under the 9 FCSes will receive benefit either directly or indirectly from the project.
Expected Technological Impact	The construction of fish auction hall will make introduction of improved post harvest technology easier than the present fish deal under sunshine.
Expected Economic Impact	Concerning FCSes have an opportunity to receive incomes through management of the fish auction hall such as commission of the fish auction.
Expected Social Impact	Regaining activities of a FCS is important for development of societies the FCS is belonged to.
Expected Environmental Impact	The project helps to improve post harvest of fishermen's catch, thus, it will contribute for sustainable utilization of fisheries resources.
Risks and Issues, If Any	1. It is necessary to understand individual circumstances of FCS's activities for the effectiveness under the constraint of time and budget. 2. If it is to find a suitable subcontractor capable to complete the requirement. 3. The project location is inside the coastal buffer zone, therefore, permission is required from Department of Coastal Conservation.
Remarks	It is necessary to have dialogues with Pradesiya Saba or other concerning agencies before the project starts in order that the constructing fish auction hall will be income source of target FCSes.

Project Appraisal Statement (F-10) Introduction of Fish Aggregating Device (FAD) to Small-scale Fishermen

19 September 2010

Project Number: F-10
Project Name: Introduction of Fish Aggregating Device (FAD) to Small-scale Fishermen
Implementing Institution: PDP Jaffna/DFAR
Estimated Total Cost of the Project: LKR. 0.9million
Requested cost to PDP Jaffna: LKR. 0.9 million
Project Details: as attached

Result of Appraisal:

1. General Comment

This project is recommended to implement. Because this kind of technique has not been well known yet in the Jaffna peninsula though fishermen in the south often use it which is effective to attract pelagic species, thus this technique must be suitable for the present circumstances for small-scale fishermen in the district.

2. Appraisal: Total Score of Appraisal: 23

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 4

Justification of score: FAD is effective device to catch pelagic species for small-scale fishermen who can not reach off-shore fishing ground for migratory species due to their limited production means. FAD is not well known in Jaffna District at present, so that the introduction of the FAD is effective to improve their fish production.

2-2 Expected Technological Impact: Score of appraisal: 5

Justification of score: Introducing FAD technique is quite new and innovative in Jaffna District.

2-3 Expected Economic Impact: Score of appraisal: 4

Justification of score: FAD provides effective fishing ground for small-scale fishermen, which brings fish production increased and fuel consumption saved.

2-4 Expected Social Impact: Score of appraisal: 4

Justification of score: IDP fishers often conduct their fishing operation with non-motorized traditional fishing crafts called *catamans* or *wallams* at waters near shore, thus the FAD will provide effective fishing ground for them.

2-5 Expected Environmental Impact: Score of appraisal: 3

Justification of score: Any negative environmental impact is foreseen in this project.

2-6 Capacity of Implementing Institution: Score of appraisal: 3

Justification of score: Any suitable implementing institution is found, thus PDP Jaffna will carry out this project with several target FCSes under the supervision of DFAR.

3. Risks

Not particular.

4. Necessary follow ups

Planning awareness program to fishermen in several target FCSes is necessary.

Project Details

Name of Project (Project Number)	Introduction of Fish Aggregating Device (FAD) to Small-scale Fishermen (F 10)
Overall Objective	This project aims at establishing effective fishing grounds for small scale fishermen, because they access the fishing grounds easily with less consumption of fuel and enjoy more effective fish catch.
Planned Activities within PDP Jaffna	Trial installation of middle type of Fish Aggregating Device (Payao) off the coast of Jaffna District.
Project Components	1. Feasibility study 2. Construction of the device 3. Installation of the device 4. Evaluation of the effect
Implementation Schedule	November 2010 - July 2011
Implementing Entity	PDP Jaffna/DFAR
CBO	Fishermen's Cooperative Societies (FCS)
Community	
DS	Point Pedro
Targeted Beneficiaries and Their Number	About 600 fishermen belonged to several FCSes located in Point Pedro.
Benefits to Socially Vulnerable People	Relatively small scale fishermen who have only traditional non-motorized crafts access the effective fishing grounds.
Expected Technological Impact	Although FAD is installed in the southern parts of Sri Lanka, fishermen in the northern region have no experience of it.
Expected Economic	If the Team verifies the effectiveness at the waters in the northern region, many fishermen in the region adopt the same technique to save their

Impact	operation cost and improve their catch.
Expected Social Impact	Relatively poorer fishermen including newly returned people will benefit from the project because they can access the fishing ground of FAD with small scale crafts.
Expected Environmental Impact	Fishermen can save fuel consumption of their daily operation, and sometimes it will be protection against illegal fishing operation such as trawling.
Risks and Issues, If Any	1. It sometimes has problem on durability, in particular, during cyclone season. 2. It is sometimes difficult to disclose cost effectiveness of FAD.
Remarks	

Project Appraisal Statement (F-11) Strengthening and Capacity Building of the College of Fisheries and Nautical Engineering in Jaffna

5 September 2010

Project Number: F-11

Project Name: Strengthening and Capacity Building of the College of Fisheries and Nautical Engineering in Jaffna

Implementing Institution: Ocean University (National Institute of Fisheries and Nautical Engineering)

Estimated Total Cost of the Project: LKR. 25.7 million

Requested cost to PDP Jaffna: LKR. 25.7 million

Project Details: as attached

Result of Appraisal:

1. General Comment

This project is highly recommended to implement. Because the college of fisheries in Jaffna is expected to be the leading and prominent fisheries and nautical engineering training and education institute in the district, which is urgent requirement for fisheries development in the district.

2. Appraisal: Total Score of Appraisal: 26

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 5

Justification of score: College of fisheries in Jaffna has provided 15 technical training courses with 3,422 trainees in the past 10 years. It is expected to increase the annual trainees of 1,500 people after reconstruction of the school building.

2-2 Expected Technological Impact: Score of appraisal: 5

Justification of score: Planned provision of training program covers necessary fields for fisheries development in Jaffna such as fishing technology, marine engineering, fiberglass technology, sea food processing and fish farming.

2-3 Expected Economic Impact: Score of appraisal: 4

Justification of score: The provision of the technical training is directly connected with economic activities of fisheries sector.

2-4 Expected Social Impact: Score of appraisal: 4

Justification of score: College of fisheries has mobile course in which beneficiaries can receive technical trainings in their fishing communities. Socially vulnerable people who can not commute to the school are able to benefit from the project, too.

2-5 Expected Environmental Impact: Score of appraisal: 3

Justification of score: Planned sea food processing training will be useful for post harvest improvement which leads sustainable utilization of marine resources.

2-6 the Capacity of Implementing Institution: Score of appraisal: 5

Justification of score: Ocean University (National Institute of Fisheries and Nautical Engineering) is a leading and prominent fisheries and nautical engineering training and education institute in the

country.

3. Risks

Unknown

4. Necessary follow ups

- Coordination of the detailed project plan between head office in Colombo and Jaffna branch.
- Confirmation as to permission of Department of Coastal Conservation to construct a building in coastal buffer zone.

Project Details

Name of Project (Project Number)	Strengthening and Capacity Building of the College of Fisheries and Nautical Engineering in Jaffna (F-11)
Overall Objective	The project aims at capacity building of the college so as to be the leading and prominent fisheries and nautical engineering training and education institute in the region.
Planned Activities within PDP Jaffna	Reconstruction of school building and provision of material and equipment.
Project Components	1. Construction of school building, 2. Provision of material and equipment for trainings, 3. Assistance to implement training courses.
Implementation Schedule	November 2010 - July 2011
Implementing Entity	URC/ Ocean University (National Institute of Fisheries and Nautical Engineering)
CBO	
Community	
DS	Jaffna District
Targeted Beneficiaries and Their Number	Fishers, women in fishery households and youth in fishing communities in Jaffna District/ about 18,000 people in 10 years.
Benefits to Socially Vulnerable People	Socially vulnerable people such as women, youth and IDP people will receive mobile training at their sites.
Expected Technological Impact	Planned training program for mobile and vocational courses related to fisheries and allied fields will cater to emerging needs in the fisheries sector.
Expected Economic	Existing and novel courses will introduce new techniques such as deep-sea fishing to beneficiaries for the improvement of fish products.

Impact	
Expected Social Impact	Active implementation of mobile and vocational courses will benefit socially vulnerable people such as newly returned people, women headed families and youth who are suffered from unemployment.
Expected Environmental Impact	Planned sea food processing training will improve post harvest which leads sustainable utilization of marine resources.
Risks and Issues, If Any	The project location is inside the coastal buffer zone, so permission is required from Department of coastal conservation.

Project Appraisal Statement (C-1) Reconstruction of Pannai Consumer Market

13 October 2010

Project Number: C-1
Project Name: Reconstruction of Pannai Consumer Market
Implementing Institution: Municipal Council (MC), Jaffna
Estimated Total Cost of the Project: LKR. 23 million
Requested cost to PDP Jaffna: LKR. 21 million
Project Details: as attached

Result of Appraisal:

1. General Comment

This pilot project is highly recommended for implementation. The need to reconstruct the current market facilities with improved hygienic conditions is expressed frequently by the customers of the market. The beneficiaries of the project are expected to be around 192,000 people. The project will contribute to the livelihoods of the retailers of fish, vegetables, meat and other types of food as well as to customers. The improvements will be made in a way that will be attractive to tourists as well as to local people and the people from the South.

2. Appraisal: Total Score of Appraisal: 26

2-1 Overall Effectiveness and Efficiency: Score of appraisal: 5

Justification of the score: The overall objective of the project is to reconstruct the Pannai fish market building and its affiliated facilities, so as to activate business and enhance its attraction to tourists in order to help create more income for the workers and greater convenience for customers. The survey of customers that the Team conducted at the market showed there was a strong public desire for that the current market facilities should be reconstructed, with improved hygiene conditions. The beneficiaries of the project will be numerous: 80 workers and 77,000 customers in and around Jaffna's city and island areas (Jaffna Division 44,000 and Nallur 33,000); 15,000 members of the fishing populations (Delft, Velanai, Kayts 8,000 and Jaffna Division 7,000), and 100,000 floating customers from other areas (According to the GA statement, within one year more than 3,000,000 peoples came as tourists; from GA statement). Therefore, the project is expected to be evaluated highly.

2-2 Expected Technological Impact: Score of appraisal: 4

Justification of score: It is expected that the MC will learn the usage of the market as a site for attracting tourists. The transfer of skills in market management is expected.

2-3 Expected Economic Impact: Score of appraisal: 5

Justification of score: A business worth of LKR. 7 million is expected to be emerge after the reconstruction. This would represent a 75 % increase from the current business of LKR .4 million (Please see the 'Attachment to Proposal' for a justification of these proposed figures). Therefore, the expected economic impact is very likely to be considerable.

2-4 Expected Social Impact: Score of appraisal: 5

Justification of score: The convenience and hygiene of the market will be improved to benefit the workers and customers. Many of the citizens will benefit from the project, which may play a symbolic role for Japanese assistance in Jaffna. Most of the sellers and customers are women and socially vulnerable people who are expected to be included as beneficiaries. In the tender documents regarding market management, MC plans to include a prioritization note for socially vulnerable people.

2-5 Expected Environmental Impact: Score of appraisal: 3

Justification of score: There should be neither a negative nor a positive environmental impact.

2-6 the Capacity of Implementing Institution: Score of appraisal: 4

Justification of score: MC has much experience in the renovation of markets and has the capacity to manage the overall work. However, the Team will need to carefully monitor the progress of the temporary relocation of the market during the construction period.

3. Risks

There is a risk that the MC would not be able to arrange the temporary relocation in a timely manner.

4. Necessary follow ups

The discussions on detailed plan of temporary relocation, market management, and linkage with CBOs should be continued. The tenders for market management are expected to be assessed during November to December every year, so that the Team can monitor the proposed processes and conditions. The design of the new market building will be explained to and discussed with the relevant sellers and workers through meetings organized by the MC.

5. Remarks

The MC held a consultation meeting among some of the sellers and workers for fish, vegetable, and meat shops, regarding the market reconstruction and temporary relocation. The sellers and workers welcomed the idea of the project, and no objections were expressed by either group. They requested that the issue of parking spaces should be included in planning.

Project Details

Name of Project (Project Number)	Reconstruction of Pannai Consumer Market (C-1)
Overall Objective	The overall objective of the project is to reconstruct the Pannai fish market building and its facilities for active business and to increase its attraction for tourists, so as to contribute more income for workers and convenience for customers.

Planned Activities within PDP Jaffna	1. Reconstructing the fish market building and facilities, such as the auction area, the fish market, the vegetable, and meat shops, storage, canteen, toilets, etc. 2. Link activities with CBOs for selling and restaurant business
Project Components	1. Reconstruction of the fish market building and facilities 2. Market management and linkage with CBOs
Implementation Schedule	October 2010 to August 2011 (The revised schedule is attached below.)
Implementing Entity	Municipal Council (MC), Jaffna
CBO	WRDS in Jaffna DS (To be decided)
Community	
DS	Jaffna DS
Targeted Beneficiaries and Their Number	1. 80 workers will work at the market, which is roughly a 60% increase from the current level 2. 77,000 customers in and around Jaffna and island areas 3. 15,000 in the fishing populations in and around Jaffna and island areas 4. 100,000 floating customers from other areas 5. 33 MC staff are expected to be involved 6. Consumers who purchase from mobile sellers (who are buying from the Pannai market) may also benefit from the project.
Benefits to Socially Vulnerable People	1. WHF and disabled people are included as sellers. 2. IDPs are expected to be included as customers and fishermen (5,600 IDPs live in Jaffna Division).
Expected Technological Impact	It is expected that the MC will learn to use the market as a site for attracting tourists. The MC will allocate places to staff for: a) Construction and supervision: Works Engineer 1, Senior Technical Officer 2, Technical officer 1, Supervisor 2 b) Building and Drainage: Works Engineer 1, Technical Officer 1, Works supervisor 1 c) Maintenance of building: Water supply - Water works Engineer 1, Works supervisor 1, Electricity - TO electricity 1 d) Market Management: Public Health Engineer 1, Health supervisor 1, Market supervisor 2, Revenue supervisor 1, Chief revenue supervisor 1, Labourers 10-15
Expected Economic Impact	A business worth of LKR. 7 million is expected to exist after the renovation, a 75 % rise from the current business of LKR .4 million.

Expected Social Impact	The convenience and hygiene of the market will improve the benefits for customers. Many socially vulnerable people can be involved in the business as sellers, restaurant managers, or workers in the market.
Expected Environmental Impact	No negative effect on the environment is foreseen.
Risks and Issues, If Any	There is a risk that the MC would not be able to arrange the temporary relocation in a timely manner. There could also be a possibility that there would be a sudden decrease in the number of tourists coming to Jaffna because of the security situation. The discussions on detailed plans for temporary relocation, market management, and linkage with the CBOs should be continued. The tenders for the market management are expected to be assessed during November and December every year, so that the Team can monitor the processes and conditions. The design of the new market building will be explained to and discussed with the relevant sellers and workers through meetings organized by the MC. The follow ups should include acquiring approval from the Department of Archeology for the temporary relocation site, and deciding on an appropriate management plan to consider the market's functions. The issue of parking space should be discussed at the time of designing.

Attachment to Proposal (Partial)

Economic impact
Auction area (1,000-1,500 Kg Per day) (From the auction amount they have to pay 4%) 2.8
Sellers (50LKR X40 No's X 365 Days) 0.7
Cutting place (8 No's X 50LKR X365 Days) 0.1
Ice room (300Kg X 15LKR X365 Days) 1.5
Shops (150LKR X 2No's X365) 0.1
Meat section 1.0
Vegetable Section 0.4
Canteen and Kitchen 0.1
Vehicle Park 0.3
Total 7.0The current business scale is LKR. 4 million per year. (Information was gained from market manager.)

Project Appraisal Statement

Pilot Project (C-2) Business Development and Marketing of Coir and Palmerah Product

1. Problems to be addressed:

Women's empowerment is one of the most important agenda for rehabilitation and development of communities, as women mostly stay in their communities and they are the persons to care for families. In addition, more than 27,000 young war widows now require support in Jaffna. Urgent need of WHFs is recovery of earning measures to make a living; other women also want to promote additional income sauces for improvement of living standard.

WRDS is appropriate channel for the empowerment of women, bringing up mutual assistant system and encouraging WHFs to participate in the societies. WRDS, which is the sole women's society in the village, have carried out many village development projects as a partner with aid organizations, such as construction of small-scale infrastructure, coordinated various capacity development training programs and implemented income generation programs.

Though most of WRDSs maintain activities, such as regular meetings and a revolving fund system, sustainability of their activities is yet to be improved. What is more, sense of ownership within WRDS members should be developed.

According to the survey on WRDS activities conducted by PDP/Jaffna, the highest need among women is improvement of income generation activity (IGA). The survey also indicates some issues to be attended to improve IGAs. They are;

1) Lack of technology,
2) Scarcity for investment,
3) Poor marketing skills.

Additionally, it is recommended that capacity development component should be incorporated into income generation activities so as to improve its sustainability.

Coir industry is one of the most common industries for rural women in Sri Lanka, even though there has been sign of downturn because of its limited profit. However, it is still potential earning measures in rural area of Jaffna and women want to improve coir industries by promoting quality and variety of the products.

Members of Velanai East WRDS have been engaged in producing coir products, such as broom and rope, with assistance of Rural Economy Resuscitation Trust. The WRDS provides equipment and materials; coconut fiber, for 5-20 participants who work together for two hours in the evening. The products are sold by each member with their responsibility. According to the WRDS, material cost for making one broom is Rs.18 and another Rs.10 is paid to WRDS. Retail rate of one broom is Rs.60 -Rs.75 and average income for one member is Rs.100 per day. However, improvement of quality and variety of the products is necessary to compete with private sectors from now on.

The WRDS needs development of the working place for coir industry because presently they temporary use small storeroom that is belonged to PS Velanai. The center will be utilized to promote WRDS activities that have been sustained even in the conflict situation.

2. Brief Description on the project

(1) Concept

- Purpose

This project is to empower WRDS by addressing one of the most pressing women's needs in the villages—income generation

- Expected out puts and activities are;

1) Institutional development of WRDS
   - Capacity development trainings for WRDS active members
2) Improvement livelihood measures by assistance for improvement of coir industry and palmerah products producing through WRDS
   - Trainings in producing coir & palmerah products and marketing for selected WRDS members, including provision necessary equipment
   - Improvement of working center for coir industry (Construction of semi permanent building)

(2) Indicators

• Indicators for project purpose

Indicators	Means of Verification
Types of activities of the WRDS	Interview with WRDS leaders
Members' willingness to participate in the WRDS	Group discussion with WRDS members
Participants in the WRDS from vulnerable groups	Interview with WRDS leaders Group discussion with WRDS members

• Indicators for expected outputs

Indicators	Means of Verification
No. of meetings and participants	Meeting records of the WRDS
Condition of record keeping	Meeting records /financial record of the WRDS
Assets of the WRDS, maintenance of those assets	Interview with WRDS leaders
Issues over the WRDS activities	Interview with WRDS leaders Group discussion with WRDS members
Available skills to produce coir and palmerah products	Interview with the ex-trainees of the skill trainings
Income by coir and palmeragh producing	Interview with the ex-trainees of the skill trainings
Usage of the working place (center)	Interview with WRDS leaders, Observation of the usage of the center

(3) Strategies

• Institutional development of WRDS

Following activities will be carried out with the aim at developing capacity of WRDS.

Explanation on the project

Project plan is to be presented at the WRDS general meeting with presence of relevant government officers to assure transparency. In addition to that, the WRDS will discuss how to select participants in the training in producing coir and palmerah products, giving priority to social vulnerable groups, such as WHF and persons with disability in the selection.

Beneficiaries' selection

The Participants will be selected through the WRDS, discussing with relevant government officers.

Preparation of action plan and implementation with participatory approach

The WRDS organizes workshop to prepare action plan to carry out the project with support of the Implementation partner (NGO). PDP/Jaffna should provide necessary information for the NGO and WRDS enough to discuss the action plan. The NGO will facilitate the WRDS to implement the planned activities with close monitoring by PDP/Jaffna.

Trainings

Training for capacity development will be conducted based on the assessed training needs.

• Improvement livelihood measures by assistance for improvement of coir industry and palmerah products through WRDS

Trainings

Technical trainings will be provided in producing coir and palmerah products in cooperation with Industry Development Board (IDB), reflecting the action plan made by the WRDS. Awareness program on marketing also will be conducted. Necessary equipment will be provided to WRDS as a training tool.

Construction of center for coir industry (Semi permanent building)

The NGO will construct center for coir industry with participation of WRDS. The center will be utilized for community gathering purpose also.

• Monitoring

The NGO will facilitate WRDS to monitor project activities and PDP/Jaffna will carry out overall monitoring.

3. Project Justification:

• Selection of WRDSs

The WRDS was selected by PDP/Jaffna following selection criteria;

They are:

- Security situation,
- Basic institutionalization,
- Active livelihood activity
- Social vulnerability
- No duplication with other donors.

This selection was approved at PDP/Jaffna District forum.

• Empowerment of WRDS

Importance of women's empowerment is emphasized by both government organizations and NGOs. Those

organizations recognize WRDS as a common channel to support women in community development projects. Velanai East WRDS can be empowered by strengthening coir industry since they can obtain additional knowledge based on their experience. Activated WRDS can be a development model in the island areas of Jaffna.

• Improvement of Livelihood measures

The PDP/Jaffna team identified income generation activities as the high priority need. Potential and need to improve coir industry was discussed at the meeting with the WRDS members. They need technical support as well as physical support; construction of the center, for improvement of the industry. It is also requested to support for promotion of palmerah production in order to increase variety of sales items.

• Consensus with relevant officers

Relevant government officers, such as District Officers of Rural Development, RDOs, DSs and GSs have agreed with the project component.

4. Beneficiaries:

20 members from Velanai East WRDSs are direct beneficiaries of skill trainings in coir industry and palmerah products. In addition to the above, 10 members from WRDS will be targeted for capacity development trainings. The center will be utilized for all WRDS members.

5. Is the proposed project also financed by others? No

6. Who of the beneficiaries participated in the project selection and design? Velanai East WRDS

7. Who of the beneficiaries will participate in the project implementation?

Velanai East WRDS members

8. How do social minorities (IDP/widow/person with disability, etc.) benefit?

IDPs, widows and persons with disability are priority in selection of the beneficiaries.

9. Who will be responsible for the maintenance of it after the project implementation?

Velanai East WRDS members / Capacity development trainings will be conducted for active WRDS members to assure the sustainability of the project.

10. Are funds available for the operation and maintenance for the proposed project?

Daily maintenance of the center for coir industry, such as cleaning and minor repairing, will be carried out by WRDS Velanai East. It will need only small amount.

11. Is adequate staff available to operate the proposed project?

NGO who has capacity enough to facilitate the project will be selected as an implementation partner. The NGO will organize skill trainings in collaboration with IDB.

12. Is impact of the proposed project on environment expected? If yes, please explain. NO

13. Cost of Budget Rs.1,157,434

Capacity building Rs.37,600

Training in coir and palmerah producing Rs.338,400

Construction of center for coir industry Rs.633,434

Payment to Implementation Partner Rs.148,000

14. Financial Plan Full amount for project implementation is taken by PDP/Jaffna.

15. Implementation Schedule –

No.	Activity	2011							
		Ja	Fe	Ma	Ap	Ma	Ju	Jul	Au
1	Mobilization of the program								
2	Selection of participants in the trainings								
3	Workshop to prepare action plan								
4	Capacity development trainings								
5	Technical training in producing coir and palmerah products								
6	Construction of center for cori industry								
10	Monitoring								

16. Responsibility of the proposal submissions PDPJaffna team

Project details

Name of Project (Project Number)	Business Development and Marketing of Coir Industry (C-2)
Overall Objective	Empower WRDS by addressing one of the most pressing women's needs in the villages—income generation
Component	Capacity development of WRDS (Institutional development of WRDS) Improvement livelihood measures by assistance for improvement of coir industry and making palmerah products through WRDS
Activities	Capacity development trainings for WRDS active members Trainings in producing coir & palmerah products and marketing for selected WRDS members, including provision necessary equipment Improvement of working center for coir industry (Construction of semi permanent building)
Implementation Schedule	January 2011 – June 2011
Implementing Entity	NGO will be selected for the implementation of these projects.
CBO	Velanai East WRDS
DS	Velanai DS
Targeted Beneficiaries and Their Number	20 members from Velanai East WRDS are direct beneficiaries of skill trainings to produce coir and palmerah product. In addition to the above, 10 members from WRDS will be targeted for capacity development trainings. The center will be utilized for all

	WRDS members to get together.
Benefits to Socially Vulnerable People	Vulnerable groups such as IDPs, widows, and the disabled are given priority in selection of the beneficiaries,
Expected Technological Impact	Beneficiaries will be able to acquire necessary skills to produce coir and palmerah produce. Beside, institutional capacity of WRDS will improved for further development of the society.
Expected Economic Impact	The beneficiaries have confidence to raise income from coir industry and other handicraft items.
Expected Social Impact	The solidarity among WRDS members will be strengthened. Socially vulnerable such as IDPs, WHFs, and disabled will be taken into consideration to join the livelihood activities.
Expected Environmental Impact	No negative effect on environment is foreseen.
Risks and Issues, If Any	If private sectors started sales of coir products at cheaper price than WRDS's products, WRDS members will be discouraged to continue the business

Project Appraisal Statement

Pilot Project (C-4) Business Development and Marketing for Food-processing products

1. Problems to be addressed:

Women's empowerment is one of the most important agenda for rehabilitation and development of communities, as women mostly stay in their communities and they are the persons to care for families. In addition, more than 27,000 young war widows now require support in Jaffna. Urgent need of WHFs is recovery of earning measures to make a living; other women also want to promote additional income sauces for improvement of living standard.

WRDS is appropriate channel for the empowerment of women, bringing up mutual assistant system and encouraging WHFs to participate in the societies. WRDS, which is the sole women's society in the village, have carried out many village development projects as a partner with aid organizations, such as construction of small-scale infrastructure, coordinated various capacity development training programs and implemented income generation programs.

Though most of WRDSs maintain activities, such as regular meetings and a revolving fund system, sustainability of their activities is yet to be improved. What is more, sense of ownership within WRDS members should be developed.

According to the survey on WRDS activities conducted by PDP/Jaffna, the highest need among women is improvement of income generation activity (IGA). The survey also indicates some issues to be attended to improve IGAs. They are;

1) Lack of technology,
2) Scarcity for investment,
3) Poor marketing skills.

Additionally, it is recommended that capacity development component should be incorporated into income generation activities so as to improve its sustainability.

Palmerah processed items are special products in the Singarnagar, Point Pedero. Many women of Singarnagar WRDS also have produced Palmerah sweet product or Jaggery. Recently they succeeded in expanding their market with a support of PAMPII; micro finance project implemented by the Central Bank of Sri Lanka (CBSL). CBSL has coordinated with Cargills (Ceylon) PLC, together with Bank of Cylon to create markets for local products, along with promoting group saving and crediting. Around 20 WRDS members have worked together for producing Jaggery, improving quality of the products so as to meet the order from Cargills. This is significant achievement because the women obtained not only economical improvement but also social recognition. However, following problems should be attended for sustainable WRDS empowerment.

1) Quality control

According to CBSL, quality control is still yet to be developed. They need a more technical instruction and

advice. In addition, common production canter is necessary, since they use old rental house temporally.

2) Mobilisation/capacity development

Women work together to sell products to Cargills, but unity among members can be weak because their institutional capacity is yet to be developed. They need to develop system for decision making, information sharing and accounting capacity.

3) Expansion of benefit among WRDS members

Presently 20-30 members are engaged in palmerah sweet producing and 40 members participate in PAMPII, while total number of WRDS members is 80. The WRDS is recommended thinking about expanding benefit to other members. For example, if common production centre was constructed, WRDS can collect small amount for usage of the centre and use the incomes for other members' benefit.

2. Brief Description on the project

(1) Concept

- Purpose

This project is to empower WRDS by addressing one of the most pressing women's needs in the villages—income generation

- Expected out puts and activities are;
  - ① Institutional development of the WRDS
    - Capacity development trainings for the WRDS active members
  - ② Improvement livelihood measures by assistance for food processing, especially palmerah sweet producing through WRDS
    - Skill trainings in producing palmerah sweet for selected WRDS members, including provision of necessary tools for WRDS
    - Improvement of working center for palmerah sweet production (Construction of the center for palmerah sweet industry)

(2) Indicators

- Indicators for project purpose

Indicators	Means of Verification
Types of activities of the WRDS	Interview with WRDS leaders
Members' willingness to participate in the WRDS	Group discussion with WRDS members
Participants in the WRDSs from vulnerable groups	Interview with WRDS leaders Group discussion with WRDS members

- Indicators for expected outputs

Indicators	Means of Verification
No. of meetings and participants	Meeting records of the WRDS
Condition of record keeping	Meeting records /financial record of the WRDS
Asset of the WRDS	Interview with the WRDS leaders
Issues over the WRDS activities	Interview with the WRDS leaders Group discussion with the WRDS members

Available skills in food processing	Interview with the ex-trainees of the skill trainings
Income by food processing	Interview with the ex-trainees of the skill trainings
Usage of the working place (center) and equipment	Interview with the WRDS leaders, Observation of usage of the center and equipment

(3) Strategies

- Institutional development of WRDS

  Following activities will be carried out with the aim at developing capacity of WRDS.

  Explanation on the project

  Project plan is to be presented at the WRDS general meeting with presence of relevant government officers to assure transparency. In addition to that, the WRDS will discuss how to select participants in the training in producing palmerah sweet and other food products, giving priority to social vulnerable groups, such as WHF and persons with disability in the selection.

  Beneficiaries' selection

  The Participants will be selected through the WRDS, discussing with relevant government officers.

  Preparation of action plan and implementation with participatory approach

  The WRDS organizes workshop to prepare action plan to carry out the project with support of the Implementation partner (NGO). PDP/Jaffna should provide necessary information for the NGO and WRDS enough to discuss the action plan. The NGO will facilitate the WRDS to implement the planned activities with close monitoring by PDP/Jaffna.

  Trainings

  Training for capacity development will be conducted based on assessed training needs.

- Improvement livelihood measures by assistance for food processing, especially palmerah sweet producing through WRDS

  Skill Trainings

  Technical trainings will be provided in producing palmerah sweet, reflecting the action plan made by the WRDS. Necessary tools will be provided for WRDS.

  Construction of center for palmerah sweet production (semi permanent building)

  The NGO will construct center for palmerah sweet production with participation of WRDS. The center will be utilized for community gathering purpose also. Necessary equipment and tools to produce palmerah sweet are to be given to the WRDS.

- Monitoring

  The NGO will facilitate WRDS to monitor project activities and PDP/Jaffna will carry out overall monitoring.

3. Project Justification:

- Selection of WRDSs

  The WRDS was selected by PDP/Jaffna following selection criteria;

They are:

- Security situation,
- Basic institutionalization,
- Active livelihood activity
- Social vulnerability
- No duplication with other donors.

This selection was approved at PDP/Jaffna District forum.

- Empowerment of WRDS

  Importance of women's empowerment is emphasized by both government organizations and NGOs. Those organizations recognize WRDS as a common channel to support women in community development projects. Puloi South (Singanagar) WRDS can be empowered by strengthening institutional capacity and promoting sustainability of the existing income generation activities or palmerah sweet producing. It will become collaboration morel of JICA technical project and loan scheme.

- Improvement of Livelihood measures

  The PDP/Jaffna team identified income generation activities as the high priority need. Potential and need to improve palmerah sweet industry was discussed at the meeting with the WRDS members.

- Consensus with relevant officers

  Relevant government officers, such as District Officers of Rural Development, RDOs, DSs and GSs have agreed with the project component.

4. Beneficiaries:

20 -30 members from Puloli South (Singanagar) WRDS are direct beneficiaries of skill trainings in food processing. In addition to the above, 10 members from WRDS will be targeted for capacity development trainings. The center will be utilized for all WRDS members for getting together.

5. Is the proposed project also financed by others? No

6. Who of the beneficiaries participated in the project selection and design?

Puloli South (Singanagar) WRDS members

7. Who of the beneficiaries will participate in the project implementation?

Puloli South (Singanagar) WRDS members

8. How do social minorities (IDP/widow/person with disability, etc.) benefit?

IDPs, widows and persons with disability are priority in selection of the beneficiaries.

9. Who will be responsible for the maintenance of it after the project implementation?

Puloli South (Singanagar) WRDS members / Capacity development trainings will be conducted for active WRDS members to assure the sustainability of the project.

10. Are funds available for the operation and maintenance for the proposed project?

Daily maintenance center for palmerah product, such as cleaning and minor repairing, will be carried out by Puloli South (Singanagar) WRDS. It will need only small amount.

11. Is adequate staff available to operate the proposed project?

NGO who has capacity enough to facilitate the project will be selected as an implementation partner.

12. Is impact of the proposed project on environment expected? If yes, please explain. NO

13. Cost of Budget (to be confirmed) Rs. 925,388

Capacity building	Rs.32,000
Training in palmerah sweet producing	Rs.132,150
Construction of production center for palmerah sweet	Rs.613,238
Payment to Implementation partner	Rs.148,000

14. Financial Plan Full amount for project implementation is taken by PDP/Jaffna.

15. Implementation Schedule –

No.	Activity	2011							
		Ja	Fe	Ma	Ap	Ma	Ju	Jul	Au
1	Mobilization of the program								
2	Selection of participants in the trainings								
3	Workshop to prepare action plan								
4	Capacity development trainings								
5	Technical training in producing coir and palmerah products								
6	Construction of center for palmerah product								
10	Monitoring								

16. Responsibility of the proposal submissions PDP/Jaffna team

Project details

Name of Project	Business Development and Marketing for Food-processing Products
Overall Objective	Empower WRDS by addressing one of the most pressing women's needs in the villages—income generation
Component	- Capacity development of WRDS(Institutional development of WRDS) - Improvement livelihood measures by assistance for food processing, especially palmerah sweet producing through WRDS)
Activities	- Capacity development trainings for the WRDS active members - Skill trainings in producing palmerah sweet for selected WRDS members, including provision of necessary tools for WRDS - Improvement of working center for palmerah sweet production (Construction of the center for palmerah sweet production)
Implementation Schedule	January 2011 – June 2011
Implementing Entity	NGO will be selected for the implementation of these projects.

CBO	Puloli South (Singanagar) WRDS
DS	Point Pedero DS
Targeted Beneficiaries and Their Number	20 -30 members from Puloli South (Singanagar) WRDS are direct beneficiaries of skill trainings in food processing. In addition to the above, 10 members from WRDS will be targeted for capacity development trainings. The center will be utilized for all WRDS members for getting together.
Benefits to Socially Vulnerable People	Vulnerable groups such as IDPs, widows, and the disabled are given priority in selection of the beneficiaries,
Expected Technological Impact	Beneficiaries will be able to improve skills to produce palmerah sweet and other food products. Beside, institutional capacity of WRDS will improved for further development of the society.

Project Appraisal Statement

Pilot Project (C-5) Promotion of Mushroom Cultivation Business

1. Problems to be addressed:

Women's empowerment is one of the most important agenda for rehabilitation and development of communities, as women mostly stay in their communities and they are the persons to care for families. In addition, more than 27,000 young war widows now require support in Jaffna. Urgent need of WHFs is recovery of earning measures to make a living, while other women also want to promote additional income sauces for improvement of living standard.

WRDS is a appropriate channel for the empowerment of women, bringing up mutual assistant system and encouraging WHFs to participate in the community activities. WRDS, which is the sole women's society in the village, have carried out many village development projects as a partner with aid organizations, such as construction of small-scale infrastructures, coordination of various capacity development training programs and implementation of income generation programs.

Though most of WRDSs maintain activities, such as regular meetings and a revolving fund system, sustainability of their activities is yet to be improved. What is more, sense of ownership within WRDS members should be developed.

According to the survey on WRDS activities conducted by PDP/Jaffna, the highest need among women is improvement of income generation activity (IGA). The survey also indicates some issues to be attended to improve IGAs. They are;

1) Lack of technology,
2) Scarcity for investment,
3) Poor marketing skills.

Additionally, it is recommended that capacity development component should be incorporated into income generation activities so as to improve its sustainability.

Mushroom growing has been promoted by Development of Agrarian Development (DAD) recently. It has potential to expand women's opportunity of home industry. However, presently they have difficulty to procure sawdust that is used to make seedbed of mushroom. Another issue is marketing; mushroom is still new food item in Jaffna even though it has much potential to promote its recognition as a healthy and new taste food. Especially, Attiyady has an advantage to sell mushroom because of its convenient access to the town if stable supply of mushroom is realized.

14 women had been trained in mushroom cultivation last year by DAD. 6-7 ex-trainees had engaged in the cultivation in their houses, while others gave it up. All cultivators have difficulties to procure materials for mushroom growing. Another issue is marketing; DS, Jaffna emphasized the potential of increasing sales price by promotion of collection system among mushroom cultivators since presently each cultivator sells their products at

the rate fixed by middlemen.

2. Brief Description on the project

(1) Concept

- Purpose

  This project is to empower WRDS by addressing one of the most pressing women's needs in the villages—income generation

- Expected out puts and activities are;
  - ① Institutional development of the WRDS
    - Capacity development trainings for the WRDS active members
    - Improvement of revolving loan system
  - ② Improvement livelihood measures by promotion of mushroom cultivation through WRDS
    - Skill trainings in mushroom cultivation for selected WRDS members
    - Provision of mushroom cultivation kits to the WRDS
    - Promotion of mushroom marketing measures, including setting up mushroom collection center
    - Strengthening network with mushroom cultivators

(2) Indicators

- Indicators for project purpose

Indicators	Means of Verification
Types of activities of the WRDSs	Interview with WRDS leaders
Members' willingness to participate in the WRDSs	Group discussion with WRDS members
Participants in the WRDSs from vulnerable groups	Interview with WRDS leaders Group discussion with WRDS members

- Indicators for expected outputs

Indicators	Means of Verification
No. of meetings and participants	Meeting records of the WRDS
Condition of record keeping	Meeting records /financial record of the WRDS
Asset of the WRDS	Interview with the WRDS leaders
Issues over the WRDS activities	Interview with the WRDS leaders Group discussion with WRDS members
Available fund with the WRDS & management of revolving fund	Interview with the WRDS leaders, the WRDS record
Available skills of mushroom cultivation	Interview with the ex-trainees of the skill trainings
Available network related to mushroom cultivation and sales	Group discussion with WRDS members
Income from mushroom cultivation	Interview with the ex-trainees
Usage of the collection center	Interview with the WRDS leaders, Observation of record and the center operation

(3) Strategies

- Institutional development of WRDSs

  Following activities will be carried out with the aim at developing capacity of the WRDSs.

  Explanation on the project

  Project plan is to be presented at the WRDS general meeting with presence of relevant government officers to assure transparency. In addition to that, the WRDS will discuss how to select participants in the program for promotion of mushroom cultivation, giving priority to social vulnerable groups, such as WHF and persons with disability in the selection.

  Beneficiaries' selection

  The Participants will be selected through the WRDS, discussing with relevant government officers.

  Preparation of action plan and implementation with participatory approach

  The WRDS organizes workshop to prepare action plan to carry out the project with support of PDP/Jaffna. PDP/Jaffna should provide necessary information for WRDSs enough to discuss the action plan. PDP/Jaffna will facilitate the WRDSs to implement the planned activities.

  Trainings

  Training for capacity development will be conducted based on assessed training needs.

  Revolving fund

  The project will provide necessary tools and equipment for mushroom cultivation for WRDS. WRDS will give the input to the participants incorporating with existing WRDS revolving loan system with the society.

- Improvement livelihood measures by promotion of mushroom cultivation through WRDS Training

  Technical trainings will be conducted in collaboration with DAD. In addition, program to exchange ideas with active mushroom cultivators will be arranged so as to improve the participants' practical knowledge and network.

Provision of materials for mushroom cultivation as OJT

Subsequent to the trainings, materials to commence mushroom cultivation; e.g., racks, sawdust, will be procured with taking advice from DAD. Procured inputs are to be handed over to WRDS and WRDSs will provide them for ex-trainees.

Promotion of procurement system

WRDS will be facilitated to strengthen network to promote procurement of sawdust. Mostly, DAD and Mushroom Cooperative Society will be key organizations among the network.

Set up mushroom collection center

Mushroom collection center will be set up, by utilizing a space of common building. WRDS is expected to manage the center, collecting mushroom from cultivators in neighbor areas. The project will provide basic equipment and furniture to operate the center for the WRDS. WRDS members will be facilitated so as to operate the center in sustainable manner.

- Monitoring

  PDP/Jaffna will facilitate WRDS to monitor poultry farming.

3. Project Justification:

- Selection of WRDSs

  The WRDS was selected by PDP/Jaffna following selection criteria;

  They are:

  - Security situation,
  - Basic institutionalization,
  - Active livelihood activity
  - Social vulnerability
  - No duplication with other donors.

  This selection was approved at PDP/Jaffna District forum.

- Empowerment of WRDS

  Importance of women's empowerment is emphasized by both government organizations and NGOs. Those organizations recognize WRDS as a common channel to support women in community development projects.

- Improvement of livelihood measures

  The PDP/Jaffna team identified income generation activities as the high priority need. Potential and need to improve mushroom cultivation was discussed at the meeting with the WRDS leaders and DS, Jaffna.

- Consensus with relevant officers

  Relevant government officers, such as District Officers of Rural Development, RDOs, DSs and GN have agreed with the project component.

4. Beneficiaries:

Two types of beneficiaries are selected from WRDS members

(1) 15-20 women from mushroom cultivators

(2) 10 women who want to start mushroom growing

In addition, active WRDS members (10~15) will have a training for capacity development.

5. Is the proposed project also financed by others? No

6. Who of the beneficiaries participated in the project selection and design?

Leaders of Attyyadi WRDS

7. Who of the beneficiaries will participate in the project implementation? Attyyadi WRDS

8. How do social minorities (IDP/widow/person with disability, etc.) benefit?

IDPs, widows and persons with disability are priority in selection of beneficiaries.

9. Who will be responsible for the maintenance of it after the project implementation?

Attyyadi WRDS/Capacity development trainings will be conducted for active WRDS members to assure the sustainability of the project.

10. Are funds available for the operation and maintenance for the proposed project?

WRDS will bear maintenance cost of mushroom collection center.

11. Is adequate staff available to operate the proposed project?

PDP/Jaffna will implement the project in collaboration with DOA.

12. Is impact of the proposed project on environment expected? If yes, please explain. No

13. Cost of Budget Rs. 604,700

Capacity building	Rs. 61,000
Materials for mushroom cultivation (OJT)	Rs.364,700
Equipment for mushroom collection center	Rs. 119,000
Vehicle hiring	Rs. 60,000

Training fee in mushroom cultivation (resource persons, training materials) will be provided by DAD

14. Financial Plan Full amount for project implementation is taken by PDP/Jaffna.

15. Implementation Schedule –

No.	Activity	2011							
		Ja	Fe	Ma	Ap	Ma	Ju	Jul	Au
1	Mobilization of the program								
2	Selection of participants								
3	Workshop to prepare action plan								
4	Capacity development trainings								
5	Technical training in mushroom growing								
6	Promotion of materials procurement								
7	Marketing promotion strategy making (colletion center)								
8	Establishment of mushroom collection center								
10	Monitoring								

16. Responsibility of the proposal submissions PDP/Jaffna team

Project details

Name of the Project	Promotion of Mushroom Cultivation business
Overall Objective	Empower WRDS by addressing one of the most pressing women's needs in the villages—income generation
Components	- Capacity development of WRDS (Institutional development of WRDS) - Improvement livelihood measures by promotion of mushroom cultivation through WRDS

Planned Activities	- Capacity development trainings for WRDS active members - Improvement of revolving loan system - Skill trainings in mushroom cultivation for selected members - Provision of mushroom cultivation kits to the WRDS - Promotion of mushroom marketing measures - Strengthening network with mushroom cultivators
Project Components	1. Training (technical training, marketing training, capacity development) 2. Supply of equipment and materials to the WRDS 3. Establishment of a mushroom collection centre
Schedule	January 2010–June 2011
Implementing Entity	PDP/Jaffna team implement the project in cooperation with DOA
CBO	Aththiyadi WRDS (Jaffna DS Division)
Targeted Beneficiaries and Their Number	- 24 members in total beneficiaries for assistance for mushroom cultivation 14 members: women who had received previous training 10 members: women who want to start mushroom cultivation - Active WRDS members (10~15) for capacity development program
Benefits to Socially Vulnerable People	Vulnerable groups such as IDPs, widows, and the disabled are given priority in selection of the beneficiaries,
Expected Technological Impact	Beneficiaries will be able to acquire necessary skills related to mushroom cultivation and sales. Beside, institutional capacity of WRDS will improved for further development of the society.
Expected Economic Impact	- The participants will have confidence to raise income by cultivating mushroom. - Capacity of WRDS to provide revolving fund will be strengthened.
Expected Social Impact	- The project will stimulate the WRDS. - The socially vulnerable groups will be able to encourage participating in community activities.
Expected Environmental Impact	No negative effect on the environment is foreseen.
Risks and Issues, If Any	Mushroom cultivation can be susceptible to climatic fluctuations. Heavy rain or high temperatures may negatively affect the produce.

Project Appraisal Statement

Appendix 7-19: Pilot Project (C-6)
Small scale Business Development（poultry）

1. Problems to be addressed:
Women's empowerment is one of the most important agenda for rehabilitation and development of communities, as women mostly stay in their communities and they are the persons to care for families. In addition, more than 27,000 young war widows now require support in Jaffna. Urgent need of WHFs is recovery of earning measures to make a living; other women also want to promote additional income sauces for improvement of living standard.

WRDS is appropriate channel for the empowerment of women, bringing up mutual assistant system and encouraging WHFs to participate in the community activities. WRDS, which is the sole women's society in the village, have carried out many village development projects as a partner with aid organizations, such as construction of small-scale infrastructures, coordination of various capacity development training programs and implementation of income generation programs.

Though most of WRDSs maintain activities, such as regular meetings and a revolving fund system, sustainability of their activities is yet to be improved. What is more, sense of ownership within WRDS members should be developed.

According to the survey on WRDS activities conducted by PDP/Jaffna, the highest need among women is improvement of income generation activity (IGA). The survey also indicates some issues to be attended to improve IGAs. They are;

1) Lack of technology,
2) Scarcity for investment,
3) Poor marketing skills.

Additionally, it is recommended that capacity development component should be incorporated into income generation activities so as to improve its sustainability.

Poultry farming is one of the most popular side businesses for rural women. In many cases, it can produce just extra money and sometimes it is only for domestic consumption. However, it still has much potential to get income or food items without having special skills. Especially local chicken is more recommendable than farm chicken since farm chicken is susceptible to deceases. Besides, local chicken is marketable more than farm chicken due to its superior taste. Department of Animal Production and Health (DAPH) has made effort to promote poultry farming with local chickens.

Sirupidy and Thavalai Ijattalai villages are farming villages, in where women are keen on improving livelihood measures in their residential places.

2. Brief Description on the project

(1) Concept

- Purpose

  This project is to empower WRDS by addressing one of the most pressing women's needs in the villages—income generation

- Expected out puts and activities are;

  ① Institutional development of the WRDSs

  - Capacity development trainings for the WRDS active members
  - Improvement of revolving loan system

  ② Improvement livelihood measures by assistance for poultry farming through WRDSs

  - Skill trainings in poultry farming for selected WRDS members
  - Provision of poultry sets; local chicks, cage and so on, to the WRDS

(2) Indicators

- Indicators for project purpose

Indicators	Means of Verification
Types of activities of the WRDSs	Interview with WRDS leaders
Members' willingness to participate in the WRDSs	Group discussion with WRDS members
Participants in the WRDSs from vulnerable groups	Interview with WRDS leaders Group discussion with WRDS members

- Indicators for expected outputs

Indicators	Means of Verification
No. of meetings and participants	Meeting records of the WRDSs
Condition of record keeping	Meeting records /financial record of the WRDSs
Asset of the WRDSs	Interview with the WRDS leaders
Issues over the WRDS activities	Interview with the WRDS leaders Group discussion with WRDS members
Available fund with WRDS & management of revolving fund	Interview with the WRDS leaders, WRDS records
Available skills of poultry farming	Interview with the beneficiaries
Income from poultry farming	Interview with the beneficiaries
Change caused by poultry farming	Interview with the beneficiaries

(3)Strategies

- Institutional development of WRDSs

  Following activities will be carried out with the aim at developing capacity of the WRDSs.

  <u>Explanation on the project</u>

  Project plan is to be presented at the WRDS general meeting with presence of relevant government officers

to assure transparency. In addition to that, the WRDSs will discuss how to select beneficiaries of promotion of poultry farming, giving priority to social vulnerable groups, such as WHF and persons with disability in the selection.

Beneficiaries' selection

The Participants will be selected through the WRDSs, discussing with relevant government officers.

Preparation of action plan and implementation with participatory approach

The WRDSs organize workshop to prepare action plan to carry out the project with support of the Implementation partner (NGO). PDP/Jaffna should provide necessary information for the NGO and WRDSs enough to discuss the action plan. The NGO will facilitate the WRDSs to implement the planned activities with close monitoring by PDP/Jaffna.

Trainings

Training for capacity development will be conducted based on assessed training needs.

Revolving fund

The project will provide sets for poultry farming; e.g., chicks and cages, for WRDSs. WRDSs will give the input to the beneficiaries incorporating with existing WRDS revolving loan system.

- Improvement livelihood measures by assistance for poultry farming through WRDSs Technical trainings will be provided in cooperation with DAPH focusing on local chicken farming. Subsequently, kits for poultry farming; e.g., local chicks and cages, will be procured with taking advice from DAPH. Procured inputs are to be handed over to WRDSs and WRDSs will provide them for selected beneficiaries.

- Monitoring

  Implementation partner will facilitate WRDSs to monitor poultry farming. PDP/Jaffna will carry out overall monitoring.

3. Project Justification:

- Selection of WRDSs

  The WRDSs were selected by PDP/Jaffna following selection criteria;

  They are:

  - Security situation,
  - Basic institutionalization,
  - Active livelihood activity
  - Social vulnerability
  - No duplication with other donors.

  This selection was approved at PDP/Jaffna District forum.

- Empowerment of WRDS

  Importance of women's empowerment is emphasized by both government organizations and NGOs. Those organizations recognize WRDS as a common channel to support women in community development projects.

- Improvement of livelihood measures

The PDP/Jaffna team identified income generation activities as the high priority need. Potential and need to improve poultry farming was discussed at the meeting with the WRDS members.

- Consensus with relevant officers
  Relevant government officers, such as District Officers of Rural Development, RDOs, DSs and GSs have agreed with the project component.

4. Beneficiaries:
20 members were selected as direct beneficiaries of promotion of local chicken farming from Sirupidy and Thavalai Ijattalai WRDSs respectively, in total 40 members. In addition, 10 members each from two WRDSs will be targeted for capacity development trainings, in total 20 members

5. Is the proposed project also financed by others? No

6. Who of the beneficiaries participated in the project selection and design?
Sirupidy and Thavalai Ijattalai WRDSs

7. Who of the beneficiaries will participate in the project implementation?
Sirupidy and Thavalai Ijattalai WRDSs

8. How do social minorities (IDP/widow/person with disability, etc.) benefit?
IDPs, widows and persons with disability are priority in selection of beneficiaries.

9. Who will be responsible for the maintenance of it after the project implementation?
Sirupidy and Thavalai Ijattalai WRDS members.
Capacity development trainings will be conducted for active WRDS members to assure the sustainability of the project.

10. Are funds available for the operation and maintenance for the proposed project?
There is no special no equipment required maintenance cost.

11. Is adequate staff available to operate the proposed project?
NGO who has capacity enough to facilitate the project will be selected as a implementation partner.

12. Is impact of the proposed project on environment expected? If yes, please explain. No

13. Cost of Budget	Rs. 1,379,200 (Rs.689,600 / WRDS)
Capacity building training	Rs. 79,200 (Rs. 39,600 /WRDS)
Training in poultry including materials	Rs.980,000 (Rs.490,000/WRDS)
Payment to Implementation Partner	Rs. 320,000(Rs.160,000/WRDS)

14. Financial Plan Full amount for project implementation is taken by PDP/Jaffna.

15. Implementation Schedule –

No.	Activity	2011							
		Ja	Fe	Ma	Ap	Ma	Ju	Jul	Au
1	Mobilization of the program								
2	Beneficiaires selection								
3	Workshop to prepare action plan								
4	Capacity development trainings								
5	Technical training in poultry								
6	Provision of local ckicks and other materials								
7	Promotion of revolving fund system								
8	Monitoring								

16. Responsibility of the proposal submissions PDP/Jaffna team

Project details

Name of Project	Small-Scale Business Development (poultry)
Overall Objective	Empower WRDS by addressing one of the most pressing women's needs in the villages—income generation
Components	- Capacity development of WRDS s(Institutional development of WRDS) - Improvement livelihood measures by assistance for poultry farming through WRDSs
Planned Activities	- Capacity development trainings for the WRDS active members - Improvement of revolving loan system - Skill trainings in poultry farming for selected WRDS members - Provision of local chicks and other items for poultry farming to the WRDSs
Schedule	January 2011 to July 2011
Implementing Entity	NGO will be selected for the implementation of these projects.
CBO	Siruppiddi East WRDS (Kopay DS), Thaavalai Ijattalai WRDS (Chavakachchry DS)
Targeted Beneficiaries	40 women (20 from each WRDS) for income generation activities 20 women (10 from each WRDS) for capacity development program
Benefits to Socially Vulnerable People	Vulnerable groups such as IDPs, widows, and the disabled are given priority in selection of the beneficiaries,
Expected Technological Impact	Beneficiaries will be able to acquire necessary skills related to poultry farming. Beside, institutional capacity of WRDS will improved for further development of the society.
Expected Economic Impact	- The participants will have confidence to raise income by poultry farming. - Capacity of WRDS to provide revolving fund will be strengthened.
Expected Social	- The project will stimulate the WRDS. - The socially vulnerable groups will be able to encourage participating in community

Impact	activities.
Expected Environmental Impact	Poultry, even country chicken which is easier to grow up than farm chicken, can be affected by disease. If some diseases are prevalent, chicks can be died quickly before taking necessary measures.

Project Appraisal Statement

Pilot Project (C-7)

Support for the Widows' Society

1. Problems to be addressed:

Widows in Jaffna are confronted with not only economical difficulties but also social discrimination. Special attention should be paid to improve their socio economic status.

Chavatcaddu Widows' society has been strengthened with strong woman's leadership, overcoming numerous hardships. It was almost neglected in the village at the beginning stage, but presently the society has obtained reputation and recognition from the community. However, it seems necessary to bring up more leaders to promote sustainability of the society since most of members almost depend on the leader presently.

The society has provided ground to share their difficulties and support each other for many widows. Such a community for having mutual assistance is required by many widows in Jaffna where more than 27,000 young war widows live. Chavatcaddu Widows' society can be a model to support women with special needs.

Urgent need of WHFs is recovery of earning measures to make a living. Common earning measures of widows are small businesses, such as running of retail shop, dressmaking and food processing. Many of them are difficult to improve their business because of scarcity for investment and lack of skills. PDP/Jafna introduced PAMPII to Chavatcaddu Widows' society with the aim at promoting access to formal financial institution. 20 members have embarked on group saving activities. However, it seems necessary to strengthen field mobilization and awareness for the participants for sustainable activities.

2. Brief Description on the project

(1) Concept

- Purpose

  Enpower a Widow's Society by improving access to financial services and institutional capacity development
- Expected out puts and activities are;
  - ① Institutional development of the Widows' society
    - Capacity development trainings
  - ② Improvement of access to financial institution for strengthening women's livelihood measure
    - Coordination with the existing microfinance schemes
    - Field mobilization for the promotion of microfinance activities

(2) Indicators

- Indicators for project purpose

Indicators	Means of Verification
Types of activities of the society	Interview with leaders of the society Record of the society
Number of leaders of the society	Discussion with society members Record of the society
No of members before and after commencing the project	Discussion with society members Record of the society
Benefit from the society	Discussion with society members

- Indicators for expected outputs

Indicators	Means of Verification
No. of meetings and participants	Meeting records of the society
Types and number of stakeholders	Interview with leaders of the society
Knowledge on micro finance among the members	Meeting with the members
Available access to financial institutions	Meeting with the members

(3) Strategies

- Institutional development of WRDS

  Following activities will be carried out with the aim at developing capacity of WRDS.

  Explanation on the project

  Project plan is to be presented at the society general meeting with presence of relevant government officers to assure transparency.

  Trainings

  Training for capacity development will be conducted based on the training needs assessment.

- Improvement of access to financial institution for strengthening women's livelihood measure

  Coordinate with micro finance schemes

  PDP/Jaffna will study available micro finance schemes in Jaffna and introduce the suitable micro finance schemes to the society. Especially, coordination with formal financial institutions will be emphasized to promote members' financial access as well as social recognition. Promotion of PAMPII will be taken place, coordinating with the Sri Lanka Central bank and Bank of Ceylon.

  Field mobilization

  PDP/Jaffna will monitor the micro finance activities introduced and feedback the field situation to relevant financial institutions for further improvement of the microfinance activities.

3. Project Justification:

- Selection of the Widows' society

  Support for the widows is one of the most urgent issues in Jaffna. The selected Widows' society is well

organized and it has much potential to become a model for widows' empowerment by providing capacity development programs.

- Improvement of access to financial institutions.
  The PDP/Jaffna team identified needs to improve access to financial institution for widows' income generation activities at the meeting with the society members. According to the members, they have had various skill trainings for improvement of livelihood measures. However, issues over lack of investment are still remained and prevent widows from expanding their potential businesses. Leader of the society shows interest to promote network with formal financial institution since it has not been introduced to the society.
- Consensus with relevant officers
  Relevant government officers, such as District Officers, DSs and GSs have agreed with the project component.

4. Beneficiaries:
20-30 members from the Widows' society will be target to introduce the micro finance activities.
Capacity development programs will be conducted for all members.

5. Is the proposed project also financed by others? No

6. Who of the beneficiaries participated in the project selection and design?
Leader of the Chavatcaddu Widows' society

7. Who of the beneficiaries will participate in the project implementation?
Chavatcaddu Widows' society

8. How do social minorities (IDP/widow/person with disability, etc.) benefit?
Members of the Chavatcaddu Widows' society are widows

9. Who will be responsible for the maintenance of it after the project implementation?
Chavatcaddu Widows' society

10. Are funds available for the operation and maintenance for the proposed project?
No project component that need maintenance fund

11. Is adequate staff available to operate the proposed project?
PDP/Jaffna will facilitate the project coordinating with appropriate stakeholders, such as training instructors of capacity development programs and financial institutions.

12. Is impact of the proposed project on environment expected? If yes, please explain. NO

13. Cost of Budget Rs.298,000

Training for capacity development	Rs.70,000
Social event/study tour	Rs.228,000

14. Financial Plan Full amount for project implementation is taken by PDP/Jaffna.

15. Implementation Schedule –

No.	Activity	2011							
		Ja	Fe	Ma	Ap	Ma	Ju	Jul	Au
1	Mobilization of the program								
2	Study on availble microfinance schemes								
3	Introduce of micro finance schemes								
4	Field mobization of introduced micro finance activities								
5	Conducting Capacity development programs								

16. Responsibility of the proposal submissions PDP/Jaffna team

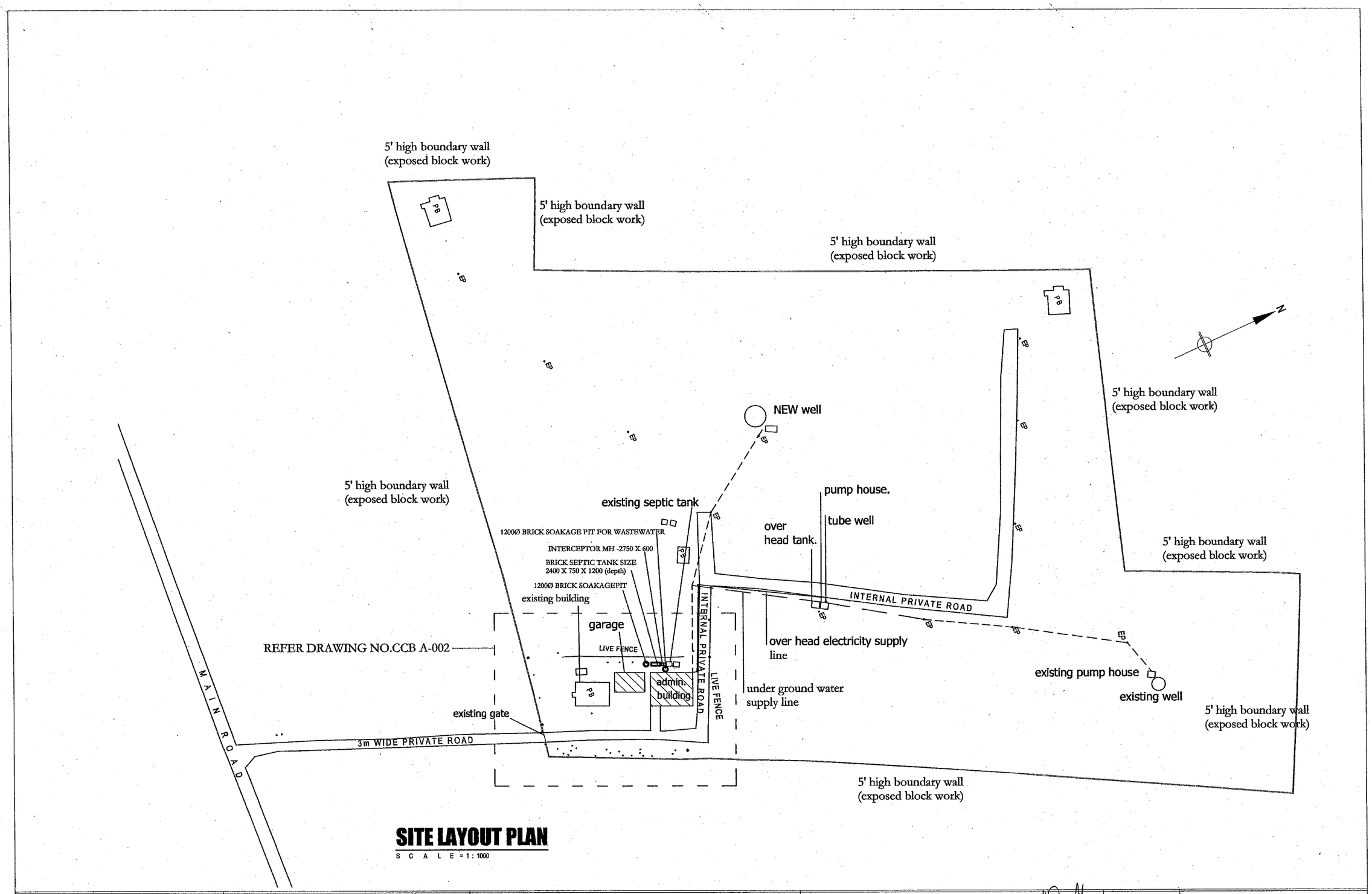
Project details

Name of the Project	Support for Widow's Society
Overall Objective	Empower a Widow's Society by improving access to financial services and institutional capacity development.
Project Components	- Institutional development of the Widows' society - Improvement of access to financial institution for strengthening women's livelihood measure
Planned Activities within the Team	- Capacity development trainings - Coordination with the existing microfinance schemes - Field mobilization for the promotion of microfinance activities
Schedule	January 2011–July 2011
Implementing Entity	The Team will directly implement the project
CBO	The Chavatcaddu Widow Society
DS	Sandilipay
Targeted Beneficiaries	20 women for micro finance activities 90 women for capacity development activities (members of the Society)
Benefits to Socially Vulnerable People	All target members are widows, including war widows
Expected Technological Impact	Financial management skills will be enhanced by the promotion of microfinance activities.
Expected Economic Impact	Participants will be able to enhance their saving skills and capacities and will be able devise more efficient financial plans. At least 20% of the participants will be

	empowered to effectively manage their own businesses'.
Expected Social Impact	The Society will be stimulated by developing a saving and loan program in collaboration with a formal financial institution. The members will be motivated to improve their living environment. As a result, this Widow's Society is expected to be capable to encourage widows in other areas.
Expected Environmental Impact	No negative effect on the environment is foreseen.

Appendix 7-21

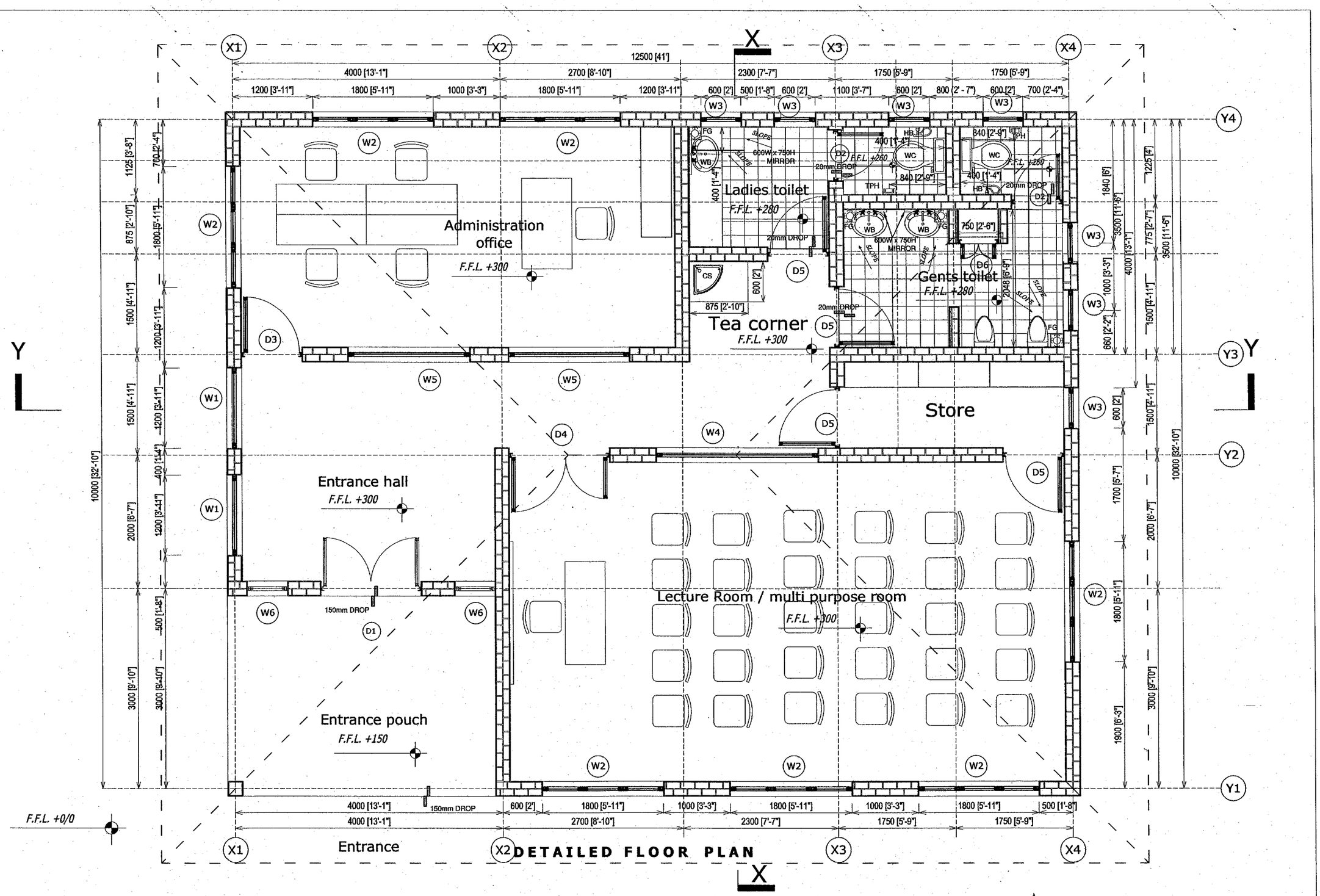
As-build Drawings of the Coconut Nursery



SITE LAYOUT PLAN

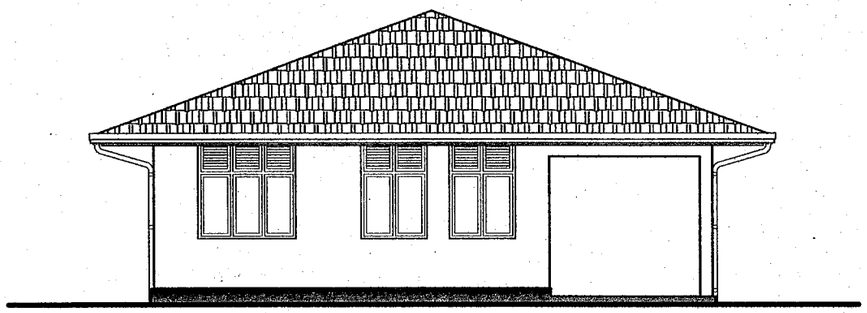
S C A L E = 1 : 1000

REHABILITATION OF ACHCHUWELI COCONUT NURSERY	THE PROJECT FOR DEVELOPMENT PLANNING FOR THE RAPID PROMOTION OF RECONSTRUCTION AND DEVELOPMENT IN JAFFNA DISTRICT, SRI LANKA	Coconut Cultivation Board, Jaffna Japan International Cooperation Agency (JICA) **ENGINEER** The Joint Venture of IC Net Ltd. and Oriental Consultants Co,Ltd	**CONTRACTOR:** BUILDMART LANKA (PVT) LTD 196/1, Nawala Road, Nawala, Rajagiriya, Sri Lanka.	DWG TITLE: SITE LAYOUT PLAN - AS BUILT SCALE: 1 : 1000 Arch. A. MARAPONA	DWG NO: CCB A-002**AR1**

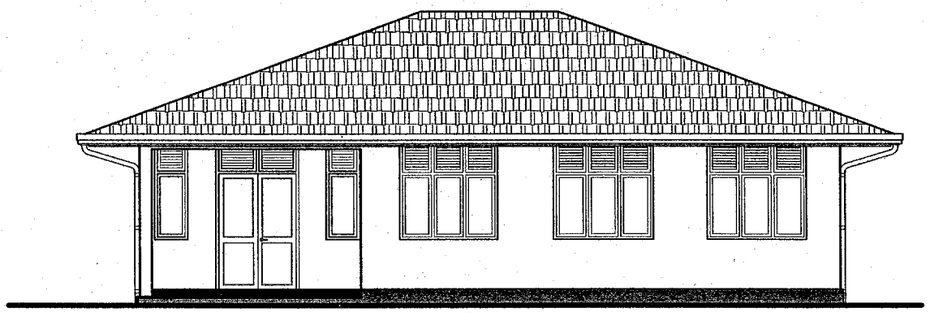


DETAILED FLOOR PLAN

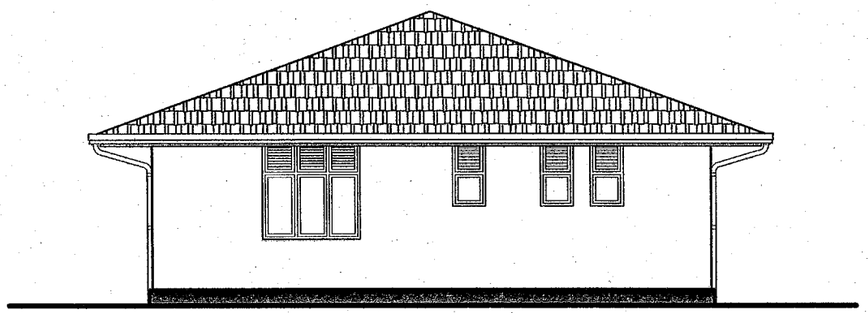
REHABILITATION OF ACHCHUWELI COCONUT NURSERY	THE PROJECT FOR DEVELOPMENT PLANNING FOR THE RAPID PROMOTION OF RECONSTRUCTION AND DEVELOPMENT IN JAFFNA DISTRICT, SRI LANKA	Coconut Cultivation Board, Jaffna Japan International Cooperation Agency (JICA) **ENGINEER** The Joint Venture of IC Net Ltd. and Oriental Consultants Co,Ltd	**CONTRACTOR:** BUILDMART LANKA (PVT) LTD 196/1, Nawala Road, Nawala, Rajagiriya, Sri Lanka.	DWG TITLE: SETTING OUT PLAN - AS BUILT SCALE: 1 : 50 Arch. A. MARAPONA	DWG NO: CCB A-006



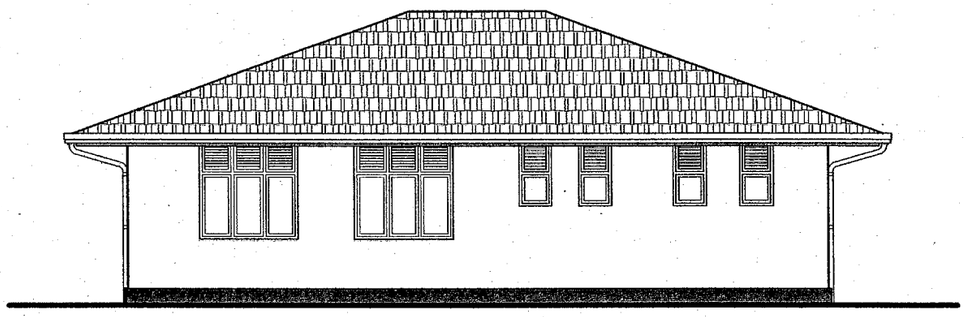
LEFTSIDE ELEVATION
SCALE 1:100



FRONT ELEVATION
SCALE 1:100

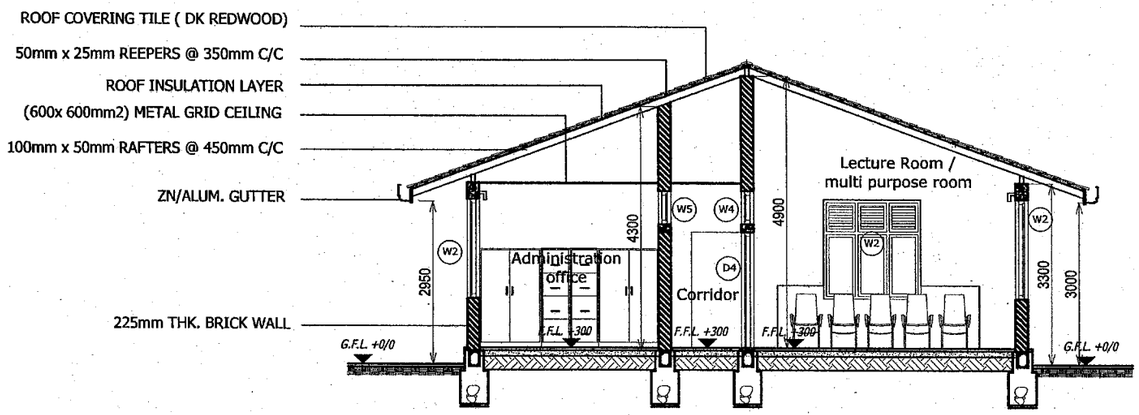


RIGHT SIDE ELEVATION
SCALE 1:100

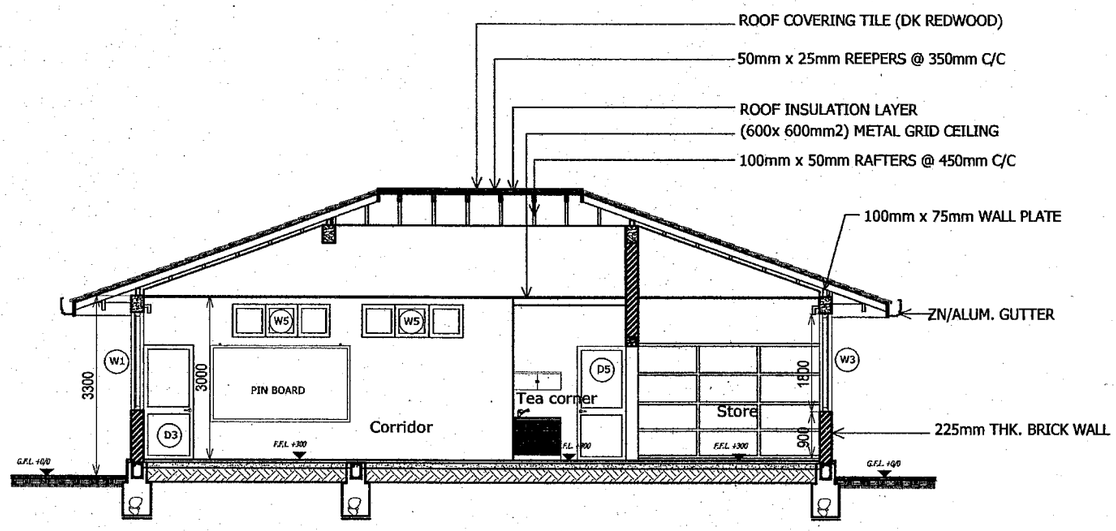


REAR ELEVATION
SCALE 1:100

REHABILITATION OF ACHCHUWELI COCONUT NURSERY	THE PROJECT FOR DEVELOPMENT PLANNING FOR THE RAPID PROMOTION OF RECONSTRUCTION AND DEVELOPMENT IN JAFFNA DISTRICT, SRI LANKA	Coconut Cultivation Board, Jaffna Japan International Cooperation Agency (JICA) **ENGINEER** The Joint Venture of IC Net Ltd. and Oriental Consultants Co,Ltd	**CONTRACTOR:** BUILDMART LANKA (PVT) LTD 196/1, Nawala Road, Nawala, Rajagiriya, Sri Lanka.	DWG TITLE: ELEVATIONS - AS BUILT SCALE: 1 : 100 Arch. A. MARAPONA	DWG NO: CCB A-007



SECTION X - X
SCALE 1:100



SECTION Y - Y
SCALE 1:100

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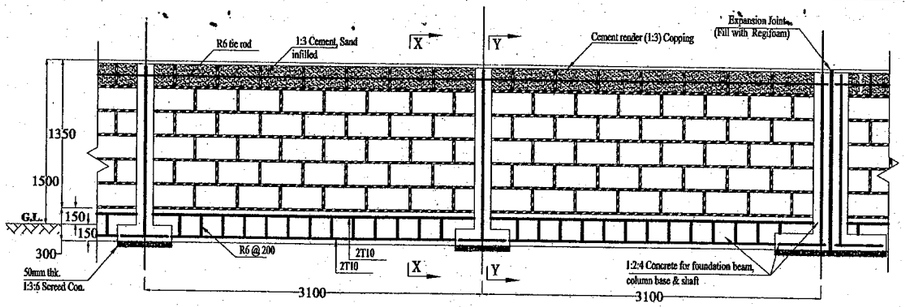
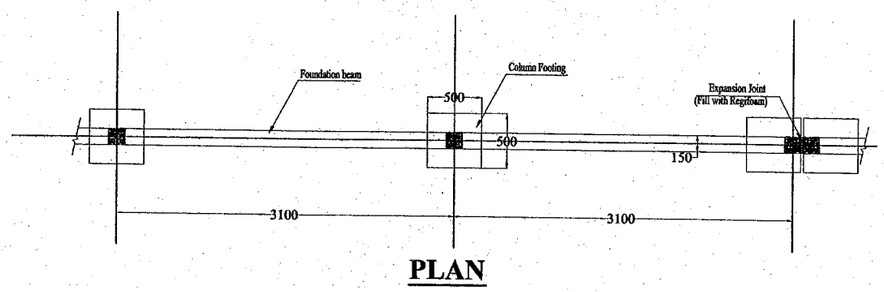
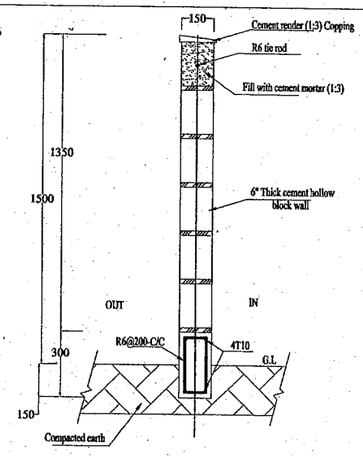


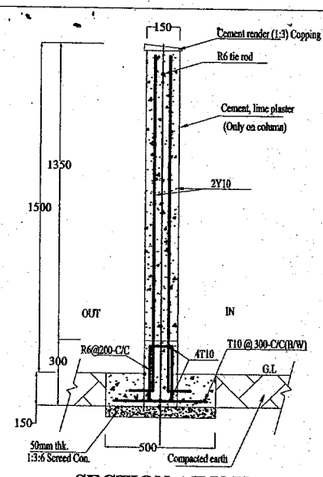
SECTIONAL ELEVATION



PLAN



SECTION AT X-X



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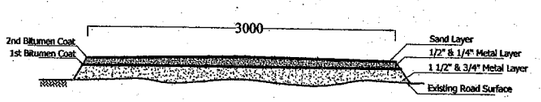
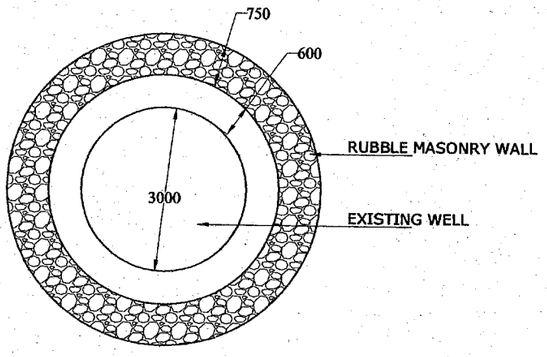
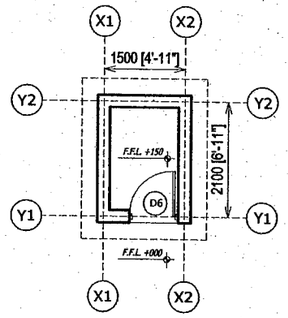


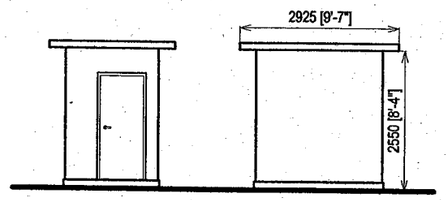
DETAIL OF ROAD CONSTRUCTION



PLAN

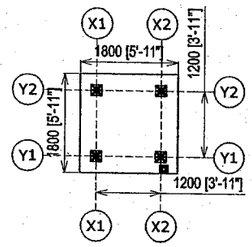


PUMP HOUSE PLAN

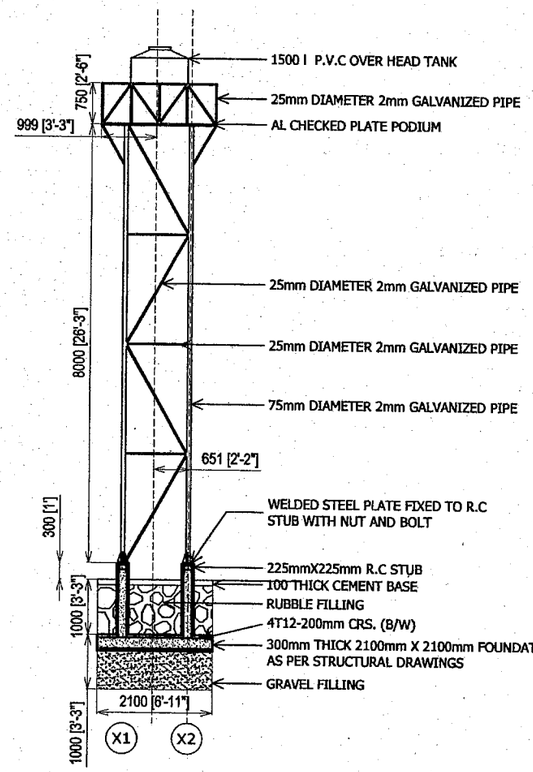


FRONT ELEVATION

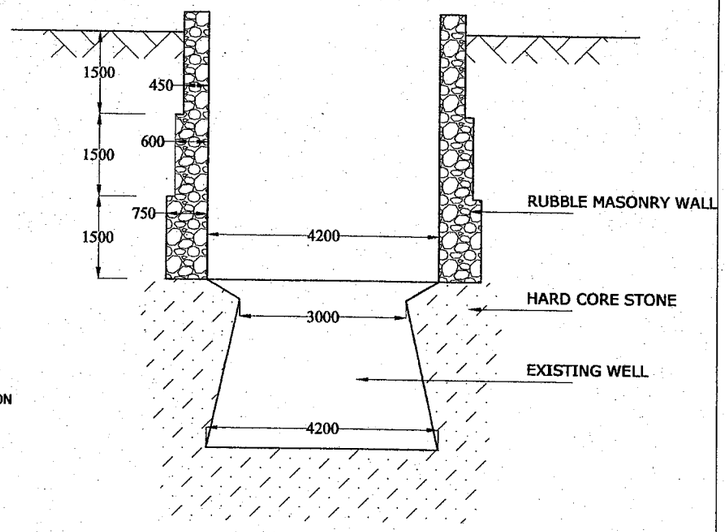
SIDE ELEVATION



WATER TANK BASE PLAN



SIDE ELEVATION

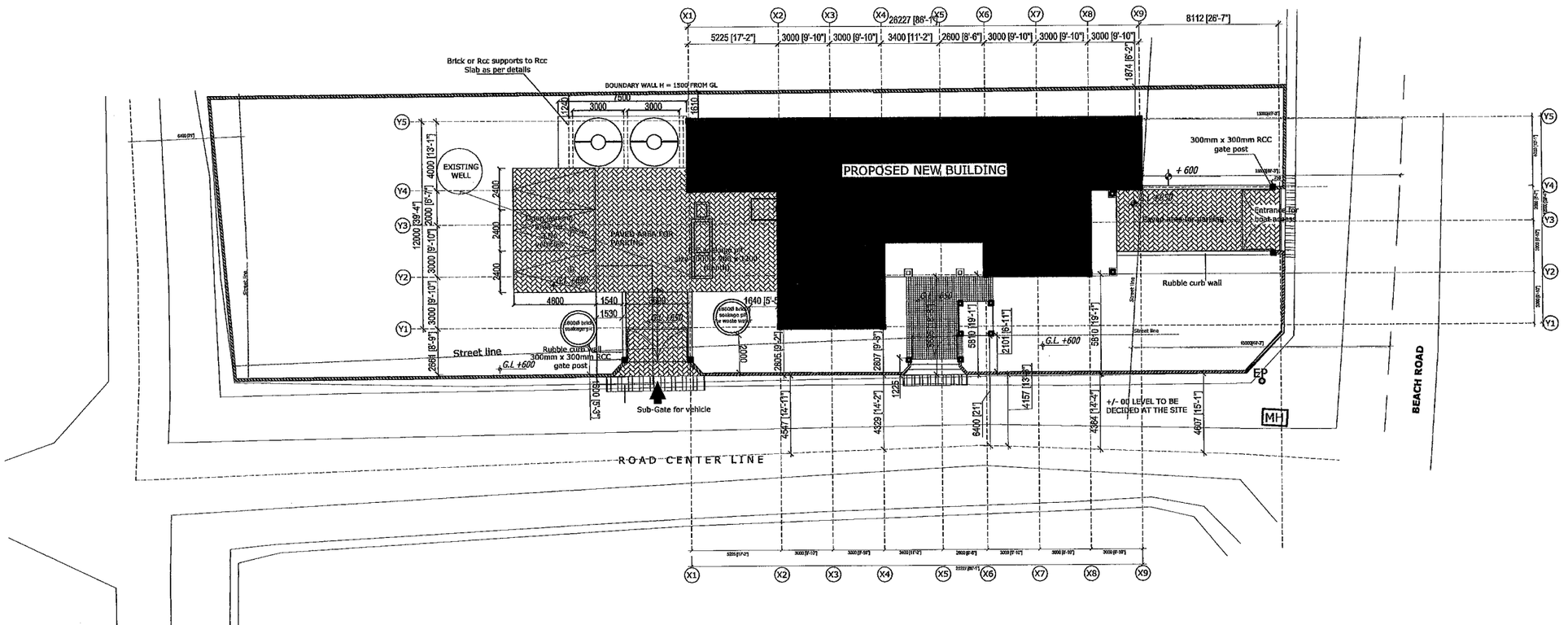


SECTIONAL ELEVATION

REHABILITATION OF ACHCHUWELI COCONUT NURSERY	THE PROJECT FOR DEVELOPMENT PLANNING FOR THE RAPID PROMOTION OF RECONSTRUCTION AND DEVELOPMENT IN JAFFNA DISTRICT, SRI LANKA	Coconut Cultivation Board, Jaffna Japan International Cooperation Agency (JICA) **ENGINEER** The Joint Venture of IC Net Ltd. and Oriental Consultants Co,Ltd	**CONTRACTOR:** BUILDMART LANKA (PVT) LTD 196/1, Nawala Road, Nawala, Rajagiriya, Sri Lanka.	DWG TITLE	DETAILS OF OVERHEAD WATER TANK, BOUNDARY WALL, ROAD CONSTRUCTION & CONSTRUCTION OF WELL- AS BUILT
				SCALE	N.T.S
				Arch. A. MARAPONA	DWG NO CCB A-026R1

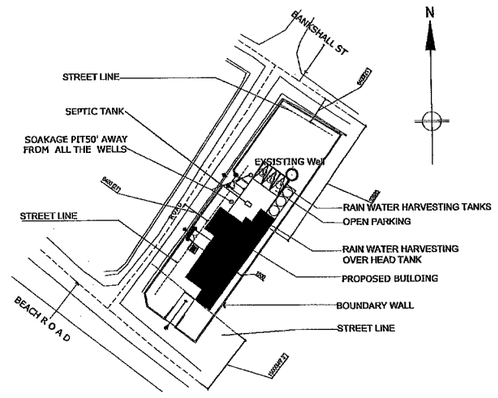
Appendix 7-22

As-build Drawings of the Fishery College



SITE LAYOUT PLAN

SCALE 1:200



SITE PLAN

SCALE 1:1000

RECONSTRUCTION OF REGIONAL COLLEGE OF FISHERIES AND NAUTICAL ENGINEERING, JAFFNA	THE PROJECT FOR DEVELOPMENT PLANNING FOR THE RAPID PROMOTION OF RECONSTRUCTION AND DEVELOPMENT IN JAFFNA DISTRICT, SRI LANKA	National Institute of Fisheries and Nautical Engineering. Japan International Cooperation Agency (JICA) **ENGINEER** The Joint Venture of IC Net Ltd. and Oriental Consultants Co,Ltd	**CONTRACTOR:** BUILDMART LANKA (PVT) LTD 196/1, Nawala Road, Nawala, Rajagiriya, Sri Lanka.	**DWG TITLE**	SITE LAYOUT PLAN -AS BUILT
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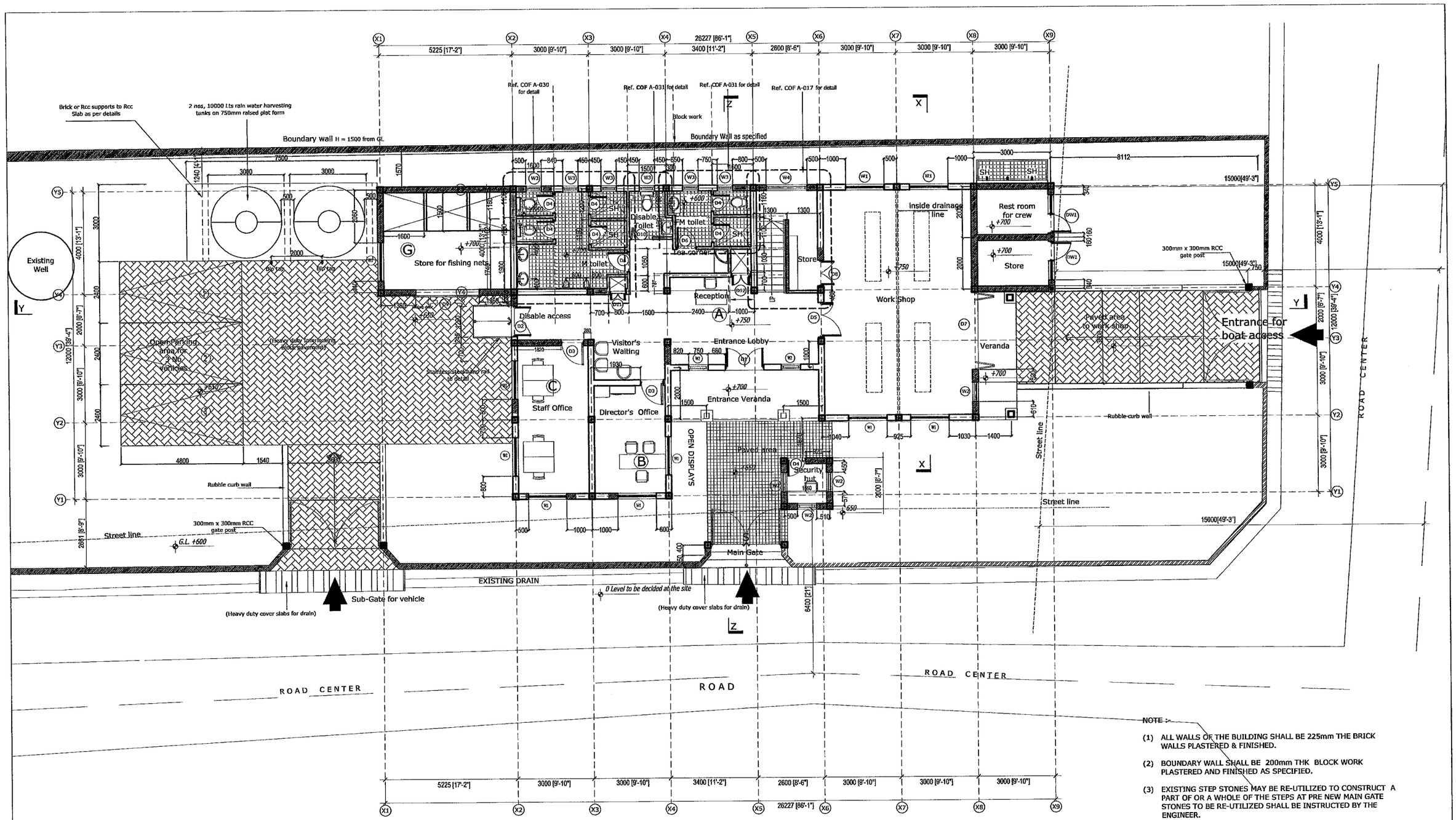
				Archt. A. MARAPONA	**DWG NO** COF A-002



NOTE :-

(1) ALL WALLS OF THE BUILDING SHALL BE 225mm THE BRICK WALLS PLASTERED & FINISHED.

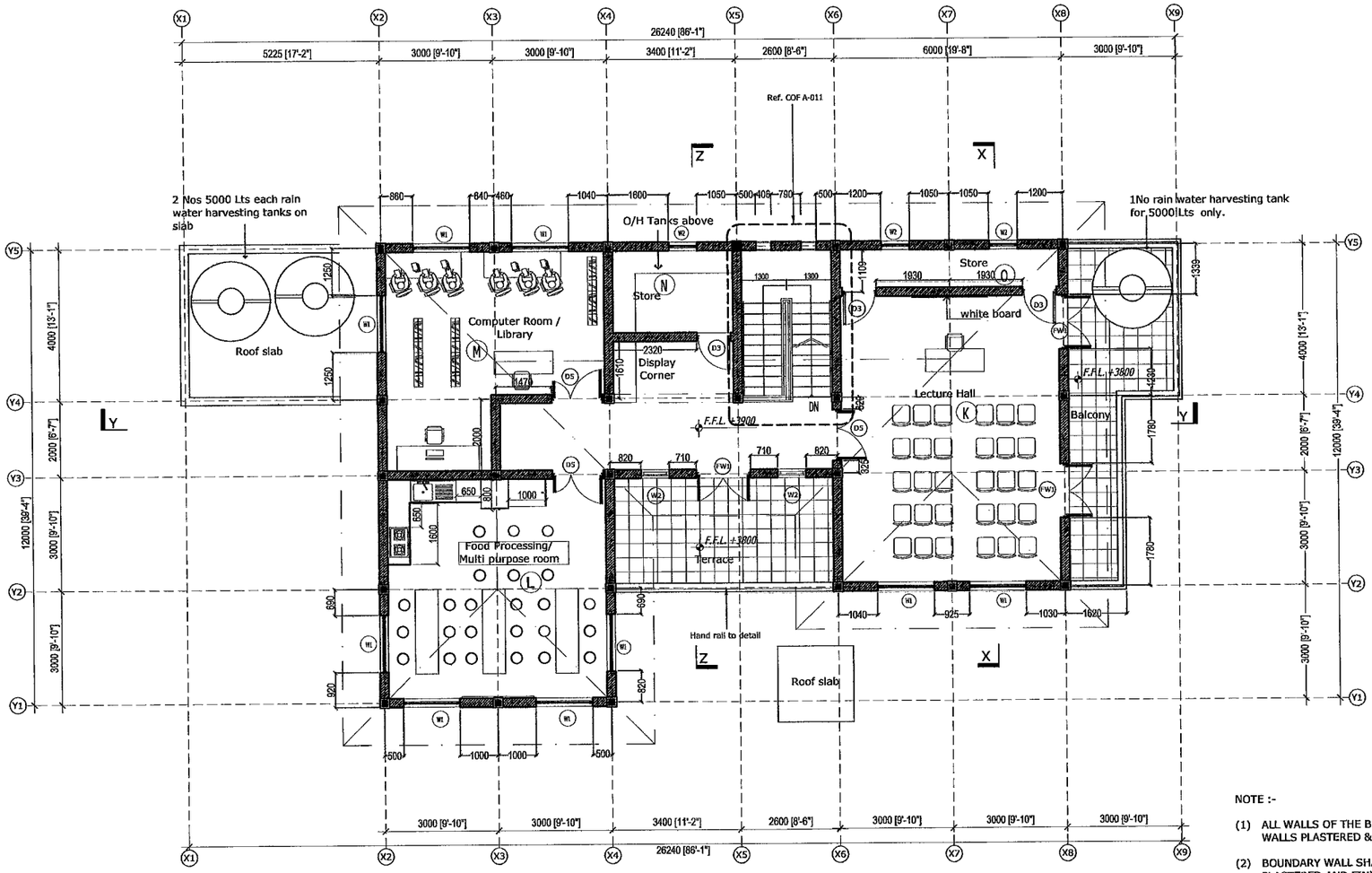
(2) BOUNDARY WALL SHALL BE 200mm THK BLOCK WORK PLASTERED AND FINISHED AS SPECIFIED.

(3) EXISTING STEP STONES MAY BE RE-UTILIZED TO CONSTRUCT A PART OF OR A WHOLE OF THE STEPS AT PRE NEW MAIN GATE STONES TO BE RE-UTILIZED SHALL BE INSTRUCTED BY THE ENGINEER.

GROUND FLOOR PLAN

SCALE 1:100

RECONSTRUCTION OF REGIONAL COLLEGE OF FISHERIES AND NAUTICAL ENGINEERING, JAFFNA	THE PROJECT FOR DEVELOPMENT PLANNING FOR THE RAPID PROMOTION OF RECONSTRUCTION AND DEVELOPMENT IN JAFFNA DISTRICT, SRI LANKA	National Institute of Fisheries and Nautical Engineering, Jaffna Japan International Cooperation Agency (JICA) **ENGINEER** The Joint Venture of IC Net Ltd. and Oriental Consultants Co,Ltd	**CONTRACTOR:** BUILDMART LANKA (PVT) LTD 196/1, Nawala Road, Nawala, Rajagiriya, Sri Lanka.	**DWG TITLE**	DETAILED GROUND FLOOR PLAN- AS BUILT
				SCALE	1:100
				Archt. A. MARAPONA	**DWG NO** COF A-007



FIRST FLOOR PLAN

SCALE 1:100

RECONSTRUCTION OF REGIONAL COLLEGE OF FISHERIES AND NAUTICAL ENGINEERING, JAFFNA	THE PROJECT FOR DEVELOPMENT PLANNING FOR THE RAPID PROMOTION OF RECONSTRUCTION AND DEVELOPMENT IN JAFFNA DISTRICT, SRI LANKA	National Institute of Fisheries and Nautical Engineering, Jaffna Japan International Cooperation Agency (JICA) **ENGINEER** The Joint Venture of IC Net Ltd. and Oriental Consultants Co,Ltd	**CONTRACTOR:** BUILDMART LANKA (PVT) LTD 196/1, Nawala Road, Nawala, Rajagiriya, Sri Lanka.	**DWG TITLE**	DETAILED FIRST FLOOR PLAN -AS BUILT
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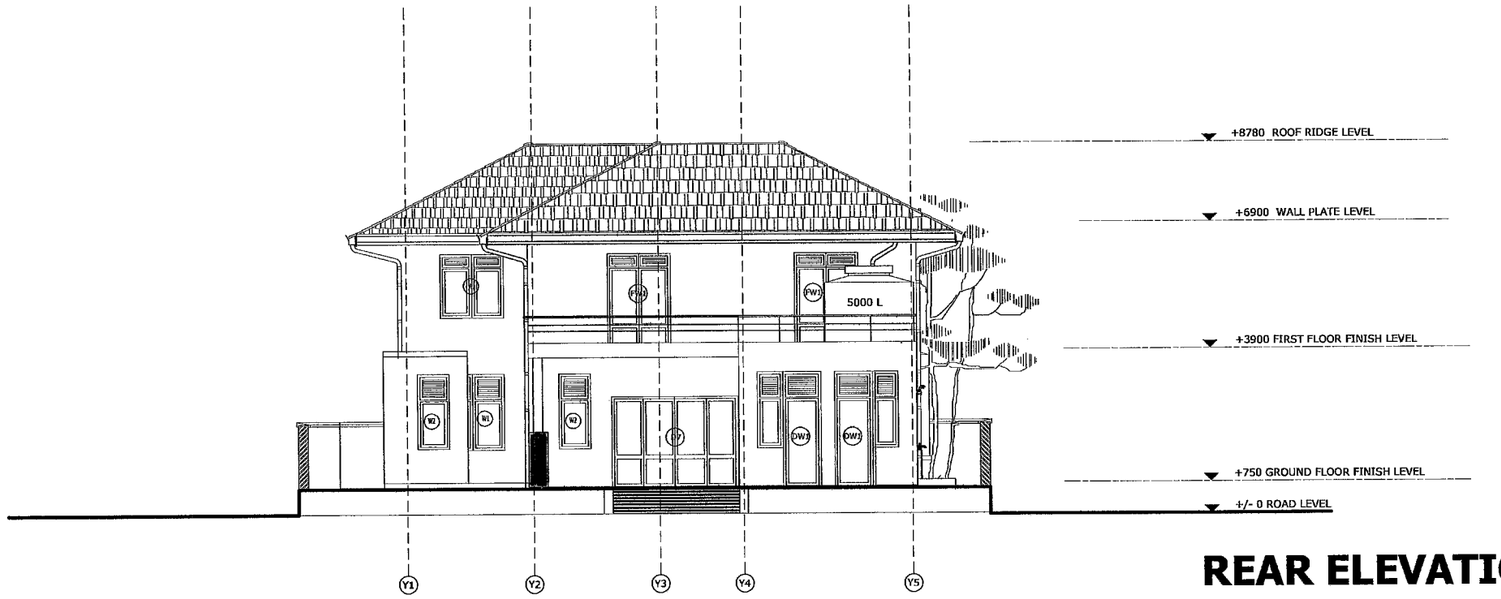
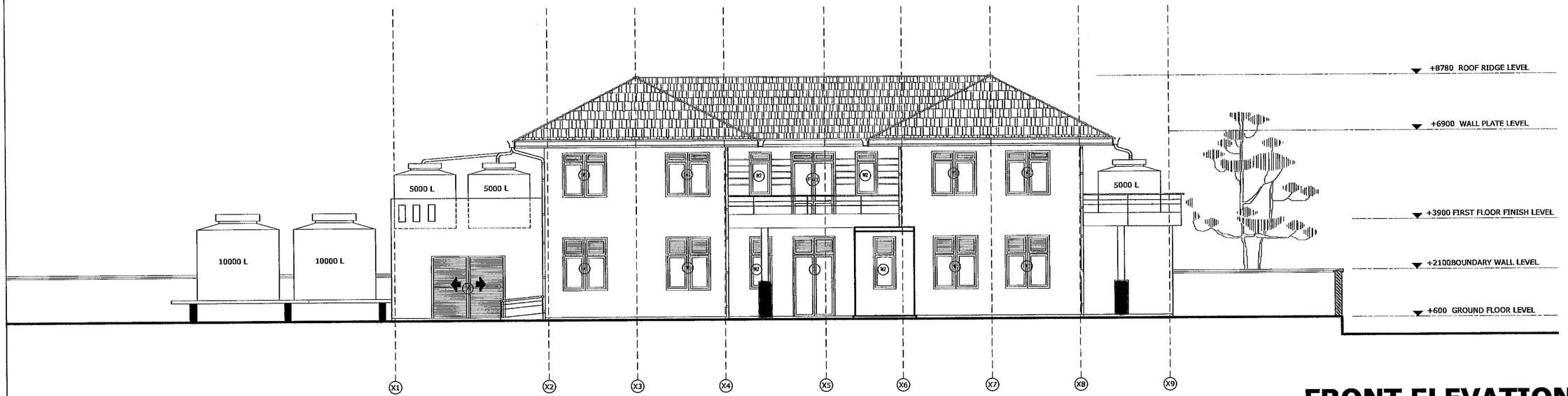


REAR ELEVATION

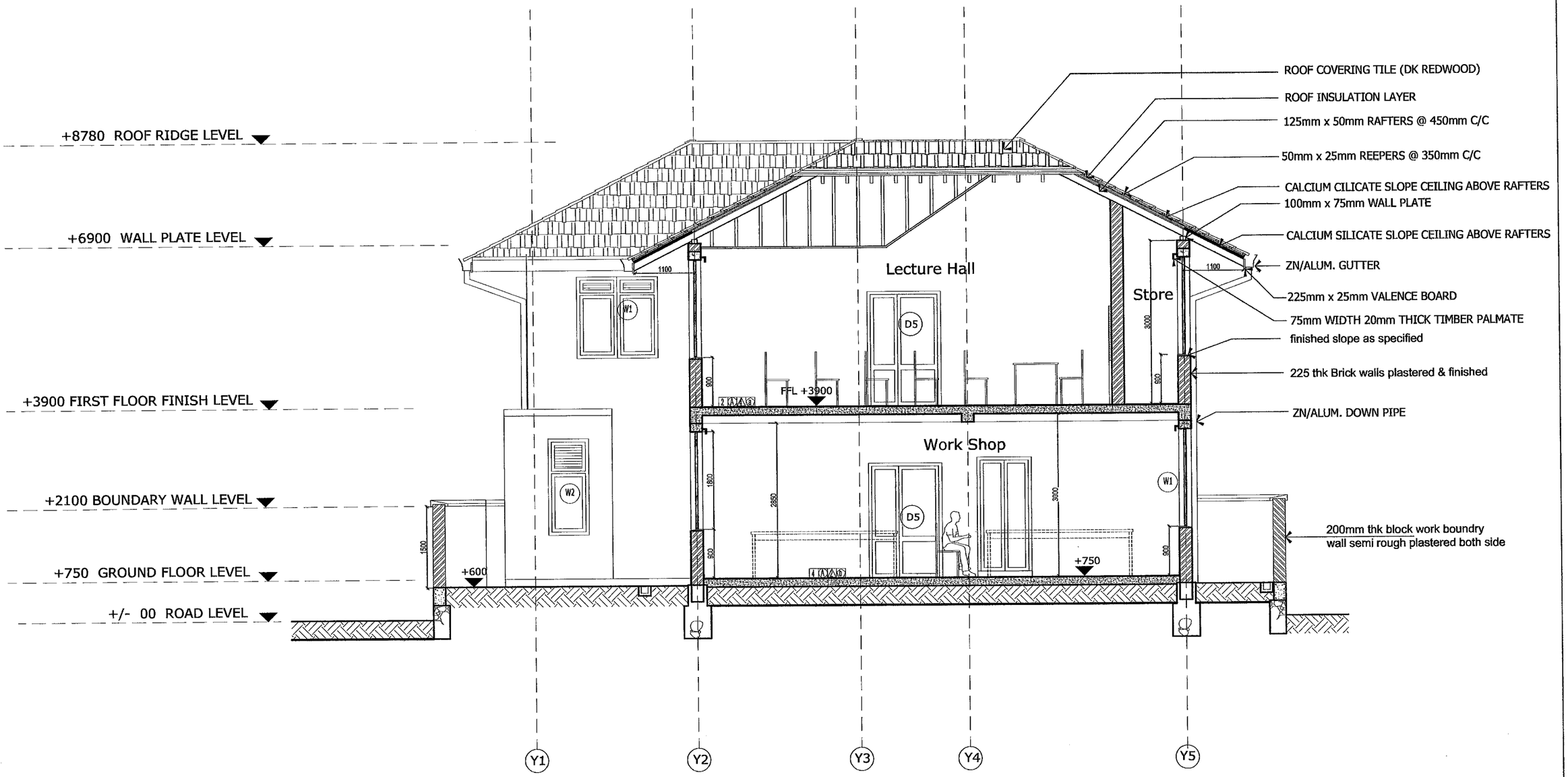
SCALE 1:100



FRONT ELEVATION

SCALE 1:100

RECONSTRUCTION OF REGIONAL COLLEGE OF FISHERIES AND NAUTICAL ENGINEERING, JAFFNA	THE PROJECT FOR DEVELOPMENT PLANNING FOR THE RAPID PROMOTION OF RECONSTRUCTION AND DEVELOPMENT IN JAFFNA DISTRICT, SRI LANKA	National Institute of Fisheries and Nautical Engineering. Japan International Cooperation Agency (JICA) **ENGINEER** The Joint Venture of IC Net Ltd. and Oriental Consultants Co,Ltd	**CONTRACTOR:** BUILDMART LANKA (PVT) LTD 196/1, Nawala Road, Nawala, Rajagiriya, Sri Lanka.	**DWG TITLE**	FRONT & REAR ELEVATIONS - AS BUILT
				SCALE 1:100	**DWG NO** COF A-010
				Archt. A. MARAPONA	



DETAIL SECTION X - X

SCALE 1:50

RECONSTRUCTION OF REGIOAL COLLEGE OF FISHERIES AND NAUTICAL ENGINEERING, JAFFNA	THE PROJECT FOR DEVELOPMENT PLANNING FOR THE RAPID PROMOTION OF RECONSTRUCTION AND DEVELOPMENT IN JAFFNA DISTRICT, SRI LANKA	National Institute of Fisheries and Nautical Engineering. Japan International Cooperation Agency (JICA) **ENGINEER** The Joint Venture of IC Net Ltd. and Oriental Consultants Co,Ltd	**CONTRACTOR:** BUILDMART LANKA (PVT) LTD 196/1, Nawala Road, Nawala, Rajagiriya, Sri Lanka.	**DWG TITLE** DETAIL SECTION X-X - AS BUILT **SCALE** 1:50 Archt. A. MARAPONA	**DWG NO** COF A-012

THE PROJECT FOR DEVELOPMENT PLANNING FOR RAPID PROMOTION OF RECONSTRUCTION & DEVELOPMENT IN JAFFNA DISTRICT
Procurement Work of Equipment for Regional College of Fisheries and Nautical Engineering.

Equipment Details as Per The Contract			
Reg. No	Items	Unit	Qty
1.Fishing Materials			
FM1	Nylon net (multi filament net) 210d/4-1-1/2''	Pcs	10
FM2	Nylon net (multi filament net) 210d/6-1-1/2''	Pcs	10
FM3	Nylon net (multi filament net) 210d/9-1-1/2''	Pcs	10
FM4	Nylon twine - 210d/4ply	kg	10
FM5	Nylon twine -210d/6ply	kg	10
FM6	Nylon twine - 210d/9ply	kg	10
FM7	Nylon twine - 210d/12ply	kg	10
FM8	Nylon twine - 210d/27ply	kg	10
FM9	Polypropylene cord (PP cord)1.5 mm dia.	Role	10
FM10	Polypropylene cord (PP cord) 2 mm dia.	Role	10
FM11	Polypropylene cord (PP cord) 3 mm dia.	Role	10
FM12	Polypropylene cord (PP cord) 4 mm dia.	Role	10
FM13	Polypropylene cord (PP cord)5 mm dia.	Role	10
FM14	Polypropylene cord (PP cord) 6 mm dia.	Role	10
FM15	Polypropylene cord (PP cord) 7 mm dia.	Role	10
FM16	Polypropylene cord (PP cord) 8 mm dia.	Role	10
FM17	Plastic needles - Big size (20Cm)	Unit	50
FM18	Plastic needles -Small size (14Cm)	Unit	50
FM19	Kuraloln rope	Role	10
FM20	Buoys (flots)	Pcs	100

THE PROJECT FOR DEVELOPMENT PLANNING FOR RAPID PROMOTION OF RECONSTRUCTION & DEVELOPMENT IN JAFFNA DISTRICT
Procurement Work of Equipment for Regional College of Fisheries and Nautical Engineering.

Equipment Details as Per The Contract			
Reg. No	Items	Unit	Qty
2. Tools			
TL1	Micro meter	Nos	20
TL2	Vernier Caliper	Nos	20
TL3	Box spanner	Item	10
TL4	Open spanner set	Set	10
TL5	Electrical solder	Nos	2
TL6	Electrical driller	Nos	2
TL7	Allen key set	Set	2
TL8	Vise	Nos	2
TL9	Puller	Nos	2
TL10	Screwdriver set	Set	2
TL11	Tin cutter	Nos	6
TL12	Matal File (File) Flat ty	Nos	10
TL13	Matal File (File) Flat ty	Nos	10
TL14	Matal File (File) Round	Nos	10
TL15	Matal File (File) Round	Nos	10
TL16	Hammer	Nos	6
TL17	Pliers	Nos	10
TL18	Torque Wrench	Nos	2

THE PROJECT FOR DEVELOPMENT PLANNING FOR RAPID PROMOTION OF RECONSTRUCTION & DEVELOPMENT IN JAFFNA DISTRICT
Procurement Work of Equipment for Regional College of Fisheries and Nautical Engineering.

Equipment Details as Per The Contract			
Reg. No	Items	Unit	Qty
3. Training Equipment			
TE1	Lath Machine	Nos	1
TE2	Drilling Machine	Nos	1
TE3	Welding Plant	Nos	1
TE4	Gas welding and Cutting	Nos	1
TE5	Bench Grinder	Nos	2
TE6	Diesal Engine - 30 HP	Nos	1
TE7	Out Board Motor Engine - 15Hp	Nos	1
TE8	Refrigator	Nos	1
TE9	Deep Freezer	Nos	1
TE10	Micro wave	Nos	1
TE11	Polythene sealer	Nos	1
TE12	Multimedia projector	Nos	1
TE13	Laptop computer and accessories	Nos	1
TE14	Combined photocopy Machine(Digital photo copy)	Nos	1
TE15	Television	Nos	1
TE16	DVD player	Nos	1
TE17	Speaker set with microphone	Nos	1
TE18	Net hauler	Nos	1
TE19	FRP boat	Item	1
TE20	One-day Boat 35Hp inboat Engine	Item	1

THE PROJECT FOR DEVELOPMENT PLANNING FOR RAPID PROMOTION OF RECONSTRUCTION & DEVELOPMENT IN JAFFNA DISTRICT
Procurement Work of Equipment for Regional College of Fisheries and Nautical Engineering.

Equipment Details as Per The Contract			
Reg. No	Items	Unit	Qty
4. Nevigation Equipment			
NE1	Chart Divider	Nos	20
NE2	Magnatic compass	Nos	2
NE3	Echo sounder	Nos	1
NE4	Barrowmeter	Nos	2
NE5	Parallel rulers	Nos	20
NE6	Chart	Sheet	10
NE7	Chart	Sheet	5
NE8	Chart	Sheet	5
NE9	GPS satellite navigator	Nos	1
NE10	Life Jackets	Nos	20
NE11	Life rings (Life Buoys)	Nos	20
NE12	Diving set	Item	1

THE PROJECT FOR DEVELOPMENT PLANNING FOR THE RAPID PROMOTION OF RECONSTRUCTION AND DEVELOPMENT IN JAFFNA DISTRICT

Procurement Work of Equipment for Regional College of Fisheries and Nautical Engineering (Education Material)

BOQ Item	Details	Name of the Book	Unit	Qty
EM1	Original	Oxford Advanced Learners Dictionary	Nos	2
EM2	Original	Oxford English - Tamil Dictionary (Indian)	Nos	2
EM3	Original	Intermidiate English Grammer Supplimentary Exercises with Answers	Nos	2
EM4	Original	Esential English Grammer in Use : Supplementary Exercise with Answers, 2 nd Edition	Nos	2
EM5	Original	Fundamentals of Physics	Nos	1
EM6	Original	Calcus projects using Mathematica	Nos	1
EM7	Original	Navigation	Nos	1
EM8	Original	Design of small fishing vessels	Nos	1
EM9	Original	Stability and Trim of Fishing vessels	Nos	1
EM10	Original	Basic Seamanship	Nos	1
EM11	Original	Avionics Navigation Systems	Nos	1
EM12	Original	Radar Principals for the Non - Specialist, Third Edition	Nos	1
EM13	Original	A Guide to the Collision Avoidance Rules, Six Edition	Nos	1
EM14	Original	Marine Diesal engine maintenance troubleshooting and repair	Nos	1
EM15	Original	Manufacturing Engineering and Technology 6 th Edition	Nos	1
EM16	Original	Machanical Engineering craft theory: Volume 2	Nos	1
EM17	Original	General Engineering Knowledge Third Edition (Mariner Engineering Series)	Nos	1
EM18	Original	Pounder's Marine Diesal Engines and Gas Turbines, Ninth Edition	Nos	1
EM19	Original	Audel Machine Shop Tools & Operations-5th Edition	Nos	1
EM20	Original	Marine Electrical Equipment & Practice - 2nd Edition	Nos	1
EM21	Original	Fabricaton and Welding Engineering	Nos	1
EM22	Original	Basic Electronics	Nos	1
EM23	Original	Engineering Graphic with AutoCAD 2009	Nos	1
EM24	Alternative	Oceangraphy and Marine Biology ; An Annual Review Volume 46	Nos	1
EM25	Original	A Manual of Miring Meteorology for Apprentices and Officers of The world's Merchant navies.	Nos	1
EM26	Alternative	Meanpidiyam Neeril Valarppum (Fishery & Aquaculture) - Tamil Language	Nos	5
	Alternative	Fishing gears and Mathods	Nos	5
	Alternative	Surah (Sark) - Tamil Language	Nos	5
	Alternative	The Squid Body	Nos	5
EM27	Original	Fish cathing Methods of the world - Fourth Edition	Nos	1
EM28	Alternative	Intensive Fish Farming	Nos	1
EM29	Original	Calculations for fishing gear Designs	Nos	1
EM30	Alternative	Out board Motors Maintenanace And repair Manual	Nos	1
	Alternative	Out board Engines: Maintenance, Troubleshooting and Repair	Nos	1
	Alternative	Quality Assurance in Seafood Processing	Nos	1
	Alternative	Prawn and Prawn Fisheries of India	Nos	1
	Alternative	The Lathe Book: A Complete Guide to the Machine and Its Accessories	Nos	1
	Alternative	Lathe Operation and Maintenance (Modern Machine Shop Books)	Nos	1
	Alternative	Tilapia Culture	Nos	1
EM31	Original	Aquaculture Principals & Practices - 2nd Edition	Nos	1
EM32	Original	Textbook of Fish Culture	Nos	1
EM33	Original	Broodstock management and egg and Larval quality - (Egg Quality)	Nos	1
EM34	Original	Small scale Aquaculture	Nos	1
EM35	Original	Aquaculture Farming Aquatic Animals and plants	Nos	1
EM36	Original	Carp and Pond Fish Culture	Nos	1
EM37	Original	Freshwater Fishes of Sri Lanka	Nos	1
EM38	Original	Sea-foods Quality Technology, and Nutraceutical Applications	Nos	1
EM39	Original	Fish processing Technology - 2nd Edition	Nos	1
EM40	Original	Principals of Refrigeration - 5 th Edition	Nos	1

Appendix for Chapter 9

Road Maps toward 2020

Pre-Feasibility Study for Fishery Harbour Development in Point Pedro, Jaffna District

Final Report

Uni-Consultancy Services
University of Moratuwa

August 2011

Summary

Prior to the conflict in the north and east, the northern Jaffna District had been one of the most productive fishing regions in the country. Its contribution to the national fish production had declined since mid-1980s due to the disruptions caused to the fisheries activities by the conflict. The fishery infrastructure facilities in the region are in a dilapidated state, due to damages caused by the conflict and years of neglect and in need of restoration and development. Since the end of the conflict in mid-2009, the fishing sector in the northern region has shown early signs of recovery with increased fish production. The fishing fleet in the area, soon after the end of conflict, consisted of only smaller boats and, in spite of the potential for offshore fishing by larger boats, such boats were not in operation-due to restrictions imposed by security conditions and the absence of adequate facilities in the region. However such boats have recently commenced operations and a need exists for the development of appropriate fisheries infrastructure facilities. This study aims at verifying the potentiality and possibility of Fishery Harbour development in Point Pedro area in the Jaffna District which may be planned in the near future for offshore fishery development. The results of the study are to be incorporated into a development policy of the fisheries sector for the region.

A study methodology that included the review/analysis of available information, stakeholder consultations and field investigations was adopted. Engineering and Environmental aspects, Socio-Economic aspects and Fishery Industrial aspects were considered in the assessment of Pre-Feasibility of developing appropriate fisheries infrastructure facilities.

The geographical area of study is the Divisional Secretary Division of Point Pedro (Vadamarachchy North), one of the most productive fishing areas in Jaffna District.Fisheries is the main livelihood activity of the local population. The coastline of Point Pedro DS Division extends along the northern and eastern sides of Jaffna Peninsula. A reef formation exists close and parallel to the northern coastline which has formed many sheltered basins for mooring of fishing boats. Many of the Landing Sites are located at these basins along this part of the coastline. The coastline along the eastern side is directly exposed to severe wave conditions during the northeast monsoon period. Its behaviour indicates high levels of sediment transport and construction of coastal structures is likely to cause coastal erosion/accretion problems. Relatively a fewer number of Landing Sites are located on the eastern coast of the area and hence, in this study, attention was mainly focused on the northern coastline in order to assess the pre-feasibility of developing a Fishery Harbour facility for offshore fisheries. The possibility of improving Landing Sites and developing Anchorages was also considered. Altogether 10 main Landing Sites are located on the northern coastline of the area, namely, Thondamanaru, Valveddithurai, Athikoviladi, Polikandy West, Polikandy East, Sakkodai,Imparsiddy,Suppermadam, Koddady and Munai. Mainly the smaller fishing boats are operated from these Landing Sites but, depending on the depths in sheltered areas behind the seaward edge of the reef, some of the larger boats which have become operational recently are currently based in some of the sites, in spite of the absence of proper facilities for the operation of such craft.

The Indian Ocean Tsunami in 2004 has caused significant damages to the reef along the northern coast and spreading of broken rock in sheltered basins has caused difficulties in using the Landing Sites due to reduced depths and partial blockage of access channels. The cyclone in 2008 has caused further damages and significant hardships are experienced by fishing communities due to current dilapidated state of many of the facilities. Attempts have been made to rehabilitate the facilities by clearing the basin areas and access channels to facilitate navigation and mooring of boats with varying degree of success.

Three levels of development in the form of Fishery Harbours, Fishery Anchorages and Fishery Landing Sites could be considered in assessing the pre-feasibility of fishery infrastructure development. Social demand, Coastal Engineering issues, Port/Harbour Engineering issues and land availability are among the main factors in identifying the level of development required. Fishery Harbours mainly cater for the requirements of larger fishing craft and such facilities usually consist of a basin area of sufficient size and depth, usually protected by breakwaters, quay walls to facilitate loading/unloading operations and shore facilities for other related activities. Fishery Anchorages and Landing Sites mainly cater for the requirements of smaller fishing craft but larger crafts could also use such facilities depending on the depths in mooring areas. These facilities usually consist of a sheltered basin with natural or breakwater protection for safe mooring and shore facilities for other fisheries related activities. The improvement of fisheries infrastructure as Landing Sites or Anchorages could generally be achieved by strengthening the natural protection provided by the reef. The crest level of the reef may need to be raised-by using rocks cleared from the basins and access channels to form offshore breakwaters. Strengthening of the seaward slope with the use of larger armor may also be needed to provide effective protection.

Based on the above considerations, the Landing Sites in Koddady, Suppermadam, SakkodaiPolikandy West and Thondamanaru could be recommended for development as Fishery Landing Sites with improved shores facilities. The developments would mainly include Access Channel Dredging, Basin Dredging, Provision of Shore Facilities and Beacon Lights. The Landing Sites in Munai, Polikandy East, Athikovilady and Valveddithurai could be recommended for development as Fishery Anchorages. The developments would mainly include Access Channel Dredging, Basin Dredging, Provision of Breakwaters, Retaining Walls, Shore Facilities and Beacon Lights. The Landing Site in Imparsiddy could be recommended for possible development as a Fishery Harbour. The developments would mainly include Access Channel Dredging, Basin Dredging, Provision of Breakwaters, Quay Walls, Shore Facilities and Beacon Lights. The selection of the site for development of a Fishery Harbour needs to be based on a feasibility study that will include Bathymetric Surveys, Assessment of Local wave Climate, Geotechnical Investigations, Environmental Assessment etc as well as Socio-Economic Aspects.

Without more extensive investigations, it is difficult to estimate the costs associated with the three levels of developments proposed. However, the estimates of Rs 1000 million for a Fishery Harbour, Rs 250 million for a Fishery Anchorage and Rs 30 million for a Fishery Landing Site development are indicated based on the estimates for recently proposed similar developments in the country. It should be noted that these are very approximate estimates, indicated only as a guidance to assess the order of investments required.

Acronyms and Abbreviations

AI	Agricultural Instructor
ADB	Asian Development Bank
ASC	Agrarian Service Center
BTL	Bund Top Level
BIQ	Basic Information Questionnaire
BOC CFHC	Bank of Ceylon
CBSL	Central Bank of Sri Lanka
CFHC	Ceylon Fishery Harbours Corporation
CBO	Community Based Organization
CCB	Coconut Cultivation Board
CCD	Coast Conservation Department
CEA	Central Environmental Authority
CIDA	Canadian International Development Agency
CPC	Community Pilot Component
CPO	Central Project Office
CRB	Cooperative Rural Banks
DAD	Department of Agrarian Development
DAPF	Department of Animal Production and Health
DATC	Department of Agriculture Training Center
DCD	Department of Cooperative Development
DFAR	Department of Fisheries and Aquatic Resources
DOA	Department of Agriculture
DOA (Extn)	Office of Deputy Director of Agriculture
DOI	Department of Irrigation
DRDO	District Rural Development Officer
DS	Divisional Secretariat
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EM	Effective Microbes

FI	Fisheries Inspector
FCS	Fishermen's Cooperative Societies
FGD	Focus Group Discussion
FO	Farmer's Organization
FRP	Fiberglass Reinforced Plastic
FSL	Full Supply Level
GT	Gross Tonnages
GA	Government Agent
GDP	Gross Domestic Product
GN	GramaNiladhari
GOSL	Government of Sri Lanka
GTZ	The Deutsche GesellschaftfürTechnischeZusammenarbeit
HNB	Hatton National Bank
HP	Horse Power
HSZ	High Security Zone
HWL	High Water Level
ICEIDA	Icelandic International Development Agency
IDAY	Single Day Boat with Inboard Engine
IDB	Industrial Development Board
IDP	Internally Displaced Person
IFAD	International Fund for Agricultural Development
IMUL	Multi Day Boat
IOT	Indian Ocean Tsunami
IOTC	Indian Ocean Tuna Commission
IPM	Integrated Pest Management
IPNS	Integrated Plant Nutrition System
KKS	Kansesanturai
JICA	Japan International Cooperation Agency
LIBCO	Livestock Breeders Cooperative Society
LKR	Sri Lankan Rupees

LTTE	Liberation Tigers of Tamil Ealam
LWL	Low Water Level
MC	Municipal Council
MED	Ministry of Economic Development
MFARD	Ministry of Fisheries and Aquatic Resources Development
MNB	Ministry of Nation Building
MOU	Memorandum of Understanding
MPCS	Multi Purpose Cooperative Society
MRI	Medical Research Institute
MT	Metric Tons
MTRB	Motorized Traditional Boat
NARA	National Aquatic Resources Research and Development Agency
NBSB	Non-Motorized Beach Seine Boat
NGO	Non-Governmental Organization
NTRB	Non-Motorized Traditional Boat
O&M	Operation and Maintenance
OFRPB	Outboard Motor Fibre Reinforced Plastic Boat
PAMP	Poverty Alleviation Microfinance Project
PDB	Palmyrah Development Board
PFI	Project Financial Institutes
PO	People Organization
PRO	Project Regional Offices
ProMIS	Promotion of the Microfinance Sector
PWD	Persons With Disability
RDB	Regional Develop Bank
RDO	Rural Development Officer
RDS	Rural Development Society
RLF	Revolving Loan Fund
RSW	Refrigerated Sea Water System
SBS	Samuruthi Bank Society

SEEDCO	Seed Production Cooperative Society
SEEDS	Sarvodaya Economic Enterprise Development Society Ltd
SLN	Sri Lanka Navy
SLPA	Sri Lanka Ports Authority
SME	Small and Medium Scale Enterprises
S W E	Salt Water Exclusion
TAARP	Tsunami Affected Areas Rebuilding Project
TCCS	Thrift and Credit Cooperative Society
TOR	Terms of Reference
UDA	Urban Development Authority
UNDP	United Nations Development Programme
UNOPS	United Nations office for Project Services
UOM	University of Moratuwa
URC	Urgent Rehabilitation Component
USD	United States Dollars
UXO	Unexploded Ordnance
WDO	Woman Development Officer
WHF	Woman Headed Family
WRDS	Woman Rural Development Society

Contents

1 Introduction

Sri Lanka, being an Island State, has a large coastal population engaged in fisheries activities and the fisheries sector forms an important part of the national economy. With more than 222,000 in direct employment, 275,000 in indirect employment and a population of 2.5 million dependant on fishery related livelihoods, the fisheries sector made a contribution of 1.7 % to the Gross Domestic Product (GDP) in 2010. It also provided 70 % of the animal protein intake of the population.

The annual fish production, which has shown an increasing trend in recent years, reached 384,670 Metric Tons (MT) in 2010. It can be considered in terms of the three sub sectors of fishing, Coastal, Offshore/Deep Sea and Inland and Aquaculture sub sectors, and contributions from each sector are shown in **Table 1.1**. As indicated, marine fishing provided 86.4 % of the annual fish production in 2010.

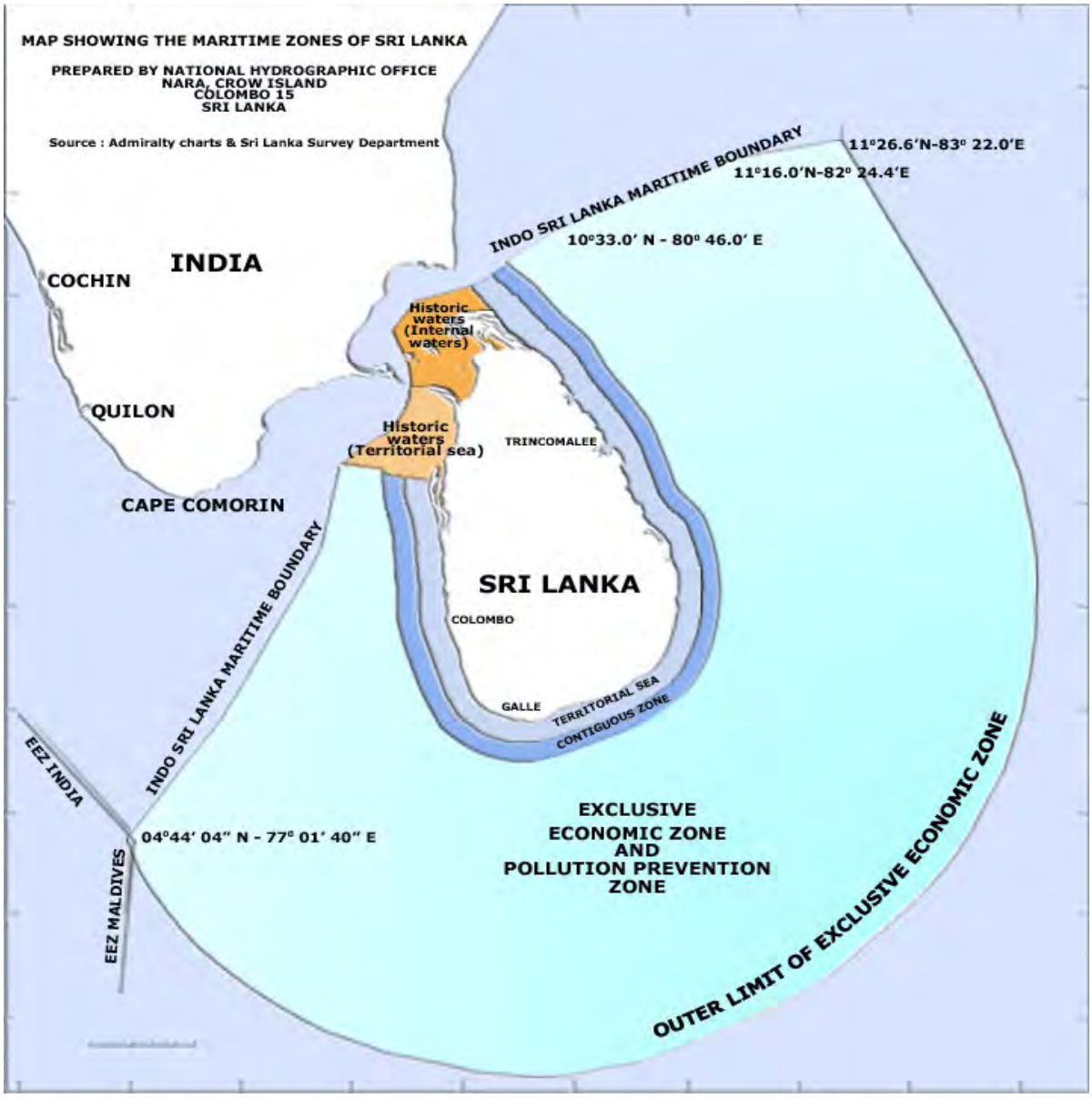
Table 1.1: Annual Fish Production in 2010

Fishing Sub Sector	Production (MT)	%
Coastal	202,420	52.6
Offshore/Deep Sea	129,840	33.8
Inland and Aquaculture	52,410	13.6
Total	384,670	100

Source: Fisheries Statistics, Sri Lanka, 2010, MFARD

The fisheries ocean resource base of the country (**Figure 1.1**) consists of a territorial sea of area 21,500 $km^2$and an Exclusive Economic Zone (EEZ) of area 517,000 km^2. The continental shelf of the country is relatively narrow with an average width of 22 km and covers an area of 30,000 km^2 within the EEZ.

Marine fishing is carried out by a variety of non-motorized and motorized crafts that include Non-Motorized Beach Seine Boats (NBSB), Non-Motorized Traditional Boats (NTRB), Motorized Traditional Boats (MTRB), Outboard Motor Fibre Reinforced Plastic Boats (OFRPB), Single Day Boats with Inboard Engines (IDAY) and Multi Day Boats (IMUL). Coastal fishing activities, which take place within the continental shelf, are carried out by fishing crafts in single day operations. Offshore/Deep Sea fishing activities, which take place beyond the continental shelf extending up to the edge of EEZ and even in high seas are carried out by IDAY and IMUL Boats. The marine fishing fleet was severely damaged by the Indian Ocean Tsunami (IOT) in 2004 but has now increased considerably due to the generous assistance provided by various donors. In 2010, it exceeded 46,000 crafts of various types as indicated in **Table 1.2**.



Source: www.fisheriesdept.gov.lk-Website of the DFAR

Figure 1.1: Fisheries Ocean Resource Base of Sri Lanka

Table 1.2: Marine Fishing Fleet in 2010

Type of Craft	Number	%
NBSB	983	2
NTRB	19,190	42
MTRB	2,680	6
OFRPB	18,770	41
IDAY	1,177	2
IMUL	3,346	7
Total	**46,146**	**100**

Source: Fisheries Statistics, Sri Lanka, 2010, MFARD

A diverse range of craft/gear combinations are used by fishers. Fishing techniques commonly employed by non-motorized small crafts (NBSB and NTRB) are small meshed gill netting and cast netting which are considered eco-friendly and sustainable. Gill netting and

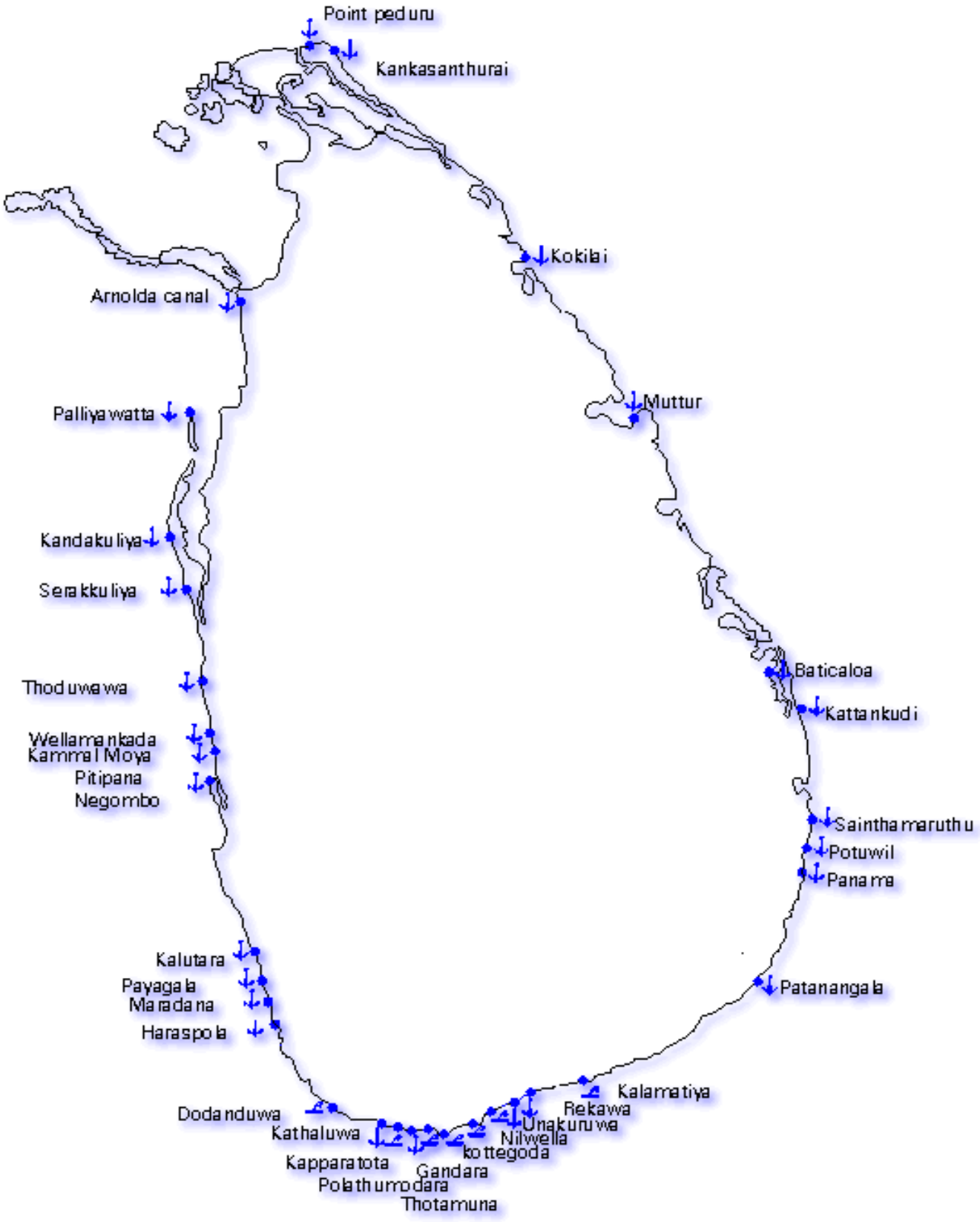
trawling are the most common fishing techniques employed by the small mechanized craft (MTRB and OFRPB). Recently, the ring seine has also become popular among the coastal fishermen who use such craft. The IDAY Boats were introduced into the offshore fishery in late 1950s which have become popular due to the ability of such boats to exploit fish resources that remained under utilized until then. These boats operate in offshore waters employing techniques such as large meshed gill netting, long lining, single hook and multi hook trolling, and purse seine but are not equipped with facilities to ice the fish catch and, therefore, the fishers are forced to confine their fishing activities to one day fishing trips. However some boats have been modified by inserting an ice hold which allows the fishers engage in fishing trips of over 4-5 days. Deep sea fishing is of fairly recent origin in Sri Lanka and the exploitation of deep sea resources commenced in 1980s with the introduction of the IMUL Boats which are longer and equipped with ice holds, fuel and water tanks and cabins for the crew. These boats are generally equipped with radio communication equipment and satellite navigators. Large meshed gill netting and long lining are the common techniques of fishing employed by these crafts. Currently the offshore and deep sea resources are being exploited both by Sri Lankan fishermen by IMUL and IDAY Boats and by foreign fishing vessels permitted to land fish in Sri Lankan Harbours. The average catch per unit effort of various types of boats are given in **Table 1.3**.

Table 1.3: Catch per Unit Effort by Boat Type in MT/Year

Boat Type	Catch per Unit Effort	Average Crew Size
IMUL	43.4	4.8
IDAY	20.4	4.2
OFRPB	5.6	2.0
MTRB	6.1	2.2
NTRB	1.5	1.1
NBSB	11.0	

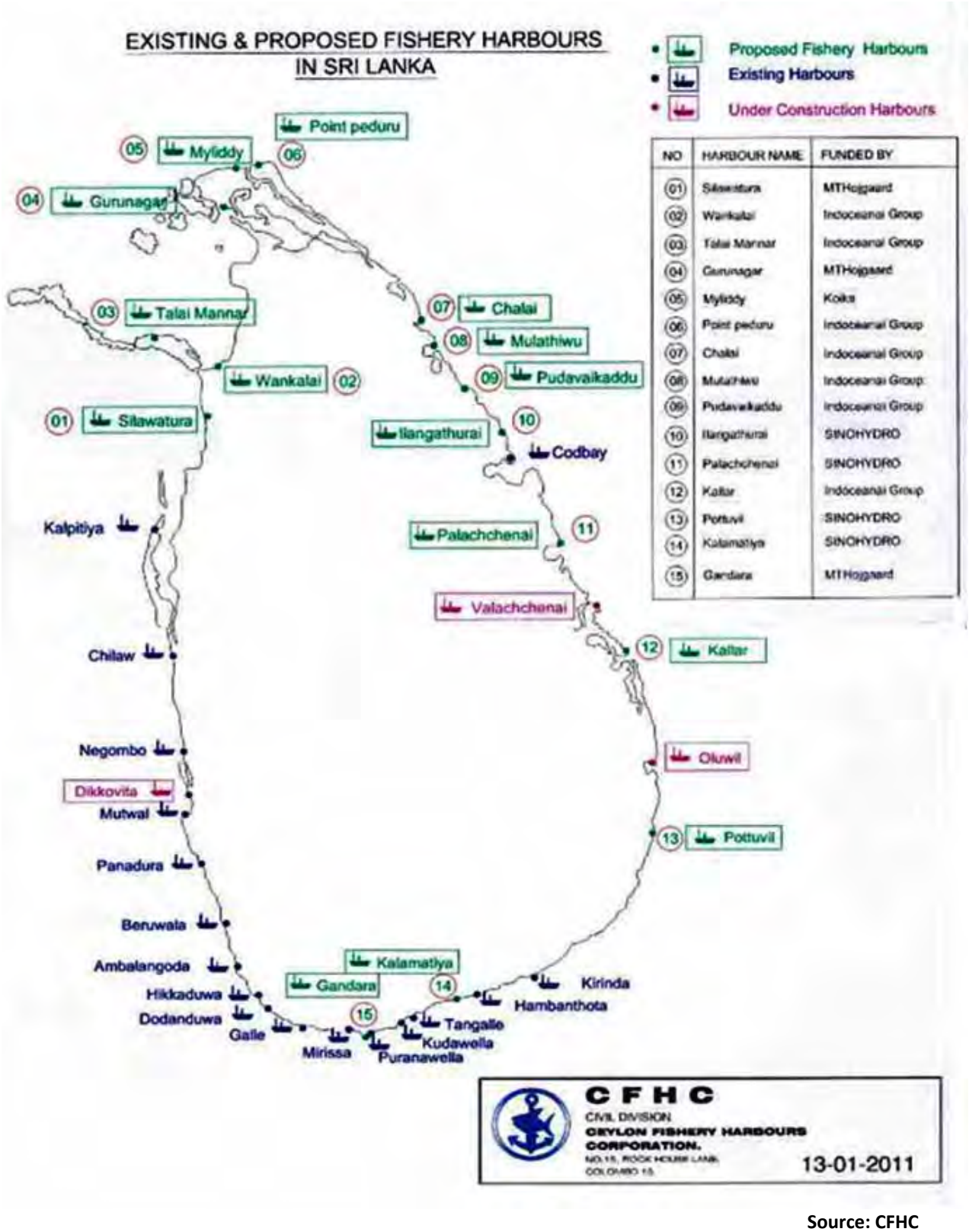
Source: Fisheries Statistics, Sri Lanka, 2007, MFARD

Smaller fishing boats, other than IMUL and IDAY Boats, are generally concentrated at 891 Landing Sites scattered along the 1700 km long coastline of the country. IMUL and IDAY Boats are generally based at various Fishery Harbours and Anchorages. Successive governments have made notable initiatives for the development of Fishery Harbours and Anchorages by upgrading existing Landing Sites. Shore facilities have also been developed to assist the fishing communities to strengthen and improve the efficiency of day to day activities to upgrade their livelihoods. During the last few decades, there have been coordinated approaches in developing the industry by construction of new Harbours, upgrading existing facilities and also by introducing management of Fishery Harbours to improve the overall efficiency of operations. In 2010, 18 Fishery Harbours and 40 Anchorages were in operation. The locations of the Anchorages and Fishery Harbours (existing and proposed) are shown in **Figure 1.2** and **Figure 1.3** respectively. The majority of these facilities are located in the western, southern and eastern regions of the country.



Source: www.cfhc.slt.lk-Website of CFHC

Figure 1.2: Fishery Anchorages



Source: CFHC

Figure 1.3: Fishery Harbours (Existing and Proposed)

Plans have been formulated by the MFARD to increase the fish production and the national fish production targets for the period 2010-2013 are shown in the **Table 1.4**. The targets specified indicate an increse of 43 % in production in Coastal fisheries and an increse of

195 % in production in Offshore/Deep Sea fisheries relative to the production levels in 2009. Although Coastal fisheries has been the most productive sub sector, with its production level reaching the possible sustainable catch in the order of 250,000 MT, the emphasis given to the expansion of Offshore/Deep Sea fisheries is clearly evident in the targets specified. The proposed additions to the fishing fleet are shown in **Table 1.5**.

Table 1.4: National Fish Production Targets, 2010-2013, in MT

Fisheries Sub Sector	Year				
	2009	2010	2011	2012	2013
Coastal	180,410	197,400	216,000	236,370	258,600
Offshore/Deep Sea	112,760	151,900	200,200	259,530	332,300
Inland and Aquaculture	46,560	55,500	66,400	79,300	94,800
Total	339,730	404,800	482,600	575,200	685,700

Source: Fisheries Sector Development Strategy 2010-2013, MFARD

Table 1.5: Fishing Fleet: Existing and Proposed Additions

Year	2009	2010	2011	2012	2013
NTRB	18,243	267	-	-	-
MTRB	2,126	183	760	-	779
OFRPB	17,193	50	290	1227	1000
IDAY	958	-	100	100	100
IMUL	2,934	80	100	180	156
NBSB	340	150	190	-	-

Source: Fisheries Sector Development Strategy 2010-2013, MFARD

In view of these circumstances it is evident that, with the anticipated increase in the fishing fleet, the development of appropriate fisheries infrastructure for the operation of such craft would play a vital role in achieving the future targets for fish production.

Fisheries Sector Analysis

An overview of the fisheries sector is presented in Chapter 1. In this Chapter, a detailed assessment of the fisheries sector in the country-its current status and future developments-and the Socio-Economic aspects associated with fisheries infrastructure developments are presented. In addition, an assessment of the Engineering and Environmental aspects, Socio-Economic aspects, Fishery Industrial aspects and other related aspects of the fisheries sector in the Northern Province/Jaffna Peninsula are also presented in this Chapter.

2.1 Fisheries Sector in the Country

2.1.1 Current Status

The fisheries sector contribution to the GDP was 1.179 % in 2009 and it provided employment for 2.4 million by way of direct and indirect labour, contributed approximately 70 % to the animal protein intake of the masses and also contributed to foreign exchange earnings up to Rs 21,015 million in 2009.

There are three sub sectors in the fisheries sector:

Coastal fisheries taking place within the continental shelf and undertaken by the fishing crafts in single day operations. The total area of the continental shelf is about 30,000 km^2.

Offshore and Deep Sea fisheries which take place outside the continental shelf covering up to the edge of the EEZ and beyond in the high seas by IMUL Boats.

Inland Fisheries and Aquaculture.

1) Resource Availability

Sri Lankan fisheries and aquatic resource base includes a territorial sea of area 21,500 km^2 which is 5.8% of the country's ocean area and an EEZ of 517,000 km^2 while the country has a narrow continental shelf with an average width of 22 km.

Sri Lanka has a coastline of around 1,700 km and the coastal zone is of considerable Socio-Economic importance. More importantly, it contains a variety of coastal habitats that include estuaries and lagoons, mangroves, sea grass beds, salt marshes, coral reefs and large extents of beaches and dunes that are vital to ecological functioning and maintenance of coastal biodiversity. The fishery of Sri Lanka is a primary source of animal protein. It provides about 65-70% of the animal protein requirement of the population. In 2009, approximately 68% of fish and fishery products were supplied for consumption through local production.

Fishing activities take place around the entire coastline of Sri Lanka. There are 18 Fishery Harbours in operation and three are currently under construction (June 2011). In addition, 40 Anchorages and 1562 (both marine and inland) Fishery Landing Sites provide landing/mooring facilities for fishing craft.

Fish landed at Fishery Harbours, Anchorages and Landing Sites are generally transported to the wholesale markets in Colombo and main townships for local consumption and to processing factories for exportation. Relatively a small quantity is sold in local markets.

2) Export Markets

Sri Lanka exports prawns of all forms such as whole, shell-on, raw, frozen headless, cooked and deveined. Two major varieties, mainly cultured- giant tiger prawn, *Penaeusmonodon* and white prawn *Penaeusindicus*, are mostly exported to Japan, USA, Europe and Singapore. For fish exports, concentrated tuna species, yellow fin tuna and big eye tuna are the most important. Tuna exports are currently targeted at two main markets, Japan and the European Union. Fresh, chilled and frozen sashimi tuna or Grade 1 taste is mainly exported to the Japanese market. Exports to the European Union consist of Grade II quality lean meat, yellow fin tuna processed into vacuum packed fresh/chilled loins, fillets and streaks. Shark fin, squid and cuttlefish attract the Singaporean and the Thai markets and beach-de-mer and shark fins are mainly exported to Japan, Taiwan, Singapore and Hong Kong. Chanks and other shells are exported to Pakistan and Bangladesh. Seaweeds are exported in small quantities to Europe and Japan.

3) Types of Boats and Fishing Gear used for Fishing Operations

According to the amount of capital investment and the area of operation, types of the fishing craft vary in sizes. The common indigenous crafts exploiting coastal fish resources of Sri Lanka are beach seine craft, the log raft and the outrigger canoe (NBSB and NTRB). Fishing techniques commonly employed by these craft are small meshed gill netting and cast netting. Those who use the above craft-gear combinations are called artisanal fishermen and the technology used by them are considered eco-friendly and sustainable.

The mechanized fleet consists of mechanized traditional craft fitted with outboard engines (MTRB), the 17-23 feet (5-7 m) fibre reinforced plastic boast with outboard motor (OFRPB), the 28-32 feet (8.5-10 m) day boat with inboard engine (IDAY Boats) and the multi-day boat (IMUL Boats) with crew cabin, ice and fuel holds and equipped with communication and navigation equipment. Gill netting and trawling are the most common fishing techniques employed by the small mechanized craft. Recently, the ring seine has become quite popular among the coastal fishermen who use craft with outboard motors. The day boat with inboard engine was introduced into the offshore fishery in late 1950s and became quite popular due to its ability to exploit fish resources that remained under-utilized until then. It operates in offshore waters employing techniques such as large-meshed gill netting, long lining, single hook and multi hook trolling, and purse seine. However, this boat is not equipped with facilities to ice the fish catch and, therefore, the fishers are forced to confine

their fishing activities to one day fishing trips. Some fishermen have modified this craft by inserting an ice hold which fishers engage in fishing trips of 4-5 days. Deep sea fishing is of fairly recent origin in Sri Lanka and the exploitation of deep sea resources commenced in late 1980s with the introduction of the IMUL Boats which was large in length and equipped with ice hold, fuel and water tanks, and cabin for the crew. Some of these crafts operated today are 45-50 feet (13.5-15 m) in length and are powered by >50 Horse Power (HP) engines. These boats are generally equipped with radio communication equipment and satellite navigators. Large meshed gill netting and long lining are the common techniques of fishing employed by these crafts.

Today, the offshore and deep sea resources are being exploited both by Sri Lankan fishermen using day boats with inboard engines and multi-day boats and by foreign fishing vessels permitted to land fish in Sri Lankan Harbours.

The composition of the fishing fleet in 2009 is given in **Table 2.1.**

Table 2.1: Fishing Fleet in 2009

Boat type	Number
IMUL	2,934
IDAY	958
OFRPB	17,193
NTRB	18,243
MTRB	2,126
Inland Crafts	6,820
Total	48,274

4) Fish production

Marine fish production of Sri Lanka is dominated by coastal fish production. Fisheries statistics of the last four years demonstrate that the contribution from Coastal fisheries is always exceeding the Deep Sea/ Offshore production (**Table 2.2**).

Table 2.2: Annual Marine Fish Production

Year	Total Marine Fish Catch (MT)	Coastal Fish Catch (MT)	%	Deep Sea/Offshore Fish Catch (MT)	%
2009	293,170	180,410	62	112,760	38
2008	274,630	165,320	60	109,310	40
2007	252,670	150,110	59	102,560	41
2006	215,980	121,360	56	94,620	44

2.1.2 Development Strategy 2010-2013

The national fisheries sector development strategy for 2010-2013 has been formulated based on the *MahindaChintanaIdiriDekma*. It has assumed that the Sri Lankan population by 2015 would be 21.167 million and minimum per capita fish requirement recommended by the Medical Research Institute (MRI) of Sri Lanka would be 60 grams per day. On this basis, fish production projections in this strategy have been formulated considering 2009 as the base year.

The major focuses of the strategy are as follows:

Increase annual per capita fish consumption of 21.9 kg by 2013

Increase local fish production: It has been targeted to double the national fish production of the base year by 2013

Establish price competiveness by means of promoting marketing

Adopt measures for fisheries social development through fisheries development

Implement and manage fisheries sustainability by using novel techniques and responding to international treaties on Law of the Sea.

The Specific Objectives of the Strategy are as follows:

Increase per capita fish consumption by 60 grams per day by 2013

Increase the local fish production by 685,690 MT by 2013

Ensure price competiveness by means of promoting marketing

Ensure fisheries social development through enhancement of socio-economic status of the productive poor

Implement and manage fisheries sustainability by using novel techniques while maintaining biological sustainability

Assure compliance with the international treaties on Law of the Sea

Increase foreign exchange earnings through enhancement of fish and non-traditional fish product exports

1) National Fish Production Targets

The details of National Fish Production targets are given in **Table 2.3** and **Table 2.4**.

Table 2.3: National Fish Production Targets by Main Sectors (MT)

Year	2009	2010	2011	2012	2013
Marine	293,170	349,300	416,200	495,900	590,900
Inland and Aquaculture	46,560	55,500	66,400	79,300	94,800
Total	339,730	404,800	482,600	575,200	685,700

Table 2.4: Production Targets by Marine Sub Sectors (MT)

Year	2009	2010	2011	2012	2013
Coastal	180,410	197,400	216,000	236,370	258,600
Offshore/Deep Sea	112,760	151,900	200,200	259,530	332,300
Total	293,170	349,300	416,200	495,900	590,900

2) Coastal Fishery Sub Sector

In terms of production and employment, those fisheries taking place within the continental shelf and undertaken by fishing craft in single day operation was the dominant sub sector and always made the largest contribution to the national fish production. This will be continued up to a certain extent in the plan period as well. In view of the bio physical limitations and the changes being taken place in the near shore coastal environment, it is important to forecast and place more emphasis on the Inland, Offshore/Deep Sea and Brackish Water fishery resources adapting effective technologies to increase the fish production. Strategies have been made in this plan to exceed the Coastal production by Offshore/Deep Sea fishing after the mid 2011.

The principal marine fish resources within the continental shelf and the annual sustainable yield within the continental shelf have been estimated by FridjoftNansen surveys and were reported as 170,000 MT (100,000 MT pelagic fish and 70,000 MT demersal fish). The surveys did not include inshore waters of less than 10 m in depth and whole of Palk Bay/Gulf of Mannar shallow water areas in the north. The potential yield from areas not covered by the survey was estimated at 80,000 MT (70,000 MT pelagic fish and 10,000 MT demersal fish). Hence the total sustainable yield from the coastal sector would be 250,000 MT assuming the same density of biomass as obtained during the surveys in the northwest. Although the coastal fish production by 2013 has been targeted around 258,000 MT in this strategy, considering that the areas that were not properly surveyed are the most productive fishing grounds in the coastal waters of Sri Lanka, it is sensible to assume that the density of biomass is highest in these areas and the potential in reality be higher than the estimated 80,000 MT.

3) Offshore/Deep Sea Sub Sector

Those fisheries that take place outside the continental shelf and beyond, extending up to the edge of the EEZ and high seas are the fastest growing subsector. Scope for increasing fish production is suggested by harnessing resources in the deep sea. It is assumed that the

fish stocks at offshore/deep sea are available for the target production of 332,300 MT over the plan period.

Yet Sri Lanka has not been able to make effective use of high valued tuna and other resources in the high seas due to non-availability of fishing vessels with requisite capacities/requirements. Hence it is a vital to introduce multi-day vessels with modern technology such as Refrigerated Sea Water System (RSW), line haulers, and refrigeration storage. In addition, it is necessary to provide required fishery infrastructures facilities such as Fishery Harbours and Anchorages, safety equipment, communication equipment, facilities for crew in line with international regulations enabling to inclusion of these vessels in the Indian Ocean Tuna Commission (IOTC) vessel registry.

4) Expected Marine Fish Production 2010-2013

Compared to the 2009 production levels, the Coastal fish production will increase by 43% by year 2013 while the Deep Sea fish production will increase by 194%. The details of expected marine fish production are given in **Table 2.5**.

Table 2.5: Increase in Coastal and Deep Sea Fish Production

Year	2009	2010	2011	2012	2013
Coastal Sector (MT)	180,410	197,412	216,016	236,373	258,649
Relative increase from the Coastal Sector (MT)	--	17,002	18,604	20,357	22,276
Deep Sea Sector (MT)	112,760	151,903	200,195	259,546	332,241
Relative increase from the Deep Sea Sector (MT)	--	39,143	48,292	59,350	72,695

The proposed additions to the composition of the existing fleet from the beginning 2010 up to 2013 are given in **Table 2.6**.

Table 2.6: Composition of Fishing Fleet: Existing and Proposed Additions

Boat Type	2009	2010	2011	2012	2013
NTRB	18,243	267	-	-	-
MTRB	2,126	183	760	-	779
OFRPB	17,193	50	290	1,227	1,000
IDAY Boats	958	-	100	100	100
IMUL Boats	2,934	80	100	180	156
NBSB	340	150	190	-	-

2.1.3 Government Policies, Strategies and Directions

1) Policy Objectives

(1) Improve nutritional status and food security of the people by increasing the national fish production

(2) Minimize post-harvest losses and improve quality and safety of fish products to acceptable standards

(3) Increase employment opportunities in fisheries and related industries and improve the Socio-Economic status of the fisher community

(4) Increase foreign exchange earnings from fish product exports

(5) Conserve the aquatic environment

2) Strategies

A precautionary approach is to be followed in the management of resources.

Marine Fisheries:

(1) Promote the principles of responsible fisheries as stipulated in international conventions and treaties

(2) Give priority for surveys on fisheries and aquatic resources, stock assessments and exploratory fishing

(3) Introduce appropriate technology to harvest currently non-harvested fish

(4) Prevent the use of undesirable and destructive fishing gear and methods

(5) Promote the use of resource friendly fishing gear in place of gillnet

(6) Give priority to management of coastal fisheries in order to prevent the decline of resources considering the high contribution of such fisheries to fish production and employment generation

(7) In coastal fisheries with excessive fishing effort, reduce fishing pressure by diverting the excessive fishing effort to under-exploited fisheries or generating alternative employment activities

(8) Protect the rights of the traditional fishers in coastal fisheries

(9) Promote selected commercial activities like marine eco-tourism and angling without disturbing fishing activities and affecting the coastal communities

(10) Promote designing of multi-day fishing vessels in accordance with adopted standards to increase safety and efficiency

(11) Promote long-line fisheries in order to scale down gillnet fisheries in accordance with international obligations

(12) Install a vessel monitoring system and enhance monitoring, control and surveillance activities with the participation of fishers for the purpose of preventing unauthorized fishing activities

(13) Encourage local multi-day fishing vessels to fish in deep seas

(14) Develop cooperation with regional fishery management organizations and follow international conventions and treaties in management of fisheries in deep seas

(15) Promote local and foreign private sector investments in deep sea fisheries

Infrastructure Facilities:

(1) Involve all stakeholders in planning, establishment and operation of infrastructure facilities such as Fishery Harbours, Anchorages, minor Fishery Landing Sites, coast protection structures, etc.

(2) Develop public-private partnerships to obtain the participation of the private sector for provision of services such as cold-storage, ice supply, water supply, slipway facilities, fish transport facilities, etc.

(3) Encourage the local and foreign private sector to establish infrastructure facilities like Fishery Harbours on “built, operate and transfer” terms

(4) Promote local and foreign private sector investments in establishing fish processing and canning facilities

Marketing:

(1) Make the background for fishers to sell their products at competitive producer prices and consumers to purchase products at reasonable consumer prices

(2) Promote production and consumption of value added fish products

(3) Promote the export of value-added fish products

(4) Maintain safety and hygienic standards for the local fish supply

Research:

(1) Give priority for applied research leading to development of fisheries and aquatic resources while paying adequate attention to exploration of non living resources

Extension and Training:

(1) Strengthen the network of extension services in order to disseminate information and technology among the fisher community and other stakeholders

(2) Obtain assistance from national and international organizations for man power development

Uplifting of the Socio-Economic Status of the Fisher Community:

(1) Strengthen community based fisher organizations

(2) Develop skills of the fisher community to face natural disasters

(3) Strengthen rescue services and relief services in regard to marine accidents

(4) Enhance women's participation in the sector

(5) Promote income management, and thrift and savings in the fisher community

Rehabilitation of Fisheries affected by the Conflict and the Tsunami:

(1) Give priority for rehabilitation of conflict affected fisheries in the North and East

(2) Make arrangements for relocation of the displaced fishers in their own villages and support them to resume their livelihoods

(3) Rehabilitate the tsunami affected fisheries on the "build-back better" principle

Institutional and Legal Framework:

(1) Restructure the state agencies in the fisheries sector to suit the needs

(2) Review the discrepant provisions in other laws and make appropriate amendments

International Cooperation:

(1) Enter into bilateral, multilateral and regional cooperation agreements with other countries for the purpose of development of the sector

Environment:

(1) Conserve and enhance the coastal environment

(2) Apply the "cleaner production concept" to all activities in the sector

(3) Give priority to the need of protection of the environment in all activities in the sector

2.2 Fisheries Sector in Northern Province/Jaffna Peninsula

The fisheries sector has been an important component of the livelihood system of communities living in the Northern Province. It was severely affected by the conflict that prevailed in the region in the last three decades and in need of rehabilitation and development. The Engineering and Environmental Aspects, Socio-Economic Aspects and Fishery Industrial Aspects related to the fisheries sector and recent and proposed Port and Fishery Infrastructure Developments in the Northern Province/Jaffna District are presented in this Section.

2.2.1 Engineering and Environmental Aspects

The presence of shallow and protected coastal water bodies (**Figure 2.1**), coral reefs and sea grass beds (**Figure 2.2**) and fishing grounds of Pedro Bank and Pearl Bank (**Figure 2.3**) has enhanced the potential for fishing in the northern region.

Source: Admiralty Charts

Figure 2.1: Bathymetry of the Area

Source: NARA

Figure 2.2: Coral Reefs and Sea Grass Beds around Jaffna Peninsula

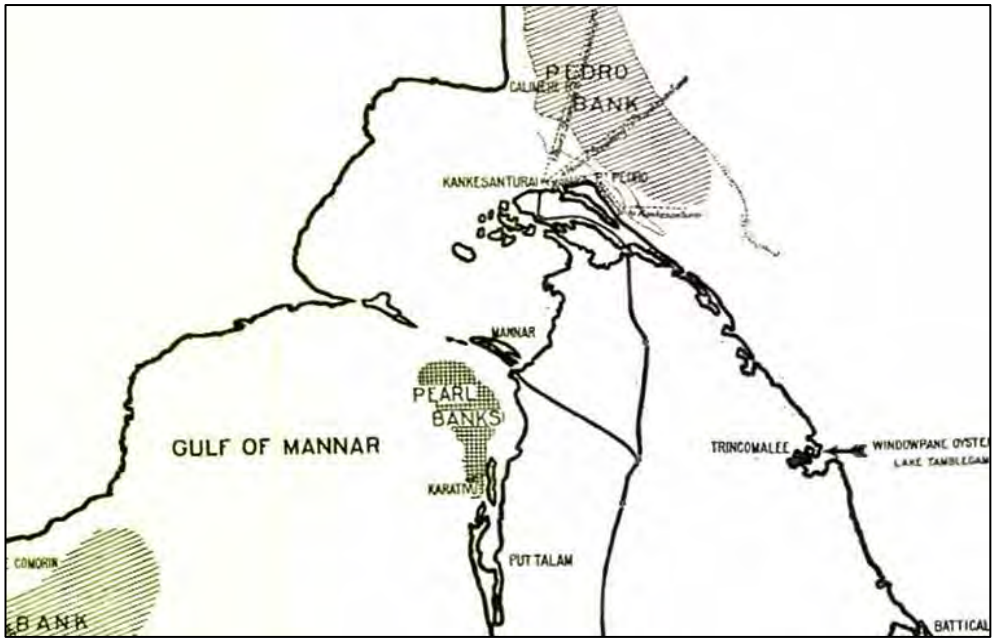


Figure 2.3: Fishing Grounds in the Northern Region

The assessment of the coastal environment, the near-shore wave climate in particular, plays an important role in planning and designing of fisheries/coastal infrastructure. The near-shore wave climate of the country is mainly influenced by the monsoonal conditions. Sri Lanka experiences two monsoon periods, southwest monsoon during the period from May to September and northeast monsoon during the period from November to February. Fishing activities in the western and southern areas of the country are disrupted during the more severe southwest monsoon. Small scale migration of fishing communities to eastern and northern areas also takes place during this period. The Northern Region and Jaffna District, which occupies most of the Jaffna Peninsula (**Figure 2.4**), are relatively sheltered from the southwest monsoon and the near-shore wave climate in the region is mainly influenced by the less severe northeast monsoon.

Apart from the coastline along the northern and eastern sides of the Jaffna Peninsula and the northern coastline of the Karainagar Island, other coastal areas on the western side of the Peninsula are relatively sheltered from the northeast monsoon due to the shallow depths and protection provided by land masses. In view of such sheltered nature of the coastal environment in the western side of the peninsula, it is usually possible to carry out fisheries activities throughout the year without any disruption.

The coastal region along the northern side of the Peninsula is characterized by rocky/sandy beaches and a limestone reefs located close (< 300 m approximately) and parallel to the coastline (**Figure 2.5** and **Figure 2.6**). The reef provides protection against coastal erosion due to wave action and naturally sheltered basins for the mooring of fishing vessels. Many such basins exist along the coastline.

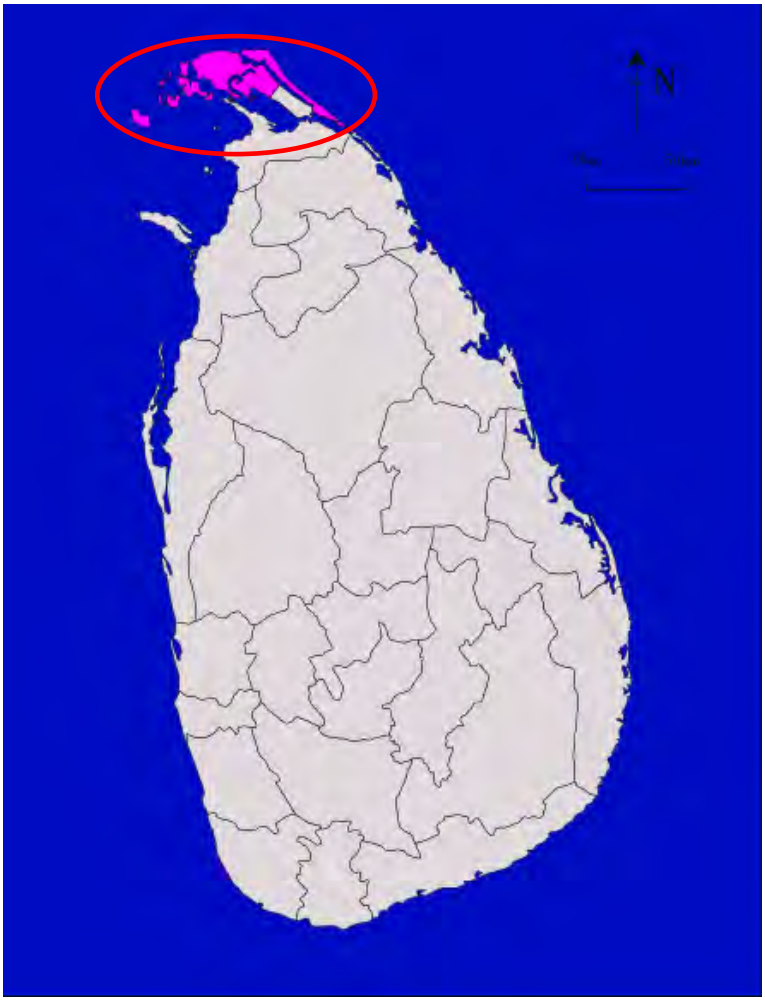


Figure 2.4: Location of Jaffna District

Source of Image: Google Earth

Figure 2.5: Northern Coastline: Jaffna Peninsula

Figure 2.6: Northern Coastline: Jaffna Peninsula

The coastline in the eastern side of Jaffna Peninsula (**Figure 2.7**) is directly exposed to the wave conditions during the northeast monsoon period. A sandy, straight coastline exists in the area and community consultations revealed that there is a significant seasonal variation of the beach profile which indicates high levels of sediment transport. In view of such dynamic nature of the coastline, construction of coastal structures is likely to cause coastal erosion/accretion problems and such constructions without extensive investigations and appropriate mitigation measures may cause severe adverse impacts.

Source of Image: Google Earth

Figure 2.7: Eastern Coastline: Jaffna Peninsula

Parts of the coastal area of the northern region have suffered damages recently from two severe natural events, the IOT on 26 December 2004 and the Cyclone on 28 October 2008. The coastline along the northern and eastern sides of the Peninsula has suffered damages but the IOT, as a long wave has not propagated into the western side of the Peninsula with a significant force. However the Cyclone in 2008 has caused damages in the western side as well as the other coastal areas in the Peninsula and the possibility of such severe events needs to be taken into account in planning coastal infrastructure in the region.

The Jaffna Fisheries District consists of 14 Fishery Inspector (FI) Divisions (**Figure 2.8**) and there are 128 Landing Sites scattered along the coastline. The locations of main Landing Sites are shown in **Figure 2.9**. The fishery infrastructure facilities at many of these sites are in a dilapidated state, due to damages caused by the conflict and severe natural events and years of neglect and in need of restoration and expansion. In spite of the large number of Landing Sites, currently (June 2011) there are no operational Fishery Harbours in Jaffna Peninsula.

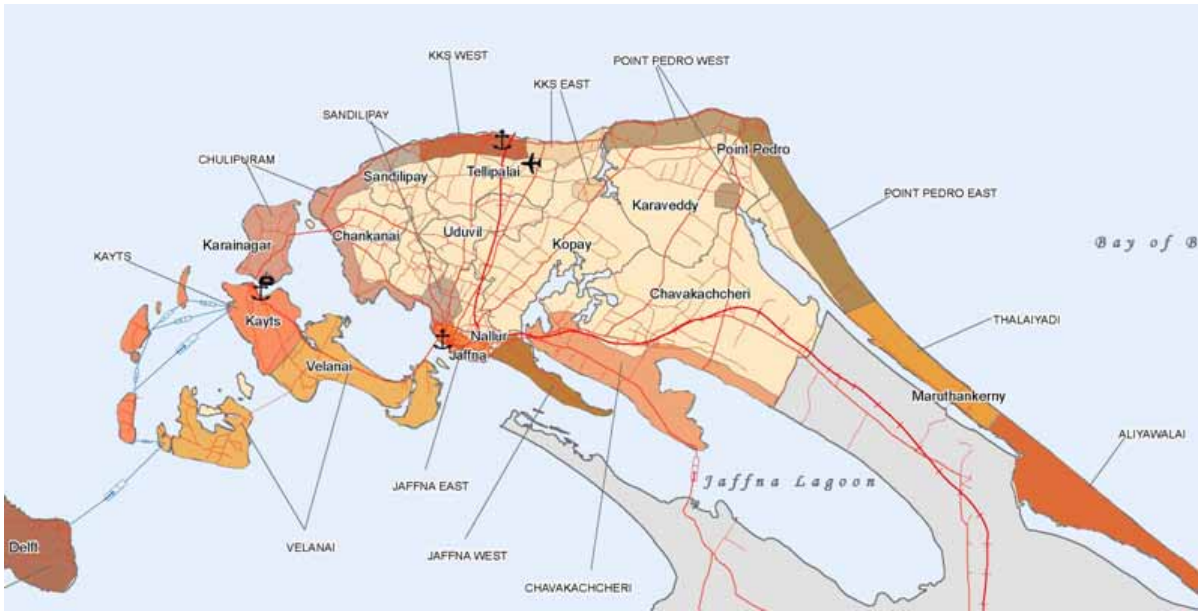


Figure 2.8: Fishery Inspector Divisions in the Jaffna Fisheries District

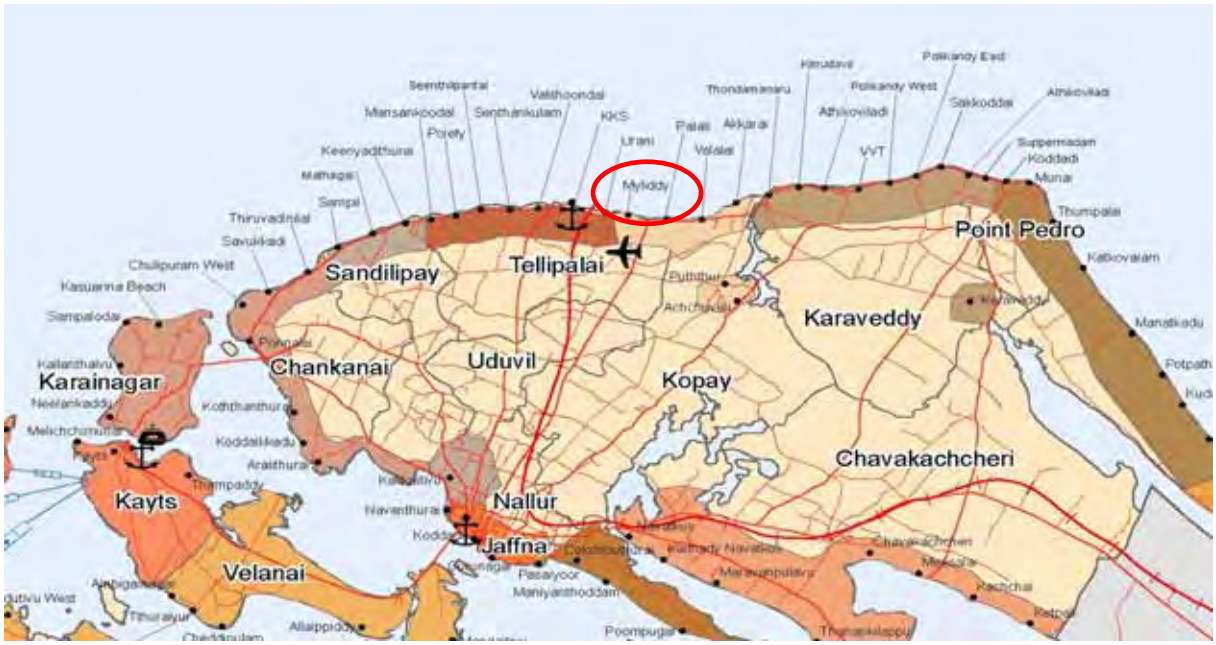


Figure 2.9: Main Landing Sites in the Jaffna Fisheries District

The only Fishery Harbour, currently not in operation, is located in Myliddy on the northern coast of the Peninsula **(Figure 2.9)**. It had became operational in 1981, but the fishery activities have ceased since the Myliddy area came under a high Security Zone (HSZ) established a few years later and it is still inaccessible for the fishing community. No specific plans have yet been formulated for the rehabilitation/development of Myliddy Fishery Harbour. The current status of the Myliddy Fishery Harbour is presented in Section 2.2.4 2).

Among the FI Divisions in the District, the two Divisions in the Jaffna area (Jaffna West and Jaffna East) and Point Pedro area (Point Pedro East and Point Pedro West) are the most productive regions in the District as evident from the levels of fish production given in **Table 2.7**.

The government is keen on the re-establishment of disturbed livelihoods of the people in areas affected by the conflict and rehabilitation and reconstruction of infrastructure facilities for fishing communities are among the primary responses of the government to the emerging needs in the area.

Plans are currently underway to develop a Fishery Harbour facility in Gurunagar in Jaffna area on the western coastline of the Peninsula with Danish assistance and the relevant studies have now (June 2011) reached the feasibility study stage. The details are presented in Section 2.2.4 2).

Table 2.7: Fish Production in 2010 in FI Divisions of Jaffna Fisheries District

FI Division	Fish Production in 2010 (MT)
Aliyawali	54
Thalaiyadi	252
Point Pedro East	**3,525**
Point Pedro West	**2,698**
KKS East	1,230
KKS West	859
Sandilipay	1,120
Chulipuram	1,440
Kayts	1,375
Delft	887
Velanai	1,318
Jaffna West	**4,144**
Jaffna East	**964**
Chavakachcheri	874
Total	20,740

Source: Fisheries Statistics, Assistant Director's Office, Jaffna, DFAR

Figure 2.10: Administrative Boundaries: Jaffna District

This study focuses attention on assessing the pre-feasibility of developing a Fishery Harbour facility in Point Pedro area on the northern coastline of the Peninsula. The geographical area of study is the Divisional Secretariat (DS) Division of Point Pedro (Vadamarachchi North) (Figure 2.10), the coastline of which is located within the areas covered by the FI Divisions of Point Pedro East and Point Pedro West.

2.2.2 Socio-Economic Aspects

With a large population engaged in fisheries activities, Jaffna has traditionally been known as a region with an established fishery industry. It has been the Fisheries District with the highest number of active fishers and fishing households in 1970s and 1980s, prior to and in the early stages of the conflict, as indicated by the fisheries statistics given in **Table 2.8** and **Table 2.9**. The impact on the fishing community is clearly indicated by the declining numbers of active fishers and fishing households during the conflict but the increasing numbers since 2008 are indicative of the resumption of livelihood activities in the fisheries sector disrupted earlier by the conflict. Currently, Jaffna District is ranked 4th and 5th in terms of these statistics, highlighting the Socio-Economic significance of fisheries sector in the region and the need for its development.

Table 2.8: Active Fishers by Districts (Marine Sector)

Fisheries District	Year						
	1972	**1989**	**1996**	**1999**	**2004**	**2008**	**2010**
Negombo	5,357	7,419	10,146	14,573	16,800	12,620	13,810
Colombo	2,357	1,610	2,235	2,653	2,800	1,840	1,920
Kalutara	2,212	3,157	4,150	4,322	4,200	4,360	5,510
Galle	3,479	3,590	5,134	6,304	6,300	7,420	10,420
Matara	3,270	4,426	5,120	5,276	7,100	7,890	11,280
Tangalle	1,742	3,354	5,843	7,001	6,100	7,280	9,590
Kalmunai	5,628	9,022	13,224	14,592	15,500	21,920	26,440
Batticaloa	5,572	12,843	13,533	15,137	21,600	25,130	29,670
Trincomalee	2,823	6,502	8,557	10,748	16,100	29,970	32,970
Mullativu	1,349	3,183	1,600	1,950	3,300	na	760
Kilinochchi	-	1,103	1,200	1,400	3,700	na	2,690
Jaffna	**10,826**	**24,839**	**11,200**	**9,614**	**14,800**	**16,630**	**21,690**
Mannar	2,840	5,684	5,900	4,593	5,400	5,960	22,910
Chilaw	-	7,173	8,539	9,093	12,000	11,320	14,520
Puttalam	10,867	4,539	10,795	13,161	14,100	12,530	18,560
Total Fishers	58,298	98,444	107,176	120,414	149,800	164,870	222,740

Source: Fisheries Statistics, Sri Lanka, 2010, MFARD

Table 2.9: Fishing Households (HH) by Districts (Marine Sector)

FisheriesDistrict	Year						
	1972	**1989**	**1996**	**1999**	**2004**	**2008**	**2010**
Negombo	3,849	6,396	8,158	11,210	12,900	12,530	11,970
Colombo	2,002	1,451	1,878	2,412	2,300	1,620	1,690
Kalutara	1,799	2,366	3,334	3,602	3,500	3,850	4,160
Galle	2,941	2,871	4,398	5,253	6,700	6,980	8,120
Matara	2,413	3,341	4,263	4,796	6,900	7,270	8,430
Tangalle	1,285	2,712	4,068	5,385	6,100	6,280	7,360
Kalmunai	4,686	9,328	12,342	13,265	15,100	18,260	20,130

Batticaloa	4,679	12,044	12,420	13,762	16,700	19,280	23,720
Trincomalee	2,348	5,675	6,681	8,123	12,300	21,970	23,270
Mullativu	919	2,798	2,000	864	3,100	na	610
Kilinochchi	na	1,047	1,500	400	3,400	na	1,960
Jaffna	**7,966**	**22,568**	**13,500**	**6,922**	**12,100**	**14,120**	**15,580**
Mannar	2,093	5,127	6,000	4,175	7,300	5,810	14,640
Chilaw	na	6,325	6,684	8,264	8,800	9,810	10,430
Puttalam	6,289	3,759	7,907	10,124	11,400	11,850	12,920
Total HH	43,269	87,808	95,133	98,557	128,600	139,630	164,990

Source: Fisheries Statistics, Sri Lanka, 2010, MFARD

2.2.3 Fishery Industrial Aspects

The fisheries sector in the Northern Province had made a significant contribution to the national fish production prior to conflict before it was seriously disturbed for nearly three decades since mid 1980s. In 1983, it had provided 40 % of the national fish production but its contribution has decreased substantially since then as indicated in **Table 2.10**. Restrictions imposed on fisheries activities, displacement of fishing communities due to security conditions prevailed in the region and damages to fishing vessels and infrastructure due to the conflict, severe natural events-IOT in 2004 and cyclone in 2008 and lack of maintenance of the facilities have contributed to such a decline.

Table 2.10: Contribution from the Northern Province to National Fish Production

Year	1983	1990	1995	2000	2005	2007	2008	2009	2010
% Contribution to the National Fish Production from the Northern Province	40	16	2	3	18	6	5	7	10

Source: Fisheries Sector Development of the Northern Province of Sri Lanka (MFARD)

With the end of the conflict and the relaxation of the restrictions imposed, fishing activities have resumed or expanded in many of the Landing Sites, even though most facilities are in a dilapidated state and in need of restoration. Currently (June 2011) fishing activities are permitted in many of the sites with a prior registration system with relatively minor restrictions imposed. A few of the sites are still within the HSZs and inaccessible for fishing communities.

The fisheries sector in the Northern Province has shown early signs of recovery since the end of the conflict and an increasing trend of production is indicated by the end of 2009 (**Table 2.10**).

Jaffna has been the most productive Fisheries District in the Northern Province and prior to the conflict, the contribution by the District alone to the national fish production was 26%.

The fish production in the District has declined since mid 1980s, as indicated by **Table 2.11**. Similar to the trend in the northern region, the statistical information indicates a decline of nearly 90 % in fish production-from 49,740 MT to 5,830 MT during the period from 1983 to 2008. However, with the recent growth of fisheries activities, a significant increase in fish production has taken place. The fish production in Jaffna District has increased up to 20,890 MT during the period from 2008 to 2010.

Table 2.11: Marine Sector Fish Catch by Fisheries Districts (in MT)

Fisheries District	Year								
	1983	**1990**	**1995**	**2000**	**2005**	**2007**	**2008**	**2009**	**2010**
Puttalam	14,860	19,190	27,020	29,730	11,670	17,130	na	20,010	24,830
Chilaw	11,640	15,670	24,550	25,650	9,360	24,180	22,060	21,950	27,020
Negombo	19,030	16,670	30,570	34,540	16,940	35,710	35,820	37,490	28,250
Colombo	2,320	2,980	2,550	3,130	560	510	1,030	830	1,990
Kalutara	7,630	10,670	28,910	33,140	11,560	39,950	39,580	33,100	43,360
Galle	8,590	11,780	21,430	27,830	11,210	17,820	14,800	24,930	21,830
Matara	8,980	11,230	29,930	35,480	17,090	48,460	47,810	44,180	38,970
Tangalle	7,330	10,240	23,260	33,470	6,220	20,990	20,850	20,990	20,170
Kalmunai	10,650	7,710	7,290	9,210	7,940	12,810	22,050	16,260	16,380
Batticaloa	4,460	5,920	8,360	9,860	7,650	11,710	21,850	24,530	39,610
Trincomalee	13,510	9,580	9,130	13,540	6,790	8,150	17,980	27,690	36,250
Mullaitivu	6,960	2,290	400	500	780	360	260	na	1,360
Kilinochchi	Na	na	na	na	1,460	590	360	na	560
Jaffna	**49,740**	**14,450**	**3,400**	**6,400**	**12,790**	**5,130**	**5,830**	**13,080**	**20,890**
Mannar	19,040	7,410	700	1,200	8,380	9,170	7,390	8,130	10,790
Total	184,740	145,790	217,500	263,680	130,400	252,670	274,630	293,170	332,260

Source: Fisheries Statistics, Sri Lanka, 2010, MFARD

The fish catch is purchased for local consumption and to deliver to markets in Colombo and other areas in the mainland by cooler trucks. The ice required for the preservation of fish is usually brought by the cooler trucks or obtained from local ice plants. Although many ice production plants and cold storage facilities were operating in Jaffna in the past, almost all the facilities had become defunct due to unsettled conditions prevailed in the region.

Currently, a major part of the ice requirement is brought from Colombo in cooler trucks. There are a few small capacity ice plants and cold storage facilities maintained in Jaffna, by private operators and Fisheries Societies. The current installed capacity for ice production in Jaffna stands at approximately 15 MT (5 MT x 2 Nos, and 2.4 MT x 2 Nos). The Federation of Fisheries Societies maintains 2 Nos of 20 feet (6 m) containerized cold storage facilities. Each container can store up to 5000 kg of fish. The details of ice plants are shown in **Table 2.12**.

Table 2.12: Ice plants and Production Capacity

District	1998		2005		2008	
	Active Ice plants	Production Capacity (MT/Day)	Active Ice plants	Production Capacity (MT/Day)	Active Ice plants	Production Capacity (MT/Day)
Anuradapura	1	10	1	10		
Batticaloa	2	25	-	-	2	25
Chilaw	6	101	5	121	6	181
Colombo	3	103	2	10	3	22
Galle	3	100	3	76.6	6	88
Gampaha	8	274	10	329	13	555
Hambantota	5	31	3	40	8	246
Jaffna	**2**	**15**	**6**	**8.2**	**7**	**10**
Kalmunia	2	15	-	-	2	20
Kalutara	4	105	2	60	7	225
Mannar	2	15	4	34	5	40
Polonnaruwa	1	5	-	-	-	-
Matara	8	180	5	180	7	205
Puttalam	3	75	3	90	5	310
Trincomallee	2	45	2	100	3	120
Total	52	1,099	46	1,059	75	2,087

Source: Fisheries Statistics, Sri Lanka, 2010, MFARD

The fishing fleet in the District in 2009, soon after the end of conflict, consisted of only smaller boats-NBSB, NTRB, MTRB and OFRPBs as indicated in **Table 2.13**. In spite of the potential for offshore fishing by IDAY and IMUL Boats, such boats were not in operation-due to restrictions imposed by security conditions and the absence of safe mooring facilities in the region. However recent investigations have revealed the operation of such boats. Approximately 80 IDAY Boats were in operation in Gurunagar/Alupanthy in late 2009 and, in addition, several IDAY and IMUL Boats are currently based in a few Landing Sites in Point Pedro area. The number of boats in Jaffna Fisheries District in the registry of DFAR at the end of 2010 is given in **Table 2.14,** which indicates the presence of IMUL and IDAY Boats in the region.

Table 2.13: Operating Fishing Boats by Fisheries Districts, 2009

Fisheries District	IMUL	IDAY	OFRPB	MTRB	NTRB	NBSB
Negombo	688	112	1,845	22	1,859	26
Colombo	22	26	350	**	249	13
Kalutara	357	11	486	2	278	21
Galle	267	39	715	241	394	47
Matara	521	104	613	232	397	1
Tangalle	363	25	878	195	826	103
Kalmunai	26	239	714	212	1,375	122
Batticaloa	180	116	1,120	80	3,271	161
Trincomalee	366	22	1,543	131	2,497	160
Mullaitivu	na	na	na	na	na	na
Kilinochchi	na	na	na	na	na	na
Jaffna	**na**	**na**	**2,654**	**702**	**2,983**	**68**
Mannar	na	2	1,657	74	596	21
Chilaw	74	na	1,938	3	1,675	59
Puttalam	702	262	2,680	232	1,843	173
Total	2,934	958	17,193	2,126	18,243	975

Source: Fisheries Statistics, Sri Lanka, 2009, MFARD

Table 2.14: Registered Fishing Boats in Jaffna District, 2010

Fisheries District	IMUL	IDAY	OFRPB	MTRB	NTRB	NBSB
Jaffna	6	81	1,193	77	329	45

Source: Fisheries Statistics, Sri Lanka, 2010, MFARD

2.2.4 Port and Fishery Infrastructure Developments in Jaffna Peninsula

Since the end of the conflict that prevailed in the region, several Port and Fishery Infrastructure Developments Projects are in progress or have been planned and the details are presented in this Section. These include Harbour development in Kankesanturai (KKS), Fishery Harbour developments in Myliddy and Gurunagar, Fishery anchorage development in Passaiyoor and Fishery Landing Site developments in Navanturai and Kakkaitivu. These locations are shown in **Figure 2.11**.

Source of Image: Google Earth

Figure 2.11: Locations of Proposed Harbour and Fisheries Infrastructure Developments in Jaffna Peninsula

1) Port Development: KKS Harbour

The Harbour in KKS is located on northern coastline of the Peninsula, further to the west of Point Pedro (**Figure 2.11**). The operations at the KKS Harbour were severely affected by the conflict that prevailed in the region. Financial assistance is provided by the Indian Government to develop the Harbour which is considered as one of the important development projects in the context of security of the country and economic and social development of Northern Peninsula.

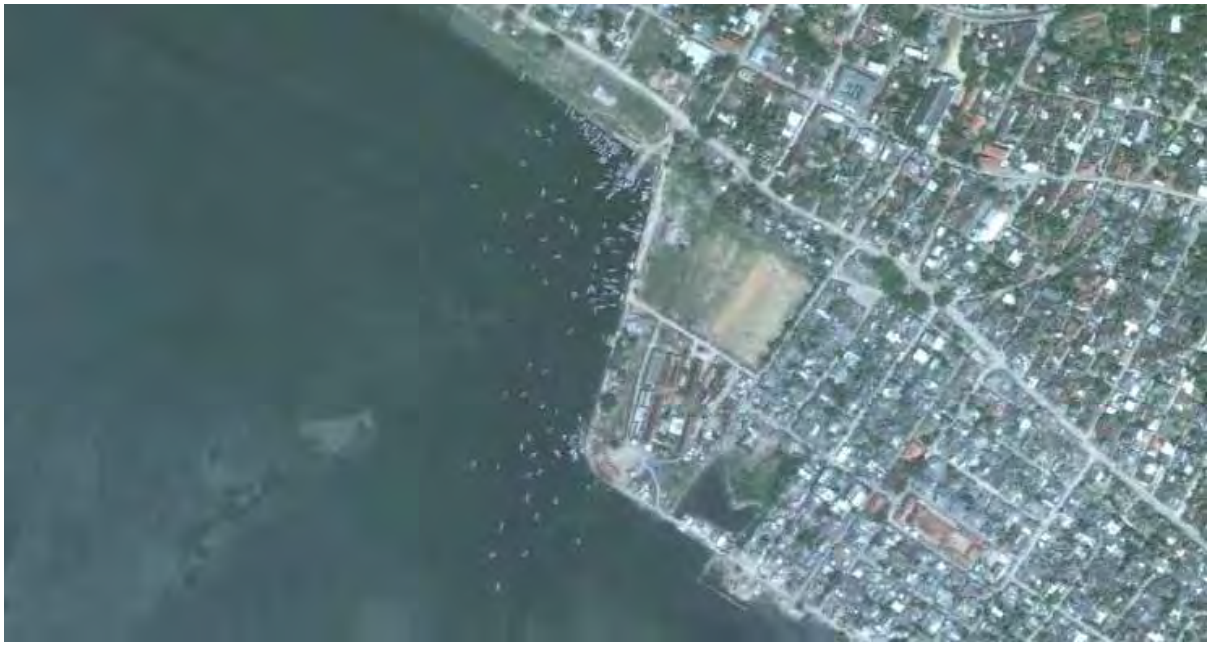
The project, to be carried out in two phases, will involve the repairs to the existing Breakwater, Jetty (Quay Wall) and deepening of the Harbour. A new Breakwater will also to be constructed. The rationale behind the development of the KKS Harbour will be to have it as a regional port which will be used for Jaffna and Trincomalee bound cargo from Indian port cities such as Tuticorin and Chennai, which will be mainly cement, fertilizer and food items such as onions. It will be developed as a regional port, and would not either be for transhipment cargo or a location for the sixth generation mega carriers, but for small ships which are not even container carriers, but for break-bulk cargo and bags.

A grant of US$ 40 million has been allocated, for the preliminary feasibility study, which has already commenced and will be followed by the Dredging and the development of the Breakwater and the construction of the Quay Wall.

2) Fishery Harbour Development

(1) Gurunagar [Allupanthy]

The facility in Gurunagar (**Figure 2.11**) at present consists of a Jetty and a Retaining Wall as shown in **Figure 2.12** and **Figure 2.13**. Although no other shore facilities exist, space is available for the development of such facilities. The jetty has suffered severe damages and a relatively short length is available for usage.



Source of Image: Google Earth

Figure 2.12: Gurunagar Landing Site: Location

Figure 2.13: Gurunagar Landing Site

Fisheries activities, which have been disrupted since 1995, have resumed recently and currently 132 IDAY Boats are based in this site, which is the highest concentration of such boats in the peninsula. These boats are moored at the site throughout the year although difficulties are encountered under severe conditions during northeast monsoon. Further difficulties are encountered by fishermen due to inadequate depths in the access channel and mooring areas.

A Memorandum of Understanding (MOU) has been signed between the MFARD and MT Hojgaard of Denmark for the development of Fishery Harbours in Gurunagar in Jaffna Peninsula together with two other Harbours-Silavatturai in Mannar District and Gandara in Matara District. The Pre-Feasibility study for the development of these Fishery Harbours

has been carried out by University of Moratuwa (UOM) in August 2010, for MT Hojgaard at the request of the CFHC. Based on the recommendations of the Pre-Feasibility Study, a detailed Feasibility Study is currently (June 2011) in progress.

(2) Myliddy Harbour

Although currently non-operational, the Fishery Harbour in Myliddy (**Figure 2.11**) is the only such facility in Jaffna peninsula. It consists of a basin protected by two Breakwaters as shown in **Figure 2.14**. It is a classical two Breakwater design but the basin is smaller in comparison with many of the other Fishery Harbours in the country. The main Breakwater provides shelter against the predominant wave action from the north-easterly direction. With the other breakwater, the Harbour entrance is located in the western side of the basin. The Breakwaters are of rubble/limestone construction with hollow/solid cylindrical concrete armor. The main Breakwater has suffered damages at a few locations (D and E) due to severe wave conditions during the Cyclone in 2008. To facilitate the unloading of cargo, a jetty has subsequently been constructed as indicated in **Figure 2.14**. Approximate measurements indicated very shallow depths in the Harbour Basin (1 m at A and 1.25 m at B) during low tide. Limestone outcrops can be seen in the eastern side of the basin (C). Barges are sometimes needed for unloading cargo from larger vessels.

Source of Images: Google Earth

Figure 2.14: Myliddy Fishery Harbour

There had been plans earlier by the CFHC to develop the Myliddy Fishery Harbour together with two other Fishery Harbours-one in Gurunagar and the other in Point Pedro to expand the fisheries sector in Jaffna Peninsula. However, in view of the current developments related to the KKS Harbour, uncertainties have emerged regarding the development of Myliddy Fishery Harbour.

The KKS Harbour is currently used by the Sri Lanka Navy (SLN) but, with the proposed port development and the operations by the Sri Lanka Ports Authority (SLPA), a need has arisen for the relocation of naval facilities to a nearby location and Myliddy Fishery Harbour, located 4-5 km from KKS, is under consideration as a possible location. In addition, it is located within the HSZ and closer to the Palali Airport, an important military facility (**Figure 2.15**). Although no decisions have yet been taken, it is evident from these considerations

that uncertainties remain regarding the possibility of commencing the activities at the Myliddy Fishery Harbour and its development.

Source of Images: Google Earth

Figure 2.15: Locations Myliddy Fishery Harbour and other Important Military Facilities

3) Fishery Anchorage Development

The Anchorage facility at Passaiyoor on the western coast of the Peninsula (**Figure 2.11**) consists of a shallow basin sheltered by three Breakwater segments (**Figure 2.16**). The Breakwaters are of limestone/rubble construction. The low crest levels indicate wave overtopping during the northeast monsoonal period. A Retaining Wall along the landward boundary of the Basin and an Auction Shed and a Fish Market have also been constructed. The Breakwaters have suffered significant damages and silting in the entrance channel and the sheltered basin has also taken place over the years.

Source of Images: Google Earth

Figure 2.16: Passaiyoor Anchorage

The United Nations Office for Project Services (UNOPS) had commenced the rehabilitation of Passaiyoor Fishery Anchorage but the construction work has currently been stopped at an early stage due to issues related to availability of funds from the Donor Agency. The Donor Agency, together with UNOPS, is currently assessing the possibility of the re-commencement of work.

In addition to the Passaiyoor, there are many other Fishery Landing Sites in Jaffna Peninsula that could be developed as Fishery Anchorages. However no detailed studies have been carried out on such developments. The Landing Sites in the Point Pedro DS Division with a potential for such developments are to be identified by this study.

4) Fishery Landing Site Development

The Jetties at the Fishery Landing Sites in Navanturai and Kakkaitivu on the western coastline of the Peninsula (**Figure 2.11**) have been rehabilitated with the financial assistance from Japan International Cooperation Agency (JICA) in 2010. No developments of Shore Facilities have been carried out at these sites. The Jetty in Navanturai before rehabilitation is shown in **Figure 2.17** and the Jetty in Kakkaitivu, before and after rehabilitation, is shown in **Figure 2.18** and **Figure 2.19** respectively.

Figure 2.17: Navanturai Jetty: Before Rehabilitation

Figure 2.18: Kakkaitivu Jetty: Before Rehabilitation

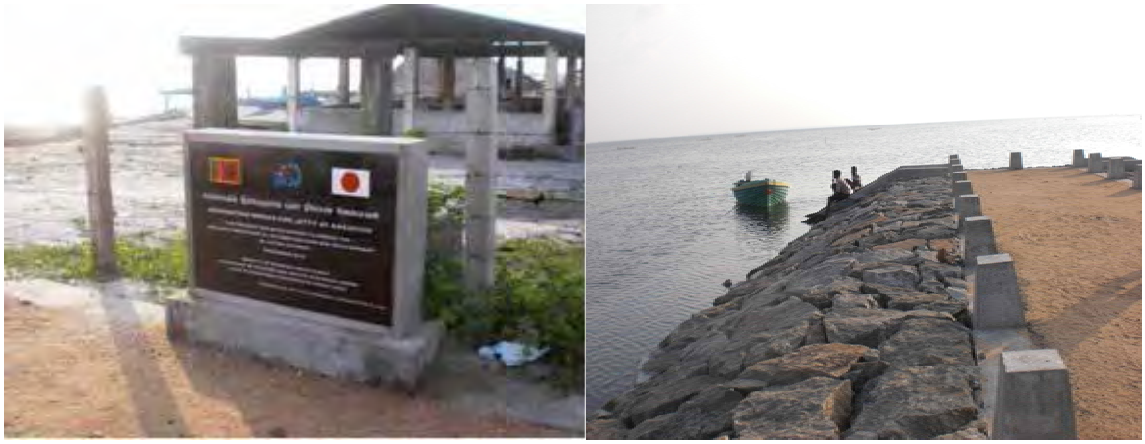


Figure 2.19: Kakkaitivu Jetty: After Rehabilitation

A number of projects have been carried out in the recent past for the development of Fishery Landing Sites in the country. These projects had been initiated after the devastating impact of the IOT in 2004 on the fishing communities and fishery infrastructure facilities.

These projects include:

(1) ICEIDA Project

Infrastructure Development at Landing Centres in Sri Lanka: Icelandic International Development Agency (ICEIDA).

(2) TAARP/CCD Project

Infrastructure Development at Anchorages and Landing Centres: Tsunami Affected Areas Rebuilding Project (TAARP) under the Asian Development Bank (ADB) funded Coastal Resources Management Project–Implemented by the Coast Conservation Department (CCD).

(3) IFAD/UNOPS Project

Construction of Three Anchorages and Eighteen Landing Sites in Seven Districts: International Fund for Agricultural Development (IFAD) Post Tsunami Coastal Rehabilitation and Resources Management Program implemented by the UNOPS.

(4) FAO/CIDA Project

Restoration and Improvement of Fish Landing Centres with Stakeholder Participation in Management: FAO/Canadian International development Agency (CIDA)/MFARD Project.

Some of the developments, mainly in the form of Shore Facility construction, carried out under these projects are shown in **Figures 2.20**-**2.23**.

(a) **Suduwella Landing site** **(b) Nilwella Landing site**

Figure 2.20: Shore Facilities constructed under ICEIDA Project in Matara District

Figure 2.21: Shore Facilities constructed under TAARP/CCD Project in Welipatanwila, Hambanthota District

Figure 2.22: Shore Facilities constructed under IFAD/UNOPS Project in Kaluwankerni Landing Site, Baticaloa District

(a) Moderawella Landing Site **(b) Kurusagahapaduwa Landing Site**

Figure 2.23: Shore Facilities constructed under ICEIDA Project in Puttalam District

No development work on Fishery Landing Sites in the Jaffna Peninsula has been carried out under these projects. The inaccessibility of Jaffna Peninsula during the conflict, due to no road access during the implementation period of 2005-2008, had been the main reason for the non-inclusion of the Landing Sites in Jaffna Peninsula in these projects. With the end of the conflict in 2009, it is now evident that a strong need exists for developing Fishery Infrastructure Facilities in Jaffna Peninsula.

3 Objectives of the Study, Scope of Work and Methodology

3.1 Objectives of the Study and Scope of Work

This study aims at verifying potentiality and possibility of Fishery Harbour development in Point Pedro, Jaffna District which may be planned in the near future for offshore fishery development. The results of the study are to be incorporated into a development policy of the fisheries sector for the region.

The location and target groups of the study are all the Fishery Landing Sites/Anchorages/Harbours and Fisheries related Organizations, Institutions and their Personnel in Point Pedro DS Division in the Jaffna District and any other areas relevant for the scope of work given below.

The scope of work for the study involves the

1) Assessment of the present status of infrastructure in Fishery Landing Sites/Anchorages in Point Pedro in terms of the following points of view:

   i Fishery Landing Facilities and Mooring Sites and their utilization
   ii Number of boats and boat types deployed for fishing
   iii Type of fishing gear and methods practiced
   iv Daily fish production/amount/value landed
   v Annual fish production/amount/value landed and their seasonal change
   vi Fish processing facilities and their demand
   vii Fish processing production/amount/value
   viii Fish marketing facilities and their use
   ix Destination of fish distribution and quantity of delivery
   x Other facilities deployed for fishery products

2) Assessment of the needs and conditions of Fishery Harbour development for offshore fishery exploitation in terms of the following points of view:

   i Appropriate geographical location of the Fishery Harbour for offshore fishery exploitation
   ii Needs and conditions for development of Fishery Landing facilities
   iii Needs and conditions for development of fish processing facilities
   iv Needs and conditions for development of fish distribution facilities including access roads
   v Needs and conditions for development of other related facilities
   vi Number of beneficiaries expected by Fishery Harbour development
   vii Appropriate institutional arrangement to manage Fishery Harbours

3) Assessment of other conditions for Fishery Harbour development in terms of the following points of view:

i Potentiality and expected impact of the Fishery Harbour for offshore fishery exploitation in Jaffna District
ii Macro economic effect of Fishery Harbour development in Jaffna District
iii Socio-Political dimensions for Fishery Harbour development
iv Future plans of the Sri Lankan Government (including CFHC) for Fishery Harbourdevelopment in Jaffna District
v Projects for Fishery Harbour development being planned by international donor organizations, bilateral development agencies, etc in Jaffna District (including the plans for Myliddy with Korean assistance and Gurunagar with Danish assistance)

4) Based on the results of the study, a set of recommendations from the following points of view, through focus group discussions and workshops in the target areas, have been made.

i Basic Vision and Policy for Fishery Harbour Development

Recommendations on basic vision and policy to develop the Fishery Harbour for offshore fishery exploitation in Point Pedro in connection with other Fishery Harbour development plans in Jaffna District being planned by the Government and International Donor Agencies.

ii Priority of Site Selection and Functions of the Fishery Harbour

Recommendations on the priority of site selection in terms of socio-economic impact and the suitability of geology and topography, the size and structure of the Harbour, necessary infrastructure and facilities, and assumed management system for the Harbour

iii Socio-Economic Impact

Estimates of the economic benefit, employment generation and other socio-economic impacts expected by developing the Harbour, particularly in terms of offshore fishery exploitation in Point Pedro, Jaffna District.

3.2 Methodology

The following four pronged approach was adopted for the Pre-Feasibility Study.

1) The available information related to all aspects-Engineering and Environmental, Socio-Economic and Fishery Industrial aspects-were gathered at the commencement of the study.

2) Site visits and detailed investigations were then conducted in which attention was focused on obtaining first hand information on the existing status, potential demand,

ground truth measurements and meeting the stakeholders. The meetings were arranged, with the assistance of the client, in consultation with the relevant government agencies. The meetings were aimed at fully harnessing the local knowledge and experience for the development plans and the views of stakeholders such as fishing communities, fisheries societies, representatives from CFHC, DFAR, other relevant government agencies etc were obtained. Any additional data required for the study were also identified.

3) In the next stage, the acquisition of any additional data was carried out, in parallel with the development of scenarios. The process was nourished by the stakeholder discussions identified previously.

4) In the final stage, a plan for development of fisheries infrastructure was formulated based on the

   i Assessment of the fishery industrial sector and its development potential in the future
   ii Assessment of the existing facilities, their status and measures for reinstatement of facilities for the revival of the industry
   iii Possible improvements/modifications to existing facilities and the establishment of new facilities to cater to the development potential of the fisheries sector
   iv Assessment of socio-economic aspects
   v Identification of barriers and potential restrictions which will limit the intended scale of development

5) and recommendations on

   i Preferred development options, and
   ii Tools and methods in the form of investigative studies that would be required for the assessment of feasibility, identification and detailed design of development options were made.

The main activities conducted during the study are listed below:

1) Stakeholder Consultations:
   Officials of JICA, MFARD, DFAR, CFHC, Fishery Cooperative Societies and Fishing Community

2) Field visits and Community Consultations:

   i 11 – 14 January 2011
   ii 30 January – 02 February 2011
   iii 11 – 14 February 2011
   iv 20 – 21 February 2011
   v 28 – 30 April 2011
   vi 20 – 22 May 2011

3) The information gathered by the following field visits and investigations made during other studies carried out in the area prior to this study were also utilized.

i	July 2009	Pre-Feasibility Study on Fishery Infrastructure Development in Jaffna Peninsula (MFARD and UNOPS)
ii	August 2009	Pre-Feasibility Study on Fishery Infrastructure Development in Jaffna Peninsula (MFARD and (UNOPS))
iii	14 – 16 January 2010	Field Investigations (UOM)
iv	12 – 14 August 2010	Pre-Feasibility Study Gurunagar (MT Hojgaard Ltd)

4 Fisheries Sector in Point Pedro

Point Pedro is the most productive fishing area in the Jaffna Fisheries District. The coastal area of the DS Division of Point Pedro (Vadamarachchi North), in which this study was carried out, comes under the FI Divisions of Point Pedro East and Point Pedro West. The Engineering and Environmental Aspects, Socio-Economic Aspects and Fishery Industrial Aspects related to the fisheries sector in Point Pedro are presented in this Chapter.

4.1 Engineering and Environmental Aspects

The FI Divisions of Point Pedro West and Point Pedro East, within which the coastline of the Point Pedro DS Division is located, extend from Thondamanaru along the northern coastline of the Peninsula to the northeastern edge of Munai and along the eastern coastline beyond Kathkovalam as indicated in **Figure 4.1**. The length of the coastline is over 20 km.

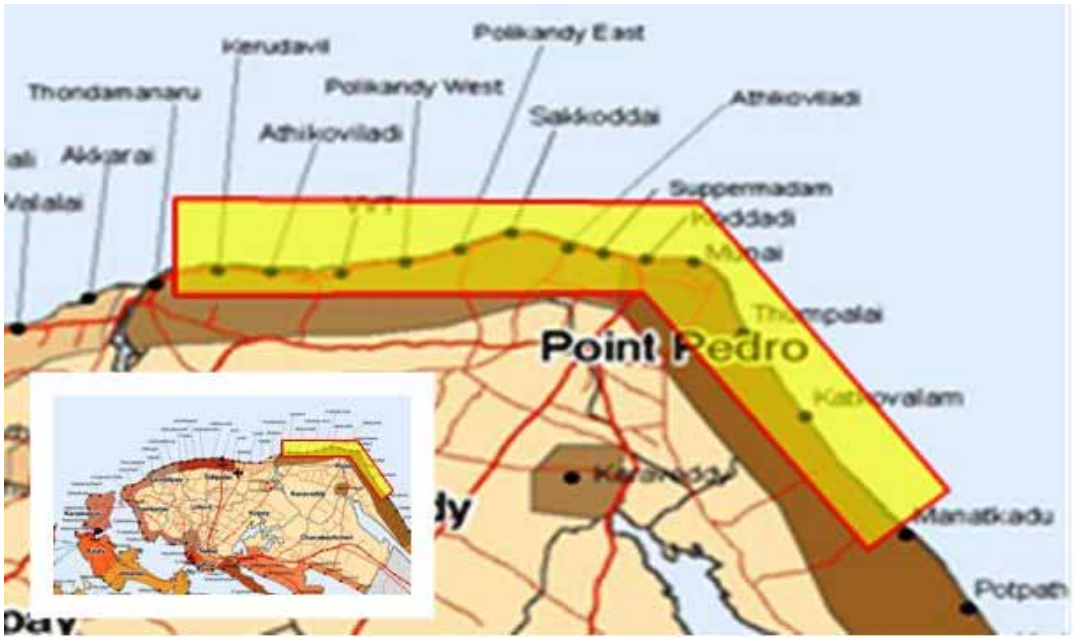


Figure 4.1: Coastline: Point Pedro

As mentioned in Chapter 2, a reef formation exists close and parallel to the northern coastline of the Jaffna Peninsula which has formed many sheltered basins for mooring of fishing boats. Many of the Landing Sites in Point Pedro DS Division are located at these basins along this part of the coastline as indicated in **Table 4.1**. Mainly the smaller fishing boats (NBSB, NTRB, MTRB and OFRPB) are operated from these Landing Sites but, depending on the depths in sheltered areas behind the seaward edge of the reef, some of the larger boats (IDAY and IMUL Boats) which have become operational recently are currently (June 2011) based in some of the sites, in spite of the absence of proper facilities for the operation of such craft.

The coastline in the eastern side of Jaffna Peninsula is directly exposed to the wave conditions during the northeast monsoon period, as mentioned in Chapter 2, and local community consultations revealed the difficulties in mooring/landing of fishing boats. Due to these conditions, relatively a lesser number of Landing Sites are located along the eastern coastline of the Peninsula as indicated in **Table 4.1**. A sandy, straight coastline exists in the area and local community consultations also revealed that there is a significant seasonal variation of the beach profile indicating high levels of sediment transport. Under such dynamic conditions of the coastline, construction of coastal structures is likely to cause coastal erosion/accretion problems and such constructions without extensive investigations are not recommended.

Table 4.1: Fishery Landing Sites in Point Pedro DS Division

	Landing Site	**Coastline**
1	Thondamanaru	Northern
2	Kerudavil	
3	Athikoviladi	
4	Valveddithurai	
5	Polikandy West	
6	Polikandy East	
7	Sakkodai	
8	Imparsiddy	
9	Viyaparimoolai	
10	Suppermadam	
11	Koddady	
12	Munai	
13	Thumpalai	Eastern
14	Katkovalam	

In view of the above considerations, in this study, attention was focused on the northern coastline of the Point Pedro DS Division in order to assess the pre-feasibility of developing a Fishery Harbour facility for offshore fisheries. Due to the smaller scale of fishery activities carried out, in comparison with the other sites along the northern coast, the site Kerudavil was also not considered in the study. The site in Viyaparimoolai is used by internally displaced persons (IDP) from Myliddy, Kankansanthurai and Palaly as opposed to the local community and hence not considered in the present study. The other 10 main Landing Sites

that are located on the northern coastline of length approximately 15 km and indicated in **Figure 4.2** were considered in this study. The Point Pedro Naval Harbour and the Jetty of the SLPA are also shown in **Figure 4.2.**

Source of Image: Google Earth

Figure 4.2: Fishery Landing Sites on the Northern Coast of the Point Pedro DS Division ()

The IOT in 2004 has caused significant damages to the reef along the northern coast. Breaking of the reef has led to increased coastal erosion at several locations and spreading of broken rock in sheltered basins has caused difficulties in using the Landing Sites/Anchorages due to reduced depths and partial blockage of access channels. The Cyclone in 2008 has caused further damages and significant hardships are experienced by fishing communities due to current dilapidated state of many of the facilities. Attempts have been made previously by the government, non-governmental organizations and the fishing communities to rehabilitate the facilities by clearing the basin areas and access channels to facilitate navigation and mooring of boats with varying degree of success.

Investigations were conducted at the 10 Landing Sites on the northern coastline to assess the potential for further development. The information obtained by the investigations for the 10 sites are presented in Chapter 5.

4.2 Socio-Economic Aspects

The Point Pedro (Vadamarachchi North) DS Division, 50.2 km^2 in area, is in the north-eastern side of Jaffna Peninsula. It consists of the two urban areas of Valveddithurai and Point Pedro and 120 villages in 35 GramaNiladhari (GN) Divisions. With 17,446 families, including 5,543 displaced families, the population in the area was 53,517 in 2009.

The professional sector wise employment figures for the Point Pedro DS Division are shown in **Table 4.2.** Although the local work force is employed in a wide range of professional sectors, the majority is employed in the fisheries sector.

Table 4.2: Professional Sector Wise Employment, Point Pedro DS Division

Employment Sector	Year			
	2008		2009	
	Male	Female	Male	Female
Agriculture	2,307	107	2,507	127
Fishing	**5,080**	**925**	**4,698**	**950**
Government Sector	1,010	745	1,012	666
Co-operative	163	18	122	21
Private Sector	333	48	450	173
Self employment	78	-	89	12
Mason	673	-	595	-
Carpentry	362	-	569	-
Jewellery Trade	125	-	122	-
Mechanic	68	-	73	-
Labourer	11,972	-	15,125	-
Total	22,171	1,843	25,362	1,949

Source: Divisional Resource Profile, Point Pedro DS Division, 2009

In addition, both the skilled and unskilled labour forces are also mainly employed in the fisheries sector as indicated by **Table 4.3** and **Table 4.4**.

Table 4.3: Distribution of Skilled Labour, Point Pedro DS Division, 2009

Profession	Male	Female
Fishing	**3,055**	**540**
Bakery Trade	78	5
Aluminium Fitting	101	-
Preparing of Mats (Palmyrah)	121	282
Jewellery Trade	44	-
Mason	385	-
Mechanic	98	-
Total	3,882	822

Source: Divisional Resource Profile, Point Pedro DS Division, 2009

Table 4.4: Distribution of Un-Skilled Labour, Point Pedro DS Division, 2009

Profession	Male	Female
Fishing	**1,600**	**550**
Bakery Trade	32	-
Aluminium Fitting	38	2
Preparing of Mats (Palmyrah)	19	48
Jewellery Trade	8	-
Mason	171	-
Mechanic	42	-
Total	1,910	600

Source: Divisional Resource Profile, Point Pedro DS Division, 2009

The dominance of the fisheries sector in the Socio-Economic system in Point Pedro DS Division is clearly evident by the employment data shown in **Table 4.2**, **Table 4.3** and **Table 4.4**.The details of the social aspects of the fisheries sector in Point Pedro DS Division are summarized in **Table 4.5**.

Table 4.5: Details of Social Aspects of Fisheries Sector, Point Pedro DS Division

Type	Year		
	2007	2008	2009
No of Fisheries families	3,345	3,075	3,219
No of Fisheries Population	15,537	14,996	15,164
Fish Landing Sites	14	14	14
Members of Fisheries Societies	6,146	6,261	6,415
Fisheries Pensioners	498	498	498

Source: Divisional Resource Profile, Point Pedro DS Division, 2009

4.3 Fishery Industrial Aspects

The fishing fleet in the 10 Landing Sites considered for the study as well as in the other Landing Sites in Point Pedro DS Division mainly consists of smaller fishing crafts-OFRPBs, MTRBs and NTRBs-and fishing is carried out in coastal waters-approximately up to 20 km from the coastline. Offshore fishing is carried out by the few of the larger fishing craft-IMUL and IDAY Boats which have recently become operational from a few of the Landing Sites. The details of the fishing fleet are given in **Table 4.6**.

Table 4.6: Fishing Fleet in the 10 Landing Sites in Point Pedro, May 2011

	Landing Site	IMUL	IDAY	OFRP	MTRB	NTRB	Total
1	Thondamanaru	-	-	20	-	10	30
2	Athikovilady	-	-	100	22	148	270
3	Valveddithurai	9	18	42	1	60	130
4	Polikandy West	1	-	25	4	18	48
5	Polikandy East	-	-	46	-	47	93
6	Sakkoddai	-	-	35	4	50	89
7	Imparsiddy	5	5	40	-	65	115
8	Suppermadam	4	5	46	10	35	100
9	Koddady	-	2	64	4	45	115
10	Munai	-	5	177	8	134	324
	Total	19	35	595	53	612	1,314

The production varies seasonally with low catches during the northeast monsoon in the months of October to January due to rough sea conditions and relatively high catches during the non-monsoonal period from February to July. A variety of fish is caught and the details of fish production in May 2011 are given in **Table 4.7**.

Table 4.7: Fish Production in the 10 Landing Sites in Point Pedro

	Landing Site	Fish Production (MT)	
		May 2011	2010
1	Thondamanaru	5	133
2	Athikovilady	38	1,153
3	Valveddithurai	48	628
4	Polikandy West	10	233
5	Polikandy East	17	440
6	Sakkoddai	12	482
7	Imparsiddy	45	425
8	Suppermadam	43	266
9	Koddady	29	464
10	Munai	59	1,279
	Total	306	5,503

Nearly all the fish catch is sold in the form of fresh fish and the production which far exceeds of the local requirement is mainly sent to Colombo and other areas of mainland by vehicles with cold storage facilities. The ice required for the preservation of fish is usually brought to the Landing Sites in the cooler trucks or purchased from local ice plants.

Fish processing, in the form of dried fish production is carried out in a very small scale, as a cottage industry, at many of the Landing Sites. The catch, in a deteriorated condition to be sold as fresh production and fish varieties of lesser commercial value are mainly used for this purpose.

5 Details of Fisheries Landing Sites in Point Pedro

As mentioned in Chapter 4, altogether 10 fishery Landing Sites on the northern coastline in Point Pedro DS Division were considered for the study. Based on the investigations conducted, the Engineering and Environmental, Socio-Economic and Fishery Industrial aspects related to these sites are presented in this Chapter to assess the potential for further development.

5.1 Thondamanaru Landing Site

Source of Image: Google Earth

Figure 5.1: Thondamanaru Landing Site: Location

Figure 5.2: Thondamanaru Landing Site

5.1.1 Engineering and Environmental Aspects

The Landing Site in Thondamanaru (**Figure 5.1** and **Figure 5.2**) is located near the estuary of an inland water body. The outlet of the estuary is closed by a sandbar which opens naturally during the northeast monsoon period. Boats are moored in the shallow basin protected by the reef. During the northeast monsoon period, boats are also moored in the estuary. Difficulties in navigation and mooring are caused by the very shallow depths in the access

channel and the basin. Access to the site is provided by a narrow road. As shore facilities, an Auction Hall, Resting Place, Library and other facilities have been constructed and a Beacon Light has recently been installed. Land owned by Fisheries Society (20 perch extent) is available for further expansion of facilities.

With wide sandy/rocky beaches, Thondamanaru had earlier been a popular location for tourism and recreation.

5.1.2 Socio-Economic Aspects

Fishing activities in Thondamanaru are mainly carried out by the community in the Thondamanaru North GN Division. Currently (June 2011) the local fishing population of 805 consists of 178 fishermen and 158 fishing families. The Fishery Society consists of 141 members.

Local community consultations revealed that dredging to deepen the access channel and mooring area is the main requirement for the improvement of facilities. Requests have been made by the local fishing community to develop the site as an Anchorage/Fishery Harbour. Thondamanaru had earlier been identified by the DFAR as a possible location for a Fishery Harbourdevelopment.

A Harbour facility consisting of a sheltered basin with Breakwater protection for the use of larger fishing crafts-IMUL and IDAY Boats-as well as smaller fishing crafts and associated shore facilities would lead to much higher levels of fisheries activity than the current operational levels benefiting a much larger community in Thondamanaru and neighbouring areas. The Socio-Economic benefits of Fishery Harbour developments are presented in Chapter 7.

5.1.3 Fishery Industrial Aspects

Approximately 22 OFRPBs and 66 NTRBs are currently (May 2011) based in Thondamanaru. Fishing is carried out in coastal waters (approximately up to 15 km from the shore) and Drift Gill Net, Long Line and Trammel Net are the main fishing gear used. The details of fish production at the site are shown in **Table 5.1**. The production varies seasonally with low catches during the northeast monsoon in the months of October to January due to rough sea conditions and relatively high catches during the non-monsoonal period from February to July. Prawns are also caught in the estuary mouth during the northeast monsoon period. The fish catch is purchased for local consumption and to deliver to markets in Colombo and other areas in the mainland by cooler trucks. The ice required for the preservation of fish is usually brought to the site in the cooler trucks.

Small scale fish processing in the form of dried fish production is carried out as a cottage industry. Currently 5 families are engaged in dried fish production.

Table 5.1: Details of Fish Production: Thondamanaru Landing Site

Fish Type (Commercial Group)	Fish Production (kg)		Price per kg (Rs)	
	May 2011	2010	May 2011 Average	2010 Average
Paraw	800	31,200	450	330
Prawns	-	8,000	-	300
Rock Fish	500	55,200	450	300
Seelave	-	12,000	-	250
Seer	100	3,600	470	300
Shark	100	3,600	475	320
Skate	200	2,400	80	60
Soodai	2,000	7,200	80	60
Other Types	600	9,400	80	60
Total	5,200	132,600	-	

5.2 Athikoviladi Landing Site

Source of Image: Google Earth

Figure 5.3: Athikoviladi Landing Site: Location

Figure 5.4: Athikoviladi Landing Site

5.2.1 Engineering and Environmental Aspects

The Landing Site in Athikoviladi (**Figure 5.3** and **Figure 5.4**) consists of several sheltered areas with five access channels through the reef. Difficulties in navigation and mooring are caused by the shallow depths in the access channels and the sheltered basins. The reef has been damaged by the IOT in 2004 and repairs have been carried out by reconstructing a barrier with broken limestone to provide shelter to the areas of mooring. The narrow beach area is subjected to erosion and a retaining wall has been constructed. Access to the site is provided by a narrow road. An Auction Hall currently used as a Resting Hall, two Resting Halls and a Society Building are available as shore facilities. Space is limited for further expansion of shore facilities.

5.2.2 Socio-Economic Aspects

Fishing activities in Athikoviladi are mainly carried out by the community in the Valveddithurai Northwest GN Division. Currently (June 2011) the local fishing population of 2,378 consists of 360 fishermen and 495 fishing families. The Fishery Society consists of 741 members.

Local community consultations revealed that dredging to deepen the access channels and mooring areas is the main requirement for the improvement of facilities. Requests have been made by the local fishing community for Breakwater protection, Dredging of Access Channels and sheltered areas and installing Beacon Lights.

An Anchorage facility consisting of a sheltered basin with Breakwater protection mainly for the use of smaller fishing crafts with the possibility of operating larger fishing crafts-IMUL and IDAY Boats-depending on the depths in mooring areas and associated shore facilities would lead to higher levels of fishery activities than the current operational levels benefiting a much larger local community. The Socio-Economic benefits of Fishery Anchorage developments are presented in Chapter 7.

5.2.3 Fishery Industrial Aspects

Approximately 100 OFRPBs, 22 MTRBs and 148 NTRBs are currently (May 2011) based in Athikoviladi. Fishing is carried out in coastal waters (approximately up to 20 km from the shore) and Bottom Set Gill Net (Skate Net), Drift Gill Net, Long Line and Trammel Net are the main fishing gear used. The details of fish production at the site are shown in **Table 5.2**. The production varies seasonally with low catches during the northeast monsoon in the months of October to January due to rough sea conditions and relatively high catches during the non-monsoonal period from February to July. The fish catch is purchased for local consumption and to deliver to markets in Colombo and other areas in the mainland by cooler trucks. The ice required for the preservation of fish is usually brought to the site in the cooler trucks or purchased from local ice plants.

Small scale fish processing in the form of dried fish production is carried out as a cottage industry. Currently 30 families are engaged in dried fish production. The current average

price/kg of dried fish are at Rs 450 (Paraw), Rs 150 (Soodai) and Rs 150 (Skate).

Table 5.2: Details of Fish Production: Athikoviladi Landing Site

Fish Type (Commercial Group)	Fish Production (kg)		Price per kg (Rs)	
	May 2011	2010	May 2011 Average	2010 Average
Paraw	6,400	144,000	450	300
Rock Fish	3,000	72,000	450	250
Seer	1,000	12,000	470	300
Shark	1,300	24,000	475	320
Skate	2,200	31,200	75	65
Soodai	15,000	144,000	70	60
Other Types	9,250	726,000	80	70
Total	38,150	1,153,200	-	

5.3 Valveddithurai Landing Site

Source of Image: Google Earth

Figure 5.5: Valveddithurai Landing Site: Location

Figure 5.6: Valveddithurai Landing Site

5.3.1 Engineering and Environmental Aspects

The facility in Valveddithurai (**Figure 5.5** and **Figure 5.6**) consists of three basins in close proximity, partially sheltered by the reef. Difficulties in mooring are caused by the shallow depths in the sheltered areas. A relatively wide sandy beach exists in the area. A Society Building and a large building have been constructed as the Fish Market but space is limited for expansion of shore facilities.

5.3.2 Socio-Economic Aspects

Fishing activities in Valveddithurai are mainly carried out by the communities in the Valveddithurai Northcentral, Valveddithurai East, Valveddithurai Southwest, Valveddithurai Southeast and Polikandy West GN Divisions. Currently (June 2011) local fishing population of 2,167 consists of 285 fishermen and 382 fishing families. The Fishery Society consists of 858 members.

Local community consultations revealed that dredging to deepen the access channels and mooring areas is the main requirement for the improvement of facilities. Requests have been made by the local fishing community for an Anchorage/Harbour, Dredging of Access Channels and sheltered areas, Quay Wall, Slipway and Beacon Lights.

A Harbour facility consisting of a sheltered basin with Breakwater protection for the use of larger fishing crafts-IMUL and IDAY Boats-as well as smaller fishing crafts and associated shore facilities would lead to much higher levels of fisheries activities than the current operational levels benefiting a much larger community in Valveddithurai and neighbouring areas. The Socio-Economic benefits of Fishery Harbour developments are presented in Chapter 7.

5.3.3 Fishery Industrial Aspects

Approximately 9 IMUL Boats, 18 IDAY Boats, 42 OFRPBs, 1 MTRB and 60 NTRBs are currently (May 2011) based in Valveddithurai. Fishing is carried out in coastal waters (approximately up to 20 km from the shore) by smaller fishing crafts and offshore by IMUL Boats over a period of 4-5 days. Drift Gill Net and Long Line are the main fishing gear used. Bottom Trawling, which had been carried out earlier is banned since January 2011. The details of fish production at the site are shown in **Table 5.3**.

The production varies seasonally with low catches during the northeast monsoon in the months of October to January due to rough sea conditions and relatively high catches during the non-monsoonal period from February to July. The fish catch is purchased for local consumption and to deliver to markets in Colombo and other areas in the mainland by cooler trucks. The ice required for the preservation of fish is usually brought to the site in the cooler trucks or purchased from local ice plants.

Small scale fish processing in the form of dried fish production is carried out as a cottage industry. Currently 5 families are engaged in dried fish production. The current average price/kg of dried fish are at Rs 500 (Paraw), Rs 150-200 (Soodai).

Table 5.3: Details of Fish Production: Valveddithurai Landing Site

Fish Type (Commercial Group)	Fish Production (kg)		Price per kg (Rs)	
	May 2011	2010	May 2011 Average	2010 Average
Paraw	5,100	78,000	470	300
Rock Fish	1,800	72,000	450	250
Seer	3,000	24,000	470	300
Shark	1,200	24,000	470	320
Skate	5,400	31,200	75	70
Soodai	15,300	60,000	70	60
Other Types	16,000	339,000	80	60
Total	47,800	628,200		

5.4 Polikandy West Landing Site

Source of Image: Google Earth

Figure 5.7: Polikandy West Landing Site: Location

Figure 5.8: Polikandy West Landing Site

5.4.1 Engineering and Environmental Aspects

The Landing Site in Polikandy West (**Figure 5.7** and **Figure 5.8**) consists of a sheltered area with an access channel through the reef. Difficulties in navigation and mooring are caused by the shallow depths in the access channel and the sheltered basins. A relatively wide sandy beach exists at the site. An Auction Hall, a Resting Hall and a Society Building are available as shore facilities and space (20 perch extent) is available for expansion.

5.4.2 Socio-Economic Aspects

Fishing activities in Polikandy West are mainly carried out by the community in the Polikandy West GN Division. Currently (June 2011) the local fishing population of 588 consists of 130 fishermen and 126 fishing families. The Fishery Society consists of 176 members.

Local community consultations revealed that dredging to deepen the access channels and mooring areas is the main requirement for the improvement of facilities. Requests have been made by the local fishing community for Breakwater protection, Dredging of Access Channels and sheltered areas and installing Beacon Lights.

An Anchorage facility consisting of a sheltered basin with Breakwater protection mainly for the use of smaller fishing crafts with the possibility of operating larger fishing crafts-IMUL and IDAY Boats-depending on the depths in mooring areas and associated shore facilities would lead to higher levels of fisheries activity than the current operational levels benefiting a much larger local community. The Socio-Economic benefits of Fishery Anchorage developments are presented in Chapter 7.

5.4.3 Fishery Industrial Aspects

Approximately 1 IMUL Boat, 25 OFRPBs, 4 MTRBs and 18 NTRBs are currently (May 2011) based in Polikandy West. Fishing is carried out in coastal waters (approximately up to 20 km from the shore). Drift Gill Net is the main fishing gear used. The details of fish production at the site are shown in **Table 5.4**. The production varies seasonally with low catches during the northeast monsoon in the months of October to January due to rough sea conditions

and relatively high catches during the non-monsoonal period from February to July. The fish catch is purchased for local consumption and to deliver to markets in Colombo and other areas in the mainland by cooler trucks. The ice required for the preservation of fish is usually brought to the site in the cooler trucks or purchased from local ice plants.

Small scale fish processing in the form of dried fish production is carried out as a cottage industry. Currently 3 families are engaged in dried fish production. The current average price/kg of dried fish are at Rs 500 (Paraw), Rs 150-200 (Soodai).

Table 5.4: Details of Fish Production: Polikandy West Landing Site

Fish Type (Commercial Group)	Fish Production (kg)		Price per kg (Rs)	
	May 2011	2010	May 2011 Average	2010 Average
Paraw	1,000	32,400	450	300
Rock Fish	1,000	7,200	460	240
Seer	200	6,000	470	300
Shark	300	4,800	500	350
Shore Scene	1,700	36,000	80	80
Soodai	3,000	31,200	70	60
Other Types	2,740	114,900	90	70
Total	9,940	232,500	-	-

5.5 Polikandy East Landing Site

Source of Image: Google Earth

Figure 5.9: Polikandy East Landing Site: Location

Figure 5.10: Polikandy East Landing Site

5.5.1 Engineering and Environmental Aspects

The facility in Polikandy East (**Figure 5.9** and **Figure 5.10**) consists of a basin sheltered by the reef with three access channels. The IOT in 2004 has damaged the reef and heavy silting in the basin has taken place. Difficulties in mooring are caused by the shallow depths in the sheltered areas. A sandy/rocky beach exists in the area which is subject to erosion. An Auction Hall, a Resting Hall and a Society Building are available as shore facilities but space is limited for expansion. A Beacon Light has recently been installed.

5.5.2 Socio-Economic Aspects

Fishing activities in Polikandy East are mainly carried out by the community in the Polikandy East GN Division. Currently (June 2011) the local fishing population of 700 consists of 146 fishermen and 150 fishing families. The Fishery Society consists of 217 members.

Local community consultations revealed that dredging to deepen the access channels and mooring area is the main requirement for the improvement of facilities. Requests have been made by the local fishing community for an Anchorage facility, Dredging of Access Channels and sheltered area. Request is also made for another Resting Hall as the existing hall is too small and not sufficient for the community.

An Anchorage facility consisting of a sheltered basin with Breakwater protection mainly for the use of smaller fishing crafts with the possibility of operating larger fishing crafts-IMUL and IDAY Boats-depending on the depths in mooring areas and associated shore facilities would lead to higher levels of fisheries activity than the current operational levels benefiting a much larger local community. The Socio-Economic benefits of Fishery Anchorage developments are presented in Chapter 7.

5.5.3 Fishery Industrial Aspects

Approximately 46 OFRPBs and 47 NTRBs are currently (May 2011) based in Polikandy East. Fishing is carried out in coastal waters (approximately up to 15 km from the shore). Drift Gill Net is the main fishing gear used. The details of fish production at the site are shown in **Table 5.5**. The production varies seasonally with low catches during the northeast monsoon

in the months of October to January due to rough sea conditions and relatively high catches during the non-monsoonal period from February to July. The fish catch is purchased for local consumption and to deliver to markets in Colombo and other areas in the mainland by cooler trucks. The ice required for the preservation of fish is usually brought to the site in the cooler trucks or purchased from local ice plants.

Small scale fish processing in the form of dried fish production is carried out as a cottage industry. Currently 4 families are engaged in dried fish production. The current average price/kg of dried fish are at Rs 500 (Paraw), Rs 150 (Soodai), Rs 150-200 (Skate).

Table 5.5: Details of Fish Production: Polikandy East Landing Site

Fish Type (Commercial Group)	Fish Production (kg)		Price per kg (Rs)	
	May 2011	2010	May 2011 Average	2010 Average
Paraw	3,600	42,000	450	300
Rock Fish	1,100	50,400	450	275
Seer	500	12,000	470	300
Shark	400	24,000	460	325
Skate	700	36,000	70	70
Soodai	6,000	43,200	70	60
Other Types	4,300	231,900	90	60
Total	16,600	439,500	-	-

5.6 Sakkoddai Landing Site

Source of Image: Google Earth

Figure 5.11: Sakkoddai Landing Site: Location

Figure 5.12: Sakkoddai Landing Site

5.6.1 Engineering and Environmental Aspects

The Landing Site in Sakkoddai (**Figure 5.11** and **Figure 5.12**) consists of a sheltered area with several access channels through the reef. Difficulties in navigation and mooring are caused by the shallow depths in the access channel and the sheltered basins. A rocky beach exists at the site. A Multi-Purpose Building is the only available shore facility and space is limited for expansion.

5.6.2 Socio-Economic Aspects

Fishing activities in Sakkoddai are mainly carried out by the community in Alvai West and Alvai Northwest GN Divisions. Currently (June 2011) local fishing population of 800 consists of 145 fishermen and 155 fishing families. The Fishery Society consists of 264 members.

Local community consultations revealed that dredging to deepen the access channels and mooring area is the main requirement for the improvement of facilities. Requests have been made by the local fishing community for Breakwater protection and Dredging of Access Channels and sheltered areas and installing a Beacon Light.

An Anchorage facility consisting of a sheltered basin with Breakwater protection mainly for the use of smaller fishing crafts with the possibility of operating larger fishing crafts-IMUL and IDAY Boats-depending on the depths in mooring areas and associated shore facilities would lead to higher levels of fisheries activity than the current operational levels benefiting a much larger local community. The Socio-Economic benefits of Fishery Anchorage developments are presented in Chapter 7.

5.6.3 Fishery Industrial Aspects

Approximately 35 OFRPBs, 4 MTRBs and 50 NTRBs are currently (May 2011) based in Sakkoddai. Fishing is carried out in coastal waters (approximately up to 15 km from the shore). Drift Gill Net and Long Line are the main fishing gear used. The details of fish production at the site are shown in **Table 5.6**. The production varies seasonally with low

catches during the northeast monsoon in the months of October to January due to rough sea conditions and relatively high catches during the non-monsoonal period from February to July. The fish catch is purchased for local consumption and to deliver to markets in Colombo and other areas in the mainland by cooler trucks. The ice required for the preservation of fish is usually brought to the site in the cooler trucks or purchased from local ice plants.

Small scale fish processing in the form of dried fish production is carried out as a cottage industry. Currently 3 families are engaged in dried fish production. The current average price/kg of dried fish are at Rs 500 (Paraw), Rs 150 (Soodai).

Table 5.6: Details of Fish Production: Sakkoddai Landing Site

Fish Type (Commercial Group)	Fish Production (kg)		Price per kg (Rs)	
	May 2011	2010	May 2011 Average	2010 Average
Paraw	2,700	46,800	460	300
Rock Fish	1,000	60,000	460	300
Shark	300	36,000	470	320
Skate	800	72,000	75	65
Soodai	4,000	48,000	75	65
Other Types	3,100	219,000	70-110	80
Total	11,900	481,800	-	-

5.7 Imparsiddy Landing Site

Source of Image: Google Earth

Figure 5.13: Imparsiddy Landing Site: Location

Figure 5.14: Imparsiddy Landing Site

5.7.1 Engineering and Environmental Aspects

The facility in Impersiddy (**Figure 5.13** and **Figure 5.14**) consists of a basin sheltered by the reef. The IOT in 2004 has damaged the reef and shore facilities. Difficulties in mooring are caused by the shallow depths in the sheltered areas. A sandy/rocky beach exists in the area which is subject to erosion and a retaining wall has been constructed. An Auction Hall, a Resting Hall and a Multi Purpose Hall are available as shore facilities but space is limited for expansion.

5.7.2 Socio-Economic Aspects

Fishing activities in Impersiddy are mainly carried out by the communities in the Alvai North Central and Viyaparimoolai GN Divisions. Currently (June 2011) local fishing population of 1,126 consists of 250 fishermen and 228 fishing families. The Fishery Society consists of 518 members.

Local community consultations revealed that dredging to deepen the access channels and mooring areas for the operation of larger fishing crafts is the main requirement for the improvement of facilities. Requests have been made by the local fishing community for a Beacon Light, Dredging of Access Channels and sheltered areas and for a Fishery Harbour.

A Harbour facility consisting of a sheltered basin with Breakwater protection for the use of larger fishing crafts-IMUL and IDAY Boats-as well as smaller fishing crafts and associated shore facilities would lead to much higher levels of fisheries activity than the current operational levels benefiting a much larger community in Impersiddy and neighbouring areas. The Socio-Economic benefits of Fishery Harbour developments are presented in Chapter 7.

5.7.3 Fishery Industrial Aspects

Approximately 5 IMUL Boats, 5 IDAY Boats 40 OFRPBs and 65 NTRBs are currently (May 2011) based in Imparsiddy. Prior to the conflict, a large number of IDAY boats had been based in Imparsiddy. Fishing is carried out in coastal waters (approximately up to 18 km from the shore) by smaller fishing crafts and offshore by larger fishing crafts. Drift Gill Net and Bottom Long Line are the main fishing gear used. The details of fish production at the

site are shown in **Table 5.7**. The production varies seasonally with low catches during the northeast monsoon in the months of October to January due to rough sea conditions and relatively high catches during the non-monsoonal period from February to July. The fish catch is purchased for local consumption and to deliver to markets in Colombo and other areas in the mainland by cooler trucks. The ice required for the preservation of fish is usually brought to the site in the cooler trucks or purchased from local ice plants.

Small scale fish processing in the form of dried fish production is carried out as a cottage industry. Currently 3 families are engaged in dried fish production. The current average price/kg of dried fish is at Rs 500 (Paraw).

Table 5.7: Details of Fish Production: Imparsiddy Landing Site

Fish Type (Commercial Group)	Fish Production (kg)		Price per kg (Rs)	
	May 2011	2010	May 2011 Average	2010 Average
Paraw	6,000	61,400	440	300
Rock Fish	2,000	73,100	450	250
Seer	3,500	30,250	460	400
Shark	2,200	26,950	450	320
Shore Scene	6,000		65-110	
Skate	4,400	74,100	70	70
Skyjack Tuna and	3,400		550	
Soodai	14,000	75,300	70	70
Other Types	3,500	84,250	70-120	60
Total	45,000	425,350	-	-

5.8 Suppermadam Landing Site

Source of Image: Google Earth

Figure 5.15: Suppermadam Landing Site: Location

Figure 5.16: Suppermadam Landing Site

5.8.1 Engineering and Environmental Aspects

The Landing Site in Suppermadam (**Figure 5.15** and **Figure 5.16**) consists of a sheltered area with an access channel through the reef. It is located on an eroding coastline. Difficulties in navigation and mooring are caused by the shallow depths in the access channel and the sheltered basins. A rocky beach exists at the site. An Auction Hall, a Resting Hall and a Society Building are available as shore facilities.

5.8.2 Socio-Economic Aspects

Fishing activities in Suppermadam are mainly carried out by the communities in the Point Pedro, Point Pedro South and Puloly Central GN Divisions. Currently (June 2011) the local fishing population of 1,084 consists of 201 fishermen and 223 fishing families. The Fishery Society consists of 373 members.

Local community consultations revealed that dredging to deepen the access channels and mooring area is the main requirement for the improvement of facilities. Requests have been made by the local fishing community for Breakwater protection and Dredging of Access Channels and sheltered areas, a Retaining Wall, a Resting Hall and installing a Beacon Light.

An Anchorage facility consisting of a sheltered basin with Breakwater protection mainly for the use of smaller fishing crafts with the possibility of operating larger fishing crafts-IMUL and IDAY Boats-depending on the depths in mooring areas and associated shore facilities would lead to higher levels of fisheries activity than the current operational levels benefiting a much larger local community. The Socio-Economic benefits of Fishery Anchorage developments are presented in Chapter 7.

5.8.3 Fishery Industrial Aspects

Approximately 4 IMUL Boats, 5 IDAY Boats, 46 OFRPBs, 10 MTRBs and 35 NTRBs are currently (May 2011) based in Suppermadam. Fishing is carried out in coastal waters (approximately up to 18 km from the shore). Drift Gill Net is the main fishing gear used. The details of fish production at the site are shown in **Table 5.8**. The production varies seasonally with low catches during the northeast monsoon in the months of October to January due to rough sea conditions and relatively high catches during the non-monsoonal

period from February to July. The fish catch is purchased for local consumption and to deliver to markets in Colombo and other areas in the mainland by cooler trucks. The ice required for the preservation of fish is usually brought to the site in the cooler trucks or purchased from local ice plants.

Table 5.8: Details of Fish Production: Suppermadam Landing Site

Fish Type (Commercial Group)	Fish Production (kg)		Price per kg (Rs)	
	May 2011	2010	May 2011 Average	2010 Average
Kumbalawa		24,100		280
Paraw	5,100	37,300	450	300
Rock Fish	1,500	43,900	460	250
Seer	1,800	17,800	460	350
Shark	1,600	15,300	460	320
Shore Scene and Other	12,400	80,300	60-110	60
Skate	4,200	13,000	75	70
Skyjack Tuna and Yellwow Fin	1,700		550	
Soodai	15,000	34,050	75	70
Total	43,300	265,750	-	-

5.9 Koddady Landing Site

Source of Image: Google Earth

Figure 5.17: Koddady Landing Site: Location

Figure 5.18: Koddady Landing Site

5.9.1 Engineering and Environmental Aspects

The facility in Koddady (**Figure 5.17** and **Figure 5.18**) consists of a basin sheltered by the reef. A wide sandy beach exists in the area with a potential for tourism and recreational activities. An Auction Hall, a Resting Hall and a Society Building are available as shore facilities.

5.9.2 Socio-Economic Aspects

Fishing activities in Koddady are mainly carried out by the communities in the Point Pedro, Point Pedro South, Thumpalai, Thumpalai East, Puloly North and Puloly Central GN Divisions. Currently (June 2011) the local fishing population of 615 consists of 190 fishermen and 189 fishing families. The Fishery Society consists of 239 members.

Local community consultations revealed that dredging to deepen the access channels and mooring area is the main requirement for the improvement of facilities. Requests have been made by the local fishing community for a Beacon Light, Dredging of Access Channels and sheltered areas and Breakwater protection.

An Anchorage facility consisting of a sheltered basin with Breakwater protection mainly for the use of smaller fishing crafts with the possibility of operating larger fishing crafts-IMUL and IDAY Boats-depending on the depths in mooring areas and associated shore facilities would lead to higher levels of fisheries activity than the current operational levels benefiting a much larger local community. The Socio-Economic benefits of Fishery Anchorage developments are presented in Chapter 7.

5.9.3 Fishery Industrial Aspects

Approximately 2 IDAY Boats, 64 OFRPBs, 4 MTRBs and 45 NTRBs are currently (May 2011) based in Koddady. Fishing is carried out in coastal waters (approximately up to 20 km from the shore) by smaller fishing crafts and offshore by larger fishing crafts. Drift Gill Net, bottom Set Gill Net and Bottom Long Line are the main fishing gear used. The details of fish production at the site are shown in **Table 5.9**. The production varies seasonally with low catches during the northeast monsoon in the months of October to January due to rough sea conditions and relatively high catches during the non-monsoonal period from February

to July. The fish catch is purchased for local consumption and to deliver to markets in Colombo and other areas in the mainland by cooler trucks. The ice required for the preservation of fish is usually brought to the site in the cooler trucks or purchased from local ice plants.

Small scale fish processing in the form of dried fish production is carried out as a cottage industry. Currently 5 families are engaged in dried fish production. The current average price/kg of dried fish are at Rs 400 (Paraw), Rs 200-220 (Skate), Rs 500 (Katta).

Table 5.9: Details of Fish Production: Koddady Landing Site

Fish Type (Commercial Group)	Fish Production (kg)		Price per kg (Rs)	
	May 2011	2010	May 2011 Average	2010 Average
Paraw	5,100	73,400	450	300
Rock Fish	7,050	71,600	460	280
Seer	900	31,350	470	350
Shark	1,000	21,000	460	320
Shore Scene	1,300		75	
Skate	1,100	42,800	75	70
Soodai	9,200	131,425	70-100	60
Other	3,100	92,025	60-110	60
Total	28,750	463,600	-	-

5.10 Munai Landing Site

Source of Image: Google Earth

Figure 5.19: Munai Landing Site: Location

Figure 5.20: Munai Landing Site

Several basins sheltered by the reef exist in the Munai area and the site near the Naval Camp (**Figure 5.19** and **Figure 5.20**) is used by a larger fishing community. Navigational and mooring difficulties are encountered by fishing community due to shallow depths in the sheltered basin and lack of shelter provided by the damaged limestone reef during the northeast monsoon period. An Auction Hall, a Resting Hall and a Society Building have been constructed as shore facilities and land (extent 20 perch) is available for expansion.

5.10.2 Socio-Economic Aspects

Fishing activities in Munai are mainly carried out by the communities in the Point Pedro East GN Division. Currently (June 2011) the local fishing population of 1,526 consists of 312 fishermen and 299 fishing families. The fishery Society consists of 422 members.

Local community consultations revealed that dredging to deepen the access channels and mooring area is the main requirement for the improvement of facilities. Requests have been made by the local fishing community for a Beacon Light, Dredging of Access Channels and sheltered areas and Breakwater protection.

An Anchorage facility consisting of a sheltered basin with Breakwater protection mainly for the use of smaller fishing crafts with the possibility of operating larger fishing crafts-IMUL and IDAY Boats-depending on the depths in mooring areas and associated shore facilities would lead to higher levels of fisheries activity than the current operational levels benefiting a much larger local community. The Socio-Economic benefits of Fishery Anchorage developments are presented in Chapter 7.

5.10.3 Fishery Industrial Aspects

Approximately 5 IDAY Boats, 177 OFRPBs, 8 MTRBs and 134 NTRBs are currently (May 2011) based in Munai. Fishing is carried out in coastal waters (approximately up to 20 km from the shore) by smaller fishing crafts and offshore by larger fishing crafts. Drift Gill Net, Bottom Set Gill Net and drift Net are the main fishing gear used. The details of fish production at the site are shown in **Table 5.10**. The production varies seasonally with low catches during the northeast monsoon in the months of October to January due to rough sea conditions and relatively high catches during the non-monsoonal period from February to July. The fish catch is purchased for local consumption and to deliver to markets in Colombo and other

areas in the mainland by cooler trucks. The ice required for the preservation of fish is usually brought to the site in the cooler trucks or purchased from local ice plants.

Small scale fish processing in the form of dried fish production is carried out as a cottage industry. Currently 30 families are engaged in dried fish production. The current average price/kg of dried fish is at Rs 350-400 (Paraw), Rs 200 (Skate), Rs 150 (Soodai).

Table 5.10: Details of Fish Production: Munai Landing Site

Fish Type (Commercial Group)	Fish Production (kg)		Price per kg (Rs)	
	May 2011	2010	May 2011 Average	2010 Average
Paraw	7,000	154,900	450	275
Rock Fish	13,000	233,400	450	250
Seer	3,000	102,500	470	350
Shark	2,500	132,750	460	330
Skate	12,200	318,500	75	70
Soodai	12,300	182,800	70-100	65
Other	9,000	153,700	60-120	65
Total	59,000	1,278,550	-	-

The details of the 10 Landing sites are summarized in **Table 5.11**.

	Landing Site	Engineering and Environmental Aspects (a) Current Issues (b) Existing Facilities (c) Potential/Restrictions for Expansion (d) Community Requests (e) Other Considerations	Socio-Economic Aspects			Fishery Industrial Aspects						
						No of Boats in May 2011						Fish Production in 2010 (MT)
			No of Fishermen	No of Fishing Families	Fishing Population	IMUL	IDAY	OFRPB	MTRB	NTRB	Total	
1	**Thondamanaru**	(a) Shallow Access Channel, Basins (b) Auction Hall, Resting Place, Beacon Light (c) Space available for Expansion (d) Dredging of Access Channel, Mooring Area, Breakwater (Harbour Facility) (e) Potential for Recreational Activities	178	158	805	-	-	22	-	66	88	133
2	**Athikovilady**	(a) Shallow Access Channels, Basins (b) Auction Hall, Resting Halls, Society Building (c) Limited Space for Expansion (d) Dredging of Access Channel, Mooring Area, Breakwater, Beacon Light (Anchorage Facility)	360	495	2,378	-	-	100	22	148	270	1,153
3	**Valveddithurai**	(a) Shallow Access Channels, Basins (b) Fish Market (c) Limited Space for Expansion (d) Dredging of Access Channel, Mooring Area, Breakwater, Quay Wall, Slipway, Beacon Light (Harbour Facility)	285	382	2,167	9	18	42	1	60	130	628
4	**Polikandy West**	(a) Shallow Access Channel, Basin (b) Auction Hall, Resting Halls, Society Building (c) Space available for Expansion (d) Dredging of Access Channel, Mooring Area, Breakwater, Beacon Light (Anchorage Facility)	130	126	588	1	-	25	4	18	48	233
5	**Polikandy East**	(a) Shallow Access Channels, Basin (b) Auction Hall, Resting Halls, Society Building, Beacon Light (c) Limited Space for Expansion (d) Dredging of Access Channel, Mooring Area (Anchorage Facility)	146	150	700	-	-	46	-	47	93	440
6	**Sakkoddai**	(a) Shallow Access Channels, Basin (b) Multi Purpose Building (c) Limited Space for Expansion (d) (Harbour Facility)	135	155	800	-	-	35	4	50	89	482
7	**Imparsiddy**	(a) Shallow Basin (b) Auction Hall, Resting Hall, Multi Purpose Hall (c) Limited Space for Expansion (d) Dredging of Access Channel, Mooring Area, Breakwater (Harbour Facility)	250	228	1,126	5	5	40	-	65	115	425
8	**Suppermadam**	(a) Shallow Access Channel, Basin (b) Auction Hall, Resting Halls, Society Building (d) Dredging of Access Channel, Mooring Area, Breakwater, Beacon Light, Retaining Wall, Resting Hall (Anchorage Facility)	201	223	1,084	4	5	46	10	35	100	266
9	**Koddady**	(a) Shallow Access Channel, Basin (b) Auction Hall, Resting Hall, Society Building (c) Space available for Expansion (d) Dredging of Access Channel, Mooring Area, Breakwater, Beacon Light (Anchorage Facility) (e) Potential for Recreational Activities	190	189	615	-	2	64	4	45	115	464
10	**Munai**	(a) Shallow Basins (b) Auction Hall, Resting Hall, Society Building (c) Space available for Expansion (d) Dredging of Access Channel, Mooring Area, Breakwater, Beacon Light (Anchorage Facility) (e) Located next to a Security Establishment	312	299	1,526	-	5	177	8	134	324	1,279

Table 5.11: Summary of Details of Fishery Landing Sites Selected for the Study

6 Development Options: Basic Vision and Policy

6.1 Categories of Fishery Infrastructure Development

Fishery activities are carried out by a variety of fishing crafts with different infrastructure requirements for their operations. As a result, it is difficult to categorize the fishing infrastructure developments based on the type of crafts but can be graded by the type of fishing operations served, namely, artisanal, coastal, offshore and deep water and three levels of development in the form of

1) Fishery Harbours

2) Fishery Anchorages

3) Fishery Landing Sites

could be identified. Social demand, Coastal Engineering issues, Port/Harbour Engineering issues and Land availability for Shore Facilities are also among the factors in identifying the level of development required.

6.1.1 Fishery Harbours

Fishery Harbours could be broadly categorized into two types:

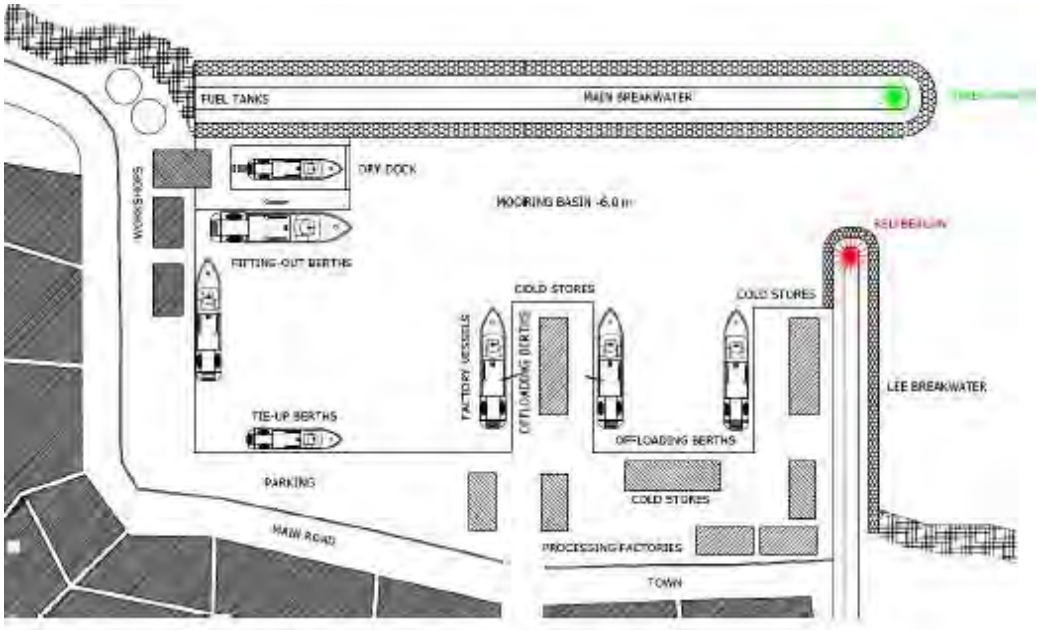
1) Deep Water Fishery Harbours

2) Offshore Fishery Harbours

Deep Water Fishery Harbours are developed mainly to serve large modern, factory-type Trawlers roaming the oceans on very long trips, even up to 6 to 12 months at a time. The home port of such vessels can be located at specially provided facilities in Commercial Ports but Deep Water Fishery Harbours specifically designed for the requirements of fishery industry are considered more effective. As Deep Water Fishery Harbours cater for the requirements of larger fishing crafts-Large factory type Trawlers and IMUL Boats (**Figure 6.1**)-such facilities usually consist of a basin area of sufficient size and a **minimum water depth of 5 m**, usually protected by Breakwaters, Quay Walls to facilitate loading/unloading operations and Shore Facilities for other related activities. A typical layout indicating the various features of a Deep Water Fishery Harbour is shown in **Figure 6.2**. The current Governmental requirements specify a minimum depth of 5 m in all new Fishery Harbours to be developed except when such depths are not achievable due to Coastal and Port Engineering issues. A Deep Water Fishery Harbour is currently under construction in Dikowita in the Colombo District.

Fishing Trawlers **IMUL Boats**

Figure 6.1: Vessels Served by a Deep Water Fishery Harbour



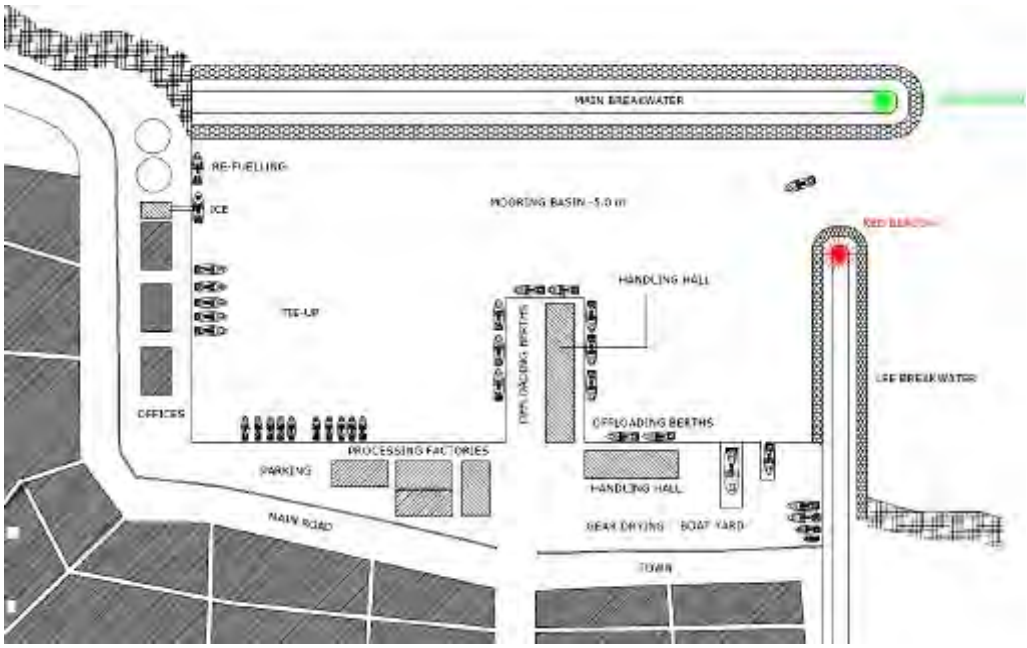
Source of Figure: Fishing Harbour Planning Construction and Management, FAO Fisheries and Aquaculture Technical Paper 539, 2010

Figure 6.2: Typical Layout of a Deep Water Fishery Harbour

Offshore fisheries activities usually involve fishing trips extending to the limit of the EEZ and last up to 3-5 weeks and carried out by IMUL and IDAY Boats. The vessel sizes are usually in the order of 20 m and the vessels generally need proper port facilities. Offshore Fishery Harbours mainly cater for the requirements of IMUL and IDAY Boats (**Figure 6.3**) and such facilities usually consist of a basin area of sufficient size and **a minimum water depth of 3.5 m,** usually protected by Breakwaters, Quay Walls to facilitate loading/unloading operations and Shore Facilities for other related activities. A typical layout indicating the various features of an Offshore Fishery Harbour is shown in **Figure 6.4**.

IMUL Boats **IDAY Boats**

Figure 6.3: Vessels Served by an Offshore Fishery Harbour



Source of Figure: Fishing Harbour Planning Construction and Management, FAO Fisheries and Aquaculture Technical Paper 539, year 2010

Figure 6.4: Typical Layout of a Offshore Fishery Harbour

All existing Fishery Harbours in the country could be categorized as offshore Fishery Harbours. Feasibility studies on developing some of the existing Offshore fishery Harbours as Deep Water Fishery Harbours are to be commenced soon.

The Fishery Harbours are managed by the CFHC and the following specifications/guidelines indicate the requirements for Fishery Harbours:

Guidelines to the Shore Facilities:

1) CFHC office
2) Radio Room
3) Auction Hall
4) Resting Place/ Net Mending Hall
5) Storage for Fishermen
6) Ice Storage
7) Canteen
8) Sales Outlets
9) Security Office
10) Offices for SLN and Coast Guard
11) Toilets and Shower Rooms
12) Water Tank and Sump
13) Fuel Storage and Supply System
14) Weigh Bridge
15) Slipway and Boat Repair Yard
16) Accommodation for CFHC and Maintenance personnel

General Notes:

1) Minimum road width: 6 m
2) Minimum Quay Wall width: 8m
3) Minimum width for Net Mending and Auction Halls: 6 m
4) Drainage system: To discharge waste water away from the Harbour Basin and open drains
5) Separate access road for the breakwater
6) Further developments including an Ice Plant and fishery related industries to be identified/ located in the Master Plan.

6.1.2 Fishery Anchorages

Coastal fishery activities are usually carried out by artisanal fishermen operating on one to two day fishing trips from home. The fishing crafts typically consist of large motorized or non-motorized crafts, decked and undocked, with a maximum length of about 10-15 m. These vessels could either be beached or moored in calm waters, such as bays, coves etc. In some cases, a proper port may be needed if the landings are of high-volume.

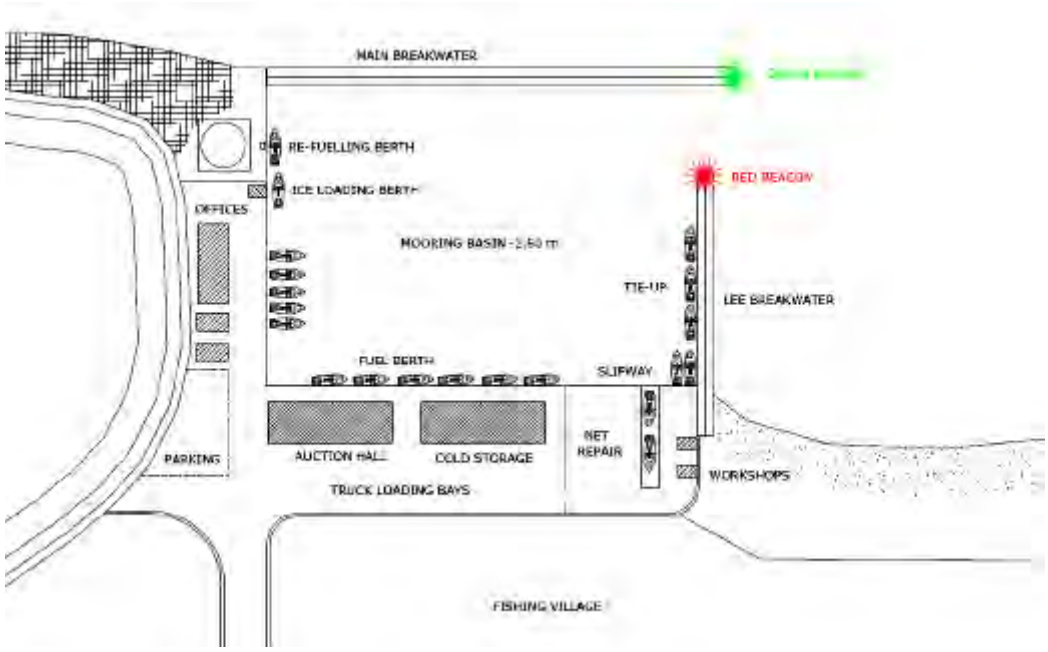
Fishery Anchorages mainly cater for the requirements of smaller fishing crafts engaged in coastal fisheries but larger crafts could also use such facilities depending on the depths in mooring areas (**Figure 6.5**). These facilities usually consist of a sheltered basin (with natural or Breakwater protection) for safe mooring and shore facilities for other fisheries related activities. A typical layout of a Fishery Anchorage is shown in **Figure 6.6**.

Along the northern coastline of Jaffna Peninsula, many of the Landing sites are located at near-shore basins sheltered by the reef formation and the improvement of fisheries

infrastructure as Anchorages could be best achieved by strengthening the natural protection provided by the reef. The crest level of the reef may need to be raised-by using rocks cleared from the basins and access channels to form offshore breakwaters. Strengthening of the seaward slope with the use of larger armor-rock or limestone- may also be needed to provide effective protection during the northeast monsoon period. Such protection would also be helpful in mitigating coastal erosion in the region.

OFRP Boats **IDAY Boats**

Figure 6.5: Vessels Served by a Fishery Anchorage



Source of Figure: Fishing Harbour Planning Construction and Management, FAO Fisheries and Aquaculture Technical Paper 539, year 2010

Figure 6.6: Typical layout of Fishery Anchorage

The following specifications/guidelines indicate the requirements for Fishery Anchorage:

<u>Guidelines to the Shore Facilities:</u>

1) CFHC office and/or Office for the fisheries Inspector
2) Auction Hall

3) Resting Place/ Net Mending Hall
4) Storage for Fishermen
5) Ice Storage
6) Canteen
7) Sales Outlets
8) Security Office
9) Offices for SLN and Coast Guard
10) Toilets and Shower Rooms
11) Water Tank and Sump
12) Fuel Storage and Supply System
13) Weigh Bridge

General Notes:

1) Minimum road width: 6 m
2) Minimum Quay Wall width: 8 m
3) Minimum width for Net Mending and Auction Halls: 6 m
4) Drainage system: To discharge waste water away from the Harbour Basin and open drains
5) Separate access road for the breakwater

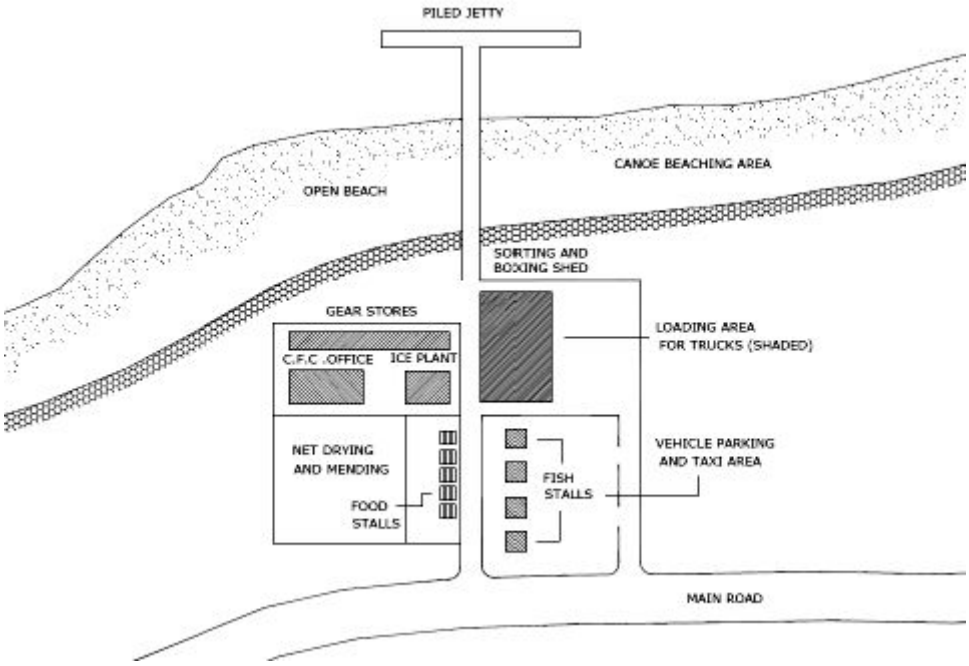
6.1.3 Fishery Landing Sites

Artisanal fisheries usually involve subsistence and artisanal fishermen, operating on a daily trip basis a short distance from their village. Vessels typically consist of smaller fishing crafts beached on the village coastline (**Figure 6.7**). Fishery Landing Sites cater for the requirements of such smaller fishing crafts. A typical layout of a Fishery Landing Site is shown in **Figure 6.8**.

Along the northern coastline of Jaffna Peninsula, many of the Landing sites are located at near-shore basins sheltered by the reef formation and the improvement could be carried out by providing required Shore Facilities. Clearance of the basins and entrance channels will also need to be carried out.

Traditional Crafts **OFRP Boats**

Figure 6.7: Vessels Served by a Fishery Landing Site



Source of Figure: Fishing Harbour Planning Construction and Management, FAO Fisheries and Aquaculture Technical Paper 539, year 2010

Figure 6.8: Typical layout of a Fishery Landing Site

The following specifications/guidelines indicate the requirements for Fishery Landing Site:

Guidelines to the Shore Facilities:

1) Auction Hall
2) Resting Place/ Net Mending Hall
3) Storage for Fishermen
4) Ice Storage
5) Toilets and Shower Rooms
6) Water Tank and Sump
7) Fuel Storage and Supply System

6.2 Site Selection for Fishery Infrastructure Development in Point Pedro

6.2.1 Fishery Harbour Development

Technical and Social/Fishery Industrial assessments were carried out to select the best possible locations for fishery infrastructure development. Technical aspects such as Coastal and Harbour Engineering issues and Social/Fishery Industrial aspects such as number of active fishermen, fishing families, fishing fleet, current fish catch, proximity to other Landing Sites, land availability etc were considered in the assessment. The details of the fishing fleet and fish catch in the 10 Landing Sites considered in the study in Point Pedro are given in **Table 6.1** and the locations of the Landing Sites are shown in **Figure 6.9**.

Table 6.1: Fishing Fleet and Fish Catch in the 10 Landing Sites in Point Pedro, May 2011

Landing Site		IMUL	IDAY	OFRPB	Other	Total	Fish Production (MT)
1	Thondamanaru	-	-	20	10	30	133
2	Athikovilady	-	-	100	170	270	1,153
3	Valveddithurai	9	18	42	61	130	628
4	Polikandy West	1	-	25	22	48	233
5	Polikandy East	-	-	46	47	93	440
6	Sakkoddai	-	-	35	54	89	482
7	Imparsiddy	5	5	40	65	115	425
8	Suppermadam	4	5	46	45	100	266
9	Koddady	-	2	64	49	115	464
10	Munai	-	5	177	142	324	1,279

Source of Image: Google Earth

Figure 6.9: Locations Fishery Landing Sites Considered in the Study

A large number of OFRPBs are based in the Landing Sites in Athikovilady and Munai and the fishing activities at these sites make a significant contribution to the total fish catch in Point Pedro DS Division. The Landing Site in Athikovilady is located in a densely populated area whereas the Landing Site in Munai is located closer to a security establishment, the Point Pedro Naval Harbour. The highest number of IMUL and IDAY Boats in Point Pedro DS Division are currently based in Valveddithurai Landing Site which also makes a significant contribution to the total fish catch and is also located in a densely populated area.

The development of a Fishery Harbour would require a sufficient extent of land area for shore facilities with wide access roads. Such a development in Athikovilady or in Valveddithurai would likely cause social conflicts due to the requirements of land acquisition and possible displacement/relocation of local communities. A large scale development in Munai would likely to create issues related to security considerations. In addition, these three Landing Sites are located closer to the western and eastern edges of the area

considered for the study, further away from the other Landing Sites used by the local fishing communities whose interests would be better served by a Fishery Harbour facility developed in a more central location.

In view of the above considerations and the Technical pre-Feasibility, Imparsiddy has been selected as the most suitable location for the development of a Fishery Harbour. Imparsiddy has also been identified by the DFAR for development of a Fishery Harbour. The site is located besides the main road and no land acquisition is required for access. The development would include both Marine Structures and Shore Facilities. As in many other Landing Sites in the area, the extent of land available is limited for the development of Shore Facilities and reclamation of the beach area may need to be carried out. A possible layout for Fishery Harbour in Imparsiddy is shown in **Figure 6.10**.

Source of Image: Google Earth

Figure 6.10: Imparsiddy: Fishery Harbour Layout

It should to be noted that the identification of Imparsiddy as the most suitable site for a Fishery Harbour development in Point Pedro DS Division was based on a Pre-Feasibility Study which did not include detailed Coastal and Harbour Engineering investigations such as Bathymetric Surveys, Geotechnical Investigations and Numerical Modeling of Waves/Currents. Therefore, in the event of any technical requirement leading to an excessively high investment which could become apparent during a detailed Feasibility Study, an alternative location may need to be considered.

Assessments carried out by the study indicate that the coastal stretch from Munai to Athikoviladdy comprises of relatively uniform features/characteristics and any technical issue in Imparsiddy may also relevant to the other Landing Sites located on the stretch. Hence, Thondamanaru could be considered as an alternate location in the event of any technical concern related to the development in Imparsiddy. Based on the studies conducted a qualitative comparative assessment of the two locations are given in **Table 6.2**.

Table 6.2: Comparative Assessment of the Two Potential Locations for a Fishery Harbour

	Landing Site	Inparsiddy	Thondamanaru
Engineering and Environmental Aspects	Breakwater Structure	Based on Bathymetry	Based on Bathymetry
	Dredging	Relatively Low Quantity	Quantity could be Higher
	Sediment Movement and Harbour Siltation	Low	Needs to study in detail as the estuary mouth is in the vicinity
	Land Availability	Less	Relatively More
	Access Road	Close to the main road	Away from the road and needs to acquire land to widen the road
Socio-Economic Aspects	Social Demand	Very High	Relatively Low
Fishery Industry Aspects	Fish Production	Relatively High	Low
	Fishing Fleet	Relatively Large	Small

The identification of the site for development needs to be based on a detailed Feasibility Study that will include Bathymetric Surveys, Assessment of the Local Wave Climate, Geotechnical Investigations as well as Assessment of Availability of Construction Material (Rocks for Armour) and Possibility of the use of available Rocks for Construction, Quantity of Dredging and Disposal Sites and Environmental Assessment etc.

Without more extensive investigations, in the form of the Feasibility Study mentioned above, it is difficult to estimate the costs associated with the development of a Fishery Harbour. However, an estimate of Rs 1000 million for a Fishery Harbour can be indicated based on the estimates for recently proposed similar developments in the country. It should be noted that this is a very approximate estimate, indicated only as a guidance to assess the order of investment required.

6.2.2 Fishery Anchorages

The following locations could be recommended for development as Fishery Anchorages. The selection was based on the Technical Pre-Feasibility and the relatively high Social/Industrial demand for the improved facilities at these locations. These locations have also been identified by the DFAR for development as Anchorages.

1) Munai
2) Polikandy East
3) Athikovilady
4) Valveddithurai

The developments would mainly include Access Channel Dredging, Basin Dredging, Provision of Breakwaters, Retaining Walls, Shore Facilities and Beacon Lights. The assessment of development needs to be based on a detailed Feasibility Study that would also include Bathymetric Surveys, Assessment of the Local Wave Climate, Geotechnical Investigations as well as Assessment of Availability of Construction Material (Rocks for Armour) and Possibility of the use of available Rocks for Construction, Quantity of Dredging and Disposal Sites and Environmental Assessment etc.

Without more extensive investigations, in the form of the Feasibility Study mentioned above, it is difficult to estimate the costs associated with the developments proposed. However, an estimate of Rs 250 million for a Fishery Anchorage can be indicated based on the estimates for recently proposed similar developments in the country. It should be noted that this is a very approximate estimate, indicated only as a guidance to assess the order of investment required.

Possible Anchorage layouts for these locations are shown in **Figure 6.11** to **Figure 6.14**.

Source of Image: Google Earth

Figure 6.11: Munai: Anchorage Layout

Source of Image: Google Earth

Figure 6.12: Polikandy East: Anchorage Layout

Source of Image: Google Earth

Figure 6.13: Athikoviladi Anchorage layout

Source of Image: Google Earth

Figure 6.14: Valveddithurai Anchorage layout

6.2.3 Fishery Landing Sites

The following locations could be recommended for development as Fishery Landing Sites with improved facilities:

1) Koddady
2) Suppermadam
3) Sakkodai
4) Polikandy West
5) Thondamanaru

The developments would mainly include Access Channel Dredging, Basin Dredging, Provision of Shore Facilities and Beacon Lights.

Approximately Rs 30 million for a Fishery Landing Site development can be indicated based on the estimates for recently proposed similar developments in the country. It should be noted that this is a very approximate estimate, indicated only as a guidance to assess the order of investment required.

A typical layout of a Landing Site development is shown in **Figure 6.15.**

Source of Image: Google Earth

Figure 6.15: Typical Layout: Landing Site Development (Polikandy West)

6.2.4 Summary of Recommended Developments

The recommended developments are summarized in **Table 6.3**.

Table 6.3: Summary of Recommendations

Landing Site	Proposed Development	Approximate Cost Rs. Million
Imparsiddy	Fishery Harbour	1,000
Munai	Fishery Anchorage	250
Polikandy East	Fishery Anchorage	250
Athikovilady	Fishery Anchorage	250
Valveddithurai	Fishery Anchorage	250
Koddady	Fishery Landing Site	30
Suppermadam	Fishery Landing Site	30
Sakkoddai	Fishery Landing Site	30
Polikandy West	Fishery Landing Site	30
Thondamanaru	Fishery Landing Site (Alternative Location for a Fishery Harbour)	30
Total		2,150 **US$ 20 Million**

7 Project Rationale and Justification

7.1 Requirement of Fishery Infrastructure Development

The fisheries statistics indicate that the fish production in Jaffna District in 1983, prior to the conflict, was 49,740 MT representing 27 % of total fish catch of the country. However, this has declined drastically during the conflict and the fisheries statistics indicate that the fish catch in Jaffna District was only 5,830 MT in 2008, a mere 2 % of the total fish catch in the country. However the relaxation of security restrictions on fishing and opening of the road access to Colombo which has provided expanded markets have caused a marked improvement of fishing activities in Jaffna District over the last two years. The fish catch has reached 20,890 MT in 2010 representing 6 % of the total fish catch in the country. Even though the fishing activities have shown an upward trend, fishery infrastructure development projects are yet to be implemented in Jaffna District, apart from the rehabilitation of two small Jetties with the financial assistance from JICA.

The fisheries statistics for 2010 indicate that the highest contribution to the national fish production was from Kalutara District, which was 13 % and followed by the contributions of 12 % each from Matara and Batticaloa Districts and 11 % from Trincomalee District. As mentioned above, the contribution from Jaffna District was 6 % in 2010. The fishing fleets in these Districts are shown in **Table 7.1.**

Table 7.1: Fishing Fleets in Leading Fish Producing Districts

Fisheries District	IMUL	IDAY	OFRPB	MTRB	NTRB	NBSB	TOTAL
Kalutara	357	11	486	2	278	21	1,155
Matara	521	104	613	232	397	1	1,868
Batticaloa	180	116	1,120	80	3,271	161	4,928
Trincomalee	366	22	1,543	131	2,497	160	4,719
Jaffna	6	81	2,654	702	2,983	68	6,494

It is evident from **Table 7.1** that in the leading fish producing Districts of Kalutara and Matara, the operational marine fishing fleets represent only 3 % and 4 % of the total fishing fleet in the country. The fishing fleets in Baticaloa, Trincomalee and Jaffna Districts are 11 %, 11 % and 15 % respectively of the total marine fishing fleet. The details of various types of fishing crafts operational in these Districts are also shown in **Table 7.1**. The fishery activities in Kalutara and Matara Districts are heavily dependent on Offshore/Deep Water fishing by IMUL Boats whereas fishery activities in Batticaloa and Trincomalee Districts depend on both Coastal and Offshore fishing by IMUL Boats and other smaller fishing crafts. The fishery activities in Jaffna District mainly depend on Coastal Fishing by IDAY Boats and other smaller fishing crafts.

In view of the above considerations, it is evident that, in spite of the large operational fishing fleet, the fisheries activities in Jaffna District are mainly confined to Coastal Fishing and the fish catch is relatively low in comparison with the other fishing regions of the

country. A potential clearly exists for Offshore and Deep Water Fishing activities and the development of the fisheries sector in Jaffna District and the provision of appropriate infrastructure, mainly in the form of Fishery Harbours, is an essential requirement for such a development. Also, in spite of the improvements in fishery infrastructure facilities carried out in other parts of the country, no such improvements have been carried out for the existing facilities in Jaffna District, many of which are in a dilapidated state and in need of restoration and development. Hence the development of Fishery Anchorages and Landing Sites would also be very important in developing the Fisheries Sector in Jaffna District.

7.2 Needs of Fishery Harbour in Point Pedro

Among the FI Divisions in Jaffna District, the two Divisions in the Jaffna Town area (Jaffna West and Jaffna East) and Point Pedro area (Point Pedro East and Point Pedro West) are the most productive regions. Approximately 30% of the total fish catch of District in 2010 was from the FI Divisions of Point Pedro West and Point Pedro East and approximately 25% was from the FI Divisions of Jaffna West and Jaffna East. Based on such Socio-Economic and Fishery Industrial aspects, Jaffna and Point Pedro areas have been identified by the CFHC as possible locations for Fishery Harbour Development.

A MOU has already been signed by the Government with MT Hojgaard, Denmark for the development of a Fishery Harbour in Jaffna area and Gurunagar has been selected as the best possible location through a Pre-Feasibility study and the detailed Feasibility Study is currently in progress. No detailed studies have been carried out to identify the best possible location for a Fishery Harbour development in Point Pedro area.

This study focused attention on assessing the pre-feasibility of developing a Fishery Harbour facility in Point Pedro area. The geographical area of study is the DS Division of Point Pedro (Vadamarachchi North). In addition to the studies on the development of a Fishery Harbour facility, other fishery infrastructure development requirements in the area were also identified by the study. The details of the proposed developments are presented in Chapter 6.

With the resumption of fisheries sector activities in the Northern Province and the relaxation of restrictions for fishing enabling the fishermen to move to the open sea, there is a heavy demand that has been created by the fishing community in searching ways and means of enhancing their economic returns.

Needs assessments carried out in Point Pedro registered a strong demand for a Harbour facility that the fishermen are eager to invest on bigger boats provided the facilities are made available by the government assistance programs. In addition, fishermen using small boats also demanded for the facilities such as fuel, ice, water and shore facilities (fish auction sheds and net mending facilities and toilet and bathing facilities) to support their fishing efforts.

Hence provision of a Harbour facility is justified particularly considering the need for development of the fisheries in the Northern areas that has suffered due to the conflict that

prevailed in the past three decades. The development of a Fishery Harbour not only benefits the fishermen of the area but also the fish traders, input suppliers, fish transporters, fish handlers, exporters and, above all, the population of the country, enabling improvement of fish quality and thus contributing towards improvement of the nutritional status of the population. It would also lead to contributions to regional development of the areas with the opening of opportunities for economic development through development of the basic infrastructure such as roads, electricity, water and telecommunication facilities adding value to employment generation opportunities beyond the fisheries sector.

7.3 Economic Opportunities

Additional employment opportunities will be generated by the expansion of fishing effort and related activities such as fish marketing, fish handling, net mending, fish processing, fish transport, ice production and fish storages. Demand will be created for construction materials thus creating opportunities for additional labour and business opportunities, transport of construction materials such as boulders, concrete pre-fabricated materials and building construction materials etc. during the Harbour construction period.

Fishing will be operational throughout the year on a regular basis thus enabling fishermen to ensure regular income while protection of boats from accidents as a result of the Breakwater and Jetty facilities. Competitive markets will be created as whole sale traders will be encouraged to visit the Harbour frequently to compete for fish that is landed thus influencing enhancement of incomes of fishermen. It will have direct benefits to incomes of fisher families.

The peripheral infrastructure will be developed such as road access, telecommunication, electricity and water supply. Due to population expansion, schools and health facilities including public transport will be improved. It will also improve connectivity with other urban centres in the region thus opening the opportunities for competition among the traders.

Due to availability of additional facilities such as ice plants and fish storages in the Harbour premises and expansion of markets, the post-harvest losses will be reduced thus contributing to enhanced nutritional values of the fish consumed by the people of the area and at national level.

The affected communities by Harbour construction would likely to get access to better facilities under a program for resettlement under the project. The traditional craft will get safe alternative berthing locations that will allow such fishermen to continue their fishing operations without any disruption.

Service sector will get enhanced opportunities in the form of hotels, communication centres, small business enterprises etc. during construction and operational stages of the project. Tourism industry could also benefit from the Harbour by way of anchorage facilities for yachts. The local and foreign tourists will be offered fresh fish throughout the year thus enhanced incomes for local fishermen can be expected.

7.4 Financial and Economic Feasibility

7.4.1 Construction Cost

1) Fishery Harbours:

The construction cost for a Fishery Harbour in Point Pedro would approximately be Rs. 1000 million. This includes Coastal Structures such as Breakwaters and Quay Walls and Shore Facilities as indicated in Chapter 6. The construction cost for Coastal Structures could be estimated as Rs. 800 million whereas cost for the Shore Facilities could be estimated as Rs. 200 million.

It should be noted that the estimates given are only indicative of the order of investment required. No bathymetric surveys or geotechnical investigations for the sites identified in Point Pedro are available. The Breakwater construction cost varies significantly with the bathymetry whereas the type of Quay Walls to be used varies with the soil condition at the site, which would in turn affect the construction cost. These investigations need to be carried out in a Feasibility Study in order to estimate costs with a greater accuracy.

2) Fishery Anchorages:

The construction cost for a Fishery Anchorage in Point Pedro would approximately be Rs. 250 million. This includes Coastal Structures such as Breakwaters and Shore Facilities as indicated in Chapter 6. The construction cost for Coastal Structures could be estimated as Rs. 200 million whereas cost for the Shore Facilities could be estimated as Rs. 50 million.

3) Fishery Landing Sites:

The construction cost for a Fishery Landing Site in Point Pedro would approximately be Rs. 30 million. This includes basin and access channel dredging and Shore Facilities as indicated in Chapter 6. The cost for dredging operations could be estimated as Rs. 10 million whereas cost for the shore facilities could be estimated as Rs. 20 million.

7.4.2 Benefits from Fishery Infrastructure Development

1) Fishery Harbours:

<u>Harbour Management Revenue</u>

The proposed Fishery Harbour in Point Pedro will be managed by the CFHC. The revenue generation for CFHC is expected from 9 sources as follows:

1) Entrance fee from vehicles
2) Berthing charges from Trawlers/IMUL Boats
3) Service charges including weighing bridge charges and for use of facilities
4) Ice sales
5) Fuel sales

6) Selling of drinking water for boats
7) Fish storage charges
8) Boat repair charges
9) Charges from engine storage

It is evident that, using this income, CFHC could manage the Harbour operations as in the existing Harbours in other parts of the country.

Substantial Economic Benefit

Fishery Harbour projects promise substantial economic benefits, including increased value of fish production and other economic benefits to the local economy through demand for fish production inputs, marketing and transport of outputs, and increased employment opportunities. The benefit streams include economic value of fish and other economic benefits that can be accrued to the proposed project intervention. The latter is related to direct and indirect employment, home consumption of fish, cost savings, and economic multiplier effects. The net benefit attributable to the project is the gross value of fish output less production costs.

The question of whether family labor and hired labor used in fishing needs to be taken into account using an appropriate value for the opportunity cost of labor. In the case of an open economy with alternative economic activities this is probably the case. But, when there are relatively high levels of unemployment and under employment, it cannot be assumed that in the absence of the project the whole labor force would have readily shifted to alternative activities. In the case of Point Pedro, local unemployment pressure can be relieved by providing occupational opportunities that are lacking in the locality, and the opportunity cost can be hypothesized to be quite low. On average, production costs amounted to 40 % of the value of fish catch.

Fishing activities of project location provide direct and indirect income generating opportunities and needed sources of protein for the rural poor. A field survey of fishery activities at Point Pedro revealed the important role of fisheries in the project area. Over 15,000 individuals from more than 3,200 families are involved in fishing and fishery related activities. Survey work and fish production data maintained by the DFAR office in Jaffna indicated that, in Point Pedro, the fish production amounts to a yearly aggregate of approximately 6,200 MT. An estimated 95 % of the total catch is sold at retail/wholesale markets and the remainder (5%) is used for home consumption.

Estimated Annual Catch Value

A Fishery Harbour of the proposed nature could accommodate approximately 300-400 IMUL Boats. Currently (May 2011) there are 19 IMUL boats in the Point Pedro area. It could be assumed that, three years after construction, the number of boats could be increased by additional 200. This will result in Total fish catch of 8,680 MT/year. The catch per unit effort of an IMUL Boat is taken as 43.4 MT as specified in the Fisheries Statistics of MFARD, 2007 (**Table 1.3**). An estimated 95 % of the total catch could be sold at retail/wholesale markets at a rate of Rs. 300/kg. The estimated gross annual value of fish equals annual market sales of approximately Rs 1,732 million plus the value of fish consumed at home of Rs 91 million,

amounting to approximately Rs 1,823 million per year. This has been derived by taking 70 % of fish production valued at wholesale price.

The economic contribution of fisheries equals the gross value of the total production less costs incurred in catching fish including wastage. The survey evidence indicates that monetary costs of fishing are relatively uniform among fishers and roughly equals 40 % of the value of the production. Deducting 40 % of the value of fish production at Point Pedro to cover production costs from above estimate, the net economic value of fish production is Rs 1,039 million per year.

Other Positive and Negative Externalities

In addition to the benefits described above, other positive externalities can be added, such as incremental direct employment in fishing, incremental indirect employment in primary, secondary and tertiary sector related economic activities (estimated at 1: 0.3 ratio), home consumption of fish (estimated at 5% of value of fish) and other cost savings i.e. reduced damage to vessels, loss of parts and equipment etc. The estimated number of 200 IMUL Boats will provide 960 direct employment and 288 indirect employment opportunities.

Backward/Forward Linkages and Other Multiplier Effects

Apart from fishermen themselves, many others could thrive on the development of a Fishery Harbour in Point Pedro. Backward linkages include economic activity generated as a result of fish production through expenditures on such items as nets, repair services, supply of fuel, and boat engines. Forward linkages refer to post harvest economic activities such as storage, transportation, marketing, exports, etc.

2) Fishery Anchorages:

Estimated Annual Catch Value

The locations identified for development as Fishery Anchorages on average comprise of 200 boats providing an annual average fish catch of 875 MT. An increase in the number of OFRPBs and increase in fish catch/income could be expected due to improved working conditions, increase in number of working days, safety for boats, better market prices, reduction in post-harvest losses etc. It is reasonable to assume a 25% increase in number of boats and a total of 40% increase in fish production, soon after construction of the Anchorages. This will result in an increase in total fish catch of 219 MT/year. An estimated 95 % of the total catch could be sold at retail/wholesale markets at a rate of Rs. 300/kg. The estimated gross annual value of fish equals annual market sales of approximately Rs 70 million plus the value of fish consumed at home of Rs 4 million, amounting to approximately Rs 74 million per year. This has been derived by taking 70 % of fish production valued at wholesale price.

The economic contribution of fisheries equals the gross value of the total production less costs incurred in catching fish including wastage. The survey evidence indicates that monetary costs of fishing are relatively uniform among fishers and roughly equals 40 % of the value of the production. Deducting 40 % of the value of fish production in Point Pedro to

cover production costs from above estimate, the net economic value of fish production is Rs 45 million per year.

Other Positive and Negative Externalities

In addition to the benefits described above, other positive externalities can be added, such as incremental direct employment in fishing, incremental indirect employment in primary, secondary and tertiary sector related economic activities (estimated at 1: 0.3 ratio), home consumption of fish (estimated at 5% of value of fish) and other cost savings i.e. reduced damage to vessels, loss of parts and equipment etc. 25% increase in OFRPBs will provide 100 direct employment and 30 indirect employment opportunities in each of the Fishery Anchorages.

Backward/Forward Linkages and Other Multiplier Effects

Apart from fishermen themselves, many others could thrive on the development of Fishery Anchorages in Point-Pedro. Backward linkages include economic activity generated as a result of fish production through expenditures on such items as nets, repair services, supply of fuel, and boat engines. Forward linkages refer to post harvest economic activities such as storage, transportation, marketing, exports, etc.

3) Fishery landing Sites:

Developments in Fishery Landing Sites have been proposed with an intention of mainly providing better social conditions for the fishing community. No direct economic benefit is expected from this investment. However these developments will lead to improved working conditions, reduction in post-harvest losses, better market for fish etc., which may lead to enhanced income levels.

7.5 Quality of life

The proposed development would not have any negative impacts on residents and ongoing fishing activities in Point Pedro. In contrast, communities in the locations proposed for developments and neighbouring communities will be able to gain more benefits from the projects both in direct and indirect terms. In addition to demand for labor, the proposed development may promote small and micro level enterprises in the community particularly during the operation stage of the project. It would also lead to regular work and increased income at local level. As a result, there will be an overall improvement of quality of life at Point Pedro. The project area and its neighbourhood would benefit from the project intervention due to high demand for secondary and tertiary sector activities. Accordingly, more commercial, industrial and service sector activities are likely to come up in project area and its neighborhood. Thus, it is very unlikely that the proposed development will have a negative impact on the land use patterns in Point Pedro. In fact, it would make better utilization of human and physical resources in the project area.

In overall terms, development of fisheries infrastructure would be an important intervention from a regional development point of view. Fisheries are the only sector that offers

relatively low cost animal protein to the population, particularly to the economically weaker sections of the society. Thereby, it serves as a means for ensuring national food security. It is also a major contributor towards foreign exchange earnings for the country through export of fish and fish products. The potential of forward and backward linkages through boat repair, supply of support services, fish processing etc., contribute further to diversification and strengthening of local economy of Point Pedro as well as that in Jaffna District.

7.6 Recommendations

Considering the weak Socio-Economic status of the fishing community in Point Pedro arising from the restrictions and limitations for full scale operation of the boats in the existing fish Landing Sites, the proposal for development of a Fishery Harbour is justified. Based on the needs of the community, the development of four Fishery Anchorages for the use of OFRPBs and five Landing Sites could also be justified. Considering the potential for expansion of the fishing operations as shown by the Technical and Socio-Economic feasibility, the establishment of **a Fishery Harbour, four Fishery Anchorages** and **five Fishery Landing Sites** could thus be recommended.

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