

Chapter 6 Verification of the Validity of the Project

6-1 Outcome and validity of the project

Under this Follow-up Study, the study of middle-term countermeasure and proposal for long-term countermeasure were made through the execution of countermeasure to protect scouring and uneven subsidence of building foundations of Fisheries Complex and Vendors Arcade as immediate measure at the survey stage upon understanding of the effect and evaluation. The coastal line has been greatly recessed at the time of commencement of this study. However, it becomes clear by sounding survey study that the sand deposit brought by river stream at the time of hurricane Thomas hit speeds the recovery of beach. Furthermore, it is predicted that the shoreline will be advanced about 10 m in future spending around a decade around from the shoreline at the time of sounding survey in September, 2011.

As well as reinforcing the protective measure for scouring and uneven subsidence of buildings of fisheries facilities at short-term countermeasure, the points that rubble stone works by short-term countermeasure disturb the north-south accessibility of fishermen and block the sandy beach landscape were solved as middle-term countermeasure in the main works of follow-up project. Table 6-1-1 shows the problems to be solved and the outcome of middle-term countermeasure for each facility. Therefore, “Partial recovery of sand geometry as well as repairing and reinforcing the result of short-term countermeasure and protect scouring and uneven subsidence of building foundations” which is the aim of study of middle-term countermeasure can be solved by the execution of main work of middle-term countermeasure. Thus, middle-term countermeasure can be judged as relevant.

**Table 6-1-1 Problems to be solved and outcome of middle-term countermeasure
for each facility**

Facility	Problems to be solved	Outcome
Jetty and Accessories	1) Countermeasure for the exit of water drain	1) Filling sand covers armor stones at the exit of water drain and the exposed situation can be solved
Arcade	1) Impact mitigation against run-up height by long term swell in winter season 2) Securement of backshore width for hauling function of fishing boats 3) Protection of scouring Arcade foundation at the time of waves with a return period of 30 years 4) Recovery of sand geometry	1) Mitigation can be made by creating backshore that is higher than the run-up wave height generating a few times in year 2) About 5 m backshore is to be secured by sand filling works 3) Scouring protection by armor stone installation 4) San beach is formed by sand filling works
Fisheries Complex	1) Impact mitigation against run-up height by long term swell in winter season 2) Protection of scoring foundation of Fisheries Complex at the time of waves with a return period of 30 years 3) Recovery of sand geometry 4) Securement of north-south accessibility	1) Mitigation by wave absorption function reinforcing the head par of armor stones 2) Protection by armor stones at foundation of building 3) Beach recovery by back filling 4) Securing accessibility by recovery of sand beach
Fishing Gear Lockers I&II	1) Impact mitigation against run-up height by long term swell in winter season	1) Protection for scouring and etc.by installing armor stones and sand filling in front of fence
Workshop	1) Impact mitigation against run-up height by long term swell in winter season	1) Protection for scouring and etc.by installing rubble stones and sand filling in front of fence
Septic Tank	1) Impact mitigation against run-up height by long term swell in winter season	1) Protection for scouring and etc.by installing rubble stones and sand filling in front of fence

6-2 Problems to be solved and recommendation

The execution of middle-term countermeasure is necessary to complete before hurricane season. At this stage, the shoreline is not yet to be recovered enough. Therefore, the fear by anomalous weather like waves with a return period of 30 years cannot be solved only by middle-term countermeasure in case that beach in Anse La Raye Bay returns to its original feature “eroding beach”. Therefore, it is necessary to execute long-term countermeasure in addition to middle-term countermeasure.

The achievement of protective function and a partial recovery of beach geometry were made at middle-term countermeasure. As the environmental impact, it can be indicated that as there are exposed parts of the rubble stone works for the retention of protective function, the landscape becomes changed although the continuity of sandy beach landscape is kept. This is the impact on environmental aspect in middle-term countermeasure and the problems to be solved by long-term countermeasure.

6-3 Conclusion

It has been anxious about scouring and uneven subsidence of fisheries buildings by recessing beach more than the assumption at the time of May, 2011 with the fact that high waves generated continuously by abnormal weather exceeding the usual year up to November, 2010 after the hit of hurricane “Thomas” in October, 2010. St. Lucia understands that some countermeasures are necessary however they hoped to have countermeasure so as not to change current natural beach shape and landscape much since it was understood that the project site is important tourism resource.

This study solved the fear of scouring and uneven subsidence of fisheries buildings with short-term and middle-term countermeasures judging that expected functions of fisheries facilities at the time of Basic Design stage can be maintained by keeping the shoreline and backshore width at the time of Basic Design stage. And, it is relevant that long-term countermeasure is also recommended thinking of the situation after recovery of shoreline by sand brought by rivers due to the hurricane “Thomas” and this beach is originally eroding beach.

Appendices

1. Member of the Study Team

Official Member

Name	Duty Position	Affiliation
Mr. Kohei SATO	Team Leader	Grant Aid Project Management Division 3 Financing Facilitation and Procurement Supervision Department Japan International Cooperation Agency
Mr. Naoki MINE	Cooperation Planning	Grant Aid Project Management Division 3 Financing Facilitation and Procurement Supervision Department Japan International Cooperation Agency

Consultant Member

Name	Duty Position	Affiliation
Eiichi MATSUURA	Project Manager/ Port Engineering	ECOH CORPORATION
Kazumasa KATO	Beach Erosion/ Sand Transport Analysis/ Environmental Impact Study	ECOH CORPORATION
Yuhei YAMAMOTO	Natural Condition Survey/ Construction Plan/ Procurement Plan/ Cost Estimation	ECOH CORPORATION
Takahisa AOYAMA	Construction Supervision	ECOH CORPORATION

1-1 Member of Team at the additional survey

Name	Duty Position	Affiliation
Consultant Member • Eiichi MATSUURA	Project Manager/ Port Engineering	ECOH CORPORATION
• Kazumasa KATO	Beach Erosion/ Sand Transport Analysis/ Environmental Impact Study	ECOH CORPORATION

1-2 Member of Team at the study of Scope of Works

Name	Duty Position	Affiliation
Official Member • Hiroshi IZAKI • Naoki MINE • Nariaki MIKUNI • Kyouhei MIZUTANI	Team Leader Cooperation Planning	Deputy Director for Grant Aid Project Management Financing Facilitation and Procurement Supervision Department Japan International Cooperation Agency Grant Aid Project Management Division 3 Financing Facilitation and Procurement Supervision Department Japan International Cooperation Agency JICA Expert Department of Fisheries The government of Saint Lucia Resident Representative Japan International Cooperation Agency Japan Oversea Cooperation Volunteers Saint Lucia Office
Consultant Member • Eiichi MATSUURA	Project Manager/ Port Engineering	ECOH CORPORATION

1-3 Member of Team at Tender (Project supervise)

Name	Duty Position	Affiliation
<p>Official Member</p> <ul style="list-style-type: none"> • Kyouhei MIZUTANI • Kenji Mo MOTEGI • Daisuke NAKAMURA 	<p>Assignment for Tender and Project supervise</p> <p>Chief of Enforcement of Tender</p> <p>Assist. Of Enforcement of Tender</p>	<p>Resident Representative Japan International Cooperation Agency Japan Oversea Cooperation Volunteers Saint Lucia Office Encargado General</p> <p>Japan International Cooperation Agency JICA Dominican Republic Office Asesor Contabilidad</p> <p>Japan International Cooperation Agency JICA Dominican Republic Office</p>
<p>Consultant Member</p> <ul style="list-style-type: none"> • Eiichi MATSUURA • Tsutomu SASE 	<p>Project Manager/ Port Engineering</p> <p>Supervising of the works</p>	<p>ECOH CORPORATION</p> <p>ECOH CORPORATION</p>

2. Survey Schedule

2-1 Schedule of Field Survey

	DATE		Governments' Team	Consultants' Team (ECOH CORPORATION)			
			Team Leader Mr. Kohei SATO	Mr. Eiichi MATSUURA	Mr. Kazumasa KATO	Mr. Yuhei YAMAMOTO	Mr. Takahisa AOYAMA
			Cooperation Planning Mr. Naoki MINE	Project manager /Port engineering	Beach Erosion /Sand transport Analysis /Environment Impact Study	Natural condition /Construction plan /Procurement plan /Cost estimation	Construction Supervision
1	9/2	Fri		TOKYO→LA.→MIAMI			
2	9/3	Sat		MIAMI→St.Lucia			
3	9/4	Sun	TOKYO→Dallas→MIAMI	Visit to project site, Team meeting			
4	9/5	Mon	MIAMI→St.Lucia	Meeting with DOF			
				Visit to project site			
5	9/6	Tue	Meeting with JICA, DOF			<small>Contractor: natural condition research company</small>	
			Meeting with MPU			Visit to project site	
6	9/7	Wed	Meeting with DOF, MPU		Collection of data	Site survey	
7	9/8	Thu	Signing M/D		Survey of coastal environment	ditto	
			St.Lucia→Antigua	Collection of data			
8	9/9	Fri	Antigua→MIAMI	Meeting with DOF	ditto	ditto	
9	9/10	Sat	MIAMI→Chicago→	Inspection of environmental and social considerations		ditto	
10	9/11	Sun	TOKYO	Analysis of data, Team meeting			
11	9/12	Mon		Discussion with DOF	Survey of coastal environment	Site survey	
12	9/13	Tue		Survey of project site	ditto	ditto	
13	9/14	Wed		ditto	Survey of river environment	ditto	
14	9/15	Thu		Operation & Maintenance Study	Traveling	ditto	
15	9/16	Fri		Operation & Maintenance Study	Traveling	Meeting with NCRC	
16	9/17	Sat		Analysis of data	Traveling	Analysis of data	
17	9/18	Sun		ditto		ditto	
18	9/19	Mon		Discussion with DOF		Contract with contractor	
19	9/20	Tue		Study for impact to fishing activity		Collection of data	
20	9/21	Wed		Study for impact to fishing activity		ditto	
21	9/22	Thu		Discussion with other Department		Survey of construction material cost	
22	9/23	Fri		ditto		ditto	
23	9/24	Sat		Visit to other fisheries facilities		Visit to quarry site	
24	9/25	Sun		Analysis of data		Analysis of data	
25	9/26	Mon		Discussion with DOF		Survey of construction company	
26	9/27	Tue		Analysis of data		ditto	
27	9/28	Wed		Analysis of data		Analysis of data	
28	9/29	Thu		Traveling		Traveling	
29	9/30	Fri		Traveling		Traveling	
30	10/1	Sat		Traveling		Traveling	
31	10/2	Sun				Analysis of data	
32	10/3	Mon				Supervision of works	
33	10/4	Tue				Supervision of works	
34	10/5	Wed				Supervision of works	
35	10/6	Thu				Supervision of works	
36	10/7	Fri				Supervision of works	
37	10/8	Sat				Supervision of works	
38	10/9	Sun				Analysis of data	
39	10/10	Mon				Supervision of works	
40	10/11	Tue				Supervision of works	
41	10/12	Wed				Traveling	
42	10/13	Thu				Traveling	
43	10/14	Fri				Traveling	

2-2 Schedule of Additional Survey

	Date		Eiichi MATSUURA	Kazumasa KATO
			Project Manager/ Port Engineering	Beach Erosion/ Sand Transport Analysis/ Environmental Impact Study
1	2012/1/18	Wed	Narita AA2035(14:25)→(17:55)Miami	JL006(11:20)→(10:20)JFK
2	2012/1/19	Thurs	Miami AA2297(10:15)→(14:35)Saint Lucia Meeting of Surveyor	Meeting with JICA Office
3	2012/1/20	Fri	Meeting with DOF	Hearing Survey
4	2012/1/21	Sat	Hearing Survey Survey of Short Term Countermeasure	Site Survey
5	2012/1/22	Sun	Site Survey Reporting	
6	2012/1/23	Mon	Presentation and Discussion with DOF	
7	2012/1/24	Tue	Hearing Survey Survey of Short Term Countermeasure	Reporting
8	2012/1/25	Wed	Saint Lucia AA4827(9:40)→(11:33)San JuanAA1416(15:50)→(19:05)JFK	
9	2012/1/26	Thurs	JFK JL005(12:20)→	
10	2012/1/27	Fri	Narita(16:35)	

2-3 Schedule of Study of Scope Works

	Date		Eiichi MATSUURA
			Project Manager/ Port Engineering
1	2012/6/30	Sat	NaritaJL006(11:20)→(10:20)JFK AA2035(14:25)→(17:55)Miami
2	2012/7/01	Sun	Miami AA2297(10:15)→(14:35)Saint Lucia Site Excursion
3	2012/7/02	Mon	Presentation and Discussion of IT/R Site Excursion
4	2012/7/03	Tue	Site Excursion Signature of S/W
5	2012/7/04	Wed	Submission of Development to DCA、Survey of Construction Companies
6	2012/7/05	Thurs	Survey of Construction Companies
7	2012/7/06	Fri	Site Excursion
8	2012/7/07	Sat	Reporting
9	2012/7/08	Sun	Reporting
10	2012/7/09	Mon	Check of permission of Development、Site Excursion
11	2012/7/10	Tue	Check of Permission of Development, Site Excursion
12	2012/7/11	Wed	Check of permission of Development. Reporting to JICA Office
13	2012/7/12	Thurs	Saint Lucia AA4895(7:48)→(09:40)Sun JUAN ✓ AA1416(14:10)→(18:15)JFK
14	2012/7/13	Fri	JFK JL005(13:25)→
15	2012/7/14	Sat	Narita(16:25)

2-4 Schedule of Supporting of Tender

	Year/Month/Day		Official Member		Consultant Memeber
			JICA(1)	JICA(2)	Eiichi Matsuura, Mr.
			Team Leader	Cooperation Planning	Chief Consultant Port Engineering
1	2012/11/29	Thurs	Invitation/Deliver of Tender Documents/Inquiry		
2	2012/11/30	Fri	Deliver of Tender Documents		
3	2012/12/01	Sat			
4	2012/12/02	Sun			NRT – JFK - MIAMI
5	2012/12/03	Mon	Arrangement of inquiry		MIAMI – St. Lucia
6	2012/12/04	Tue	ditto		Technical support
7	2012/12/05	Wed	ditto		ditto
8	2012/12/06	Thurs	ditto		ditto
9	2012/12/07	Fri	Reply of Inquiry		ditto
10	2012/12/08	Sat	ditto		ditto
11	2012/12/09	Sun	ditto		ditto
12	2012/12/10	Mon	ditto		ditto
13	2012/12/11	Tue	ditto		ditto
14	2012/12/12	Wed	ditto		ditto
15	2012/12/13	Thurs	ditto		ditto
16	2012/12/14	Fri	Tender Publicly of Tender		ditto
17	2012/12/15	Sat	Evaluation of Tender		ditto
18	2012/12/16	Sun	Evaluation of Tender		ditto
19	2012/12/17	Mon	Clarification of Tender		ditto
20	2012/12/18	Tue	Negotiation of the Contract		ditto
21	2012/12/19	Wed	Deliver the Award of Tender		St. Lucia – Sun Juan-JFK
22	2012/12/20	Thurs	Preparation of the Contract		JFK
23	2012/12/21	Fri	Signature of the Contract		NRT

3. List of Parties Concerned in the Recipient Country

3-1 Field Survey

Saint Lucia

Affiliation	Duty Position	Name
Ministry of Agriculture, Lands, Forestry and Fisheries	Permanent Secretary	Mr. Hubert Emmanuel
ditto	Chief Fisheries Officer Acting.	Mr. Rufass George
ditto	Extension Officer of DOF	Mr. Seon Duncan Ferrari
ditto	Extension Officer of DOF	Ms. Petronila Polius
ditto	JICA Expert	Mr. Takafumi Toshihara
Ministry of Physical Development	Chief Architect	Mr. Augustin Poyotte
Ministry of Communications, Works, Transport & Public Utilities	Chief Engineer	Ms. Renata Philogene-Mc Kie
Anse La Raye/ Canaries Fisheries and Consumers Cooperative Society)	Chairman	Mr. Andrew Collymore

JICA

Affiliation	Duty Position	Name
JICA Dominican Republic Office	Deputy Director General	Mr. Naotaka YAMAGUCHI
JICA Saint Lucia Office	Resident Representative	Mr. Kyouhei MIZUTANI
ditto	Volunteer Coordinator	Ms. Akiko SUGAI

3-2 Additional Survey

Name of attendants	Position and Affiliation
Mr. Hubert Emmanuel	Permanent Secretary Ministry of Agriculture, Land, Forestry and Fisheries
Ms. Sarah N, George	Chief Fisheries Officer Ministry of Agriculture, Land, Forestry and Fisheries
Mr. Augustin Poyotte	Chief Architect Ministry of Physical Development
Mr. Seon D. Ferrari	Fisheries Extension Officer Fisheries Dept.
Ms. Petronila Polius	Fisheries Extension Officer Fisheries Dept.
Mr. Nariaki Mikuni	JICA Expert
Mr. Kyouhei Mizutani	Director of JICA St. Lucia Office
Mr. Eiichi Matsuura	Chief Consultant / ECOH CORPORATION
Dr. Kazumasa Katoh	Consultant /ECOH CORPORATION

3-3 Study of Scope of Works

Name of attendants	Position and Affiliation
Mr. Hubert Emmanuel	Permanent Secretary Ministry of Agriculture, Food Production, Fisheries and Rural Development
Ms. Sarah N, George	Chief Fisheries Officer Ministry of Agriculture, Food Production, Fisheries and Rural Development
Mr. Augustin Poyotte	Chief Architect Ministry of Physical Development
Mr. David Desir	DCA/ Ministry of Physical Development.
Ms. Judith Ephraim	Ministry of Sustainable Development
Ms. Petronila Polius	Fisheries Extension Officer Fisheries Dept.
Ms. Sarita Williams-Peter	Biologist Fisheries Dept.
Ms. Sherkina Innocent	Fisheries officer Fisheries Dept.
Ms. Stephia Gusteve	Fisheries officer Fisheries Dept.

Mr. Nariaki Mikuni	JICA Expert
Mr. Kyouhei Mizutani	Resident Representative of JICA St. Lucia Office
Mr. Hiroshi Izaki	Team Leader of S/W mission
Mr. Naoki Mine	Cooperation Planning of S/W mission
Mr. Eiichi Matsuura	Chief Consultant / ECOH CORPORATION

3-4 Supporting Tender

Name of attendants	Position and Affiliation
Mr. Rufus George	Chief Fisheries Officer Ministry of Agriculture, Food Production, Fisheries and Rural Development
Ms. Seon D. Ferrari	Fisheries Extension Officer Fisheries Dept.
Ms. Sarita Williams-Peter	Biologist Fisheries Dept.
Mr. Kyouhei Mizutani	Resident Representative of JICA St. Lucia Office
Mr. Kenji Motegi	Chief Coordinator of Tender/JICA Dominican Republic Office
Mr. Daisuke Nakamura	Assistant Coordinator of Tender/JICA Dominican Republic Office
Mr. Eiichi Matsuura	Chief Consultant / ECOH CORPORATION

4. Minutes of Discussion

4-1 Field Survey

**MINUTES OF DISCUSSIONS
ON THE FOLLOW-UP COOPERATION STUDY
ON
THE PROJECT FOR IMPROVEMENT OF FISHERY INFRASTRUCTURE
IN ANSE LA RAYE"**

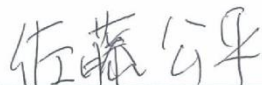
In response to a request from the Government of the Saint Lucia (hereinafter referred to as 'Saint Lucia'), Japan International Cooperation Agency (hereinafter referred to as 'JICA') decided to conduct a Follow-up Cooperation Study (hereinafter referred to as the 'Study') on the 'Project For Improvement Of Fishery Infrastructure in Anse La Raye' (hereinafter referred to as the 'Original Project').

JICA sent to Saint Lucia the Follow-up Cooperation Study Team (hereinafter referred to as the 'Team') headed by Mr. Kohei SATO, Leader of the Team, and the Team is scheduled to stay in the country from September 3th to October 11th, 2011.

The Team held discussions with Saint Lucia's officials and conducted a field survey at the study area.

As a result of discussions and field survey, both parties confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Follow-up Study Report.

Castries, September 7th, 2011



Mr. Kohei SATO
Team Leader
Follow-up Cooperation Study Team
Japan International Cooperation Agency
(JICA)



Mr. Hubert Emmanuel
Permanent Secretary
Ministry of Agriculture, Lands, Forestry
and Fisheries,
Government of Saint Lucia

ATTACHMENT

1. Objective of the Follow-up Cooperation Project

- (1) The objective of the Follow-Up Project (hereinafter referred to as the 'Project') is to protect urgently a part of the Facilities constructed under the Original Project by the short term and midterm measures from the beach erosion which have been preceded continuously in Anse La Raye.
- (2) The viability of the implementation of the Project (middle term measures) will be determined after further studies in Japan.
- (3) The Study aims at, through the field survey (including the short and middle term measures) and the meetings with the officials concerned, reviewing the current situation of the Facilities and the beach erosion, clarifying the request by the Saint Lucia side, collecting information necessary for JICA's decision-making on the Project and making the proposal on the protection from beach erosion in a long term view.

2. Responsible and Implementing Agency

The responsible and implementing agency is the Ministry of Agriculture, Lands, Forestry and Fisheries of Saint Lucia.

3. JICA's Follow-up Cooperation Scheme

The Saint Lucian side understands JICA's Follow-up Cooperation Scheme and procurement rules explained by the Team. Especially, another JICA's Follow-up Cooperation will never be applied to the Facilities.

4. Findings by the Team

- (1) The role of the Facilities is consistent with the development policies of Saint Lucia.
- (2) The Team confirmed the present condition of the requested items as is shown in Annex-1
- (3) Although the Facilities have been maintained by the Saint Lucia side, it has become evident that the part of the Facilities has been influenced by the beach erosion.

5. Outline of the Follow-up Cooperation Project

- (1) Based on the result of the field survey and discussions, the priority list are shown in Annex-1
- (2) Execution of the short term measure is shown in Annex2
- (3) Both sides understand that such criteria as listed below would be applied for the determination of the details of the middle term measure:
 - Necessity of the protection of the Facilities;
 - Restoration and sustenance of the original function of the Facilities by middle term measures;
 - Managerial, administrative and technical competence of the responsible and implementing agency; and
 - Financial commitment to further operation and maintenance by the Saint Lucian side.

6. Schedule

Based on the Minutes of Discussions and the results of the examination of the study, JICA will inform the Saint Lucian side of the final decision of the Project by midterm measures through



JICA/JOCV Saint Lucia Office by December, 2011.
The Tentative Schedule of the Project is shown in Annex-3.

7. Undertakings by the Saint Lucian side

The Saint Lucian side shall take necessary measures as the following:

- (1) to obtain the following necessary approval for the execution of the Study;
 - a) the approval for the implementation of the short term measure from the supervisory ministry and/or authority by the middle of September 2011 and informing to the JICA/JOCV Saint Lucia office
 - b) the permit for taking a photo, access permit to private land and/or restricted area
 - c) the permit to collect data, maps and other related data for making study report and bring back to Japan
 - d) the other necessary permit for the execution of the Study
- (2) to provide of the necessary date and information (for example, weather data and aerial photos neighboring seashore of Anse La Raye) for the execution of the Study;
- (3) to respond to the questionnaire submitted by the Team;
- (4) to allocate the fulltime counterparts who act following roles as coordinator to the Team;
 - a) arrangement for the meeting with government bodies or private companies
 - b) support to the Team for hearing surveys to fisherfolk and so forth
- (5) to agree that the daily use of the Facilities and its adjacent area is limited when the Project is implemented;
- (6) to agree to explain the above limitation of daily use of Facilities to fisherfolk and the other relevant parties of Anse La Rye and to obtain the consensus from them;
- (7) to take necessary procedure to secure the safety of the Team;
- (8) to secure sufficient space and storage to keep the procured materials and equipment when necessary;
- (9) to ensure that the Facilities be maintained and used properly to make best use in the future;
- (10) to ensure prompt unloading and customs clearance of the materials and equipment at ports of disembarkation in Saint Lucia and to assist internal transportation of the materials and equipment therein;
- (11) to ensure that customs duties, internal taxes and other fiscal levies which may be imposed in Saint Lucia with respect to the Project be exempted;
- (12) to accord Japanese nationals whose services may be required in connection with the supply of such materials and equipment as may be necessary for their entry into Saint Lucia and stay therein for the performance of their work, if the services above are judged necessary after further examination;
- (13) to bear all the expenses except those covered by the Project; and
- (14) to report the condition of the Facilities itself and the situation of the beach erosion to JICA/JOCV Saint Lucia office one year after the completion of the Project;

8. Others

The Saint Lucian side agrees to take necessary measures on the beach erosion in a long term measures in order to protect the Facilities after implementation of the Project in reference to the suggestion by the Team as a result of the Study.

- Annex-1. Present Conditions and the Requests
- Annex-2. Tentative Schedule of the Project
- Annex-3. Short term measure

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Annex-1. Present Conditions and the Requests

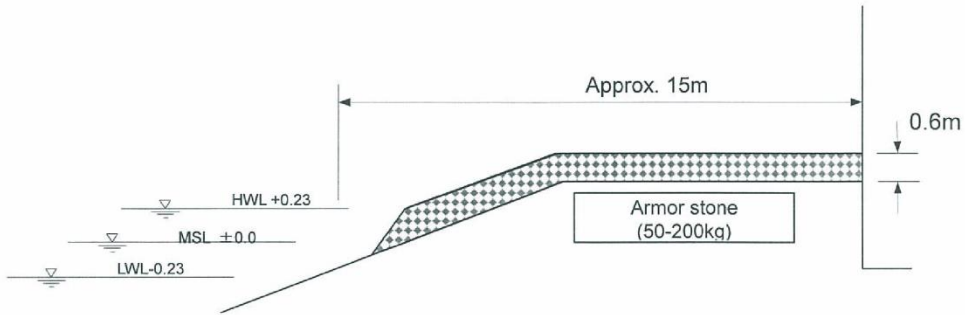
Facilities Name	Present Status	Damage Forecast	Urgency of Measures and Requests	Priority
Jetty & Accessories	No damage	<ul style="list-style-type: none"> No erosion damage at the base part of jetty Low possibility of damage at concrete foundation of the approach part Possible damage in the long run 	<ul style="list-style-type: none"> There is no need to have short and middle term measures. Countermeasure shall be necessary if wave comes over the concrete foundation of approach part in long run. 	C
Fisheries Complex	<ul style="list-style-type: none"> 1 m settlement at sand beach Lost sand beach (10 m) 	<ul style="list-style-type: none"> High possibility of damage due to the location at the severe recessing part About only 1 m left to the bearing ground of continuous footing and the facility may be declined if the beach erosion is proceeded. 	<ul style="list-style-type: none"> Short term measure to prevent scouring shall be necessary. Beach stability measure is necessary as middle term measure. <u>Short and middle term measures on beach erosion are requested from Saint Lucian side.</u> Countermeasure for restoring sand beach and making it stable is necessary as long term plan. 	A
Fishing Gear Lockers I & II	No damage	<ul style="list-style-type: none"> The location is at the place not to be influenced much There will be possibly influenced if the recession of total beach becomes apparent. 	<ul style="list-style-type: none"> Short and middle term measures shall not be necessary. It is necessary to maintain beach width and stabilize it. 	C
Workshop	No damage	<ul style="list-style-type: none"> The location is at the place not to be influenced much There will be possibly influenced if the width of sand beach is recessed. 	<ul style="list-style-type: none"> Short and middle term measures shall not be necessary. It is necessary to maintain beach width and stabilize it. 	C
Arcade	<ul style="list-style-type: none"> 1 m settlement at front beach Lost sand beach (10 m) 	<ul style="list-style-type: none"> High possibility of damage due to the location at the severe recessing part As it is mat foundation structure, it will be possibly declined if beach erosion is proceeded. 	<ul style="list-style-type: none"> Urgent measure shall be necessary. Stability measure of sand beach as middle term plan is necessary. <u>Short and middle term measures on beach erosion are requested from Saint Lucian side.</u> Stabilization measure of seashore as long term plan is necessary. 	B
Septic Tank	No damage	<ul style="list-style-type: none"> The location is at the place not to be influenced much 	<ul style="list-style-type: none"> Short and middle term measures shall not be necessary. It is necessary to maintain beach stability. 	C

A= Very Urgent, B=Urgent, C= Not Urgent

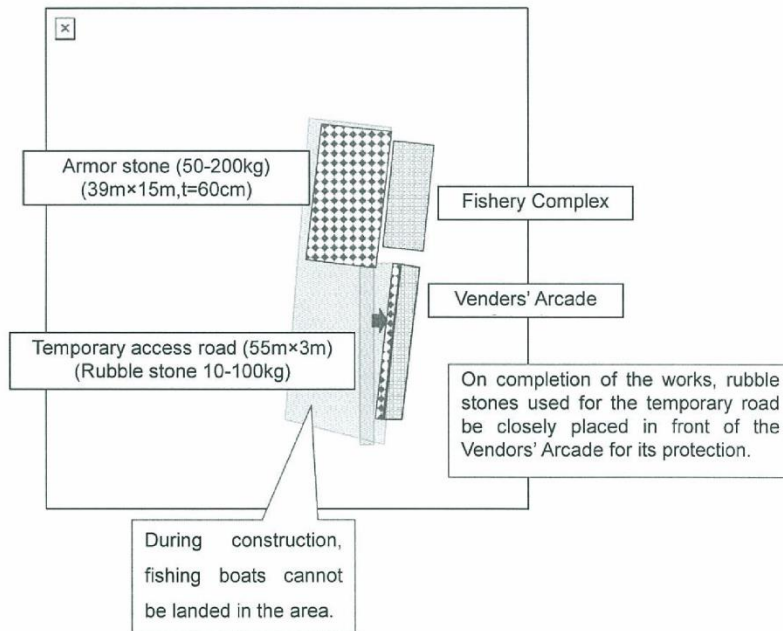
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Annex-2. Outline of the short term measure

Typical Cross Section of Armor Stone



General Plan of Armoring Area



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Annex-3. Tentative Schedule of the Project

Items/Period	2011									2012								
	8	9	10	11	12	1	2	3	4	5	6	7	8	9				
	Rainy Season			Dry Season						Rainy Season								
	1 st Phase									2 nd Phase								
Preparation																		
Field Survey I																		
Analysis																		
Field Survey II																		
Concluding with Scope of work																		
Procurement																		
Construction																		
Reporting																		

Detailed description of the Gantt chart: The chart spans from August 2011 to September 2012. The 1st Phase (2011) includes Preparation (Aug), Field Survey I (Sep), Analysis (Oct-Nov), and Field Survey II (Dec). The 2nd Phase (2012) includes Concluding with Scope of work (Jan), Procurement (Feb), Construction (Mar), and Reporting (Apr). Key annotations include: 'Survey, short term measure' (Sep 2011), 'As a result of Field Survey I, Cost estimating and preparation tender documents for midterm measure' (Oct 2011), 'Procurement (materials)' (Mar 2012), and 'Procurement (selection of local contractor)' (Apr 2012).

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4-2 Scope of Works

**SCOPE OF WORK
ON THE FOLLOW-UP COOPERATION
FOR
THE PROJECT FOR IMPROVEMENT OF FISHERY INFRASTRUCTURE
IN ANSE LA RAYE
AGREED BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
SAINT LUCIA**

In response to a request from the Government of the Saint Lucia (hereinafter referred to as 'Saint Lucia'), the Japan International Cooperation Agency (hereinafter referred to as 'JICA') conducted the follow-up cooperation study (hereinafter referred to as 'the Study') in September, 2011.

As the result of the Study, JICA decided to implement the follow-up cooperation for the 'The Project for Improvement of Fishery Infrastructure in Anse La Raye' (hereinafter referred to as 'the Work').

JICA will, therefore, undertake the Work in cooperation with Saint Lucia and the other Saint Lucian authorities concerned as the responsible and implementing agency.

Castries, July 3rd, 2012



Mr. Hiroshi IZAKI
Team Leader
Follow-up Cooperation Study Team
Japan International Cooperation Agency



Mr. Hubert Emmanuel,
Permanent Secretary
Ministry of Agriculture, Food Production,
Fisheries and Rural Development
Government of Saint Lucia

Introduction

In response to a request from Saint Lucia, JICA decided to execute the Work. JICA Dominican Republic Office will, therefore, undertake the Work in cooperation with Saint Lucia.

This document sets forth the Scope of Work for the Work as agreed between JICA and Saint Lucia.

1. Scope of Work

The Work shall be to protect the facilities of 'The Project for Improvement of Fishery Infrastructure in Anse La Raye' indicated in Appendix I (hereinafter referred to as "Facilities") from the beach erosion.

2. Tentative Work Schedule

The Work will be carried out in accordance with the tentative schedule indicated in Appendix II.

3. Major Undertakings by JICA

The major undertaking by JICA is to protect the Facilities and to confirm the feasibility of hauling out of fishing vessels on the rubble stone in front of Vender's Arcade prior to executing sand filling work as a part of the Work.

4. Major Undertakings by Saint Lucia

The major undertakings by Saint Lucia are as follows:

- (1) to obtain the following necessary approval for the execution of the Work;
 - a) the approval for the implementation of the Work from the supervisory ministry and/or authority by 11 July 2012 and informing to the JICA/JOCV Saint Lucia office and JICA Dominican Republic Office.
 - b) the permit for taking a photo, access permit to private land and/or restricted area.
 - c) the permit to collect data, maps and other related data for making study report and bring back to Japan
 - d) the other necessary permit for the execution of the Work
- (2) to agree that the daily use of the Facilities and its adjacent area may be limited when the Work is executed;
- (3) to agree to explain the above limitation of daily use of Facilities to fisher folk and the other stakeholders around Facilities and to obtain the consensus from them;
- (4) to agree to utilize the sand on the south side of Anse La Raye for the Work.
- (5) to secure sufficient space and/or storage to keep the procured materials and equipment necessary for the Work ;
- (6) to ensure prompt unloading and customs clearance of the procured materials and equipment at ports of disembarkation in Saint Lucia and to pay for internal

- transportation of the procured materials and equipment therein;
- (7) to ensure that customs duties, internal taxes and other fiscal levies which may be imposed in Saint Lucia with respect to the purchase of the materials and equipment be exempted;
 - (8) to ensure that the Facilities be maintained and used properly and effectively to make best use of the Facilities in the future;
 - (9) to ensure that Visa for the above Japanese engineer necessary for the Work is arranged and take necessary measures for their security until the Work is done;
 - (10) to bear all the expenses but those covered by the Work necessary for protecting the Facilities from the beach erosion which have been preceded continuously in Anse La Raye of Saint Lucia;
 - (11) to provide JICA with necessary information on the Work upon the request of JICA;
 - (12) to report the condition of the Facilities to JICA Dominica Republic Office about one year after the completion of the Work; and
 - (13) to assign necessary personnel of Saint Lucia for the Work.

5. Mutual Consultations

JICA and Saint Lucia shall consult with each other on any matters that may arise from or be connected with the Work prior to actual responses to the matters.

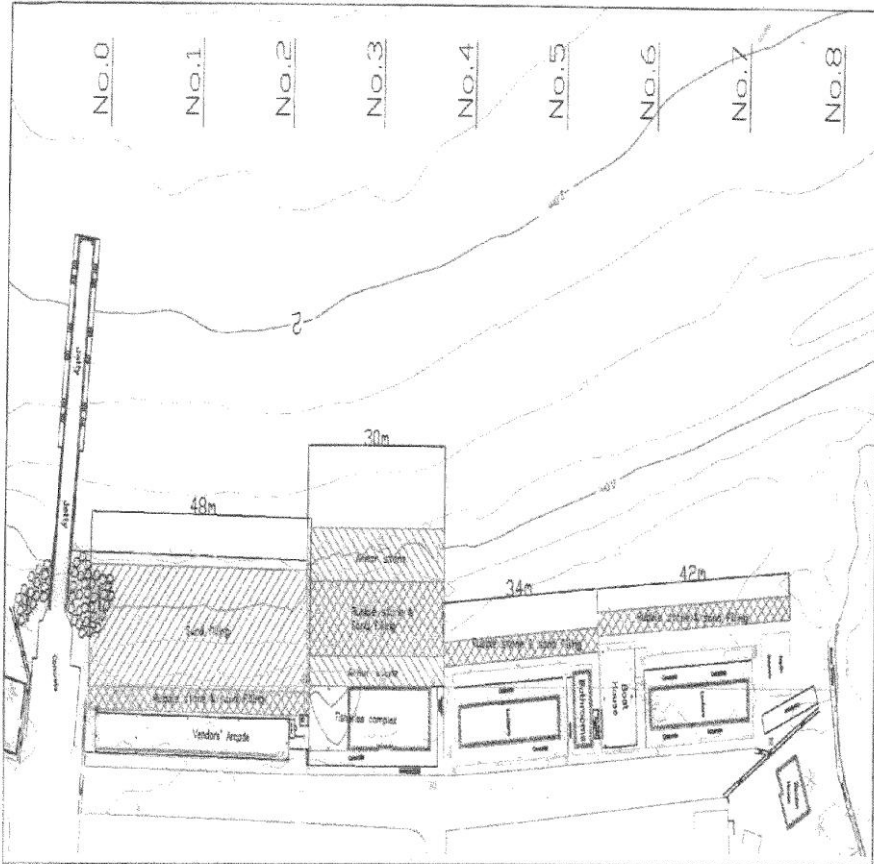
Appendices

Appendix I: Scope of Work

Appendix II: Tentative Work Schedule

A. Alignment Plan

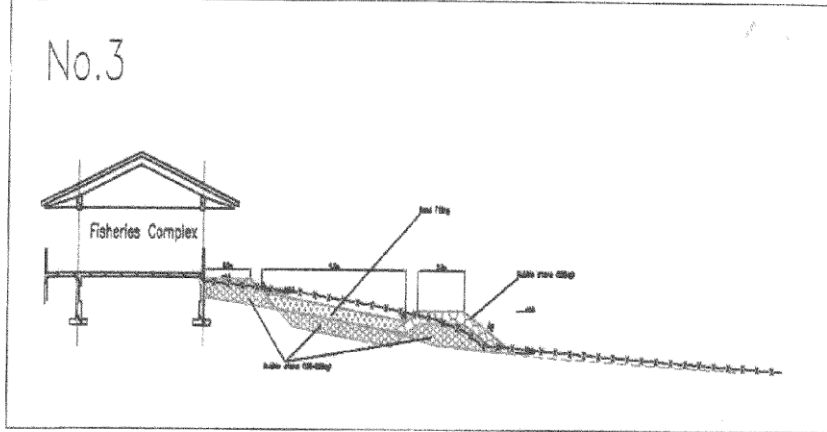
The following figure shows alignment plan of a middle term plan. The coast line position and backshore width at the time of Basic Design stage in 2006 from north side Fishing Gear Locker to Vendors Arcade.



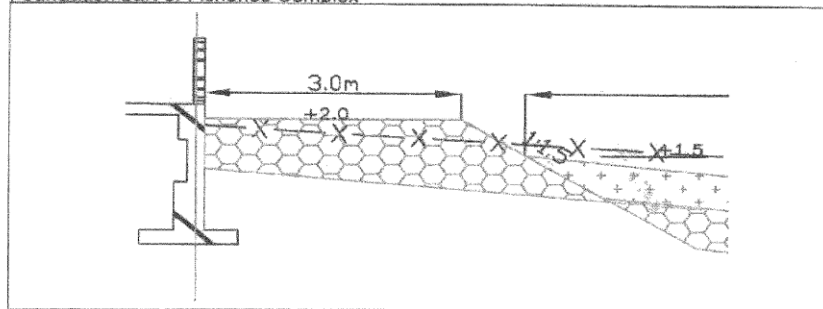
B. Cross-Section Plan

The following figure shows cross-section plan of a middle term plan.

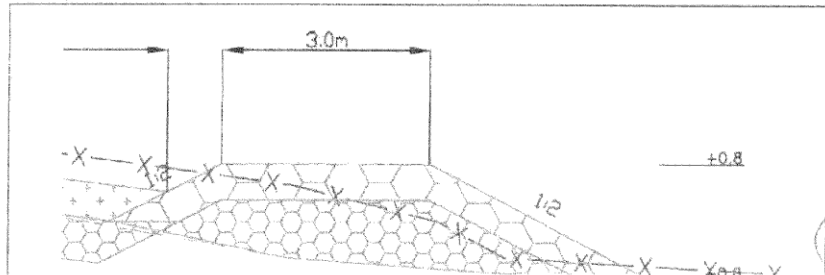
B-1: Fisheries Complex



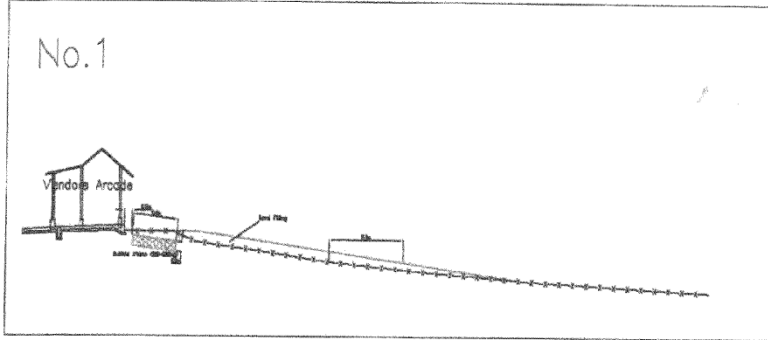
Foundation part of Fisheries Complex



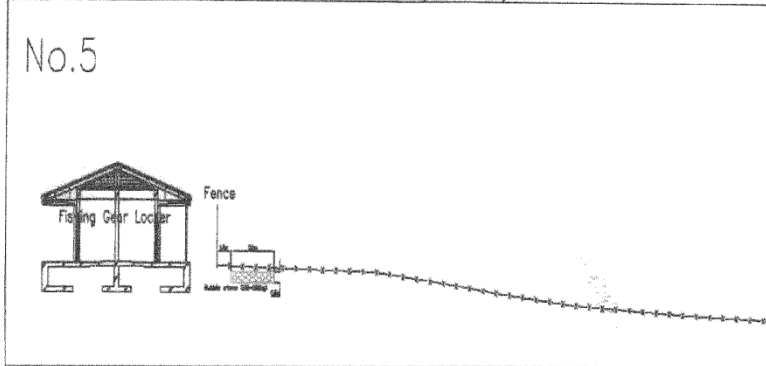
Head part of armor stone in front of Fisheries Complex



B-2. Vendors Arcade



B-3: Fishing Gear Locker, Bathrooms, Workshop and Septic Tank



(#)

road

Appendix II: Tentative Work Schedule

Item / Month		1	2	3	4	5	6
Scope of Work	▲						
Procurement		■					
Rehabilitation Work				■			
Completion							▲

Ⓢ
Kool