

## **ANNEX J:**

### **STUDY MISSION**

## Annex J: Study Mission

### J.1 Scope of Study

The Study is conducted in two phases. A basic study is carried out in the Phase I stage, while the Phase II stage contains the formulation of a coastal protection plan for protection of the Southern Romanian Black Sea Shore and a feasibility study on a priority project, the site of which will be designated by the Romanian counterparts. Brief contents of these works are listed below.

#### (1) Basic Study at Phase I Stage

- 1) Collection and Examination of Existing Data
  - a) Socio-economic conditions
  - b) Physical conditions (meteorological, hydrographic, geological, etc.)
  - c) Socio-economic development plan, and other development policies / plans (e.g. tourism, fishery, etc.)
  - d) Existing land use and future land use plans / regulations
  - e) Existing legal framework for coastal management and environmental protection
  - f) Existing institutional framework for coastal management
- 2) Visual Inspection of Beach Conditions and Coastal Structures
- 3) Analysis of Mechanism of Coastal Erosion
- 4) Evaluation of Effectiveness of Existing Shore Protection Facilities
- 5) Examination of Sand Mining Sites for Beach Fill
- 6) Technical Assistance on Initial Environmental Examination (IEE) for Environmental and Social Considerations (including public consultation with communities and stakeholders, if necessary)
- 7) Formulation of Basic Policy of Coastal Protection Plan for Shore Protection and Rehabilitation
- 8) Selection of a Site for Priority Project

#### (2) Formulation of Coastal Protection Plan at Phase II Stage

- 1) Formulation of Basic Policy of Coastal Protection Plan Aimed at the Year 2015
- 2) Evaluation of Various Protection Measures
- 3) Selection of Protection Measures with Approximate Cost Estimate
- 4) Operation / Maintenance / Management Plan
- 5) Legal and Institutional Framework Improvement Plan
- 6) Evaluation of Mater Plan (economic, financial, institutional, social, technical and environment)

#### (3) Feasibility Study on Priority Project at Phase II Stage

- 1) Preliminary Facilities Design
- 2) Formulation of Construction Plan
- 3) Formulation of Operation / Maintenance / Management Plan
- 4) Formulation of Institutional Framework Plan
- 5) Preliminary Cost Estimation

- 6) Technical Assistance on Environmental Impact Assessment (EIA) (if necessary)
- 7) Project Evaluation (economic, financial, institutional, social, technical and environment)
- 8) Formulation of Project Implementation Plan
- 9) Follow-up Plan after the Project

## J.2 Schedule of Study

The Study has been executed with the following itinerary:

### (1) Preparatory Work

Japan International Cooperation Agency made the contract with the Team for the Study on 1 March 2005 and the Team conducted the preparatory work through 31 March 2005.

### (2) First On-Site Basic Study at the Phase I Stage

The field reconnaissance on beach condition and surveys of existing shore protection facilities were carried out in the period from May 8 to July 6, 2005 according to the study schedule indicated on the Inception Report. The supplementary field survey to observe the beach condition in the tourist season and the WTP interview survey were conducted in the period from July 31 to August 19, 2005. The data and information collected during the on-site study were processed and examined with the counterpart institutions.

- 26 April 2005: Joint meeting of JICA officials, JICA advisory committee, and the Team for discussion of the inception report
- 8 May 2005: Departure from Narita to Bucharest for the first part of the first on-site study
- 18 May 2005: First steering committee meeting at Bucharest
- 15 June 2005: First stakeholder meeting at Constanța
- 17 June 2005: First stakeholder meeting at Bucharest
- 4 July 2005: Departure from Bucharest to Narita at the end of the first part of the first on-site study
- 29 July 2005: Joint meeting of JICA officials, JICA advisory committee, and the Team with reporting of the accomplishment of the initial part of the first on-site study
- 31 July 2005: Departure from Narita to Bucharest for the second part of the first on-site study
- 18 August 2005: Departure from Bucharest to Narita at the end of the second part of the first on-site study

### (3) First Domestic Work in Japan at the Phase I and II Stages

Processing and examination of the data and information collected during the first on-site works in Romania were carried out in the middle of July and in the period from August 20 to October 8, 2005. Preliminary formulation of basic policy for the master plan was established based on the nature of the existing sea shore condition. During the first domestic works in Japan, the progress report was prepared for the study products.

#### (4) Second On-Site Basic Study at the Phase II Stage

The second on-site basic study to formulate the master plan was carried out in the period from October 9 to December 17, 2005. During the on-site study, the progress reports containing the survey contents of the first on-site study and the results examined in the first domestic works were submitted to the counterpart institutions.

- 4 October 2005: Joint meeting of JICA officials, JICA advisory committee, and the Team for discussion of the progress report
- 9 October 2005: Departure from Narita to Bucharest for the second on-site study
- 2 November 2005: Second stakeholder meeting at Constanța
- 4 November 2005: Second steering committee meeting at Bucharest
- 15 November 2005: Workshop meeting at Bucharest
- 24 November 2005: Third stakeholder meeting at Constanța
- 25 November 2005: Second stakeholder meeting at Bucharest
- 15 December 2005: Third steering committee meeting at Bucharest
- 16 December 2005: Departure from Bucharest to Narita at the end of the second on-site study
- 22 December 2005: Joint meeting of JICA officials, JICA advisory committee, and the Team with reporting of the accomplishment of the second on-site study

#### (5) Second Domestic Work in Japan at the Phase II Stage

Processing and examination of the data and information collected during the second on-site works in Romania were carried out from the middle of December, 2005 to the end of February, 2006. The draft of master plan and the selection of the priority projects of shore protection and rehabilitation were established based on the data and information collected during the on-site study. During the second domestic works in Japan, the interim report was prepared for the study products.

#### (6) Third On-Site Basic Study at the Phase II Stage

The third on-site basic study was carried out to submit the interim report and to collect the supplementary data and information in the period from February 25 to March 16, 2006. During the on-site study, the progress reports containing the survey contents of the first on-site study and the results examined in the first domestic works.

- 16 February 2006: Joint meeting of JICA officials, JICA advisory committee, and the Team for discussion of the interim report
- 25 February 2006: Departure from Narita to Bucharest for the third on-site study
- 28 February 2006: Fourth steering committee meeting at Bucharest
- 10 March 2006: Fourth stakeholder meeting at Constanța
- 14 March 2006: Meeting with officials of the Ministry at Bucharest
- 15 March 2006: Departure from Bucharest to Narita at the end of the third on-site study

#### (7) Fourth On-Site Basic Study at the Phase II Stage

The fourth on-site basic study concerning the execution of the feasibility study on the priority projects was carried out in the period from May 14 to July 7, 2006. During the

on-site study, the data and information regarding the feasibility study were carried out with the assistance of the counterpart institutions. The seminar to present the contents of the master plan and the priority projects was opened to the public with attendance of the people interested in the coastal protection plan and the officials of the counterpart institutions.

9 May 2006:	Joint meeting of JICA officials, JICA advisory committee, and the Team for discussion of the interim report and on the feasibility study
14 May 2006:	Departure from Narita to Bucharest for the fourth on-site study
29 May 2006:	Fifth steering committee meeting at Bucharest
5&6 June 2006:	JICA seminar at “Ovidius” University of Constanța
6 June 2006:	Fifth stakeholder meeting at Constanța
22 June 2006:	Presentation on the JICA Study at the International Symposium “Coastal Erosion: Smart Protection Solutions” at Mangalia
29 June 2006:	Meeting with officials of the Ministry at Bucharest
6 July 2006:	Departure from Bucharest to Narita at the end of the third on-site
20 July 2006:	Joint meeting of JICA officials, JICA advisory committee, and the Team for discussion on the contents of on-site study results and the basic policy on feasibility study

#### (8) Supplementary On-Site Basic Study at the Phase II Stage

The supplementary on-site basic study to monitor the progress of SEA and EIA, to confirm the expected rescheduling due to the delay of the SEA and EIA process and other relevant matters was carried out in the period from August 16 to August 25, 2006. During the on-site study, the meeting and discussion with the counterpart organizations and the site inspection of the target beach areas and the sand mining points of the River Danube were carried out.

16 August 2006:	Departure from Narita to Bucharest for the fourth on-site study
18 August 2006:	Meeting with officials of the Ministry at Bucharest Courtesy call to ANAR
20 August 2006:	Inspection of the beaches
21 August 2006:	Meeting with officials of DADL at Constanța Inspection of the sand mining points in the River Danube
22 August 2006:	Sixth steering committee meeting at Bucharest
24 August 2006:	Departure from Bucharest to Narita at the end of the supplementary on-site study

#### (9) Third Domestic Work in Japan at the Phase II Stage

Processing and examination of the data and information collected during the fourth and supplementary on-site works in Romania were carried out from the beginning of July, 2006 to the end of December, 2006. The feasibility study of the priority projects of shore protection and rehabilitation were established based on the data and information collected during the on-site study. During the third domestic works in Japan, the pre-draft final report for financial application and the draft final report were prepared for the study products.

#### (10) Fifth On-Site Basic Study at the Phase II Stage

The fifth on-site basic study was carried out to submit the draft final report, to carry out the technical assistance on environmental impact assessment and strategic environmental assessment and to collect the supplementary data and information in the period from

February 27 to March 18, 2007. During the on-site study, the JICA seminars were held to present the contents of the overall coastal protection plan and individual feasibility study on the priority projects of Mamaia Sud and Eforie Nord, respectively in Constanța and Bucharest. The stakeholder meetings to examine the overall coastal protection plan and the feasibility study on the priority projects were conducted also in Constanța and Bucharest. The JICA delegation was invited to participate in the Technical and Economical Committee to examine the coastal protection plan organized by the Ministry of Environment and Water Management.

- 23 February 2007: Joint meeting of JICA officials, JICA advisory committee, and the Team for discussion of the draft final report
- 27 February 2007: Departure from Narita to Bucharest for the fifth on-site study
- 2 March 2007: International symposium “Intelligent Solution of Coastal Protection” at University of Construction and Technology, Bucharest
- 9 March 2007: JICA seminar at Constanța
- 9 March 2007: Sixth stakeholder meeting at Constanța
- 12 March 2007: JICA seminar at Bucharest
- 12 March 2007: Third stakeholder meeting at Bucharest
- 13 March 2007: Technical and economical committee of MoEW
- 13 March 2007: Seventh steering committee meeting at Bucharest
- 18 March 2006: Departure from Bucharest to Narita at the end of the fifth on-site study

#### (11) Fourth Domestic Work in Japan at the Phase II Stage

The works were carried out in mid-April and continue to late June, 2007. Final report of the Study was prepared by referring to the comments of the Romanian Government on the Draft Final Report and reflecting the conclusion of the public debate of SEA procedure at Constanța on March 29, 2007, and submitted to JICA who will forward it to the Government of Romania.

### J.3 Formation of Study Team and Committees Related to the Study

#### J.3.1 JICA Supporting Committee

The Advisory Committee of JICA is composed of three (4) experts and their names and organizations are listed below.

Name	Assignment	Organization
Mr. Junji YOKOKURA	Chairman	Senior Assistant to the Director General, Global Environment Department
Mr. Kazunori WADA	Coastal Protection and Management Plan	(Former) Research Coordination for Watershed Management, National Institute for Land and Infrastructure Management, Ministry of Land, Infrastructure and Transport (Current) Professor, Center for Disaster Management Informatics Research, Ehime University
Mr. Yoshiaki KURIYAMA	Coastal Erosion	Head, Littoral Drift Division, Marine Environment and Engineering Department Port and Airport Research Institute
Mr. Ken-ichi TANAKA	Environment and Social Considerations	Senior Advisor, Japan International Cooperation Agency

#### J.3.2 Japan International Cooperation Agency (JICA)

Name	Assignment	Organization
Mr. Shokichi SAKATA	Group Director	Group III (Water Resources and Disaster, Management), Global Environment Department
Mr. Masafumi NAGAISHI	Former Team Director	Water Resources and Disaster Management Team II, Group III (Water Resources and Disaster, Management), Global Environment Department
Mr. Satoru MIMURA	Successive Team Director	Ditto
Ms. Ai YAMAZAKI	Former Coordinator	Water Resources and Disaster Management Team II, Group III (Water Resources and Disaster Management), Global Environment Department
Mr. Kenta ONO	Successive Coordinator	Ditto
Mr. Noriaki MURASE	Program Officer	Environmental and Social Consideration Review Team, Office of Gender Equality and Environmental and Social Consideration Review, Planning and Coordination Department

### J.3.3 Japan International Cooperation Agency (JICA), JICA/JOCV Romania Office

Name	Assignment
Mr. Fumio MIYAGAWA	Resident Representative
Mr. Keiji MORISHIMA	Former Project Formulation Advisor
Ms. Mirela Claudia Ioana	Successive Project Formulation Advisor

### J.3.4 Formation of the Team

The Team for execution of the Study is composed of six (6) experts and one (1) coordinator, whose names and assignments are listed below.

Name	Assignment
Prof. Yoshimi GODA	Chief Consultant / Shore Protection Planning
Mr. Yutaka OCHI	Deputy Chief / Natural Condition Analysis
Mr. Yuji HATAKEYAMA	Environmental and Social Aspect
Mr. Takao OZAKI	Socio-economic Analysis / Operation and Management Planning
Dr. Keiji KUROKI	Sedimentation Survey and Analysis
Mr. Makoto NAMATAME	Shore Protection Facility Planning and Design
Mr. Yoshimasa ITO	Coordinator of first to third on-site study
Mr. Yoshiyuki UNO	Coordinator of fourth and fifth on-site study

### J.3.5 Romanian Counterparts

The following personnel of the Romanian side have cooperated with the Team for execution of the Study:

#### (1) Ministry of Environment and Water Management (MoEWM)

Ms. Lucia Ana Varga, Secretary of State  
 Mr. Gheorghe Constantin, Director  
 Mr. Dumitru Dorogan, Counsellor  
 Ms. Niculina Pop, Advisor  
 Ms. Andreea Stancu, Advisor  
 Ms. Iuliana Ionescu, Assistant Advisor  
 Mr. Silviu Stoica, General Director, Foreign Grant

#### (2) National Administration of the Romanian Waters (Apele Romane)

Mr. Madalin Jorj Mihailovici, Director General  
 Mr. Aurel Pană, Former Director General  
 Mr. Petru Serban, Director, River Basin Management Plan  
 Ms. Boscornea Corina, European Integration and Cooperation Department  
 Mr. Lucian Dumitru, Counselor

#### (3) Dobrogea Litoral Water Directorate, Constanța

Mr. Ionel Manafu, Director General  
 Mr. Gheorgeh Babu, Technical Director: Counterpart of Goda



Mr. Andrei Antohi, Counselor:	Coordinator
Ms. Camelia Dumitrache, International Relation Office, Director:	Counterpart of the Team
Mr. Dacian Teodorescu, Hydrological Station:	Counterpart of Goda
Mr. Stelica Hagi, Chief of Investigation Section:	Counterpart of Ochi
Ms. Otilia Antonaru, Chief of European Integration:	-- ditto --
Ms. Irina Popescu, Authorization Notification:	Counterpart of Hatakeyama
Mr. Stelian Pascale, European Integration:	Counterpart of Hatakeyama and Ozaki
Mr. Gabriela Marin, Exploitation Section:	Counterpart of Ozaki
Ms. Mariana Pitu, Head of Marketing Office:	Counterpart of Ozaki
Ms. Madalina Nesan, Accounting Office:	Counterpart of Ozaki
Mr. Kertesz Laurentiu, Hydrology and Hydrogeology:	Counterpart of Kuroki
Mr. Silviu Matei, Hydrological Station Marine	Counterpart of Namatame
Mr. Adrian Chera, Hydrological Station	-- ditto --

### J.3.6 Steering Committee

As stated in the Minutes of Meeting on the Scope of Work, a Steering Committee, chaired by the Director of Water Department, MoEWM, has been established. The role of the Steering Committee is to guide the Study in the proper direction by providing instructions, information and by evaluating the reports. The committee is required to hold meetings at the time of submission of reports as well as upon the request of MoEWM and/or the Japanese Study Team.

The Steering Committee is comprised of the following ministries and organizations:

- Water Department, MoEWM
- National Administration of the Romanian Waters, "Apele Romane"
- Environmental Protection Agency
- Ministry of Transportation, Construction and Tourism
- Danube Delta Biosphere Reserve Authority
- River Administration of the Low Danube, Galati
- National Institute of Marine Geology and Geo-ecology "GeoEcoMar"
- National Institute for Marine Research and Development "Grigore Antipa"
- Constanța Prefecture
- JICA/JOCV Romania Office

Series of steering committee has been held as in the following.

- 1st committee: May 18, 2005
- 2nd committee: November 4, 2005
- 3rd committee: December 15, 2005
- 4th committee: February 28, 2006
- 5th committee: May 29, 2006
- 6th committee: August 22, 2006
- 7th committee: March 13, 2007

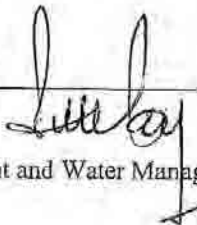
## J.4 Scope of Works Signed by Japanese and Romanian Sides


*Scope of Work  
for  
The Study on Protection and Rehabilitation  
of  
The Southern Romanian Black Sea Shore  
in  
Romania*

Agreed upon between


*Ministry of Environment and Water Management  
and  
Japan International Cooperation Agency*

Bucharest, July 30, 2004

  
Mr. Florin STADIU  
Secretary of State,  
Ministry of Environment and Water Management

  
Mr. Junji YOKOKURA  
Leader,  
Preparatory Study Team,  
Japan International Cooperation Agency  
(JICA)

*Witnessed by*

  
Mr. Ovidiu GABOR  
General Director,  
National Administration of the Romanian Waters

## **I. INTRODUCTION**

In response to the official request of the Government of Romania for the technical cooperation on the Study on Protection and Rehabilitation of the Southern Romanian Black Sea Shore (hereinafter referred to as "the Study"), the Government of Japan decided to conduct the Study in accordance with relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of the Government of Romania.

The present document sets forth the scope of work with regard to the Study, and will be valid after the authorization of JICA Headquarters.

## **II. OBJECTIVES OF THE STUDY**

The objectives of the Study are:

1. to formulate a coastal protection plan for Southern Romanian Black Sea Shore
2. to conduct a preliminary design on the priority projects
3. to transfer skills and technology of coastal protection and management to the counterpart personnel of Ministry of Environment and Water Management (hereinafter referred to as "MoEWM") and other authorities concerned in the course of the Study.

## **III. STUDY AREA**

The Study will cover the Southern littoral of the Romanian Black Sea coast, from Midia to Vama Veche (approximately 75km in length) as shown in Annex I:

## **IV. SCOPE OF THE STUDY**

### **PHASE I: Basic Study**

- (1) Collection and Review of Existing Data
  - (a) Socio-economic condition
  - (b) Natural condition (meteorological, hydrographic, geological)
  - (c) Socio-economic development plan, and other development policies/ plans  
(e.g. tourism, fishery)
  - (d) Existing land use and future land use plans/ regulations
  - (e) Existing legal framework for coastal management and environmental protection
  - (f) Existing institutional framework for coastal management.
- (2) Visual observation on beach morphology and coastal structures
- (3) Analysis of mechanism of coastal erosion
- (4) Evaluation of effect of existing protection structures



- (5) Examination of sand dredging sites for sand nourishment
- (6) Technical assistance on Initial Environmental Examination (IEE) for environmental and social consideration (including public consultation with communities and stakeholders, if necessary)
- (7) Formulation of Basic Policy of Coastal Protection Plan
- (8) Selection of priority project(s)

#### **PHASE II: Formulation of Coastal Protection Plan Feasibility Study**

- (1) Formulation of Coastal Protection Plan
  - (a) Formulation of short-term and long-term plan
  - (b) Selection of protection measures
  - (c) Operation/ maintenance/ management plan
  - (d) Legal and institutional framework improvement plan
  - (e) Follow-up plan after the project
  - (f) Rough estimation of project implementation cost
  - (g) Project evaluation (economic, financial, institutional, social, technical and environmental)
- (2) Feasibility study on priority projects
  - (a) Preliminary facilities design
  - (b) Formulation of construction plan
  - (c) Formulation of operation/ maintenance/ management plan
  - (d) Formulation of institutional plan
  - (e) Preliminary cost estimation
  - (f) Technical assistance on Environmental Impact Assessment (EIA) (if necessary)
  - (g) Project evaluation (economic, financial, institutional, social, technical and environmental)
  - (h) Formulation of project implementation plan

#### **Implementation of Pilot Project(s)**

Pilot project(s) may be implemented in case the experimental proof is required from the technical point of view for the countermeasures against the coastal erosion.

- (1) Construction of facilities
- (2) Monitoring of operation/ maintenance/ management condition
- (3) Monitoring and data analysis of erosion control
- (4) Monitoring of environmental and social effect

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(5) Project evaluation (economic, financial, institutional, technical, social and environmental)

#### **V. SCHEDULE OF THE STUDY**

The Study will be carried out in accordance with the tentative schedule as attached in Annex II.

#### **VI. REPORTS**

JICA shall prepare and submit the following reports in English to the Government of Romania.

1. Inception Report:

Fifteen (15) copies will be submitted at the commencement of the first (1<sup>st</sup>) phase in Romania. This report will contain the schedule and methodology of the Study as well as outline of the field survey.

2. Interim Report:

Fifteen (15) copies will be submitted at the end of the first (1<sup>st</sup>) phase in Romania. The report contains the interim progress of the study.

3. Progress Report:

Fifteen (15) copies will be submitted at the end of the first (1<sup>st</sup>) phase in Romania. The report will include the basic policy of coastal protection plan and selection of priority project(s).

4. Draft Final Report:

Fifteen (15) copies will be submitted at the end of second (2<sup>nd</sup>) phase in Romania. The report contains the outcome of the study, which will include the preliminary design on the priority project(s). The Government of Romania shall submit its comments within one (1) month after the receipt of the Draft Final Report.

5. Final Report:

Forty (40) copies will be submitted within one (1) month after the receipt of the comments on the Draft Final Report.

#### **VII. UNDERTAKINGS OF ROMANIAN SIDE**

1. To facilitate the smooth conduct of the Study, the Romanian side shall undertake all the necessary diligences in order:

(1) to permit the members of the Team to enter, leave and sojourn in Romania for the duration of their assignments therein and exempt them from foreign registration requirements and consular fees;

(2) to exempt the members of the Japanese study team (hereinafter referred to as "the Team") from taxes, duties, and any other charges on equipment, machinery and other materials brought into Romania for the implementation of the Study;



- (3) to exempt the members of the Team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Team for their services in connection with the implementation of the Study; and
  - (4) to provide necessary facilities to the Team for remittance as well as utilization of the funds introduced into Romania from Japan in connection with the implementation of the Study.
2. The Romanian side shall bear claims, if any arises, against the members of the Team resulting from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the Team.
  3. MoEWM shall act as counterpart agency to the Team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.
  4. MoEWM shall, at its own expense, provide the Team with the following, in cooperation with other organizations concerned:
    - (1) security-related information on as well as measures to ensure the safety of the Team,
    - (2) information on as well as support in obtaining medical service,
    - (3) available data, information and studies related to the Study,
    - (4) counterpart personnel,
    - (5) suitable office space with necessary office equipment and furniture,
    - (6) credentials or identification cards, and
    - (7) appropriate numbers of vehicles with drivers.

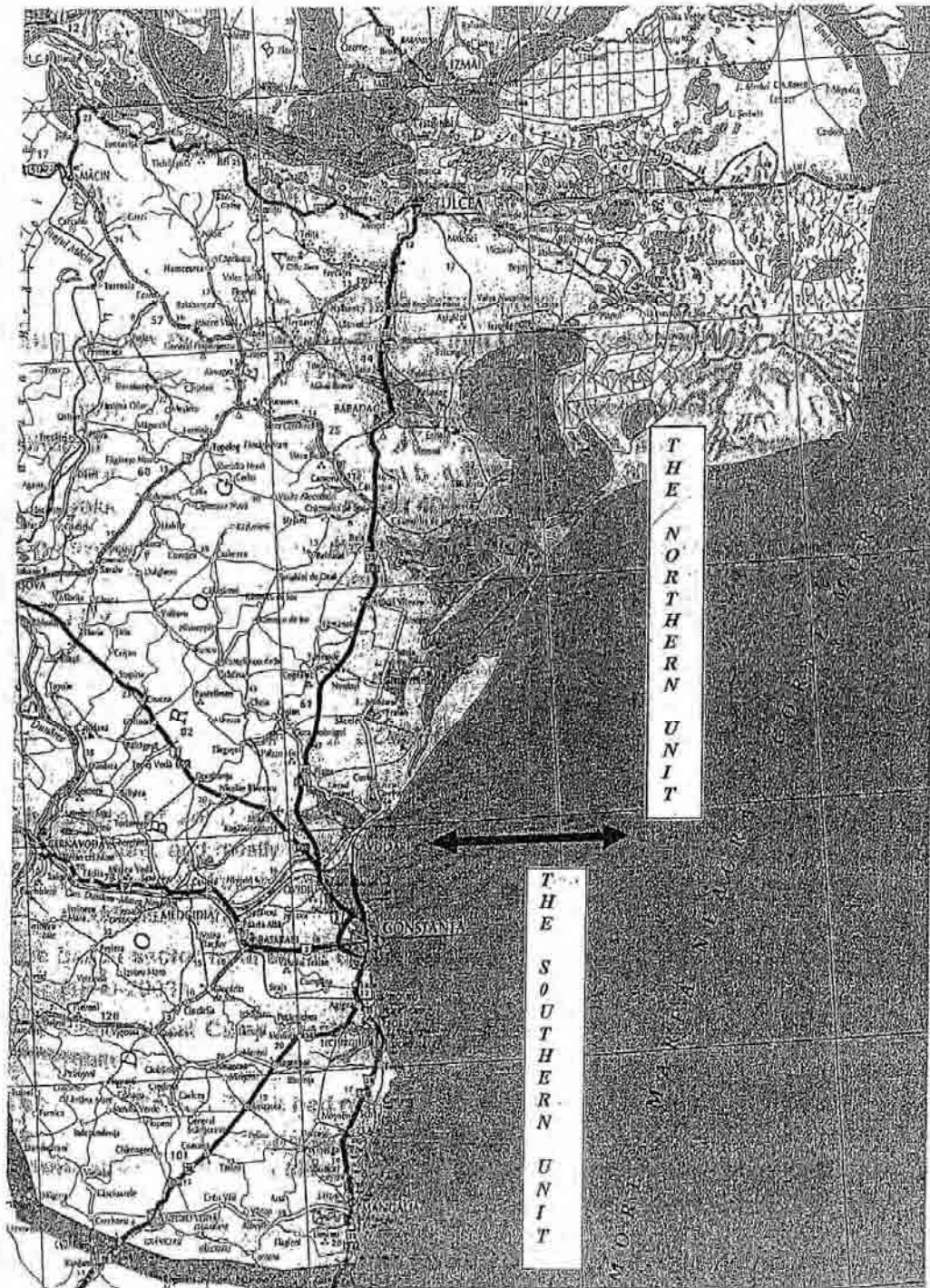
#### **VIII. CONSULTATION**

JICA and MoEWM shall consult with each other in respect of any matter that may arise from or in connection with the Study.

ANNEX I Dobrogea Map-Romanian's Littoral  
ANNEX II Tentative Schedule



ANNEX I



DOBROGEA MAP – ROMANIAN'S LITTORAL

ANNEX II

The Study on Protection and Rehabilitation of  
The Southern Romanian Black Sea Shore in Romania  
TENTATIVE SCHEDULE

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Phase	Phase 1												Phase 2									
Reports	▲ IC/ R						▲ IT/ R					▲ P/ R								▲ DF /R		▲ F/ R

- (NOTES ) IC/R: Inception Report  
P/R: Progress Report  
IT/R: Interim Report  
DF/R: Draft Final Report  
F/R: Final Report




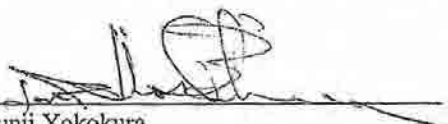
## J.5 Minutes of Meeting on Scope of Works

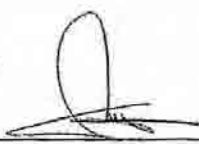
*Minutes of Meetings  
on  
the Scope of Work  
for  
The Study on Protection and Rehabilitation  
of  
The Southern Romanian Black Sea Shore  
in  
Romania*

*Ministry of Environment and Water Management  
and  
Japan International Cooperation Agency*

Bucharest, July 28, 2004

  
\_\_\_\_\_  
Mr. Florin Stadiu  
Secretary of State,  
Ministry of Environment and Water Management

  
\_\_\_\_\_  
Mr. Junji Yokokura  
Leader,  
Preparatory Study Team,  
Japan International Cooperation Agency (JICA)

*Witnessed by*  
  
\_\_\_\_\_  
Mr. Ovidiu Gabor  
General Director,  
National Administration of the Romanian Waters

In response to the official request of the Government of Romania, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Study Team (hereinafter referred to as "the Team"), headed by Mr. Junji Yokokura, to Romania from July 20 to August 8, 2004 to discuss the Scope of Work (hereinafter referred to as "S/W") for The Study on Protection and Rehabilitation of the Southern Romanian Black Sea Shore (hereinafter referred to as "the Study").

During the Study period, the Team held a series of meetings with the Ministry of Environment and Water Management (hereinafter referred to as "MoEWM") and other authorities concerned and conducted field reconnaissance on the Study. The list of those who attended these meetings is shown in the Annex.

As a result of the discussions, both sides came to an agreement on S/W, which was signed on July 28, 2004.

The Minutes of Meetings have been prepared for the better understanding of the S/W. Both sides agreed and confirmed the following points for the smooth implementation of the Study.

#### **1. Counterpart**

MoEWM will act as the responsible counterpart organization and National Administration of the Romanian Waters ("Apele Romane") as the implementing counterpart agency in technical aspects. Both sides agreed that the roles of the counterpart organizations are:

- (1) coordination among relevant governmental and non-governmental organizations, for the smooth implementation of the Study and also for the formulation of a practical coastal protection plan in both content and process,
- (2) assignment of the sufficient number of qualified counterpart personnel, who would conduct the Study jointly with the Japanese experts.

Both sides agreed that MoEWM and Apele Romane would allocate the necessary number of counterpart personnel based upon the composition of the Study Team. JICA/JOCV Romania Office will notify when the Study Team member is determined, and based on the number of personnel and field in charge, the Romanian side will submit the counterpart member list to JICA/JOCV Romania Office by the end of October 2004.

#### **2. Steering Committee**

Considering the necessity of involving relevant Romanian organizations in the Study, both sides agreed that the Romanian side would establish a Steering Committee, chaired by Gheorghe Constantin, Director of Water Dept., MoEWM. The role of the Steering Committee is to guide the Study in the proper direction by providing instructions, information and by evaluating the reports. The committee is required to hold meetings at the time of submission of reports as well as upon the request of MoEWM and/or the Japanese Study Team.

The committee will be comprised of the following ministries and organizations. MoEWM agreed to submit the member list to JICA/JOCV Romania Office by the end of October 2004.

- Water Department, MoEWM
- National Administration of the Romanian Waters, "Apele Romane"
- Environmental Protection Agency
- Danube Delta Biosphere Reserve Authority
- JICA/JOCV Romania Office

**3. Non-Japanese Consultants**

In case National Institute for Marine Research and Development "Grigore Antipa" (NIMRD) and National Institute for Marine Geology and Geo-Ecology (GeoEcoMar) participate in the Study, they will perform as consultants subcontracting with the Japanese consultant selected by JICA.

**4. Workshops**

MoEWM requested the Team to hold workshops to encourage the technology transfer to relevant organizations and national / local administrative officials. The Team recognized the necessity and agreed to hold the workshops.

**5. Seminars**

MoEWM requested the Team to hold seminars based on the results obtained from the Study, in order to disseminate the output of the Study to relevant organizations, national / local administrative officials and external funding agencies. The Team recognized the necessity and agreed to hold the seminars. MoEWM requested to prepare brochures for each seminar, and the Team promised to convey this request to JICA Headquarters.

**6. Counterpart Training in Japan**

MoEWM requested that Romanian counterpart personnel take advantage of training in Japan related to the Study to promote an effective technology transfer. The Team promised to convey this request to JICA Headquarters.

**7. Reports**

Both sides agreed that Final Report should be open to the general public. In order to share the Study results with relevant organizations as many as possible, MoEWM requested to submit, in addition to Final Report, all of the reports (e.g. Inception Report, Progress Reports, Interim Report, and Draft Final Report) in CD-ROM. The Team promised to convey this request to JICA Headquarters.

**8. Environmental and Social Consideration**

The Team explained JICA's Environmental and Social Consideration Guidelines, and that it will be applied to the Study.

The government of Romania understood the policy of JICA's guidelines, and agreed in principle to the following responsibilities and requirements.

(1) Based on the guidelines, the Government of Romania shall be responsible for conducting Initial Environmental Examination (IEE) in collaboration with JICA. The necessary activities required for IEE shall be carried out by MoEWM.

(2) JICA shall provide MoEWM with technical support in order to conduct IEE.

(3) In the course of conducting IEE, public consultation with communities and stakeholders shall be included if necessary.

(4) The disclosure of information such as Study Reports is necessary to ensure the participation and dialogues with various stakeholders, in order to achieve appropriate environmental and social considerations.

(5) The above mentioned responsibilities and requirements will also be applied when EIA is judged to be necessary.

#### **9. Others**

The Romanian side mentioned that the study on the sediment behavior and its countermeasures in the Northern part of the Romanian Black Sea shore, especially around the river mouth of Danube are also important and should be included in the Study. Japanese side recognized the importance but explained that this scope of work shall cover only the southern part due to the limited resources of time, and that the separation of the target areas doesn't necessarily mean the ignorance of their integration.

Annex

**ATTENDANCE LIST*****ROMANIAN SIDE*****Ministry of Environment and Water Management**

Mr. Florin Stadiu	Secretary of State
Mr. Gheorghe Constantin	Director
Mr. Dumitru Dorogan	Counselor

**National Administration of the Romanian Waters(Apele Romene)**

Mr. Ovidiy Gabor	General Director
Ing. Hiristu Uzun	Director, Directia Apelor Dobrogea-Litoral

**National Institute for Marine Research and Development "Grigore Antipa"**

Mr. Simion Nicolaev	General Director
Mr. Danut I. Diaconeasa	Senior Scientist

**National Institute for Marine Geology and Geo-Ecology**

Mr. Nicolae Panin	Director General
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***JAPANESE SIDE*****JICA Preparatory Study Team**

Mr. Junji Yokokura	Leader
Mr. Kazunori Wada	Member (Coastal Protection and Management Plan)
Mr. Yoshiaki Kuriyama	Member (Coastal Erosion)
Mr. Yasumasa Suzuki	Member (Coastal Protection/ Environmental Management)

**JICA/JOCV Romania Office**

Mr. Hiroshi Furukawa	Resident Representative
----------------------	-------------------------


## J.6 Minutes of Steering Committee Meetings


### J.6.1 Minutes of 1st Steering Committee Meeting

*Minutes of Meetings  
on  
the Inception Report  
for  
The Study on Protection and Rehabilitation  
of  
The Southern Romanian Black Sea Shore  
in  
Romania*


*Ministry of Environment and Water Management  
and  
Japan International Cooperation Agency*

Bucharest, 18 May, 2005

  
\_\_\_\_\_  
Ms. Lucia Ana Varga  
Secretary of State,  
Ministry of Environment and Water Management

  
\_\_\_\_\_  
Mr. Yoshimi Goda  
Leader,  
JICA Study Team

  
Witnessed by

  
\_\_\_\_\_  
Mr. Petru Șerban  
Director,  
National Administration of the Romanian Waters

In accordance with the Scope of Work for "The Study on Protection and Rehabilitation of the Southern Romanian Black Sea Shore" (hereinafter referred to as "the Study") agreed upon between the Ministry of Environment and Water Management (hereinafter referred to as "MoEWM") and Japan International Cooperation Agency (hereinafter referred to as "JICA") on July 30, 2004, JICA dispatched the Study Team (hereinafter referred to as "the Team") headed by Mr. Yoshimi Goda and composed of members from ECOH CORPORATION to Romania. JICA Advisory Committee has also been dispatched on the commencement of the Study.

The Team submitted the Inception Report (hereinafter referred to as IC/R), and series of discussions were made at the time of submission. The following are the main points discussed in the meetings. The list of attendants are attached as Annex.

#### **1. Acceptance of IC/R:**

The Team explained the contents of IC/R and submitted 15 copies. The Government of Romania (hereinafter referred to as GoR) has in principle accepted the contents of IC/R.

#### **2. Undertakings of the Romanian Side**

The Team expressed their appreciation to GoR for the provision of office spaces at Bucharest and Constanța and designation of counterpart personnel to respective members of the Team.

#### **3. Persons Responsible for Answering to Respective Items of Questionnaire**

The Team submitted a tentative list of the names of the Team members and Romanian counterparts, who are responsible for acquiring information on respective items of questionnaire. The Romanian side promised to examine the tentative list and to submit the modified version of the list to the Team in one week.

#### **4. Target Year of the Shore Protection Plan for the Southern Romanian Black Sea Shore**

It was agreed that the Shore Protection Plan for the Southern Romanian Black Sea Shore will be prepared for the target year of 2020 in consonance with the Romanian Strategy of Integrated Coastal Zone Management.

#### **5. Environmental and Social Considerations**

It was confirmed that a stakeholder meeting for IEE (Initial Environmental Examination) for this coastal protection plan will be held in the second half of June, 2005 by Apele Romane, which will have consultations with stakeholders complying with JICA guidelines for Environmental and Social Considerations. The consultations are scheduled to be held six (6) times in all by October, 2006 when this study will be concluded.

Scoping for IEE at each stage of the basic study and the coastal plan will be executed at the meetings with stakeholders, and the results will be used for selection of the priority project(s). The necessity of EIA (Environmental Impact Assessment) will be examined for the selected priority project(s). Scoping will be executed when EIA is judged as necessary.

#### **6. Equipment for Wave and Current Measurements**

The Team explained its intention to bring the equipment for wave and current measurements into Romania in October 2005, and the Romanian side confirmed its intention to employ it for the purpose of monitoring wave and current conditions in the Southern Romanian Black Sea Shore.



#### **7. Pilot Project**

The Team explained its view to GoR that demonstration project(s) including construction of facilities are not essential in developing the coastal protection plan for the Southern Romanian Black Sea Shore by the following reasons:

- (1) Projected measures for coastal protection and rehabilitation have ample technical evidence of their effectiveness and do not require further proving.
- (2) Control of progress and quality control during construction is difficult under the limited schedule of the Study.
- (3) Monitoring and maintenance of conditions after construction is difficult under the limited schedule of the Study.

Both sides agreed that experimental construction will not be conducted in the Study.

#### **8. Institutional Development for Project Implementation**

GoR and the Team agreed that it is very important to have institutional development in GoR for smooth and efficient implementation of the project of priority project(s) and they expressed their earnest intention to make every effort for the institutional development.

#### **9. Next Meeting of the Steering Committee**

The next meeting of the Steering Committee will be held at Bucharest in mid-October when the Team will submit the Progress Report to GoR. Both sides agreed that the Steering Committee should be extended to include representatives from the Ministry of Finance and the Ministry of Transport, Construction and Tourism, as well as observers from the Delegation of the European Commission in Romania and Prefecture of Constanța County.





## ANNEX: LIST OF ATTENDEES

### **ROMANIAN SIDE**

#### **Ministry of Environment and Water Management**

Ms. Lucia Ana Varga Secretary of State  
Mr. Dumitru Dorogan Counsellor

#### **National Administration of the Romanian Waters(Apele Romane)**

Mr. Petru Serban Director, River Basin Management Plan  
Mr. Andrei Antohi Counsellor, Dobrogea-Litoral Constanța

#### **Environmental Protection Agency**

Ms. Monica Gurău Counsellor Superior

#### **Danube Delta Biosphere Reserve Agency**

### **JAPANESE SIDE**

#### **JICA Advisory Committee**

Mr. Kazunori Wada Coastal Protection and Management Plan  
Mr. Yoshiaki Kuriyama Coastal Erosion  
Mr. Kenichi Tanaka Environmental and Social Consideration  
Ms. Ai Yamazaki Study Monitoring

#### **JICA Study Team**

Mr. Yoshimi Goda Leader/Shore Protection Planning  
Mr. Yutaka Ochi Deputy Leader/Natural Condition Analysis  
Mr. Yuji Hatakeyama Environmental and Social Aspect  
Mr. Takao Ozaki Socio-Economic Analysis/Operation and Management Planning  
Mr. Keiji Kuroki Sedimentological Analysis  
Mr. Makoto Namatame Shore Protection Facility Planning and Design  
Mr. Yoshimasa Ito Coordinator

#### **Embassy of Japan**

#### **JICA/JOCV Romania Office**

Mr. Fumio Miyagawa Resident Representative  
Mr. Keiji Morishima Project Formulation Advisor (Environment)

## J.6.2 Minutes of 2nd Steering Committee Meeting

*Minutes of Meetings  
on  
the Progress Report  
for  
The Study on Protection and Rehabilitation  
of  
The Southern Romanian Black Sea Shore  
in  
Romania*

*Ministry of Environment and Water Management  
and  
Japan International Cooperation Agency*

in Bucharest on 4 November, 2005

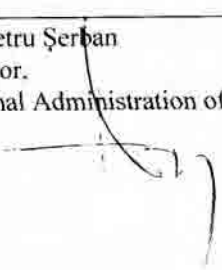


Ms. Lucia Ana Varga  
Secretary of State,  
Ministry of Environment and Water Management




Mr. Junji Yokokura  
Leader,  
JICA Advisory Committee

*Witnessed by*



Mr. Petru Șerban  
Director,  
National Administration of the Romanian Waters



Mr. Yoshimi Goda  
Leader  
JICA Study Team

In accordance with the Scope of Work for "The Study on Protection and Rehabilitation of the Southern Romanian Black Sea Shore" (hereinafter referred to as "the Study") agreed upon between the Ministry of Environment and Water Management (hereinafter referred to as "MoEWM") and Japan International Cooperation Agency (hereinafter referred to as "JICA") on July 30, 2004, JICA dispatched the Study Team (hereinafter referred to as "the Team") headed by Mr. Yoshimi Goda and composed of members from ECOH CORPORATION to Romania. JICA Advisory Committee has also been dispatched on the commencement of the Study and at the time of the submission of the Progress Report (hereinafter referred to as PR/R).

The Team submitted PR/R and series of discussions were made at the time of submission. The following are the main points discussed in the meetings. The list of attendees is attached as Annex.

#### **1. Acceptance of PR/R:**

The Team explained the contents of PR/R and submitted 15 copies. The Ministry of Environment and Water Management of the Government of Romania (hereinafter referred to as MoEWM) has in principle accepted the contents of PR/R.

#### **2. Methodology for Selection of Priority Project Site(s)**

The methodology for selection of priority project site(s) was explained by the Team and it was accepted after several discussions together with the results of scores for respective sub-sectors of the study area.

#### **3. Selection of Priority Project Sites**

Based on the ranking of respective sub-sectors from the viewpoints of coastal protection, beach utilization, economical feasibility of project implementation and needs for promotion of regional development, the following sub-sectors were selected as the sites in which the feasibility study for the priority projects will be undertaken by the Team:

- Sub-sector of Mamaia South and
- Sub-sector of Eforie Nord.

The areal extent of the priority projects will be determined through consultation between the Team and the Water Directorate Dobrogea Litoral (hereinafter referred to DADL).

#### **4. Stakeholder Meetings**

The results of the second stakeholder meeting held on November 2 at Constanța were reported. It was announced that the second meeting at Bucharest and the third meeting at Constanța will be held in late November with the information of the priority project sites

#### **5. Equipment for Wave and Current Measurements**

JICA reported the progress of shipment of the equipment for wave and current measurements to Romania. The Team confirmed its technical support to DADL for its installation at the measurement sites and data analysis by DADL.

#### **6. Institutional Development for Project Implementation**

MoEWM presented a progress of institutional development for smooth and efficient implementation of the priority projects and promised its earnest intention to make every effort for the institutional development.

**7. Availability of Fund for Project Implementation**

MoEWM and the Team agreed on the urgent necessity of securing the fund for project implementation and MoEWM commented that it will make every effort in this respect. MoEWM also promised to share the related information with the Team.

**8. Next Meeting of the Steering Committee**

The next meeting of the Steering Committee will be held at Bucharest in December in which discussions will be made on the major contents of the coastal protection plan to be presented by the Team.

(V)



**ANNEX: LIST OF ATTENDEES****ROMANIAN SIDE****Ministry of Environment and Water Management**

Ms. Lucia Ana Varga	Secretary of State
Mr. Gheorghe Constantin	Director, Water Management
Mr. Dumitru Dorogan	Advisor
Ms. Madalina Moraru	Public Relation Counselor

**National Administration of the Romanian Waters “Apele Romane”**

Mr. Petru Șerban	Director, River Basin Management Plan
Mr. Ionel Manafu	Director, DADL
Mr. Tanase Bian	Director Economic Department, DADL
Ms. Camelia Dumiteache	Coordination Program International, DADL

**Ministry of Transportation and Tourism**

Mr. Diaconescu Cristian	Counselor, National Authority of Tourism
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**Environmental Protection Agency**

Mr. Adrian Mausle	Director Executive, APM Constanța
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**National Institute of Marine Geology and Geo-ecology “GeoEcoMar”**

Mr. Nicolae Panin	Director General
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**National Institute for Marine Research and Development “Grigore Antipa”**

Mr. Simon Nicolae	General Director
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**JAPANESE SIDE****JICA Advisory Committee**

Mr. Junichi Yokokura	Team Leader, JICA Study Mission
Mr. Kazunori Wada	Coastal Protection and Management Plan
Mr. Yoshiaki Kuriyama	Coastal Erosion
Mr. Kenta Ono	Study Planning, JICA

**JICA Study Team**

Mr. Yoshimi Goda	Leader/Shore Protection Planning
Mr. Yutaka Ochi	Deputy Leader/Natural Condition Analysis
Mr. Yuji Hatakeyama	Environmental and Social Aspect
Mr. Takao Ozaki	Socio-Economic Analysis/Operation and Management Planning
Mr. Keiji Kuroki	Sedimentological Analysis
Mr. Makoto Namatame	Shore Protection Facility Planning and Design
Mr. Yoshimasa Ito	Coordinator

**JICA/JOCV Romania Office**


Mr. Fumio Miyagawa	Resident Representative
Mr. Keiji Morishima	Project Formulation Advisor


### J.6.3 Minutes of 3rd Steering Committee Meeting


*Minutes of Meetings  
on  
the Progress and Steps to Be Taken for  
The Study on Protection and Rehabilitation  
of  
The Southern Romanian Black Sea Shore  
in  
Romania*

*Ministry of Environment and Water Management  
and  
Japan International Cooperation Agency*

in Bucharest on 15 December, 2005

  
\_\_\_\_\_  
Ms. Lucia Ana Varga  
Secretary of State,  
Ministry of Environment and Water Management

  
\_\_\_\_\_  
Mr. Yoshimi Goda  
Leader,  
JICA Study Team

*Witnessed by*  
  
\_\_\_\_\_  
Mr. Ionel Manafu  
Manager,  
Water Directorate Dobrogea – Litoral  
National Administration of the Romanian Waters

In accordance with the Scope of Work for "The Study on Protection and Rehabilitation of the Southern Romanian Black Sea Shore" (hereinafter referred to as "the Study") agreed upon between the Ministry of Environment and Water Management (hereinafter referred to as "MoEWM") and Japan International Cooperation Agency (hereinafter referred to as "JICA") on July 30, 2004, JICA dispatched the Study Team (hereinafter referred to as "the Team") headed by Mr. Yoshimi Goda and composed of members from ECOH CORPORATION to Romania.

The Team carried out the second on-site study during the period from October 11 to December 16, 2005 in Romania. Upon the conclusion of the second on-site study, the Team reported the progress of the study to the Steering Committee and discussed several aspects related to the Study. The following are the main points discussed in the meetings. The list of attendees is attached as Annex.

#### **1. Implementation Schedule of Coastal Protection Plan:**

The Ministry of Environment and Water Management of the Government of Romania (hereinafter referred to as MoEWM) has seconded the Team's proposal to divide the Coastal Protection Plan into two stages, the first stage from 2005 to 2020 and the second stage from 2021 afterward, the estimated total cost of about 190 million Euros each.

#### **2. Preparation of Feasibility Study Report on Mamaia Sud and Eforie Nord Projects**

MoEWM has supported the Team's concept for provision of the main elements of the priority projects at Mamaia Sud and Eforie Nord. Upon request by MoEWM, the Team promised to make its best efforts in preparing the volume of feasibility study report in accordance with the guidelines of the Romanian Government, those of the European Union, and international financing institutions.

#### **3. Financing of Priority Projects**

MoEWM advised the Team of its decision for requesting EU of financial assistance for the priority projects at Mamaia Sud and Eforie Nord. MoEWM requested the Team to prepare the application documents for the EU fund, and the Team promised to convey the request to the JICA Headquarter and to make its best efforts in complying with the request.

#### **4. Establishment of Project Management Unit for Priority Projects**

MoEWM recognizes the necessity of establishing a pre-project management unit for the coastal protection and rehabilitation projects at Mamaia Sud and Eforie Nord, and advised the Team of the decision that the Secretary of State, Ms. Varga, will be responsible for promotion of the projects, while DADL will take the responsibility of field coordination.

#### **5. DADL's Contract with Local Consultant for EIA**

The Team explained that it is necessary for DADL to make a contract with a local consultant for preparation of the environmental impact assessment for the coastal protection and rehabilitation projects at Mamaia Sud and Eforie Nord, and the Team promised to provide DADL with technical assistance necessary for it.

#### **6. Preparation for Strategic Environment Assessment (SEA)**

Both the Water Department of MoEWM and the Team recognized the urgency for making preparation for the strategic environment assessment to be reviewed by the General Directorate of Impact Assessment, Pollution Control and Risk Assessment of MoEWM. It is understood that the Water Department will work together with Apele Romane for SEA.

**7. JICA Seminar in March 2006**

The Team explained a tentative program of the JICA Seminar to be held at Bucharest and Constanța in March 2006. MoEWM accepted the program in principle, but it pointed out that there may be a possibility of postponing the seminar in May because of the tight schedule of the Romanian Government official concerned. MoEWM further suggested of holding a large-scale seminar in Constanța only. At the opportunity of submitting the Draft Final Report in September 2006, another seminar will be held in Bucharest.

**8. Next Meeting of the Steering Committee**

The next meeting of the Steering Committee will be held at Bucharest in the end of February 2006 in which discussions will be made on the major contents of the Interim Report to be submitted by the Team.





## ANNEX: LIST OF ATTENDEES

### **ROMANIAN SIDE**

#### **Ministry of Environment and Water Management**

- |                      |                                     |
|----------------------|-------------------------------------|
| •Ms. Lucia Ana Varga | Secretary of State                  |
| •Ms. Iuliana Ionescu | Assistant Advisor, Water Department |
| •Ms. Niculina Pop    | Advisor, Water Department           |
| •Ms. Andreea Stancu  | Advisor                             |

#### **National Administration of the Romanian Waters(Apele Romane)**

- |                         |   |
|-------------------------|---|
| •Mr. Ionel Manafu       | Director, Directia Apelor Dobrogea-Litoral, Constanta |
| •Ms. Camelia Dumitrache | International Program Coordinator, DADL,              |

#### **National Authority of Tourism**

- |                        |        |
|------------------------|--------|
| •Ms. Monica Dumitrescu | Expert |
|------------------------|--------|

### **JAPANESE SIDE**

#### **JICA Study Team**

- |                    |  |
|--------------------|--|
| •Mr. Yoshimi Goda  | Leader / Shore Protection Planning                             |
| •Mr. Yutaka Ochi   | Deputy Leader / Natural Condition Analysis                     |
| •Mr. Takao Ozaki   | Socio-Economic Analysis / Operation and Management<br>Planning |
| •Mr. Keiji Kuroki  | Sedimentological Analysis                                      |
| •Mr. Yoshimasa Ito | Coordinator  |

#### **JICA/JOCV Romania Office**

- |                     |   |
|---------------------|---|
| Mr. Fumio Miyagawa  | Resident Representative                   |
| Mr. Keiji Morishima | Project Formulation Advisor (Environment) |

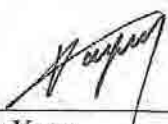



## J.6.4 Minutes of 4th Steering Committee Meeting

*Minutes of Meetings  
on  
the Interim Report  
for  
The Study on Protection and Rehabilitation  
of  
The Southern Romanian Black Sea Shore  
in  
Romania*


*Ministry of Environment and Water Management  
and  
Japan International Cooperation Agency*

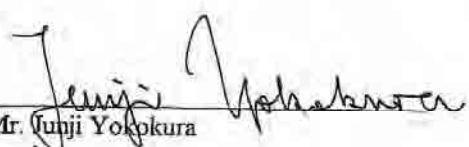
in Bucharest on 28 February, 2006

  
\_\_\_\_\_  
Ms. Lucia Ana Varga  
Secretary of State,  
Ministry of Environment and Water Management

  
\_\_\_\_\_  
Mr. Yoshimi Goda  
Leader,  
JICA Study Team

*Witnessed by*

  
\_\_\_\_\_  
Mr. Petru Șerban  
Director,  
National Administration of the Romanian Waters

  
\_\_\_\_\_  
Mr. Junji Yokokura  
Leader,  
JICA Advisory Committee

In accordance with the Scope of Work for "The Study on Protection and Rehabilitation of the Southern Romanian Black Sea Shore" (hereinafter referred to as "the Study") agreed upon between the Ministry of Environment and Water Management of the Government of Romania (hereinafter referred to as "MoEWM") and Japan International Cooperation Agency (hereinafter referred to as "JICA") on July 30, 2004, JICA dispatched the Study Team (hereinafter referred to as "the Team") headed by Mr. Yoshimi Goda and composed of members from ECOH CORPORATION to Romania. JICA Advisory Committee headed by Mr. Junji Yokokura has also been dispatched at the time of the submission of the Interim Report (hereinafter referred to as IT/R).

The Team submitted IT/R and series of discussions were made at the time of submission. The following is the main points discussed in the meetings. The list of attendees is attached as Annex.

#### **1. Acceptance of IT/R:**

The Team explained the contents of IT/R and submitted 15 copies. MoEWM has in principle accepted the contents of IT/R. Any comment for revision by MoEWM will be forwarded to and appreciated by the Team at a later stage.

#### **2. Establishment of Project Management Unit (PMU)**

MoEWM will start the procedures for the establishment of the project management unit (PMU) for the coastal protection and rehabilitation projects at Mamaia Sud and Eforie Nord, which are the selected sites for the feasibility study (F/S), after the approval of the grant agreement. MoEWM will be responsible for promotion of the priority projects including successful preparation of SEA and EIA.

#### **3. Progress of Environmental Impact Assessment (EIA)**

The Team and MoEWM recognized that MoEWM has the initiation for the implementation of EIA. On the recognition, MoEWM advised the Team that it is not able to commence the execution of EIA and cannot select the consultant for preparation and execution of EIA, because MoEWM has to wait for the progress of the feasibility study by the Team. MoEWM also advised the Team to proceed into the feasibility study (F/S) so that the information necessary for EIA will be obtained through F/S.

#### **4. Progress of Strategic Environment Assessment (SEA)**

MoEWM reported the Team on the initiation of SEA for the Sectoral Operational Program for Environment that includes the Coastal Protection Plan together with other PHARE projects under the Ministry of Public Finance, and MoEWM will make full use of the information contained in IT/R. MoEWM also mentioned that EIA for the priority projects can be initiated before a formal conclusion of SEA.

#### **5. Investigation on Environmental Impact of Sand Mining from the Danube**

Discussions were made on the availability of the river sand with favorable views expressed by the attendees. However, both MoEWM and the Team recognized the importance of the investigation on environmental impact of sand mining from the riverbed of the Danube as well as the sand component analysis against any harmful material for beach fill.

#### **6. Question of Cliff Failure**

MoEWM asked if there is any room in the Study to discuss the measures to prevent cliff failures, but the Team expressed its regret that the cliff protection is outside the Scope of Work and it can only provide recommendation of beach widening for space for cliff consolidation works.



**ANNEX: LIST OF ATTENDEES****ROMANIAN SIDE****Ministry of Environment and Water Management**

Ms. Lucia Ana Varga	Secretary of State
Mr. Silviu Stoica (Fulvia Cojocaru)	General Director, Foreign Grant (Counselor)
Ms. Angela Filipas	Director, Environment Department
Ms. Daniela Pineta	Counselor, Environment Department
Ms. Monica Otel	Counselor, Environment Department
Mr. Dumitru Dorogan	Counselor, Water Department
Ms. Iuliana Ionescu	Assistant counselor, Water Department

**National Administration of the Romanian Waters (Apele Romane)**

Mr. Petru Șerban	Director, River Basin Management Plan
Mr. Lucian Dumitru	Counselor
Mr. Ionel Manafu	Director, Directia Apelor Dobrogea-Litoral, Constanta
Mr. Gheorghe Babu	Technical Director, DADL
Ms. Carmelia Dumitrache	International Program Coordinator, DADL

**Environmental Protection Regional Agency - Galati**

Ms. Vasilica Ciobotaru	Head of Office, Authorisation and compliance control
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**Environmental Protection Agency Constanta**

Mr. Adrian Manole	Executive Director
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**National Institute of Marine Geology and Geo-ecology (GeoEcoMar)**

Prof. Nicolae Panin	Director
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**National Institute for Marine Research and Development "Grigore Antipa"**

Dr. Simon Nicolaev	Director
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**River Administration of the Low Danube Galati**

Mr. Marius Virgil Decuseara	
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**JAPANESE SIDE****JICA Advisory Committee**

Mr. Junji Yokokura	Leader
Mr. Kenta Ono	Study Monitoring

**JICA Study Team**

Mr. Yoshimi Goda	Leader, Shore Protection Planning
Mr. Yutaka Ochi	Deputy Leader, Natural Condition Analysis
Mr. Yuji Hatakeyama	Environmental and Social Aspect
Mr. Takao Ozaki	Socio-Economic Analysis, Operation and Management Planning

**JICA/JOCV Romania Office**


Mr. Fumio Miyagawa	Resident Representative
Mr. Keiji Morishima	Project Formulation Advisor (Environment)

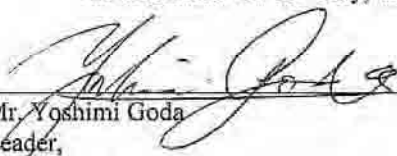
## J.6.5 Minutes of 5th Steering Committee Meeting

*Minutes of Meetings  
on  
the Progress  
of  
The Study on Protection and Rehabilitation  
of  
The Southern Romanian Black Sea Shore  
in  
Romania*


*Ministry of Environment and Water Management  
and  
Japan International Cooperation Agency*

in Bucharest on 29 May, 2006

  
\_\_\_\_\_  
Ms. Lucia Ana Varga  
Secretary of State,  
Ministry of Environment and Water Management

  
\_\_\_\_\_  
Mr. Yoshimi Goda  
Leader,  
JICA Study Team

*Witnessed by*

  
\_\_\_\_\_  
Mr. Ionel Manafu  
Director,  
National Administration of the Romanian Waters  
The Department of Waters Dobrogea – Litoral

In accordance with the Scope of Work for "The Study on Protection and Rehabilitation of the Southern Romanian Black Sea Shore" (hereinafter referred to as "the Study") agreed upon between the Ministry of Environment and Water Management of the Government of Romania (hereinafter referred to as "MoEWM") and Japan International Cooperation Agency (hereinafter referred to as "JICA") on July 30, 2004, JICA dispatched the Study Team (hereinafter referred to as "the Team") headed by Mr. Yoshimi Goda and composed of members from ECOH CORPORATION to Romania in May 2006 for execution of the feasibility study of the priority projects.

The Team had series of discussions with the officials of MoEWM at the start of the feasibility study. The following is the main points discussed in the meeting. The list of attendees is attached as Annex.

#### **1. Formation of Project Management Unit (PMU):**

The Team reminded MoEWM that an appropriate planning of the project management unit (PMU) for the coastal protection and rehabilitation project at Mamaia Sud and Eforie Nord (hereinafter referred to as "Priority Project") is the prerequisite for the application of the EU financial assistance. MoEWM promised to have several meetings to discuss the organization and responsibility of PMU and/or PIU with the Team, ANAR HQ and DADL by the end of June 2006 so that the Team can prepare the terms of reference for setting up of PMU and/or PIU at DADL as the Team's recommendation for the project beneficiary.

#### **2. Contract with Romanian Consultant for SEA / EIA**

MoEWM advised the Team of its preparation for contracting a legally certified institution as the member of the working group for SEA and EIA, by announcing the open tendering with the submission of bidding by June 8, 2006 on the Official Journal. The Team expressed its congratulation for the contract process for selection of a capable institution so that the Team can begin technical discussions with the institution for preparation of the application documents for the environmental agreement for the Priority Project to be submitted to the Regional Environmental Protection Agency, Galati.

#### **3. Progress of Strategic Environment Assessment (SEA)**

MoEWM reported on the outcome of an unofficial meeting of the SEA Working Group held on April 11, 2006 and advised the Team of the expected schedule of SEA for the Coastal Protection Plan. The public hearing of SEA will probably be held in September. The Team expressed its wish to attend the first meeting of the SEA Working Group as an observer when it will be held during June 2006.

#### **4. Utilization of Sand from Maintenance Dredging of the Danube Channel**

MoEWM reported on the content of an initial negotiation with AFDJG and Administration of Navigable Canal, who agree in principle to make available of dredged sand for beach fill. The Team advised MoEWM of its contract with GeoEcoMar for sediment sampling and laboratory analysis for examination of the suitability of the dredged sand for beach fill as well as the sand around Midia Port.

#### **5. Alternative Plans for the Priority Project**

The Team presented the alternative facility installation plans at Mamaia Sud and Eforie Nord, together with prediction of future shoreline changes after implementation of respective plans. The Team recommended two plans at Mamaia Sud and one plan at Eforie Nord for

execution of design works, construction plan, and cost estimate. MoEWM accepted the recommendation and expressed its wish for speedy execution of the feasibility study.

**6. Seminar on Coastal Protection Plan of the Southern Romanian Black Sea Shore**

The Team reported that it will organize the seminar on June 5 and 6 at Aula Magna “Prof. Univ. Dr. Adrian Rădulescu” of “Ovidius” University Constanța and invited the members of the Steering Committee to attend.

**7. Next Meeting of the Steering Committee**

The next meeting of the Steering Committee will be held at Bucharest in September when the Team will visit Romania for submission of the Draft Final Report.



## ANNEX: LIST OF ATTENDEES

**ROMANIAN SIDE****Ministry of Environment and Water Management**

Ms. Lucia Ana Varga	Secretary of State
Mr. Gheorghe Constantin	Director of Water Department
Mr. Dumitru Dorogan	Counselor, Water Department
Mr. Silviu Stoica	General Director, Foreign Grant
Ms. Luaua Savescu	Counselor, Foreign Grant
Ms. Micla Crishina Zoia	General Director, Investigation Department

**National Administration of the Romanian Waters (Apele Romane)**

Mr. Ionel Manufu	Director, Directia Apelor Dobrogea-Litoral, Constanta
Mr. Dumitru Lucian	Counselor, Apele Romane, Bucharest
Ms. Camelia Dumitrache	Director, Apelor Dobrogea-Litoral, Constanta

**National Authority of Tourism**

Ms. Monica Dumitrescu	Expert
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**National Environmental Protection Agency (NEPA)**

Ms. Silvia Ciausiu	Counselor, NEPA
Ms. Nicoleta Dobre	Sustainolele Department, HEPA
Mr. Camelia Hinteia	Horizontal Legislations, NEPA

**Environmental Protection Regional Agency - Galati**

Ms. Vasileia Ciobotaru	Head of Office, Authorization and compliance control
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**Local Environmental Protection Agency, Constanta (REPA)**

Mr. Manole Adrian	Executive Director, REPA, Constanta
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**Constanta Prefecture**

Ms. Oprea Mihaela	Counselor, Authorization and compliance control
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**National Institute of Marine Geology and Geo-ecology (GeoEcoMar)**

Dr. Gheorge Oaie	Scientific Director
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**National Institute for Marine Research and Development "Grigore Antipa"**

Dr. Diaconeasa J. Danut	Researcher
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**JAPANESE SIDE****JICA/JOCV Romania Office**

Mr. Fumio Miyagawa	Resident Representative
Ms. Mirela Claudia Ioana	Program Coordinator

**JICA Study Team**

Mr. Yoshimi Goda	Leader, Shore Protection Planning
Mr. Yutaka Ochi	Deputy Leader, Natural Condition Analysis
Mr. Yuji Hatakeyama	Environmental and Social Aspect
Mr. Takao Ozaki	Socio-Economic Analysis, Operation and Management Planning
Mr. Keiji Kuroki	Sedimentological Analysis
Mr. Makoto Namatame	Shore Protection Facility Planning and Design
Mr. Yoshiyuki Uno	Coordinator



## J.6.6 Minutes of 6th Steering Committee Meeting

*Minutes of Meetings  
on  
the Progress  
of  
The Study on Protection and Rehabilitation  
of  
The Southern Romanian Black Sea Shore  
in  
Romania*

*Ministry of Environment and Water Management  
and  
Japan International Cooperation Agency*

Bucharest, August 22, 2006



Ms. Lucia Ana Varga  
Secretary of State,  
Ministry of Environment and Water Management



Mr. Yoshimi Goda  
Leader,  
JICA Study Team

*Witnessed by*



Mr. Gheorghe Constantin  
Director,  
Water Department  
Ministry of Environment and Water Management



Mr. Shokichi Sakata  
Leader,  
JICA Monitoring Study Team

In accordance with the Scope of Work for "The Study on Protection and Rehabilitation of the Southern Romanian Black Sea Shore" (hereinafter referred to as "the Study") agreed upon between the Ministry of Environment and Water Management of the Government of Romania (hereinafter referred to as "MoEWM") and Japan International Cooperation Agency (hereinafter referred to as "JICA") on July 30, 2004, JICA dispatched the Study Team (hereinafter referred to as "the Team") headed by Mr. Yoshimi Goda for negotiation on the rescheduling of the Study related with the progress of the strategic environmental assessment ((hereinafter referred to as "SEA") and the environmental impact assessment (hereinafter referred to as "EIA") of the Study, and so on. JICA Monitoring Study Team, headed by Mr. Shokichi Sakata, was also dispatched on the commencement of the Study and at the time of the negotiation.

The Team had discussions with the officials of MoEWM upon its arrival in Romania. The following is the main points discussed in the meeting. The list of attendees is attached as Annex.

### **1. Progress of SEA and EIA:**

MoEWM advised the Team of a delay of SEA and EIA process by the delay of the legal process for the contract with an appropriate consultant for assisting the SEA and EIA procedures. MoEWM explained the forecasted schedules of SEA and EIA as attached. The Team comprehended the situation of Romanian side.

### **2. Rescheduling of Submission of Draft Final Report and Final Report**

The Team explained to MoEWM the JICA guidelines in force on environmental and social consideration. According to the guidelines, the JICA study report should take into account of the results of the SEA and EIA review process and make necessary modifications. Thereupon, the Team offered postponement of the submission of the Draft Final Report from the original date of September 2006 to the new date of January 2007 and the Final Report from the original date of November 2006 to the new date of March 2007. MoEWM gave its consent to the new date of March 2007 for the Final Report, but requested submission of the Draft Final Report at the earliest date possible. It is for presentation of the technical document of the project by JICA to the technical committee of MoEWM for the project approval. MoEWM also asked the Team for presentation of the project documents for the public comment and debate. The Team promised to convey the request of MoEWM to the JICA Headquarters.

### **3. Confirmation of Use of River Sand for Beach Fill**

The Team explained that the Study is being made by planning to use the sand mined from the riverbed of the Danube between Cernăvoda and Ostrov from the viewpoint of the feasibility of the cost. The Team asked MoEWM if it agrees on the use of the river sand of the Danube for beach fill within the quantity authorized by the National Administration for Mineral Resources for the sand mining, and MoEWM gave consent to the use of the river sand, provided the EIA review process finds the environmental impact insignificant. With regard to a possible impact of sand mining on the riverbed geomorphology, MoEWM advised the Team of making use of the result of the EIA study for another EU-financed project on the navigation improvement of the Danube being promoted by the Ministry of Transport, Construction and Tourism for the Mamaia and Eforie project.



#### 4. Estimate of Economical Rate of Internal Rate of Return of Priority Project

The Team reported MoEWM the results of the economic analysis of the priority project which has the component "A" at Mamaia Sud and the component "B" at Eforie Nord. The component "A" has the estimated value of 35.6 percent by EIRR, while the component "B" has the estimated value of 7.4 percent. The project as a whole has the estimated value of 13.4 percent. Upon hearing the interpretation by the Team on the applicability of such results of the economic analysis for projects within the environmental sector, MoEWM comprehended and approved the results of the economic analysis.

#### 5. Role of USAID on Priority Project

MoEWM advised the Team that it has been negotiating with USAID for preparation of the formal document for financial assistance for EU fund and asked the Team for its consent to provision of the contents of the JICA report to USAID consultants. The Team promised to convey the request of MoEWM to the JICA Headquarters.

#### Attachment 1

##### Prospective Schedule of SEA

Step No.	Process	Date	Responsible Agency	Work Items
1	Notification of SEA application	Feb. '06	•Water Dept. (WD) & Envir. Dept. (ED)	• Application of GD no. 1976/2004, Art. 5(2) to Coastal Protection Plan for the Romanian Black Sea shore
2	Screening	Mar. '06	•WD & ED	• Application letter from WD to ED on 6th Mar. • Announcement of the Plan on MoEWM's website on 16th Mar. • Notification letter from ED to WD on start of SEA
3	Selection of environmental consultant	Oct. '06	•MoEWM	• Public tender and contract with legally certified consultant of SEA procedure
4	Preparation of environmental report	Oct to Nov. '06	• WD • Working Group	• Formation of Working Group (WG) (Art. 14 (2)). • Review of the Plan and preparation of Environmental report (Art. 16(1), 17, 19(3)). • Announcement of the Plan and Environmental Report to the Public (Art. 21(1)). • Plan revision by public comments (Art. 30(2)) in 45 days (Art. 21(3)).
5	Review stage	Dec. to Feb. '07	• WD & ED	• Submission of Final Plan and Environmental Report by WD to ED (Art. 22(1)). • Comments by relevant authorities. • Public debate by WD after 45 days from the submission of Plan and Report.

**Attachment 2**

## Prospective Schedule of EIA

Step No.	Process	Date	Responsible Agency	Work Items
1	Contract with Romanian Consultant	Oct. '06	•Water Department (WD)	• Employment of a certified person (CP) for preparation of application documents with technical memorandum (TM) (Art. 26).
2	Field survey	Late May to Late June	• JICA team	• Sand analysis for beach fill source on the riverbed of the Danube and the seabed of Midia Port. • Seabed survey of water quality, benthos, etc. at Project sites of Mamaia Sud and Eforie Nord
3	Preparation of Document	Oct. to Nov. '06	WD and CP	Preparation of a set of EIA application documents
4	EIA Application	Nov. '06 to Mid. Jan.	• WD • REPA, Galati	• Submission of application documents together with TM (Art. 12 (1) & (4)). • Examination by REPA (Art. 13) with 20 working days. • Field survey by REPA and Screening checklist (Art. 13 b) • Preparation of draft for public announcement by REPA (13 c & d)
5	Screening stage	Mid-Jan. to Late Feb. '07	• REPA • TRC • WD	• Proceeding to the screening stage by REPA (15 working days after receipt of the application (Art. 14(1)),) • Establishment of Technical Review Committee (TRC) by REPA (Art. 14 (1b)). • Review of TM by TRC • Decision on the necessity of scoping stage • Notice to WD of the decision (within 15 working days: Art. 14 (1d)). • Public announcement by WD on the decision (within 10 working days: Art. 16 (1)) and the response of public (within 10 working days: Art. 16 (2)).
6	Scoping stage	Early Mar. to Mid-Apr.	• REPA • TRC • WD	• Proceeding to the scoping stage by REPA (within 20 working days: Art. 23 (1)). • EIA guidelines by REPA to WD (20 working days after the conclusion of scoping stage: Art. 25).
7	EIA study report	Mid-Apr. to Late June	• CP • WD	• Preparation of EIA study report (probably in 2 to 3 months: Art. 26) and submission to REPA
8	Review stage	Late June to Early Nov. '07	• REPA • TRC • WD	• Public announcement of the receipt of EIA study report (5 working days: Art. 27 (1)). • Public debate with prior notice of 30 working days (Art. 39) and preparation of public proposal by WD. • Review of EIA report and public proposal by TRC (40 working days: Art. 29 (1)) and decision on environmental agreement by TRC (within 30 working days: Art. 30). • Issuance of environmental agreement by REPA (within 10 working days: Art. 31).

**ANNEX: LIST OF ATTENDEES**

**ROMANIAN SIDE**

**Ministry of Environment and Water Management**

Ms. Lucia Ana Varga	Secretary of State
Mr. Gheorghe Constantin	Director of Water Department
Ms. Iuliana Ionescu	Assistant Advisor, Water Department

**JAPANESE SIDE**

**JICA Advisory Committee**

Mr. Shokichi Sakata	Leader
Mr. Kazunori Wada	Coastal Protection and Management Plan
Mr. Kenta Ono	Study Monitoring

**JICA Study Team**

Mr. Yoshimi Goda	Leader, Shore Protection Planning
Mr. Yutaka Ochi	Deputy Leader, Natural Condition Analysis

**JICA/JOCV Romania Office**


Mr. Fumio Miyagawa	Resident Representative
Ms. Mirela Claudia Ioana	Program Coordinator

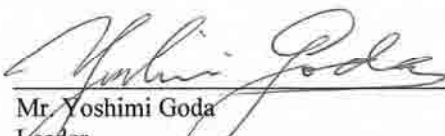
## J.6.7 Minutes of 7th Steering Committee Meeting

*Minutes of Meetings  
on  
the Progress  
of  
The Study on Protection and Rehabilitation  
of  
The Southern Romanian Black Sea Shore  
in  
Romania*

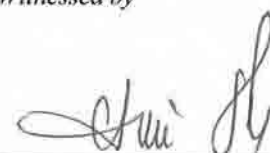
*Ministry of Environment and Water Management  
and  
Japan International Cooperation Agency*


Bucharest, March 13, 2007

  
\_\_\_\_\_  
Ms. Lucia Ana Varga  
Secretary of State,  
Ministry of Environment and Water Management

  
\_\_\_\_\_  
Mr. Yoshimi Goda  
Leader,  
JICA Study Team

*Witnessed by*

  
\_\_\_\_\_  
Mr. Gheorghe Constantin  
Director,  
Water Department  
Ministry of Environment and Water Management

  
\_\_\_\_\_  
Mr. Junji Yokokura  
Leader,  
JICA Advisory Committee

In accordance with the Scope of Work for "The Study on Protection and Rehabilitation of the Southern Romanian Black Sea Shore" (hereinafter referred to as "the Study") agreed upon between the Ministry of Environment and Water Management of the Government of Romania (hereinafter referred to as "MoEWM") and Japan International Cooperation Agency (hereinafter referred to as "JICA") on July 30, 2004, JICA dispatched the Study Team (hereinafter referred to as "the Team") headed by Mr. Yoshimi Goda for submitting the Draft Final Report to MoEWM. JICA Advisory Committee headed by Mr. Junji Yokokura was also dispatched at the time of the report submission.

The Team had discussions with the officials of MoEWM upon the submission of the Draft Final Report. The following is the main points discussed in the meeting. The list of attendees is attached as Annex.

#### **1. Discussion of Draft Final Report:**

The Team submitted to MoEWM the Draft Final Report, which is composed of three volumes, and MoEWM appreciated the efforts of the Team in concluding the Study. Explanation was given of focal points of the Report and brief discussions were made among the attendees. MoEWM promised the Team to peruse the Report and to send its comments and requests for revisions if any to the Team by April 20, 2007.

#### **2. Progress of SEA for Coastal Protection Plan**

MoEWM advised the Team that the environmental report has been listed on the Ministry's website on February 9, 2007 for public comments and the public debate will be held on March 29, 2007 in Constanța. The Team advised MoEWM of JICA's plan to dispatch a few Japanese experts for participation in the public debate. MoEWM expressed its expectation of obtaining the environmental approval for the coastal protection plan by April 16, 2007.

#### **3. Prospect of EIA of the Priority Project and Financial Application to EU**

MoEWM advised the Team that the technical memorandum to be attached for the EIA application has been prepared by a certified consultant (GeoEcoMar) and the applications will be submitted to the Local Environmental Protection Agency at Constanța after authorization of the project by the Minister. MoEWM also advised the Team that it is expecting to be able to submit the financial applications of the Cohesion Fund for the project to EU in the end of the year 2007.

#### **4. Outcome of EIA Study of the Danube navigation improvement project**

MoEWM informed the Team about the reason of delay of the EIA study of the Danube navigation improvement project by the Ministry of Transport, Construction and Tourism.

#### **5. Final Report by JICA**

The Team advised MoEWM of its intention to revise the Draft Final Report according to the comments of MoEWM in consideration of the outcome of the public debate on SEA and to send the Final Report through international delivery services in May 2007.



**ANNEX: LIST OF ATTENDEES****ROMANIAN SIDE****Ministry of Environment and Water Management**

Ms. Lucia Ana Varga	Secretary of State
Mr. Gheorghe Constantin	Director of Water Department
Mr. Dumitru Dorogan	Counselor, Water Department
Mr. Silviu Stoica	General Director, Foreign Grant
Ms. Negoita Marius	
Ms. Vlad Venera	Programming Director
Ms. Doina Frami	Programming Director
Mr. Lucian Dumitru	Counselor
Mr. Iuliana Ionescu	Counselor

**National Administration of the Romanian Waters (Apele Romane)**

Mr. Dumitru Lucian	Counselor, Apele Romane, Bucharest
Ms. Camelia Dumitrache	Director, Apelor Dobrogea-Litoral, Constanta

**National Authority of Tourism**

Ms. Monica Dumitrescu	Expert
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**National Environmental Protection Agency (NEPA)**

Ms. Silvia Ciaus	Counselor, NEPA
Ms. Nicoleta Dobre	Sustainable Department, NEPA
Ms. Camelia Hintea	Horizontal Legislations, NEPA

**Environmental Protection Regional Agency - Galati**

Ms. Vasilica Ciobotaru	Head of Office, Authorization and compliance control
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**Local Environmental Protection Agency, Constanta (REPA)**

Mr. Manole Adrian	Executive Director, REPA, Constanta
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**Constanta Prefecture**

Ms. Oprea Mihaela	Counselor, Authorization and compliance control
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**National Institute of Marine Geology and Geo-ecology (GeoEcoMar)**

Dr. Nicolae Panin	General Director
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**National Institute for Marine Research and Development "Grigore Antipa"**

Dr. Diaconeasa J. Danut	Researcher
Dr. Razvan Matuscu	Researcher

**National Agency for Environmental Protection (ANPM)**

Ms. Hintea Camelia	
Mr. Popeneiu Georgiana	

**ANT**

Ms. Monica Domitrescu	Expert
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**USAID**

Ms. Liviu Ionescu	Chief Of Party
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**JAPANESE SIDE**

**JICA Advisory Committee**

Mr. Junji Yokokura  
Mr. Kenta Ono

Leader  
Study Monitoring

**JICA/JOCV Romania Office**

Mr. Fumio Miyagawa  
Ms. Mirela Claudia Ioana

Resident Representative  
Program Coordinator

**JICA Study Team**

Mr. Yoshimi Goda  
Mr. Yutaka Ochi  
Mr. Yuji Hatakeyama  
Mr. Takao Ozaki

Leader, Shore Protection Planning  
Deputy Leader, Natural Condition Analysis  
Environmental and Social Aspect  
Socio-Economic Analysis, Operation and Management  
Planning  
Coordinator

Mr. Yoshiyuki Uno

## J.7 Technology Transfer through Symposium and Workshop

### J.7.1 Workshop on November 15, 2005 in Bucharest

The workshop organized by Mr. Dumitru Dorogan, Ministry of Environment and Water Management was held on November 15, 2005 at GeoEcoMar in Bucharest. Prof. Goda made a presentation on the concepts of the shore protection plan on the Romanian Black Sea shore. After the presentation, discussions with attendants and comments of inquiry on miscellaneous matters by Prof. Goda were made as follows.

1. Date and Time: November 15, 2005  
11:35 to 14:00
2. Place: GeoEcoMar at Bucharest
3. Discussions:
  - \*Wave condition at oil production platform in the Black Sea
  - \*Utilization of wave energy and wind power generation
  - \*Concepts of Jetty extension and beach fill width
  - \*Adoptability of floating structure
  - \*Brief history of beach fill at Mamaia Beach
4. Attendant:
  - Cazacu Mircea, University Bucharest
  - Constantinescu Stefan, University of Bucharest
  - Terzi Petre, University of Bucharest
  - Vespremeanu Emil, University of Bucharest
  - Spataru Arcadie, ISCH, Bucharest
  - Manta Apostol, Hidroconstructia, Bucharest
  - Lazar Dan Petru, Romania Senat, Bucharest
  - Tatu Gabriel, UTCB, Bucharest
  - Olaru Gheorghe, Scientconsult
  - Ciortan Romeo, IPTANA
  - Mara Liliana, IPTANA
  - Doina Simescu, IPTANA
  - Cristescu Smaranda Lygia, ICPE COM, Bucharest
  - Iulian Constantin, Aquaproiect, Bucharest
  - Stanica Adrian, GeoEcoMar
  - Bondar Constantin, GeoEcoMar
  - Scarlat Renata, GeoEcoMar
  - Ion Gabriel, GeoEcoMar
  - Gomoiu Mariantraian, GeoEcoMar
  - Ion Elena, GeoEcoMar
  - Maximov Gabriela, GeoEcoMar
5. JICA Team:
  - Yoshimi Goda
  - Yutaka Ochi
  - Keiji Kuroki
  - Yoshimasa Ito

## J.7.2 Counterpart Training Program in Japan

Counterpart training program was carried out from January 14 to February 4, 2006. Following attendants of the counterpart institutions were invited by JICA.

1. Ministry of Environment and Water Management (MoEWM)
  - Ms. Lucia Ana Varga, Secretary of State
  - Mr. Dumitru Dorogan, Counsellor
  - Ms. Iuliana Ionescu, Assistant Advisor
2. National Administration of the Romanian Waters (Apele Romane)
  - Ms. Camelia Dumitrache, Director, DADL Constanța

The training program is comprised of classroom lecture on coastal management, coastal facility planning and social environmental aspects, and on-site inspection on the coastal protection facilities and artificial beaches constructed in Japan. The training program is organized by JICA with cooperation of Ministry of Land, Infrastructure and Transport, Prefecture Government of Ibaraki, Shizuoka, Okinawa and Niigata as well as Port and Airport Research Institute and Port & Harbor Bureau of Yokohama City. We would like to express great appreciations to the officials and the institutions concerned for their cooperation and assistance extended to the training program.

The training schedule is shown on following table.

Table J.7.2.1: Counterpart training program

No.	Month/Date	Time	Activities	
			Ms. Varga	Mr. Dorogan, Ms. Iuliana & Ms. Camelia
1	1/14	Sat AM PM	Lv. Bucharest	
2	1/15	Sun AM PM	Arr. Tokyo Arr. Tokyo, Move to TIC (JICA Tokyo International Training Center)	
3	1/16	Mon AM PM	Briefing by JICA at TIC Program Orientation by JICA at TIC	
4	1/17	Tue AM PM	Move to Tsukuba, National Institute for Land and Infrastructure Management at Tsukuba Lecture on Coastal Zone Management by Dr. Wada, Move to Kashima	
5	1/18	Wed AM PM	Inspection on Coastal Structure at Kashima Ohno, Visit to Hasaki Oceanographical Research Station, Inspection of Byobugaura & adjacent Beaches, Move to Tokyo	
6	1/19	Thu AM PM	Visit to Yokohama Port and adjacent Coastal Zone by Boat Inspection on Port and Airport Research Institute at Kurihama by Dr. Kuriyama, Move to Tokyo	
7	1/20	Fri AM PM	Preparation of Report Meeting w/ Advisory Committee & Study Team at JICA HDQ	
8	1/21	Sat AM PM	Lv. Tokyo Arr. Bucharest	Holiday
9	1/22	Sun AM PM		Holiday
10	1/23	Mon AM PM		Move to Shizuoka Inspection of Suruga Coast and Shizuoka Coast
11	1/24	Tue AM PM		Inspection of Fuji Coast and Numazu Coast Move to Tokyo
12	1/25	Wed AM PM		Lecture on Shore Protection Facilities and Discussion
13	1/26	Thu AM PM		Move to Okinawa Inspection of Azama Coast, Sansan Beach and Shuri Castle
14	1/27	Fri AM PM		Inspection of Ocean Expo Beach, Nago to Busena Coast Inspection of Kitamae Coast
15	1/28	Sat AM PM		Move to Tokyo Holiday
16	1/29	Sun AM PM		Holiday Preparation of Report
17	1/30	Mon AM PM		Preparation of Report Move to Niigata
18	1/31	Tue AM PM		Inspection of Niigata Coast
19	2/1	Wed AM PM		Inspection of Niigata Coast Move to Tokyo
20	2/2	Thu AM PM		Lecture on Institutional and Social Environmental Aspects Preparation of Report
21	2/3	Fri AM PM		Presentation of Report Meeting and Discussion w/ Person concerned
22	2/4	Sat AM PM	Lv. Tokyo Arr. Bucharest	

### J.7.3 JICA Seminar on June 5 and 6, 2006 in Constanța

The JICA Seminar in Constanța organized by the Study Team was held on June 5 and 6, 2006 at “Ovidius” University Constanța. The program of the seminar is as shown on Table J.7.3.1. During the seminar, the contents of the study were presented by the team member in charge. More than 100 people were attended the seminar as shown on Photos J.7.3.1 to J.7.3.4. The team would like to express sincere thanks to Prof. Breaban, Dean of “Ovidius” University Constanța, for his cooperation and arrangement extended to the seminar.

Table J.7.3.1: Program of JICA seminar in Constanța

<p><b>Schedule of JICA Seminar on Coastal Protection Plan of the Southern Romanian Black Sea Shore</b></p>
<p><b>Place:</b> Aula Magna “Prof. Univ. Dr. Adrian Rădulescu” of “Ovidius” University Constanța</p>
<p><b>Schedule of June 5, 2006:</b></p> <p>09:00 – 09:10: Introduction of the Seminar</p> <p>09:10 – 10:00: (1) Physical Conditions of the Southern Romanian Black Sea Shore</p> <p>10:00 – 10:50: (2) Geomorphological Characteristics of the Southern Romanian Black Sea Shore</p> <p>10:50 – 11:10: Coffee break</p> <p>11:10 – 12:00: (3) Overall Plan of Protection and Rehabilitation of the Southern Romanian Black Sea Shore</p> <p>12:00 – 12:50: (4) Initial Environmental Assessment of Coastal Protection Plan</p>
<p><b>Schedule of June 6, 2006</b></p> <p>10:10 – 11:00: (5) Tentative Facility Installation Plan of Coastal Protection and Rehabilitation Project at Mamaia Sud and Eforie Nord</p> <p>11:00 – 11:20: Coffee break</p> <p>11:20 – 12:10: (6) Methodology of Economical Analysis of Coastal Protection and Rehabilitation Project at Mamaia Sud and Eforie Nord and Concept of Project Management Unit</p>



Photo J.7.3.1: Presentation at seminar



Photo J.7.3.2: Attendant at seminar



Photo J.7.3.3: Discussion at seminar



Photo J.7.3.4: “Ovidius” Constanța University

#### J.7.4 International Symposium “Coastal Erosion: Smart Protection Solutions”

International Symposium “Coastal Erosion: Smart protection Solutions” in Mangalia under the auspices of the Ministry of Environment and Water management was held on June 22 and 23. National and international researcher of coastal engineering participated in the Meeting. The JICA study team was invited to the symposium to make presentations on the contents of the study. Prof. Goda, the team leader joined in the symposium as one the chairman of the session. Cover page of the symposium program is shown on Table J.7.4.1.

Abstracts presented by the team member are shown as followings.

##### PRESENTATION 1:

**Title:** Physical Conditions of Winds, Waves, and Water Level along the Southern Romanian Black Sea Shore under the JICA Study  
Presented by Yoshimi GODA, jointly Keiji KUROKI and Yutaka OCHI

##### Abstract:

In response to the request of the Government of Romania, Japan International Cooperation Agency has been carrying out a study for protection and rehabilitation of the southern Romanian Black Sea shore since May 2005. As a part of the study, the physical conditions of

winds, waves, and water level have been analyzed. The data sources of winds are the measurements at the Constanța Meteorological Station and the wind hindcast by the European Center for Medium-range Weather Forecast (ECMWF). The data sources of waves are the visual observation records by the National Institute for Marine Research and Development (NIMRD) “Grigore Antipa” and the wave hindcast by ECMWF. The data sources of water level are the tide gauge records at Constanța and Mangalia by NIMRD. Analysis of these data has established the wind and wave climates in the study area. The 100-year significant wave height in the offshore is estimated as 7.8 m. The spring tidal ranges are revealed to be 4.0 and 5.1 cm at Constanța and Mangalia, respectively, on the basis of the tidal component amplitudes computed by the harmonic analysis. The mean sea level is subject to irregular fluctuations with the amplitudes of a few decimeters and the period of several days to several weeks.

### **PRESENTATION 2:**

**Title:** Beach Sediment Characteristics and Morphology along the Southern Romanian Black Sea Shore under the JICA Study  
Presented by Keiji KUROKI, jointly Yoshimi GODA and Yutaka OCHI

#### **Abstract:**

In response to the request of the Government of Romania, Japan International Cooperation Agency has been carrying out a study for protection and rehabilitation of the southern Romanian Black Sea shore since May 2005. As a part of the study, sediment sampling and analysis along the beaches from Midia to Vama Veche have been made. The beach sand in Năvodari and Mamaia was confirmed of terrigenous origin from the Danube, but the sand in the area south of Eforie is composed of shell fragments without any contribution of sand from the Danube. The beach survey data by the National Institute for Marine Research and Development (NIMRD) “Grigore Antipa” were analyzed for the rate of shoreline advance or retreat. The beach in Mamaia Sud is severely being eroded with the rate exceeding 2 m per year. Numerical simulation of the shoreline position changes in the past was also made, and the results that were well validated by the topographic survey data. Prediction of future shoreline changes using the same model yields a potential retreat of Mamaia Beach in excess of 70 m.

### **PRESENTATION 3:**

**Title:** A Medium-term Coastal Protection Plan for the Southern Romanian Black Sea Shore under the JICA Study  
Presented by Yutaka OCHI, jointly Yoshimi GODA and Keiji KUROKI

#### **Abstract:**

In response to the request of the Government of Romania, Japan International Cooperation Agency has been carrying out a study for protection and rehabilitation of the southern Romanian Black Sea shore since May 2005. Based on the physical conditions and the beach morphological state of the coastal area from Midia to Vama Veche, a medium-term plan for coastal protection and rehabilitation has been formulated. The area excluding the port zones of Midia, Constanța and Mangalia were divided into twenty sub-sectors, which were examined and compared for the urgency of coastal protection and the degree of utilization level. Nine sub-sectors among the twenty were judged to have the necessity of coastal protection plan, and

preliminary installation plans of shore protection facilities have been developed for the nine sub-sectors. The medium-term coastal protection plan is currently reviewed under the Strategic Environmental Assessment (SEA) procedure with the Department of the Water, the Ministry of Environment and Water Management as the owner of the plan. Among the nine sub-sectors, a coastal protection and rehabilitation project is being prepared at the priority-selected sites of Mamaia Sud and Eforie Nord.

Table J.7.4.1: Program of the Symposium



**PROGRAM  
PROGRAMME**

**SIMPOZION INTERNAȚIONAL  
INTERNATIONAL SYMPOSIUM**

**“EROZIUNEA COSTIERĂ:  
SOLUȚII INTELIGENTE DE PROTECȚIE”**

**“COASTAL EROSION:  
SMART PROTECTION SOLUTIONS”**

**22 – 24 June, 2006 \* Mangalia, ROMANIA**

**SUB AUSPICHILE  
MINISTERULUI MEDIULUI ȘI GOSPODĂRIII APELOR**

**UNDER THE AUSPICES OF THE MINISTRY OF  
ENVIRONMENT AND WATER MANAGEMENT**

### J.7.5 International Symposium “Intelligent Solution of Coastal Protection”

International Symposium “Intelligent Solution of Coastal Protection” in Bucharest under the auspices of the Ministry of Environment and Water management, the Ministry of Transportation, Construction and Tourism and relevant ministries was held on March 02, 2007 at University of Construction and Technology, Bucharest. National and international researcher of coastal engineering participated in the Meeting made presentation on the solution of coastal protection in the presence of H. E. Ms. Sulfina Barbu, Minister of Environment and Water management. Prof. Goda, representing the JICA study team was invited to the symposium to make presentations on the contents of the feasibility study on Mamaia Sud and Eforie Nord. Prof. Goda, the team leader joined in the symposium as one the chairman and pointed out comments of the presentations. Program of the symposium are shown on Tables J.7.5.1 and 2.

Table J.7.5.1: Program of the Symposium

**SEMINAR ȘTIINȚIFIC**  
Vineri, 02 martie 2007

**SOLUȚII INTELIGENTE  
DE PROTECȚIE COSTIERĂ**

**UNIVERSITATEA TEHNICĂ DE CONSTRUCȚII BUCUREȘTI**  
CATEDRA DE HIDRAULICĂ ȘI PROTECȚIA MEDIULUI  
( Facultatea de Hidrotehnică – Amfiteatrul 2.7, etajul 2 )  
B-dul Lacul Tei nr.124, sector 2

LA LUCRĂRILE SEMINARULUI PARTICIPĂ UNII DINTRE  
CEI MAI AUTORIZAȚI SPECIALIȘTI ROMĂNI ÎN DOMENIU

**PROGRAM**

ora 09.00 – Primirea participanților și invitaților  
ora 09.15 – Deschiderea oficială, lucrări în plen  
ora 11.00 – *Pauză de cafea*  
ora 11.15 – Lucrări în plen, discuții, dezbateri  
ora 13.00 – Concluzii și închiderea lucrărilor

**Invitați:** Ministerul Mediului și Gospodăririi Apelor  
Ministerul Economiei și Comerțului  
Ministerul Transporturilor, Construcțiilor și Turismului  
Ministerul Educației și Cercetării



Table J.7.5.2: Program of the Symposium

<b>P R O G R A M</b>	
09:00-09:15	<b>Primirea participanților și invitaților</b>
09:15-09:30	<b>Deschiderea oficială</b>
<b>Lucrări în plen</b>	
09:30-09:45	Evaluarea și certificarea potențialului energetic al marilor aglomerări de reziduuri, deșeuri și resturi menajere pe litoralul românesc Cerc.șt.pr.chim. <b>Constantin LICA</b>
09:45-10:00	Utilizarea colectoarelor solare pentru prepararea ACM și în regim mixt (ACM + încălzire) pe litoralul românesc Ing. <b>Silviu PETRESCU</b>
10:00-10:15	Utilizarea integrată a resurselor energetice regenerabile în zona costieră Dr.ing. <b>Nicolae SDRULA</b> , Dr.ing. <b>Ioan FRĂSINEANU</b> , Ing. <b>Costin SDRULA</b>
10:15-10:45	Din istoria activităților privind soluții pentru apărarea costieră Prof.dr.ing. <b>Alexandru MĂRUȚĂ</b>
10:45-11:00	Folosirea digurilor submerse pentru combaterea eroziunii și refacerea plajelor Prof.dr.ing. <b>Gabriel Alexandru TATU</b> , Dr.ing. <b>Constantin IULIAN</b> , Dr.ing. <b>Petru Dan LAZĂR</b> , Prof.dr.ing. <b>Victor Octavian LUCA</b>
<b>11:00-11:15 Pauză de cafea</b>	
11:15-11:45	Studiu de fezabilitate privind reabilitarea și protecția costieră a zonelor Mamaia Sud și Eforie Nord / The feasibility study of the coastal protection and rehabilitation project at Mamaia Sud and Eforie Nord Dr. <b>Yoshimi GODA</b> – <i>Professor Emeritus at Yokohama National University</i>
11:45-12:00	Considerații asupra problemelor morfologice costiere tratate de proiectul japonez privind protecția și reabilitarea litoralului sudic al României Dr.ing. <b>Constantin BONDAR</b>
12:00-12:30	Particularități ale litoralului românesc Dr.ing. <b>Constantin IULIAN</b>
12:30-13:15	<b>Discuții – Dezbateri</b>
13:15-13:30	<b>Concluzii și închiderea lucrărilor</b>

### J.7.6 JICA Seminar on March 9, 2007 in Constanța

The 2<sup>nd</sup> JICA Seminar in Constanța organized by the Study Team was held on March 9, 2007 at “Ovidius” University Constanța. The program of the seminar is as shown on Table J.7.6.1. During the seminar, the contents of the preliminary design, and the economic analysis and management included in the feasibility study on the priority projects, namely Mamaia Sud and Eforie Nord and study were presented by Prof. Goda and Mr. Ozaki, the team member in charge. More than 80 people were attended the seminar as shown on Photos J.7.6.1 and J.7.6.2. The team would like to express sincere thanks to Prof. Breaban, Dean of “Ovidius” University Constanța, for his cooperation and arrangement extended to the seminar.

Table J.7.6.1: Program of the Symposium

<p style="text-align: center;"><b>Program of JICA Seminar</b> <b>on</b> <b>Coastal Protection Plan of the Southern Romanian Black Sea Shore</b>  <b>and</b>  <b>Stakeholder Meeting</b> <b>Organized by</b> <b>DADL Apele Romane</b></p> <p><b>Place:</b> Aula Magna “Prof. Univ. Dr. Adrian Rădulescu” of “Ovidius” University Constanța</p> <p><b>Date:</b> March 9, 2007</p> <p><b>Schedule of Seminar:</b></p> <p><b>09:00 – 09:10:</b> <b>Opening Address</b> by Mr. Gheorghe Babu, DADL</p> <p><b>09:10 – 10:00:</b> <b>Preliminary Design of the Priority Project at Mamaia Sud and Eforie Nord</b> by Prof. Y. Goda, ECOH</p> <p><b>10:00 – 10:45:</b> <b>Economic Analysis and Management of the Priority Project at Mamaia Sud and Eforie Nord</b> by Mr. Takao Ozaki, The Minerva’s Owl</p> <p><b>10:45 – 11:05:</b> <b>Coffee break</b></p>
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Photo J.7.6.1: Opening Address



Photo J.7.6.2: Attendant of Seminar

### J.7.7 JICA Seminar on March 12, 2007 in Bucharest

The JICA Seminar in Bucharest organized by the Study Team was held on March 12, 2007 at InterContinental, Bucharest. The program of the seminar is as shown on Tables J.7.7.1. During the seminar, the contents of the study including the feasibility study on the priority project in Mamaia Sud and Eforie Nord were presented by Prof. Goda, the leader of the Study Team in the presence of Ms. Lucia Ana Varga, Secretary on behalf of H. E. Ms. Sulfina Barbu, Minister of Environment and Water management and H. E. Mr. Kanji Tsushima, Ambassador, Japanese Embassy in Romania. More than 60 people were attended the seminar as shown on Photos J.7.7.1 and J.7.7.2.

Table J.7.7.1: Invitation Letter for the JICA Seminar in Bucharest




 Japan International Cooperation Agency (JICA) and  ECOJ Corporation Japan invite you to attend the <b>Seminar on Coastal Protection and Rehabilitation Projects at Mamaia          South and Eforie North</b>	
	<p>The Romanian Black Sea shore suffers from severe coastal erosion, both in the northern and in the southern parts. The Government of Romania has requested the Government of Japan to undertake a study on the protection and rehabilitation of the southern unit from Midia to Vama Veche (appr. 75km) where economical activities, including the tourism industry, are strong. Hence, JICA has contracted a team of experts to study the major problems and solutions for the protection and rehabilitation of the study area.</p> <p style="text-align: center;">—</p> <p>For more information on this study, visit us at:  <a href="http://www.jica.go.jp/romania/">http://www.jica.go.jp/romania/</a></p>
<p><b>Monday, March 12, 2007</b>  <b>9:30 - 12:30</b>          (Coffee break: 11:00-11:20)          at  <b>Intercontinental Hotel, Hora Hall</b>          (4, Nicolae Balcescu Blvd., Bucharest)</p> <p>Topics will include:</p> <ul style="list-style-type: none"> <li>- Geophysical conditions and beach erosion problem of the Southern Romanian Black Sea Shore</li> <li>- Coastal protection and rehabilitation plan for the Southern Romanian Black Sea Shore</li> </ul> <p><b>Please confirm your participation or that of your colleagues by March 2, 2007.</b></p> <p>Contact person:          Ms. Mirela Ioana, Program Coordinator          E-mail: <a href="mailto:kikaku@jica.ro">kikaku@jica.ro</a>          Telephone: 021-231-67-23, 0744-917-783</p>	

Table J.7.7.2: Program of the JICA Seminar in Bucharest

<p style="text-align: center;"><b>Program of JICA Seminar</b> <b>on</b> <b>Coastal Protection Plan of the Southern Romanian Black Sea Shore</b> <b>and</b> <b>Stakeholder Meeting</b> <b>Organized by</b> <b>Ministry of Environment and Water Management</b></p> <p><b>Place: InterContinental Bucharest, Room Balada (21st Floor)</b></p> <p><b>Date: March 12, 2007</b></p> <p><b>Schedule of Seminar:</b></p> <p><b>09:00 – 09:10: Opening Address by Minister Sulfina BARBU</b></p> <p><b>09:10 – 09:20: Opening Address by H.E. Kanji TSUSHIMA</b></p> <p><b>09:20 – 10:15: Geophysical Conditions and Beach Erosion Problems by Prof. Y. Goda, ECOH</b></p> <p><b>10:15 – 10:55: Overall Plan of Coastal Protection and Rehabilitation by Prof. Y. Goda, ECOH</b></p> <p><b>10:55 – 11:15: Coffee break</b></p> <p><b>11:15 – 11:55: Feasibility Study of Priority Project at Mamaia Sud and Eforie Nord by Prof. Y. Goda, ECOH</b></p>
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Photo J.7.7.1: Opening Address



Photo J.7.7.2: Attendant of Seminar

### **J.7.8 Technical and Economical Committee of the Ministry of Environment and Water Management on March 13, 2007**

Technical and Economical Committee of the Ministry of Environment and Water Management chaired by H. E. Minister Sulfina Barbu and vice-chaired by Lucia Ana Varga, Secretary, Attila Korodi, Secretary and Ion Anghe, Secretary General of the Ministry was held on March 13, 2007 at the conference room of the Ministry. Deliberation on the overall coastal protection plan and feasibility studies of Mamaia Sud and Eforie Nord established by the JICA Study Team and other five feasibility studies of Constanța, Eforie, Tuzula, Costinești and 2 Mai-Vama Veche zones by the local consultants was discussed at the committee.

The JICA Deligation, comprising Mr. Yokokura, Mr. Ono, Ms. Ioana, Prof. Goda and Mr. Ochi participated in the Committee. Prof. Goda, the leader of the JICA Study Team made presentations on the overall coastal protection plan of the Southern Romania Black Sea Shore and the feasibility study of the priority projects on Mamaia Sud and Eforie Nord. Consequently, the overall coastal protection plan and the feasibility study of the two priority projects were authorized as the official coastal protection scheme.

### **J.7.9 SEA Public Debate March 29, 2007**

SEA Public Debate on the Coastal Protection and Rehabilitation Plan organized by the Ministry of Environment and Water Management was held on March 29, 2007 at the conference room of National Institute for Marine Research and Development "Grigore Antipa." The JICA study team comprising Prof. Goda and Mr. Hatakeyama, and Mr. Tanaka, member of the JICA advisory committee were delegated to the Public Debate. Details such as minutes of the debate, participants and other relevant matters are summarized in Annex G.

## J.8 Technical Transfer on Wave Observation Methodology

Wave measurement devices named “Multi-Functional Oceanographic Monitor” are introduced to measure the wave condition along the Black Sea coast. Installation and handling methods of the device for wave monitoring and data processing procedure of the wave observation records are instructed to the counterpart officials of DADL through the technical transfer program of the study.

### J.8.1 Wave Measurement Apparatus

#### (1) Composition of wave measurement device

Wave measurement apparatus are composed of the following items which are transferred to DADL for further wave monitoring. Note type computer with software is utilized to process the wave monitoring records.

Figures of the main body are shown on Photo J.7.4.1 to J.7.4.4.

- i) Multi Functional Oceanographic Monitor (Model: DL-3)  
with Battery and Mount----- 2 sets
- ii) Laser Distance Meter (Nikon Rangefinder 500) ----- 2 sets
- iii) Portable Depth Meter (Hondex PS-7FL) ----- 2 sets
- iv) Notebook-type Computer (Toshiba Dynabook SS MX/290DR)--- 1 set
- v) Computer Software of Oceanographic Monitor Analysis----- 1 set

The system of the wave measurement device comprises the following components.

- i) Main body of DL-3 ----- complete set
  - a) CPU----- 1
  - b) Sensor interface ----- 1
  - c) Electromagnetic current velocity sensor ----- 1
  - d) Ultrasonic sensor ----- 1
  - e) Semiconductor sensor----- 1
  - f) Compact flash memory(64MB)----- 1
  - g) Pressure-Proof case ----- 1
  - h) Accumulator----- 1
- ii) Attached soft wear ----- complete set
  - a) CSV conversion soft wear----- 1
  - b) Observation planning soft wear ----- 1
  - c) Graph indicate soft wear----- 1
- iii) Mounting ring ----- complete set
- iv) Storage Case ----- complete set
- v) Documents ----- complete set
- vi) Accessories ----- complete set

#### 2) Specification of wave measurement device

The specifications of the wave measurement device are as followings.

- a) Power source-----Lead-storaged shield battery (12V-38Ahx1pc)
- b) Consumption of Electricity -----1W

- c) Memory capacity-----64 M Bytes (standard)
- d) Observation mode-----Intermittent mode ,Continuous mode,  
Long cycle waves observation mode, Cable type mode
- e) Selection of equipment switch -----10 types
- f) Waiting time for observation -----Maximum one month
- g) Setting of the depth of water-----1 to 60 m\*
- h) Measurement range of ultrasonic wave  
-----2 to 60\*m (resolution 1cm)
- i) Measurement range of water pressure 1 to 60 m (resolution 1cm)
- j) Measurement range of electromagnetic current velocity  
-----+ 300cm/sec (resolution 1cm/sec)
- k) Measurement range of water temperature  
-----5° to +40° C
- l) Measurement accuracy of direction -within 3 °
- m) Material of pressure-proof case -----titanium (approx.17kgs)

Remarks:

- \*1. In case of 0.1 second sampling interval, to measure ultrasonic wave, please install the equipment below -20m water depth
- \*2. Compact flash card on the market for memory is used, however, depending on some types, it is not operative, please use the memory which is inspected by our company.
- \*3. Compact flash card may becomes un-usable when it is formatted by personal computer. Please, do not format by personal computer.

### J.8.2 Installation of Wave Measurement Device

Installation of the wave measurement device is installed by the research ship “Marina” owned by DADL. For the counterpart training program, the installation and operation work is conducted by the study team and the officials of DADL.

Photos relevant to the installation works are shown on Photo J.7.4.5 to J.7.4.12.

November 11, 2005:	Receipt of the cargoes and inspection of the items
November 14, 2005	Meeting on the operation and instruction schedule
November 29, 2005	Instruction on setting of devices and installation works
November 30, 2005	Installation operation of device off Mamaia Beach
December 12, 2005	Recovery and re-installation of device Instruction of data processing and analysis
March, 2006	Recovery and re-installation of device by DADL
May 25, 2006	Instruction and explanation of operation and handling
May 27, 2006	Recovery and re-installation of device Instruction of data processing and analysis



Photo J.8.2.1: Wave measurement device



Photo J. 8.2.2: Main body of wave measurement device(1)



Photo J. 8.2.3: Main body of wave measurement device(2)

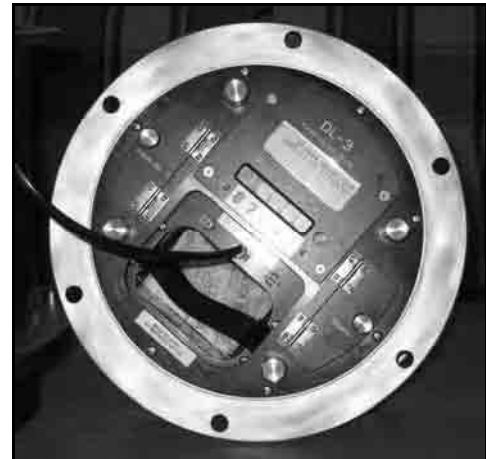


Photo J. 8.2.4: Operation panel of wave measurement device



Photo J. 8.2.5: Instruction on wave gauge operation(1)



Photo J. 8.2.6: Instruction on wave gauge operation(2)





Photo J. 8.2.7: Research boat "Marina"



Photo J. 8.2.8: Cabin of research boat



Photo J. 8.2.9: Working deck of research boat



Photo J. 8.2.10: Assembling work of apparatus



Photo J. 8.2.11: Unloading of apparatus



Photo J. 8.2.12: Fixing work of apparatus by divers

### J.8.3 Wave Recording Program

Wave measurement device is installed in the area of -10 m water depth off Mamaia Beach. When the officials in charge of the wave monitoring get acquainted with the operation of wave measurement devices, another wave device will be installed at an appropriate offshore point to monitor wave conditions at two points simultaneously.

Table J.7.5.1 shows the setting of the wave gauge and maintenance and recovery schedule for the time being. Wave monitoring interval is currently set (b) 120 minutes on the table. This device is capable to record series of incoming waves for 86.3 days at 120 minute monitoring interval. However, every 75 days is recommended to recover and re-install for replacing the memory chip and battery.

Table J. 8.3.1: Wave observation plan and maintenance interval

THE STUDY ON PROTECTION AND REHABILITATION OF THE SOUTHERN ROMANIAN BLACK SEA SHORE					
1. Wave Observation Plan					
Record Interval type	(a) 60 min		(b) 120 min		
Record Setting	MEA=20min,INT= <u>60min</u> SMP=0.5sec,TID=00sec		MEA=20min,INT= <u>120min</u> SMP=0.5sec,TID=00sec		
Sensor Mode	UPE		UPE		
Size of CF Memory	64 MB		64 MB		
Long Period Waves	No		No		
Capacity of Battery	38 Ah		38 Ah		
Maximum Observation Period	<u>43.2 days</u> 1,036 hours 1,036 times		<u>86.3 days</u> 2,072 hours 1,036 times		
File Size	19,908 MB		19,908 MB		
Consumption of Electric Current	38 A		38 A		
2. Examples of Annual Schedule for Wave Observation					
Record Interval Type	(a) 60min			(b) 120min	
Maintenance Intervals	31day Interval			75day Interval	
Month / Year	Date	Activities	Date	Activities	
Dec / 2005	12 <sup>th</sup>	Installation of DL-3	12 <sup>th</sup>	Installation of DL-3	
Jan / 2006	12 <sup>th</sup>	Battery&Memory Exchange	Inspection of Buoy Every Two Weeks		
Feb / 2006	12 <sup>th</sup>	Battery&Memory Exchange	25 <sup>th</sup>	Battery&Memory Exchange	
Mar / 2006	15 <sup>th</sup>	Battery&Memory Exchange	Inspection of Buoy Every Two Weeks		
April / 2006	15 <sup>th</sup>	Battery&Memory Exchange			
May / 2006	16 <sup>th</sup>	Battery&Memory Exchange	11 <sup>th</sup>	Battery&Memory Exchange	
Jun / 2006	16 <sup>th</sup>	Battery&Memory Exchange	Inspection of Bouy every two weeks		
July / 2006	17 <sup>th</sup>	Battery&Memory Exchange	25 <sup>th</sup>	Battery&Memory Exchange	
Aug / 2006	17 <sup>th</sup>	Battery&Memory Exchange	Inspection of Buoy Every Two Weeks		
Sep / 2006	17 <sup>th</sup>	Battery&Memory Exchange			
Oct / 2006	18 <sup>th</sup>	Battery&Memory Exchange	8 <sup>th</sup>	Battery&Memory Exchange	
Nov / 2006	18 <sup>th</sup>	Battery&Memory Exchange	Inspection of Buoy Every Two Weeks		
Dec / 2006	19 <sup>th</sup>	Replacement of DL-3	22 <sup>th</sup>	Replacement of DL-3	

