DEPARTMENT OF ENVIRONMENT THE ISLAMIC REPUBLIC OF IRAN JAPAN INTERNATIONAL COOPERATION AGENCY





ANZALI WETLAND ECOLOGICAL MANAGEMENT PROJECT IN THE ISLAMIC REPUBLIC OF IRAN

PROJECT COMPLETION REPORT

AUGUST 2012



DOE PROJECT TEAM JICA EXPERT TEAM (NIPPON KOEI CO.,LTD.)



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EXCHANGE RATE (JICA Exchange Rate in July 2012)

US Dollar(US\$)1.00=Japanese Yen(¥)79.45 Iran Rial(IRR)1.00= Japanese Yen(¥)0.006

PREFACE

In response to the request made by the Government of the Islamic Republic of Iran, the Government of Japan decided to provide technical assistance for the implementation of the Anzali Wetland Ecological Management Project in Iran and entrusted to the Japan International Cooperation Agency (JICA).

JICA selected and dispatched an expert team headed by Mr Tomoo Aoki between November 2007 and October 2008, and Mr Shinichiro Tanimoto between April 2011 and July 2012, both from Nippon Koei Co. Ltd.

The proponent and core constituent of the project is the Department of Environment (DOE) in the Islamic Republic of Iran. The JICA Expert Team supported DOE to achieve the project purpose, "to establish a basic system, including institutional and technical aspects, for the management of the Anzali Wetland".

The project resulted to five outputs, namely, i) establishment of an institutional structure, ii) establishment of monitoring procedures, iii) determination of zoning, iv) development of environmental education, and v) development of ecotourism. The outputs were interactive, and through the formulation of the Anzali Wetland Management Committee and approval of the product outputs by the committee, the project purpose was achieved.

Finally, we wish to express our sincere appreciation to the relevant organizations, NGOs, and residents in Gilan Province for their close cooperation extended to the project.

August 2012

Asghar Mohammadi Fazel Project Director of DOE Project Team Deputy Head for Natural Environment, Department of Environment, Islamic Republic of Iran

Shinichiro Tanimoto Chief Advisor of JICA Expert Team Nippon Koei Co., Ltd. Japan



Project Location and Zoning Map

The Anzali Wetland Ecological Management Project in the Islamic Republic of Iran Project Completion Report

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List of Abbreviations

AILWMP	Alborz Integrated Land and Water Management Project
APAWE	Association for Promoting Anzali Wetland Ecotourism
AWMC	Anzali Wetland Management Committee
BOD	Biochemical Oxygen Demand
BWSC	Alborz Basin Water and Soil Committee
C/P	Counterpart Personnel
CHHTO	Cultural Heritage, Handicraft and Tourism Organization
Chl.a	Chlorophyll a
COD	Chemical Oxygen Demand
DO	Dissolved Oxygen
DOE	Department of Environment
DPM	Deputy Project Manager
GCHHTO	Gilan Cultural Heritage and Handicraft and Tourism Organization
GIS	Geographical Information System
GRWO	Gilan Regional Water Organization
GWWC	Gilan Water and Wastewater Company
ICCA	Indigenous and Community Conserved Areas
NIWAI	National Inland Water Aquaculture Institute
JCC	Joint Coordination Committee
JET	JICA Expert Team
JFY	Japanese Fiscal Year
JICA	Japan International Cooperation Agency
MAB	Man and the Biosphere Program
M/M	Minutes of Meeting
M/P	Master Plan
MOJA	Ministry of Jihad-e-Agriculture
MPO	Management and Planning Organization
NGO	Non-governmental Organization
NRGO	Natural Resources General Office
OJT	On-the-job Training
PDM	Project Design Matrix
PMO	Port and Maritime Organization
PO	Plan of Operation
R/D	Record of Discussion
RS	Remote Sensing
SEPL	Socio-Ecological Production Landscapes
T-N	Total Nitrogen
T-P	Total Phosphorus
TSS	Total Suspended Solid
UNDP	United Nations Development Program

CHAPTER 1 GENERAL

1.1 Introduction

1.1.1 Background of the Project

The Anzali Wetland (193 km²), located on the southern coast of the Caspian Sea, is internationally known as an important wetland for migratory birds, and was registered as a Ramsar site in June 1975 in accordance with the Ramsar Convention. However, water quality of the wetland is deteriorating due to the inflow of wastewater and solid waste from neighboring cities, including the provincial capital, Rasht City. The wetland is getting shallower due to the inflow of sediment and deposition of organic detritus. The degradation of the Anzali Wetland made the Bureau of the Ramsar Convention to include the wetland in the Montreux Record because its protection was deemed a priority.

Recognizing such status of the Anzali Wetland, the Government of Iran requested the Government of Japan to conduct a comprehensive study for the conservation of the wetland. From 2003 to 2005, the Study on Integrated Management for Ecosystem Conservation of the Anzali Wetland in the Islamic Republic of Iran was conducted by the Japan International Cooperation Agency (JICA). The study included the: 1) preparation of a comprehensive master plan for conservation of the wetland; 2) execution of pilot activities; and 3) capacity development of concerned agencies and staff for wetland management.

Following the step in the preparation of the master plan, the Government of Iran requested the Government of Japan to undertake a technical cooperation to realize some of the key measures from the master plan such as the establishment of an institutional mechanism for conservation and the framework of detailed zoning including regulations. Through discussion and coordination with concerned authorities on the detailed planning study conducted by JICA in October 2006, the Record of Discussion (R/D) was signed in February 2007 and the two-year technical cooperation, the Anzali Wetland Ecological Management Project (hereinafter referred to as the Project), started in November 2007 with the Department of Environment (DOE) as the implementing agency.

However, the project had been suspended from October 2008, by the declaration of Department of Environment of Iran. In April 2010, DOE expressed the willingness to resume the cooperation project, and hence, JICA dispatched a consultation mission in September 2010 to outline activities and implementation arrangements, whereby reaching an agreement on the resumption of the Project with Iranian authorities concerned. Resumed in April 2011, the Project has been implemented ever since with DOE. The Project ended in July 2012.

1.1.2 Overall Structure of the Project

The overall goal, purpose, and outputs of the Project are as follows:

(1) Overall Goal

The Anzali Wetland Management System, for which DOE is the core constituent, practices adaptive management.

(2) Project Purpose

Establishment of a basic system, including institutional and technical aspects, for the management of the Anzali Wetland, for which DOE is the core constituent.

(3) Project Outputs

In order to realize the overall goal and project purpose, five outputs are to be accomplished as illustrated in Figure 1.1-1.



Source: Inception Report of the Project, November 2007

Figure 1.1-1 Overall Framework of the Project

1.1.3 Project Area

The project area includes the Anzali Wetland in Gilan Province, Iran, and its surrounding areas. The project area is the same as the zoning area, which covers 2-5 km from the water edge of the wetland and consists of core, buffer, and transition zones (see back cover of the report for the location map).

1.1.4 Project Organization

Figure 1.1-2 summarizes the organizational structure of the Project. Project executing body is comprised of DOE Headquarters (DOE HQ) and Gilan Province Environment Protection Administration (DOE Gilan), and activities had been carried out with relevant organizations.



Source: JET

Figure 1.1-2 Organizational Structure of the Project

The members of the Joint Coordination Committee (JCC) that were revised in the Minutes of Meeting (M/M) on 22nd September 2010 are shown in Table 1.1-1. Six JCC meetings were organized during the project period. The project implementation strategy, post-project activities, and terminal evaluation result were discussed in the meetings.

Table 1.1-1	JCC Members
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Functions	 To formulate an annual work plan for the Project based on the Plan of Operation (PO) within the framework of the R/D. To review the result of the annual work plan and the progress of the technical cooperation. To exchange views and ideas on major issues which are raised during the implementation period of the Project.
Members	 Chairperson: Deputy Head of Natural Environment, DOE HQ (Project Director) Co-Chairperson: Deputy Director General for Wetlands and National Parks, DOE HQ (Project Manager) Members Iranian Side Deputy Project Manager Director General, DOE Gilan (Provincial Project Coordinator)

- Director General or Representative of Habitat and Protected Area Bureau, Deputy
of Natural Environment, DOE HQ
- National Project Manager or Representative, Conservation of Iranian Wetlands
Project
- Executive Director, Ramsar Regional Center
- Managing Director, Ministry of Jehad-e-Agriculture, MOJA Gilan
- Managing Director, Gilan Regional Water Organization
- Governor and Mayor of Anzali Municipality
- Governor and Mayor of Somesara Municipality
- Governor and Mayor of Rasht Municipality
- Members approved by chairperson and/or co-chairperson, as needed
Members Japanese Side
- Representative of JICA Iran Office
- JICA Experts
- Other personnel concerned to be dispatched by JICA, if necessary

Source: M/M on 22 September 2010

1.2 Project Design Matrix (PDM)

1.2.1 Original PDM

The Project was designed and implemented according to the project design matrix (PDM) and the plan of operation (PO). The original PDM (version 01) was formulated at the time of signing the R/D between DOE and JICA on 10 February 2007 before the commencement of the Project (Attachment 1).

1.2.2 Revised PDMs

The original PDM version 01 was revised as PDM version 02 (Attachment 2) on 22 September 2010 at the time of signing the M/M during the suspension period of the Project. This revision was made to restart the Project, in which deadlines of activities were clarified, and implementation of pilot environmental education and pilot ecotourism activities were added.

The PDM version 02 was revised again as PDM version 03 (Attachment 3) following the approval of the project director in an official letter on 9 March 2012. In this revision, definitions of "basic system", "management actions" and "based on the scientific data" were explained on the footnote. This is the final version of the PDM.

1.3 Project Schedule

The project period was 25 months from November 2007 to October 2008 and from April 2011 to July 2012 in accordance with the R/D and M/M. Table 1.3-1 compares the PO and the actual implementation of the project activities after resumption of the Project. Most project activities were implemented as scheduled.

1.4 Terminal Evaluation

The terminal evaluation of the Project was carried out from 11 May to 1 June 2012 by the Joint Evaluation Team consisting of two Iranian members (from GRWO and MOJA) and three Japanese members. The evaluation team assessed the achievements of the Project based on five criteria, and the results are as follows: relevance was high, effectiveness was high, efficiency was high, impact was medium, and sustainability was medium. Some sections of the Terminal Evaluation Report¹ are cited in this report.

¹ The Terminal Evaluation Report for the Anzali Wetland Ecological Management Project, Joint Terminal Evaluation Team of GRWO, MOJA, and JICA, May 2012

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	Output 1											2	011																		201	2						
A basic institu	itional structure for the integrated wetland management,																			Th	ird Y	ear																
for wh	nich DOE is the core organization, is established.		4		5			6		7			8		9		1	0		11		12	2		1		2		3		4		5		6			,
Activity 1.1	Collect and summarize information on the wetland management activities of relevant organizations																																					
1.1.1	Review of the relevant documents					÷ł		÷ŧ		<u></u> +	- { -		÷÷	-+-		+		{- -				┤╌┼	$\left\{ \cdot \right\}$			$\left\{ -\right\}$	-{		<u></u>	+	-{-}	·	·				-+-	-+-
1.1.2	Review and examination of roles of AWMC members		+	+-				-+	+	┼╌┼			┼┼	-+-	; ; ;	+						<u>-</u> +				+			<u>+-</u>	+	++	╶┼╴┼			++		-+-	
Activity 1.2	Draft a plan for a system for the wetland management that shows institutional structure, committee members, roles, responsibilities and others																																					
1.2.1	Preparation of draft Plan for Anzali Wetland Management System		·	÷÷	- + -	÷				<u></u> -¦-	- { -	- {-	┢┥	-+-		$\left\{ \cdot \right\}$		-+-				{-}				$\left\{ -\right\}$	-{		<u>+</u> -;-	+	$\{-\}$		·	-{	<u>-++</u>		-+-	
Activity 1.3	Make an agreement between relevant government offices on formulation of a wetland management committee as part of the management system																																					
1.3.1	Explanation to relevant government offices on formulation of a wetland management committee		·	ł	- + -	÷ł		÷÷	÷	<u></u> -}-			÷÷	- ÷ -	÷÷	+		- <u>-</u> -	÷ł			╬╌┆	÷		:	$\left\{ -\right\}$		·	÷-;-	$\dot{+}$		·	· -;- +	-				Ľ.
1.3.2	Preliminary agreement between relevant government offices in JCC on formulation of a wetland management committee										- { -			- + -																+ 	$\left\{ - \right\}$						- + -	
Activity 1.4	Establish the wetland management committee with DOE as the secretariat that plays key roles in the management system																																					
1.4.1	Confirmation with relevat DOE experts on finalization of documents to be agreed in the 1st AWMC		-{			:)			- + -	-+		-}-	$\frac{1}{2}$	· -¦- ·	+	+			+			$\frac{1}{1}$		- + -			-	- + -			-}-{		- +	- +	· -{ - }-		· -¦- ·	
1.4.2	Preparation of presentation material					<u>+-</u> {				-+			┽╌┾		┽╌┼╴	┽╍┾		╞╺┆╸	+	- + -		łł	-+-	- + -		+ +		-+-		+	-	-+	- +	╌┽╌┝	- ╉╼╄			i-i-
1.4.3	Printing of handout for the meeting		·	· + -		÷ł			-			{-	•	-+-	;- <u>+</u> ·				-;- +			┤╌┟		· - {- ·			-{-+		<u>+-</u> ;-	+		· -{	· -;- +		-}-			-+-
1.4.4	Holding 1st AWMC as Joint Anzali Wetland Conservation Committee meeting			+	- + -	·					- { -	{-		-+-		$\left\{ \cdot \right\}$			++			╬╌╬				$\left\{ -\right\}$	-{-+	-	•	+	-{-}		·		<u>-}-</u> {			Ľ.
Activity 1.5	Provide on-the-job training to DOE for the management of the committee																																					
1.5.1	Detailed examination and revision of Anzali Wetland Management System		·	· + -		÷ł					-		+		┝╌┝		-					H		-									- +				- 4 -	-+-
Activity 1.6	Provide trainings to the staff of the relevant government offices for further understanding of the wetland management																																					
1.6.1	Trainings to the staff of the relevant government offices	Ļ	+	+		÷ł	+	÷÷	+-	+	+	4	+	+	÷÷																							片
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Table 1.3-1 Plan of Operation (PO) in the Third Year 1/5 (Output 1)

Wetland Management Committee Meeting AWMC Anagement Committee AWMC Anagement Committee

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Monitori	ng procedures for the wetland management is established					-		-		-		-		-			Third `	Year														
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Activity 2.1	Collect information on on-going monitoring activities conducted by each organization, capacity of the staff and the equipment																															
2.1.1	List of organizations and preparation of questionnaires (for capacity assessment of staff)	$\left \cdot \right $																														
2.1.2	Collection of information	-}							· •	<u>-</u>																						
2.1.3	Data compiling and analysis	$\left\{ - \right\}$						<u>+</u> +		$\left \cdot \right $	$\frac{1}{1}$									÷			<u>} </u>								<u> </u>	
Activity 2.2	Identification and determination of indicators for the wetland conservation													<u> </u>	,					.	<u> </u>											
2.2.1	Review of indicators with additional information and discussion with specialists	- {									·			; _ } .					·	÷ł		·	}				- 4 -					
2.2.2	Review and determination of indicators	-}	•						÷÷	$\left\{ - \right\}$								-{-{-					}									
Activity 2.3	Determination of method for collection, analysis and handling of data, and preparation for draft monitoring manual																															
2.3.1	Review of methods with additional information and discussion with specialists	-{								$\left\{ - \right\}$				·																		
2.3.2	Review and modification of the draft monitoring manual									$\left\{ \cdot \right\}$																						
Activity 2.4	Explanation of draft monitoring manual and establish consensus in the wetland management committee																															
2.4.1	Distribution of the draft monitoring manual and preparation of a presentation file	$\left \cdot \right $																	·				}									
2.4.2	Presentation of the draft monitoring manual and revision with feedback from the committee members	-}						-		-											+	.				-						
Activity 2.5	Settleing and implementation of monitoring training plan																															
2.5.1	Preparation of the monitoring training plan		-																									- 4 -				
2.5.2	Arrangement of the monitoring trainings				+					$\left\{ \cdot \right\}$								-{-{-					}								+	
2.5.3	Implementation of the monitoring trainings	$\left \right $				+						•											}			-						
2.5.4	Trial monitoring (water and sediment quality)	-{																														
2.5.5	Feedback to the monitoring manual with training and trial	H																\square														
Report Writ	ing and other Activities																															
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* PIP: Project Implementation Plan P/R: Progress Report PCR: Project Completion Report JCC: Joint Coordinating Committee AWMC: Anzali Wetland Management Committee

The Anzali Wetland Ecological Management Project

Output 3 Zoning is determined, and measurement strategies (rules 6, regulations) for each zone are provided and the surrounding area. Zoning is determined, and measurement strategies (rules 6, regulations) for each zone are provided and the surrounding area. Zoning is determined, and measurement strategies (rules 6, regulations) for each zone are provided and the surrounding area. Zoning is determined, and measurement is an each zone are provided and the surrounding area. Zoning is determined, and measurement is an each zone are provided and the surrounding area. Zoning is determined, and measurement is an each zone are provided and the surrounding area. Zoning is determined, and measurement is an each zone are provided and the surrounding area. Zoning is determined, and is an each zone are provided and the surrounding area. Zoning is determined, and is an each zone are provided and the surrounding area. Zoning is determined, and is an each zone are provided in the surrounding area. Zoning is a sole-economic survey in the Anzali is an each zone and and the arguitations for each zone are provided and the surrounding area. Zoning is a sole-economic survey in the Anzali is an each zone and and regulations for each zone are provided in the surrounding area. Zoning is a sole-economic survey in the Anzali is an each zone and an each zone are provided in the surrounding area. Zoning is a sole-economic survey in the Anzali is an each zone and an each zone and an each zone area. Zoning is a sole economic survey in the Anzali is an each zone area. Zoning is a sole economic survey in the Anzali is a sole economic survey in the Anzali is an each zone area. Zoning is a sole economic survey is an each zone area. Zoning is a sole	PO version 20	12.6.30	Planed Project Activities								Ta																				
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3.2.1 Collecting and Analyzing of existing material 3.2.2 Drafting the zoning 3.2.3 Drafting the regulations for each zone 3.2.4 Hold stakeholder meetings to explain zoning, the survey results and the draft regulations to receive feedback 3.3.1 Holding stakeholder meetings 3.4.1 Explanation and approval of draft zoning at AWMC Report Writing and other Activities	Activity 3.2	Based on the results of the socio-economic survey review the zoning plan presented in theMaster Plan and draft regulations for each zone																													erati
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3.2.3 Drafting the regulations for each zone	3.2.2	Drafting the zoning											+									· +		-			{				
Hold stakeholder meetings to explain zoning, the feedback Holding stakeholder meetings 3.3.1 Holding stakeholder meetings	3.2.3	Drafting the regulations for each zone			╶┼┼							┥┥																		• •	n th
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3.4.1 Explanation and approval of draft zoning at AWMC	3.3.1	Holding stakeholder meetings												╎╸╿╸					╎╴┝╴			· + - ¦-	4-4								ird Y
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PO version 20	D version 2012.6.30			Planed Project Activities						Actual Project Activities																
	Output A					-	2011													2	2012					
The basis f	or environmental education using the Environmental											٦	Chird	JFY												
Educa	tion Center of the Anzali wetland is developed.	4	5	6		7	8		9	1	10	11		12		1	2		3		4		5	6		7
Activity 4.1	Collect information on on-going activities and existing materials for environmental education (EE) in Gilan Province.			•						•	•															
4.1.1	Collecting new information and existing materials									- + - - + -															- 4	
4.1.2	Analyzing EE data and Updating existing data						- +				+ +		·													
Activity 4.2	Referring to the results of the pilot project in the Master Plan study, formulate an <u>action plan</u> for environmental education including the training achedule at the Environmental Education Center.									T																
4.2.1	Establishment of basic policy of EE					┽╴┿╶┥		+					++	÷÷				<u>.</u>			+	+				
4.2.2	Developing the program of EE				╺					- + -		- {											4 - b -			
4.2.3	Developing materials of EE	-+-+											++	+++				<u>.</u>				+ +				
4.2.4	Training at the EE center								~~~~~			-++											+-+			
4.2.5	Strategy for development of EE				┥	·	++++	·					ł		++-			÷-;-								
Activity 4.3	Make an agreement on the environmental education action plan in the committee.																									
4.4.1	Distribution of the draft environmental education action plan and preparation of a presentation file																	+								
4.4.2	Agreement on the environmental education action plan at the \ensuremath{AWMC}																									╼╺┝╺╶ ╸╼┝╼╺ ╌╌┾╌╌
4.4.3	Feedback to the EE action plan(if necesarry)		╶╎╴┥╌┡╶┥╴	*	 -														·							
Activity 4.4	Produce materials for environmental education in the above action plan, including audio-visual materials, and pilot implementation of environmental education.																									
4.4.1	Producing and parchase materials of EE																	++			+	+			++	
4.4.1	Producing audio-visual materials of EE		╶┛									-									+				++	
4.4.2	Trial run and monitoring of EE using the environmental materials											-														
Report Writin	g and other Activities																									
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* PIP: Project	ement Committee Meeting Implementation Plan P/R; Progress Report PCR [,] Project	Completio	n Report ,IC	C: Joint C	oordinat	ing Com	mittee /	AWMC	: Anzali V	Netlan	nd Mana	gement	: Com	mittee	1.1) !)	AW	MC :			1 !		l i		A <mark>WM</mark> C	1 }

Table 1.3-1 Plan of Operation (PO) in the Third Year 4/5 (Output 4)

PO version 201	2.6.30	PI	anned	Project	t Activ	vities		Act	ual Pro	ject /	Activitie	8															
									2011												2012						
	Output 5 The basis for ecotourism is developed.	Third JFY															Fourth JFY										
	· · · · · · · · · · · · · · · · · · ·		4	5		6	7	,	8		9	10		11	12		1	2		3	4		5	(8	7	
Activity 5.1	Collect information on on-going ecotourism activities conducted in Gilan Province including activities of private sector																					·					
5.1.1	Update institutional structure for ecotourism						+			<u>-</u>			- + -	╬┥╬	┥╌┟╶{╴		$\frac{1}{1}$	++-+	{-	- +	{-}-{-			-}-{-	$\left\{ \left\{ -\right\} \right\}$		-7
5.1.2	Update laws, regulation and plans for ecotourism			- +			+	╶┝╶┥				┝┥╍┢╺		╬┪╬	┥╌┢╶┥╴	·	$\frac{1}{2}$	<u>++-</u> +	┥╴┽╶┆						$\left\{ -\frac{1}{2} \right\}$		-7'
5.1.3	Update tourism activities			╉┽╴	<u>-</u>		++-	┝┿┥			┝┾┿	╏┝┝	-+-	$\frac{1}{2}$	┝╈╄	$\frac{1}{2}$	╈┿┿	╬┿╬	┼┼┼	┿┿	┟╌╁╌			$\overline{+}$	┟┽┽	╶┼╌┼╴┦	7;
5.1.4	Check conditions of facilities in/around wetland	{ -		┋╴┽╶		╞╌╴┝		}-			- +			<u>+-</u>			┟╴┥╶┝╴	┥╴┝╶┤╴	┝╌┼		- {-}-		- +	<u>{-</u> }-	{- <u>⊦</u> -{-		
Activity 5.2	Referring to the results of the pilot project in the Master Plan study, formulate an action plan (draft) for ecotourism including training and development of small- scale facilities																										
5.2.1	Update resources in/around Wetland				<u>i-</u>	<u> </u>				<u>.</u>	<u>.</u>	<u></u>		<u>.</u>	<u> </u>	<u>-</u>	<u> </u>	<u>++-</u> +	<u> </u>	- 4	<u></u>			· - -	<u>}</u>		
5.2.2	Update toursim market around Wetland			- +		\- <u>+</u> -\-	· -		-				- + -	⊹ <u></u>	<u> </u>		<u>+</u> - <u>-</u> + -	+	<u> </u>	- +	<u> </u>			· <u>} </u> -	<u>}</u>		
5.2.3	Update action plan																										
5.2.4	Hold workshop inviting stakeholders to discuss action plan	-	┊╴┆╶╎	- +		┊╴┇╸		╎╍┕╸┥				┝┥╌┢╶		÷	┥╌┟╶┥╴	·	$\frac{1}{2}$	╋┥╴┝	┽╴┾╶┆		-			-}-{-	<mark>}e</mark> i-}		(
Activity 5.3	Make an agreement on the ecotourism action plan (draft) in the wetland management committee																										
5.3.1	Explain and agree in 1st AWMC	-	╬╾╈╺╬	- +			-						- + -	·	┥╍┢╺┥╸	·	┥╌┤╴	┢┥╸┝	┥╸ᢤ╶╎		<u>-</u>				┝┽╌┝		
5.3.2	Report pilot activity and discuss revision of action plan in AWMC		╬╾╈╺╬	- +			+	┆╌┝╴┥		<u></u> -		┝┥╍┢╺	- + -	╬┥╌┝	┥╌┢╶┥╴	·	$\frac{1}{2}$	·	!								;
Activity 5.4	Construct small-scale facilities for ecotourism, which may include wooden trails, observation huts and sign board with pilot ecotours																										
5.4.1	Construct small-scale facilities		╎╌ <mark>┦╶</mark> ┦	╸ᢤ╺╎╸╵	╎╴┝╶																				heier'	╬╋	
5.4.2	Activity of association (secretariat) for ecotourism			- +		╎╴┼╶╎╴	+		╶┞┥╴						╎╴┝╶╿╴		┥╍┝┥╴				┥╾┝╶┥╸						- ;
5.4.3	Prepare guidelines (draft)			++-			++-	┝┿┥							┝┊┼	÷÷	<u> </u>		<u></u> 		$\left\{ \cdot \right\}$			$\left\{ + \right\}$	┟┼┼		
5.4.4	Nature guide training	$\left \cdot \right $	┆╌┼			┝╌╴┝				-+-				╋╋╋				╅╍╏╴┥╴	┟┊╴		╞╶┥╌┝╸			{-}-	{- <u>}</u> -	• • •	- (
5.4.5	Pilot ecotour		┟╌┟		;	┝╶┤╸┟				<u>-</u>		┥╌┝╶┥╴	<u> </u>	╅╋╅	┝┽╌┝	$\frac{1}{1}$	┥╴ <mark>┦╺┡</mark>	┕	+ $+$ $+$		╞╶┥╾┝╺			┩-}-		-+	
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CHAPTER 2 PROJECT ACHIEVEMENTS AND ACTIVITY RECORDS

2.1 Output 1: Establishment of an Institutional Structure

2.1.1 Outline of Activities

(1) Activities Defined in the PDM and PO

Table 2.1-1 summarizes the expected output and indicators of achievement defined in the PDM and the activities outlined in the PO.

Expected Output	A basic institutional structure for the integrated wetland management, for which
	DOE is the core organization, is established.
Objectively	1.1 By the end of July 2011, the committee is established.
Verifiable	1.2 By the end of June 2012, the wetland management committee held a total of
Indicators	3 meetings.
Activities Outlined	1.1 Collect and summarize information on the wetland management activities of
in the PO	relevant organizations.
	1.2 Draft a plan for a system of wetland management that shows institutional
	structure, committee members, roles, responsibilities, and others.
	1.3 Make an agreement between and among relevant government offices on
	the formulation of a wetland management committee as part of the
	management system.
	1.4 Establish a wetland management committee with DOE as the Secretariat that
	will play key roles in the management system.
	1.5 Provide on-the-job training to DOE staff for the management of the
	committee.
	1.6 Provide training to staff of relevant government offices for further
	understanding on wetland management

 Table 2.1-1
 Activities Defined in the PDM and PO (Output 1)

Source: M/M on 22 September 2010

(2) Outline of Activities

Main activities of Output 1 under the Project are summarized as follows;

- Preparation of the framework of the Anzali Wetland Management Committee (hereinafter referred to as AWMC) for its establishment with draft legal documents such as provincial decree and statute;
- Preparation and arrangement work for the establishment of AWMC by coordinating with the Provincial Governor's Office;
- Preparation and arrangement work for holding the AWMC meeting by preparing agenda and coordinating with the Provincial Governor's Office and member organizations;
- Preparation of the operational system of AWMC with DOE Gilan as the Secretariat; and
- Enhancement of understanding on AWMC for member-organizations through explanatory and consultation meetings.

(3) Major Achievements

The major achievements of the Project are summarized as follows:

- The AWMC was established in the 1st AWMC meeting on 6 July 2011.
- Provincial decree and statute on AWMC were approved by the provincial government on 6 July 2011 and 29 October 2011, respectively.
- The Declaration of the Anzali Wetland Management Committee (hereinafter referred as Anzali Declaration) was signed by the provincial governor, DOE, JICA, and JICA Expert Team (JET) in the 1st AWMC meeting on 6 July 2011. The Anzali Declaration and subsequent activities were presented at the 11th Meeting of the Conference of the Contracting Parties to the Ramsar Convention on Wetlands (COP11) in Bucharest, Romania from 6–13 July 2012.
- Meetings of the AWMC were conducted three times on 6 July 2011, 29 February 2012, and 4 July 2012.
- Preparatory arrangements and operation of the AWMC were improved and well-understood by the counterpart personnel through actual work with JET.
- The Secretariat for AWMC was officially established under the DOE Gilan as its office.
- (4) Evaluation

Output 1 has been mostly achieved. From the viewpoint of objectively verifiable indicators, AWMC was successfully established under the Gilan Provincial Governor's Office on 6 June 2011 and the AWMC meetings were conducted thrice during the project period with the attendance of member-organizations. Key staff of DOE Gilan, who will serve as member or supervisor of the Secretariat, understood the roles and necessary arrangement and operation of AWMC through actual works in preparation of the AWMC meetings with JET.

2.1.2 Preparatory Works for Establishing the Anzali Wetland Management Committee

(1) Collection of Information on Relevant Organizations

At the start of the project, the DOE project team and JET investigated the wetland management activities of relevant organizations. This investigation was carried out through meetings and questionnaires. The roles and responsibilities of official institutions are almost exactly the same as they were when the master plan study was completed at the end of 2004. The Bony Fish Research Centre has changed its name to the National Inland Water Aquaculture Institute, and the roles of the provincial Management and Planning Organization (MPO) office have been transferred to the

Government of Gilan Province. Otherwise, the institutional structure remains the same. In particular, responsibilities for resource management in Anzali Wetland have not changed.

- (2) Planning for the Establishment of the Anzali Wetland Management Committee
 - a) Planning the Wetland Management System

Activities in the Anzali Wetland have been managed by a number of different bodies, but were not well coordinated. The major player is the DOE Gilan, which has legal control over hunting, fishing, and conservation activities in several parts of the wetland. However, other bodies have some statutory and non-statutory controls such as agriculture, navigation, roads, housing, and industry.

The future sustainable management and protection of the wetland will best be achieved by coordination and cooperation between various stakeholders, including civil society. Dialogue will result in an integrated approach to management of the wetland, which will benefit all interested parties. A formal forum is required for such coordinated approach, and that forum is referred to as the Anzali Wetland Management Committee (AWMC).

It had been anticipated that AWMC would be established in a 'step-by-step' process, as described in the inception report. It was expected that, in its initial preparatory stages, AWMC would be established by the DOE Gilan and Gilan Provincial Governor's Office. At a later stage, other major government bodies and municipalities would be added. Finally, other relevant institutions, NGOs, and civil society groups would be added, with the objective of creating a body that truly represents the people who have varied interests in the wetland.

However, events enabled the process in the establishment of AWMC to accelerate. (It seems that the work of the master plan study prepared the ground for the creation of AWMC, such that its structure and formation were already expected by most bodies having an interest in the wetland.) At the Wetland Specialists Meeting held in Anzali on 3 March 2008, there was much enthusiasm to establish AWMC with broad membership straight away, with a secretariat to facilitate its work.

This approach was echoed at the second meeting of the JCC for the project, held on 5 March 2008 in Rasht. The governor of Gilan Province, Mr. Roohollah Ghahramani, strongly supported the immediate establishment of the AWMC, with all parties working together for better management of the wetland. He also stated that invitations to further Anzali wetland meetings would be sent to all relevant organizations from the Governor's Office, thus emphasizing the importance of the project at the provincial level. This represented a considerable step forward, and provided much greater support for the initiative at the governorate level than was forthcoming during the previous Anzali Wetland Master Plan Study.

The commitment of the governor, in collaboration with Mr. Zolfinezhad, Director of the DOE Gilan, meant that the plans for development of the complete AWMC could proceed without delay.

It could therefore be expected that the establishment of AWMC would be in accordance to the original schedule, i.e., in May 2008.

b) Agreement on Formulation of the Anzali Wetland Management Committee

As mentioned in the inception report, the establishment of the AWMC should take into account the existing similar organizations in Iran. Fortunately, a similar committee for the management of natural resources has recently been established in the neighboring province of Mazandaran, as part of the Alborz Integrated Land and Water Management Project (AILWMP). The Alborz Basin Water and Soil Committee (BWSC) was formed by a Decree of the Governor-general of Mazandaran Province.

It was proposed by JET that AWMC should be created with a similar structure to that of BWSC and should be formalized by a Decree of Gilan's Provincial Governor.

The AWMC was considered to be chaired by the Governor of Gilan Province, or whoever the Governor may instruct to represent him from time to time. When necessary, additional members can be included on a temporary or permanent basis, in order to provide the necessary linkages with other concerned agencies or to discuss specific issues.

The draft objectives and mandates of AWMC were as follows:

- Review current and emerging issues of land, water, and wildlife resource management in the wetland.
- Propose policies, strategies, and action plans in coordination with responsible bodies and other stakeholders, for improving long-term wetland resource management.
- Serve as a focal point for monitoring the state and changes of wetland natural resources (e.g., water quality, sedimentation, weed species [Azolla], and numbers/distribution of plants and animals).
- Serve as a focal point for monitoring the impact of development in and around the wetland, and facilitate dialogue leading to concerted recommendations.
- Maintain a wetland knowledge database, accessible by the partner agencies and stakeholders. Facilitate the dissemination of this information to interested parties.
- Support pilot activities in the fields of conservation, ecotourism, and environmental education by official bodies, the private sector, and non-governmental organizations (NGOs).
- Support activities for wetland protection/restoration, improvement of public access, safe navigation, provision of interpretation, and other visitor facilities.
- Support the legitimate sustainable utilization of wetland resources by local communities.

- Contribute to the development of rules, regulations, and license requirements concerning access to and use of wetland resources.
- Develop any necessary legal instruments for the formalization of the committee and the implementation of its responsibilities.
- > Receive funds to undertake any of the above functions.
- Other relevant roles and responsibilities as may be agreed between the members from time to time.

The full text of the draft decree which would legally formalize AWMC was prepared. This draft was supposed to be discussed and amended/agreed at the first meeting of interested parties and, following consensus, the final version would then be declared and publicized by the Governor.

c) Examination on Establishment of the Anzali Wetland Management Committee

None of the above roles and responsibilities of AWMC would detract from the existing powers of the official bodies represented on AWMC. However, this representative and consultative body would also have an official advisory role, and ultimately, decision-making powers. There would therefore need to be regular meetings of the AWMC, and these meetings would need to discuss matters of substance, on which AWMC must come to conclusions followed by actions. This means future decisions on development or conservation in and around the wetland would be taken in a collegiate manner - it would not be possible for a single body to take unilateral action which might be damaging to other interests.

As specified in the draft decree, meetings of the AWMC would be called by the provincial governor every three months and/or at such other times as may be deemed necessary.

Sub-committees of the AWMC can be established from time to time to facilitate or undertake specific responsibilities of the committee. The members of these sub-committees will be chosen on a selective basis, and must be an active member of AWMC.

The Secretariat of the AWMC would be provided by the DOE Gilan with a permanent office, facilities, and staff as appropriate. The Secretariat would take minutes of the AWMC meetings and distribute them promptly to the members and other relevant organizations. Given that AWMC would discuss the results of wetland monitoring, zoning, and pilot activities, these minutes would be an important tool for the dissemination of wetland management issues and actions.

d) Project Activities before Project Suspension

The 3rd JCC meeting was planned to be held in the beginning of the 2nd fiscal year. In addition, establishment of the AWMC was planned to be agreed among relevant agencies headed by the provincial governor. However, since his schedule has not been fixed, the 3rd JCC meeting scheduled at the end of August 2008 was not held. As a result, the AWMC was not established

and the 1st AWMC meeting, which was supposed to be held in August, did not push through. Subsequently, the draft Monitoring Manual and Action Plans for the Environmental Education and Ecotourism were not approved under the AWMC, though everything was prepared on schedule in cooperation with the counterparts and JET.

JET prepared and provided the C/Ps materials on the operation of AWMC and its Secretariat. Considering that the attendance of the provincial governor in the 3rd JCC seems to be difficult, JET proposed in June and July that the Deputy Provincial Governor attends the 3rd JCC meeting as representative of the Provincial Governor. JET also provided a material in August on the proposed step-by-step approach for the establishment of AWMC based on the initial plan of the Project.

The circumstances where the 3rd JCC meeting was not conducted affected the progress of the project activities. Due to the situation and other issues on project operation, a meeting was held between the project manager and representative of JICA Iran Office, attended by main C/Ps and JET, in the DOE Gilan Office on 30 August 2008. Based on the results of the meeting, the 3rd JCC meeting was scheduled at the beginning of November and the date of the meeting was fixed at the end of September 2008. However, the project was suspended in October 2008 due to the sudden request from the DOE Gilan to JICA.

2.1.3 Establishment and Operation of AWMC

(1) The 1st AWMC Meeting

After resumption of the Project in April 2011, in order to prepare for the 1st meeting of the AWMC, experts in DOE Gilan for Output1 and JET intensively discussed the necessary activities for the preparation from late May to early June, and prepared the schedule with necessary actions and procedures for the 1st AWMC meeting as shown in Table 2.1-2. Based on the schedule, necessary actions and procedures were made under the management of the expert in the DOE Gilan with support of the JICA Expert, including the preparation of the Decree on Establishment of the AWMC and the Anzali Declaration.

	ltem		Ju	July						
(4)	Scheduling Joint Anzali Wetland Conservation			1						
(1)	Committee (= 1st AWMC ¹⁾)									
(2)	Review and examination of roles of AWMC									
(2)	members									
(2)	Preparation of draft Plan for Anzali Wetland									
(3)	Management System ²⁾				l I					
(4)	Review and comment on draft Plan by PD, PM,						l			
(4)	DPM, and PC ³⁾						I			
(5)	Distribution of the draft Plan to relevant		1		 i I					
(3)	organizations									
(6)	Comment collection on the draft plan from			· <u>·</u>			I			
(0)	relevant organizations									
(7)	Finalization of the draft Plan based on									
('')	comments, if any.			I						
(8)	Finalization of documents to be agreed in the						1			
(0)	1st AWMC ⁴⁾				I					
(9)	Preparation of presentation material						I			
(0)							1			
(10)	Printing of bandout for the meeting				l i					
(10)					I					
(11)	Joint Anzali Wetland Conservation Committee			i i	🔺 (6 Julv)		I			
I ``''	meeting			I I						

 Table 2.1-2
 Planned Schedule for the 1st Anzali Wetland Management Committee Meeting

Note: 1) Anzali Wetland Management Committee

2) Draft Plan for Anzali Wetland Management System consists of "Draft Decree of Establishment of AWMC" and "Materials on Operation of AWMC", which include institutional structure, committee members, roles, responsibilities, and others.

3) PD: Project Director, PM: Project Manager, DPM: Deputy Project Manager, PC: Provincial Project Coordinator

4) Anzali Wetland Monitoring Manual, Action Plan for Anzali Wetland Environmental Education, and Action Plan for Anzali Wetland Eco-tourism

Source: JET

In order to formulate the AWMC that is cross-sectoral organization, leadership of the Provincial Government was necessary taking the lesson learned from the previous project activities before the suspension, however, it was difficult. DOE project team and JICA expert team, therefore, invited the Japanese Ambassador to Gilan Province, and organized a dialogue between the Japanese ambassador and the Provincial Governor regarding importance of the Anzali Wetland and cooperation between Japan and Iran for the conservation of the Anzali Wetland. As a result, the 1st AWMC meeting was held as joint meeting with the Anzali Wetland Restoration Project² at the Provincial Governor's Office on 6 July 2011, attended by the Provincial Governor of Gilan Province, the Japanese Ambassador to Iran, representatives of relevant organizations in Gilan Province, DOE HQ, DOE Gilan, JICA, and JET. Agenda of the meeting is shown in Table 2.1-3.

² Environmental restoration project of the Anzali Wetland implemented through Iranian national budget. It is a five-year project started in late 2010, and approximately USD 80 million is allocated for activities such as construction of sediment traps, dredging, and monitoring.

	Program	Name
1.	The Koran and National Anthem	-
2.	Opening Remarks and Explanation of Anzali Wetland Management Committee	Mr Amir Abdoos Provincial Project Coordinator, Director General, DOE Gilan
3.	Possible Effects of Heavy Metal Mobilization on the Ecosystem of the Anzali Wetland	Dr A. R. Karbassi Associate Professor, Graduate Faculty of Environment, University
4.	Explanation of the Draft Monitoring Manual, Draft Environmental Education Action Plan, and Draft Ecotourism Action Plan, and Agreement the Draft Documents	Dr Elahe Kalantari Deputy Project Manager, Education Section, DOE Gilan
5.	Remarks by the Japanese Ambassador	Mr Kin-ichi Komano Japanese Ambassador to Iran
6.	Remarks by the Project Director	Dr Mohammad Bagher Sadough Project Director, Deputy Head, Natural Environment Division, DOE
7.	Declaration of Establishment of the AWMC (Anzali Declaration)	Mr Mehdi Saadati Governor of Gilan Province

Table 2.1-3 Agenda for the Joint Committee Meeting between Anzali Wetland Restoration Project and Anzali Wetland Ecological Management Project

Source: JET

At the end of the meeting, the Decree on the Establishment of the Anzali Wetland Management Committee was signed by the Provincial Governor as shown in Attachment 4. In addition, the Anzali Declaration was signed by the Provincial Governor, DOE Gilan, JICA, and JET in the 1st AWMC meeting on 6 July 2011 as shown in Attachment 5. The Anzali Declaration and subsequent activities were presented at the 11th Meeting of the Conference of the Contracting Parties to the Ramsar Convention on Wetlands (COP11) in Bucharest, Romania from 6–13 July 2012.

(2) The 2nd AWMC Meeting

Subsequent to the approval of the provincial decree and signing of the Decree on the Establishment of AWMC in the 1st AWMC meeting held on 6 July 2011 during the Joint Committee Meeting between Anzali Wetland Restoration Project and Anzali Wetland Ecological Management Project, a provincial statute on AWMC was approved by the Provincial Planning and Development Council under the Provincial Governor on 29 October 2011 as shown in Attachment 6.

In order to prepare for the 2nd meeting of the AWMC, experts in the DOE Gilan for Output-1 and JET intensively discussed the necessary activities between January and February 2012. Based on the discussion, necessary actions and procedures were made under the management of the expert in the DOE Gilan in support of JET, including preparation of the draft agenda and presentation material.

As per the statute, AWMC is placed under the Planning and Development Council of the Gilan Provincial Governor's Office as shown in Figure 2.1-1. The AWMC is composed of a chairman

represented by the Provincial Governor (deputed the Developmental Deputy of Provincial Governor, in case of absence), 22 members with vote right, and 13 members without vote right. The secretary of the AWMC is the Director General of DOE Gilan, and the Secretariat is placed at the DOE Gilan of DOE. In addition, sub-committees can be organized for specific subject on wetland management under AWMC.



Source: JET

Figure 2.1-1 Structure of the Anzali Wetland Management Committee

As a result of the efforts exerted by the DOE Gilan and good cooperation among relevant parties, the 2nd AWMC meeting was held on 29 February 2012 at the DOE Gilan Office, attended by the Deputy Provincial Governor of Gilan Province, representatives of member organizations in Gilan Province, DOE HQ, DOE Gilan, and JET as well as the Japanese Embassy and JICA Iran Office as observer. The agenda for the 2nd AWMC meeting is shown in Table 2.1-4.

	Program	Name
1.	The Koran and National Anthem	-
2.	Opening Remarks and Explanation of Anzali Wetland Management Committee (Structure and Operation)	<u>Mr Amir Abdoos</u> Provincial Project Coordinator Director General, DOE Gilan
3.	Progress of the Anzali Wetland Ecological Management Project	Mr Amir Abdoos
4.	Explanation of the Draft Revised Environmental Zones in and surrounding the Anzali Wetland	Mr Amir Abdoos
5.	Introduction of Case Study in Other Wetland in Iran: Bakhtegan Lake, Fars Province	<u>Mr Bagherzadeh Karimi</u> Project Manager, Deputy of Habitat and Protected Area Division, DOE
6.	Provisional Agenda and Schedule for the Next Meeting	<u>Mr Amir Abdoos</u>
7.	Discussion	All Participants
8.	Remarks by the Chairman	Chairman of AWMC Gilan Province

 Table 2.1-4
 Agenda for the 2nd Meeting of the Anzali Wetland Committee

Source: JET

(3) The 3rd AWMC Meeting

The 3rd AWMC meeting was held on 4 July 2012, chaired by the Deputy Provincial Governor. Agenda for the 3rd AWMC meeting is shown in Table 2.1-5. The meeting was the last meeting to be held during the Project. Therefore, several important subjects should have been agreed and/or decided in the meeting to secure appropriate implementation and sustainability of the environmental management of the Anzali Wetland after completion of the Project as well as the continuous implementation of the AWMC meetings. In the meeting, the revised environmental zoning plan, monitoring manual, environmental education action plan, and ecotourism action plan were approved. Finally, the Deputy Provincial Governor declared that it would be the end of the Project, but the beginning of the actual activities.

	Program	Name
1.	The Koran and National Anthem	-
	Opening Remarks, Report of Activities and	Mr Amir Abdoos
2	Achievements of the Anzali Wetland	Provincial Project Coordinator
۷.	Ecological Management Project in 16-month,	Director General, DOE Gilan
	and Approval of the Project Products	
	Explanation of the Partnership between Anzali	Dr Bagherzadeh Karimi
2	Wetland and Kushiro Wetland, and	Project Manager,
5.	Introduction of Experiences in Kushiro	Deputy of Habitat and Protected Area Division,
	Wetland	DOE
	Discussion and Approval of the Revised	Mr Amir Abdoos
4.	Environmental Zoning of the Anzali Wetland	Provincial Project Coordinator
	Environmental Zohing of the Alizan Wetland	Director General, DOE Gilan
	Discussion Chairman of the AWMC in the	<u>Mr Amir Abdoos</u>
5.	Future	Provincial Project Coordinator
	Tuture	Director General, DOE Gilan
6	Provisional Agenda and Schedule for the Next	Mr Shinichiro Tanimoto
0.	Meeting	Chief Advisor, JICA Expert Team
7	Remarks by IICA	Mr Yasuto Takeuchi
7.	Kennarks by JICA	Chief Representative, JICA Iran Office
8	Remarks by the Chairman	Mr Mohammad Akbarzadeh
0.		Development Deputy of Provincial Governor

 Table 2.1-5
 Agenda for the 3rd Meeting of the Anzali Wetland Committee

Source: JET

2.1.4 Operation System of AWMC after Completion of the Project

Considering the operation of AWMC after completion of the Project, it is suggested to form the sub-committees as prescribed in the statute and to discuss the subjects on wetland management prior to holding the AWMC meeting. These suggestions will ensure a smooth flow of the AWMC meeting by reporting only important issues and making decision under limited time where participants are mainly representatives of relevant organizations. As shown in Figure 2.1-2, it was suggested that sub-committees consists of i) Scientific and Technical Sub-committee, ii) Association for Promoting Anzali Wetland Ecotourism, and iii) Ad-hoc Advisory Sub-committee. Outline of the sub-committees is explained below. Subjects to be examined under the sub-committees based on the components of the JICA M/P study are shown in Table 2.1-6.

In addition, the procedural steps for arrangement of the working level meeting and the Scientific and Technical Sub-committee are shown in Table 2.1.7.

i) Working Level Meeting

All the subjects, except for ecotourism, shall be discussed at the working level meeting. Tentative main subjects to be examined during the meeting are considered as shown in Table 2.1-6. The working level meeting will be developed for each subject. Although members of the working level meeting shall be from the same organizations with the AWMC member, the person in charge of the actual implementation of relevant work shall participate in the discussion from practical viewpoints. The main organizations in charge for each of the subjects are shown in Table 2.1-6.

ii) Scientific and Technical Sub-committee

The Scientific and Technical Sub-committee shall be formed to review any issue on the Anzali Wetland from scientific and technical viewpoints upon the request of either the AWMC Secretariat or as result of the working level meeting, and shall provide technical advice to the Working Level Meeting. Members of the Scientific and Technical Sub-committee should be experts the major subjects Anzali Wetland appointed on on the from government/non-governmental institutions, universities, and consultants, in addition to the members of the working level meeting.

iii) Association for Promoting Anzali Wetland Ecotourism

The Association for Promoting Anzali Wetland Ecotourism (APAWE), which is supposed to be established, shall be in charge of the ecotourism issue under AWMC as explained in Section 2.5 of this report.

iv) Ad-hoc Advisory Sub-committee

The Ad-hoc Advisory Sub-committee shall be formed at an irregular basis, in the event that technical advice is required urgently from some experts such as researcher and university professor on specific critical subject. Members of the Ad-hoc Advisory Sub-committee shall be decided and invited based on the subject, examined by the Secretariat in consultation with relevant organizations.



Source: JET

Figure 2.1-2 Proposed AWMC Operational Structure

ees

1. Wetland Ecological Management
Subject (1): Water management
1) Organization in charge
DOE Gilan (main responsible organization), Gilan Regional Water Organization (GRWO), Shilat (MOJA
Fisheries), National Inland Water Aquaculture Institute, Gilan Water and Wastewater Company (GWWC), Rural
Water and Wastewater Company (RWWC)
2) Main items to be reported and examined in the sub-committee meeting
Monitoring activities and result from the last report
• Any specific findings and issues on water level water use, and water quality
• Annual trend over the years on water level and quality (only at year-end or -start)
Plan for subsequent period
Subject (2): Walland restoration
1) Organization in shoreo
• MOLA (main assessible assessible assessible assessible assessible assessible assesses as a set of the context
• MOA (main responsible organization), Gw wC, DOE Gitan
2) Main terms to be reported and examined in the sub-committee meeting
wetland restoration activities from the last report
Any specific issue on wetland restoration activity
Plan for subsequent period
Subject (3): Environmental zoning
1) Organization in charge
 DOE Gilan (main responsible organization), GRWO, MOJA, Housing Foundation, Rasht District Governor's
Office, Anzali District Governor's Office, Somesara District Governor's Office, Municipality of Anzali,
GCHHTO
2) Main items to be reported and examined in the sub-committee meeting
• Any specific issues such as new development plan, land use change, and legal conflict
Plan for subsequent period
Subject (4): Ecotourism
1) Organization in charge
Association for Promoting Anzali Wetland Ecotourism (DOE Gilan, DOE Anzali, DOE Somesara, GCHHTO
Tourism Agency Union Dam Owners' Union Boat Owners' Union Tour Guides' Union Municipality of
Angali Municipality of Someograp)
2) Main items to be reported and even ined in the sub-committee meeting
2) Main terms to be reported and examined in the sub-committee meeting
• Ecolourism activities from the fast report
• New ecolourism program (when newly registered)
• Any specific issue on ecotourism implementation such as ecotourism facility
Plan for subsequent period
2. Watershed Management
Subject (1): Watershed management
1) Organization in charge
MOJA (main responsible organization), GWWC, DOE Gilan, GRWO
2) Main items to be reported and examined in the sub-committee meeting
Watershed management activities from the last report
Any specific issue on watershed management activity
Plan for subsequent period
3. Wastewater Management
Subject (1): Wastewater management
1) Organization in charge
• Gilan Water and Wastewater Company (GWWC) (main responsible organization). Rural Water and Wastewater
Company (RWWC)
2) Main items to be reported and examined in the sub-committee meeting
Wastewater management activities from the last report
Any specific issue on wastewater management activity
Plan for subsequent period
A Solid Worster Monogement
-, Sond waste Management
U Organization in charge
1) Organization in charge
• Municipal government offices in the watershed area of Anzali Wetland (main responsible organization), DOE
Gian (supervisor), Gilan Solid Waste Management Organization
2) Main items to be reported and examined in the sub-committee meeting
Any specific issue on solid waste management
Plan for subsequent period
5. Environmental Education and Public Relations
Subject (1): Environmental education (EE) and public relations (PR)

1) Organization in charge

- Environmental Education Section of the DOE Gilan (main responsible organization), Public Relations Section of the DOE Gilan, Gilan General Office for Education, TV and Radio Broadcasting Organization-Gilan Province
- 2) Main items to be reported and examined in the sub-committee meeting
- EE & PR activities from the last report
- Any specific issue on EE & PR implementation
- Plan for subsequent period

Note: Subjects for each component of the JICA M/P study are not limited to the items in this table, and other subject(s) should be added and examined, if any.

Source: JET

Table 2.1-7 Procedural Steps in the Arrangement of the Working Level Meeting and Scientific and Technical Sub-committee

- (1) The AWMC Secretariat shall coordinate with the leaders of each working level meeting for the next AWMC meeting schedule and request to submit information on the progress and issue of the subject in charge.
- (2) Main responsible organizations of each Working Level Meeting shall collect information on the progress and issue of the subject in charge from members of the Working Level Meeting.
- (3) Main responsible organizations of each Working Level Meeting shall inform the AWMC Secretariat on the progress and issue which were collected from the members of the Working Level Meeting.
- (4) The AWMC Secretariat, consulting with the leader of the Working Level Meeting, shall determine the necessity of holding either the Working Level Meeting or the Scientific and Technical Sub-committee meeting based on the information of the progress and issue.
- (5) In the case where the Working Level Meeting or the Scientific and Technical Sub-committee meeting is to be held, the AWMC Secretariat shall support the main responsible organization of the Working Level Meeting for arrangement of the meeting. (sending invitation letter, arrangement of venue)
- (6) The main responsible organization of the Working Level Meeting shall submit meeting record to the AWMC Secretariat within one week after holding the Working Level Meeting or the Scientific and Technical Sub-committee meeting.
- (7) The AWMC Secretariat shall confirm with the main responsible organization of Working Level Meeting if further Working Level Meeting or Scientific and Technical Sub-committee is required to be held. (If yes, the Secretariat supports the main responsible organization)
- (8) The AWMC Secretary (Director General of the DOE Gilan) shall inform the chairman of the AWMC on the results of all of the Working Level Meeting or the Scientific and Technical Sub-committee with any issues reported and decisions made in AWMC meeting, if any. (The AWMC Secretariat shall inform the secretary on the progress of all the arrangements sometimes in the process of the arrangement.)

Source: JET

2.1.5 Agenda for the 4th Meeting of the AWMC

The agenda for the 4th Meeting of the AWMC is proposed as shown in Table 2.1-8. The meeting is expected to be held around six months after completion of the Project, which means approximately January 2013. In addition to the report of further progress of activities which are supposed to be continued after the Project, commencement of watershed management, water management, and solid waste management are proposed to be discussed, which are part of the six plans proposed in the JICA M/P Study during 2003-2005 for integrated wetland management. Prior to holding of the 4th AWMC meeting, the AWMC Secretariat needs to arrange a series of preparatory works and meetings with members of the Working Level Meeting, especially for the discussion of the comments on the three plans which were not covered by the Project.

	Program	Name
1.	The Koran and National Anthem	-
2.	Opening Remarks and Explanation on Agenda	Secretariat of the AWMC Director General, DOE Gilan
3.	Report: Progress of the Post Anzali Wetland Management Project	Secretariat of the AWMC DOE Gilan
4.	Discussion and Approval: Updating the Zoning Plan and Approval of Development Plans in the Zones	Leader of the Working Level Meeting on Environmental Zoning
5.	Report: Progress of the Anzali Wetland Restoration Project	Secretariat of the AWMC and/or relevant organization member related to the issue
6.	Discussion: Commencement of the Watershed Management for the Conservation of Anzali Wetland	Secretariat of the AWMC DOE Gilan
7.	Discussion: Commencement of the Water Management for the Conservation of Anzali Wetland	Secretariat of the AWMC DOE Gilan
8.	Discussion: Commencement of the Solid Waste Management for the Conservation of Anzali Wetland	Secretariat of the AWMC DOE Gilan
9.	Provisional Agenda and Schedule for the Next Meeting	Secretariat of the AWMC DOE Gilan
10.	Remarks by the Chairman	Chairman of the AWMC

 Table 2.1-8
 Proposed Agenda for the 4th Meeting of the Anzali Wetland Committee

Source: JET

2.1.6 Recommendations

Recommendations related to Output 1 for the continuation of AWMC with meaningful manners are considered as follows.

 Prompt Establishment of Working Level Meeting, Scientific and Technical Sub-committee, and Association for Promoting Anzali Wetland Ecotourism

Working level meetings for each subject should be established with the appointment of a person in charge from the member organizations of the AWMC as soon as possible. Likewise, the Association for Promoting Anzali Wetland Ecotourism should immediately be established for ecotourism. Knowledgeable persons should be appointed for each subject as member of the Scientific and Technical Sub-committee.

(2) Holding the Working Level Meetings

At least two weeks prior to the AWMC meeting, the working level meeting should be held in attendance of member organizations under the arrangement and coordination of the Secretariat. If necessary, as mentioned in Section 2.1.3, meeting(s) of the Scientific and Technical Sub-committee should be held. Members of the Scientific and Technical Sub-committee for each subject to be discussed in the AWMC meeting should be officially nominated as soon as possible.
(3) Examination on Watershed Management, Water Management, and Solid Waste Management

As mentioned in the previous section, the plans on watershed management, water management, and solid waste management are considered to be commenced for the integrated management of the Anzali Wetland based on the JICA M/P Study.

2.2 Output 2: Establishment of Monitoring Procedures

2.2.1 Outline of Activities

(1) Activities Defined in the PDM and PO

Table 2.2-1 summarizes the expected output, achievement indicators defined in the PDM, and the activities outlined in the PO.

Expected Output	Monitoring procedures for wetland management is established		
Objectively	2.1 At the end of July 2011, a monitoring manual which contains indicators and		
Verifiable	methods of data collection and analysis is prepared.		
Indicators:	2.2 At the end of June 2012, collecting data for the wetland management using		
	the monitoring manual has started.		
Activities Outlined	2.1 Collect information on the on-going monitoring activities conducted by each		
in the PO	organization, capacity of the staff, and equipment		
	2.2 Identification and determination of indicators for the wetland conservation		
	2.3 Determination of method for data collection, analysis and handling, and		
	preparation of draft monitoring manual		
	2.4 Explanation of draft monitoring manual and establishing consensus in the		
	wetland management committee		
	2.5 Settling and implementation of monitoring training plan		

 Table 2.2-1
 Activities Defined in the PDM and PO (Output 2)

Source: M/M on 22 September 2010

(2) Outline of the Activities

The DOE has conducted a bird survey and an industrial water quality survey. In addition, Gilan Regional Water Organization (GRWO) carried out a river flow rate survey while DOE and Port and Maritime Organization (PMO) jointly conducted a water level survey. When the Project started in 2007 however, no monitoring result was available, and thus the DOE project team and JET carried out meetings and interviews with concerned organizations and universities in order to gather information about the conditions of Anzali Wetland, discuss indicators and determine monitoring procedures for wetland conservation. A draft monitoring manual ver.0 was prepared in August 2008.

When the Project restarted in 2011, DOE and National Inland Water Aquaculture Institute (NIWAI) conducted surface water and sediment quality, plankton, and benthos monitoring using the draft monitoring manual, with the budget of Anzali Wetland Restoration Project. Since there was no comprehensive monitoring report, DOE and JET collected data of the monitoring, revised indicators and monitoring procedures with the help of several monitoring specialists, and prepared

a draft monitoring manual ver. 1. The draft monitoring manual ver.1 was approved by AWMC at the 1st AWMC meeting in July 2011.

Monitoring activities, in particular surface water quality monitoring, was conducted using the revised draft monitoring manual. The said manual was revised in October 2011 (ver. 2) and in April 2012 (ver.3). The draft monitoring manual ver.3 was approved as the official monitoring manual (Attachment 7) by AWMC at the 3rd AWMC meeting in July 2012.

A series of training courses was planned as soon as the Project recommenced. Training courses that were conducted are listed below.

- GIS and RS Training on 28 June–12 July 2011 for 20 participants from DOE Gilan
- Bird Monitoring Training on 28 September 2011 for 58 hunters and DOE guards in Somesara and on 6 October 2011 for 150 hunters in Rasht and Anzali
- Physiochemical and Biological Monitoring Training on 16 20 October 2011 for 22 participants from DOE Gilan, PMO and universities
- Monitoring and Feedback System Training on 21 24 April 2012 for 19 participants from DOE Gilan

The participants improved their monitoring knowledge and skills, and many requested to carry out additional training according to results of the questionnaires.

Photographs are shown in Attachment 19.

(3) Major Achievements

Major achievements of the Project are summarized as follows:

- The draft monitoring manual ver.1 was approved by AWMC at the 1st AWMC meeting in July 2011.
- Monthly monitoring using the draft monitoring manual was conducted for: 1) water/sediment quality in January 2011–June 2012; 2) plankton/benthos survey in January 2011–January 2012, and 3) bird survey in January 2011–June 2012.
- The draft monitoring manual was revised based on the training results in October 2011 and April 2012, and approved in July 2012.
- A series of training was carried out, which include: 1) GIS and RS training, 2) bird monitoring training, 3) physiochemical and biological monitoring training, and 4) monitoring and feedback system training.

(4) Evaluation

Output 2 has been mostly achieved. From the viewpoint of objectively verifiable indicators in PDM, a monitoring manual, which contains indicators, methods of data collection, and analysis, was prepared in August 2008, and collection of data for wetland management using the monitoring manual has been conducted since January 2011. Furthermore, several training programs (lecture and on-the-job) have been provided to DOE and relevant organizations. Monitoring procedures for wetland management have been established and monitoring capacity has been developed. However, the capacity of monitoring staff in data interpretation, reporting, and feedback on wetland management is still insufficient to achieve the overall goal within a few years. Additional and continuous training programs as well as gaining experience are necessary after the Project.

2.2.2 Preparation of the Monitoring Manual

(1) Identification and Determination of Indicators

Indicators were identified with collected information, clarification of criteria, and data analysis until the suspension of the Project in 2008, as follows.

a) Selection Criteria

Indicators are categorized into four groups, i.e. biological, chemical, physical, and economic, and the criteria to select adequate indicators are different for each group.

b) Complementary Analysis

Comparison of standard values was carried out; subsequently, numerical analyses were carried out to confirm and revise the indicators that were selected using the above criteria. The analyses included principal component analysis and regression analysis.

c) Determination of Indicators

Indicators to be monitored for decision making of the Anzali Wetland Management were identified using the criteria and complementary data analysis. As for water quality, various parameters were revised following discussions with relevant organizations and specialists. DOE Gilan periodically carries out heavy metals analysis using atomic absorption spectrometer. Therefore, the parameters that make significant impact to the wetland ecosystem were basically included. As for living organisms, identified indicators were revised by the National Inland Water Aquaculture Institute. It is presumed that Eurasian otter (*Lutra lutra*), which is a carnivorous mammal, inhabits the Anzali Wetland according to verbal evidences of hunters. However, as no organization including DOE has any survey experience, Eurasian otter was excluded from indicators. In addition, fish catch, rice production, hunting amount,

and tourists of the wetland were added as economic indicators that show the wetland's ecological conditions.

After the Project recommenced in 2011, the indicators were revised again based on the latest monitoring data and result of monitoring training.

(2) Determination of Monitoring Procedures

The DOE project team and JET determined monitoring procedures for the selected indicators. The type of indicators, sampling frequency, and responsible organizations are shown in Table 2.2-2. The procedures were carefully discussed taking into consideration the existence of apparatuses, availability of chemical reagents and capacity of staff until the suspension of the Project in 2008. After the recommencement of the Project in 2011, the monitoring procedures were revised based on the latest monitoring data, monitoring training results, and discussion with specialists. The detailed monitoring procedures are shown in the monitoring manual (Attachment 7).

Type of Indicators	Sampling Frequency	Organization
Birds	Winter (waterfowl), spring (terns)	DOE Gilan
Fish	Seasonally (except for winter)	NIWAI
Macrophyte	Seasonally (except for winter)	NIWAI
Phytoplankton	Monthly	NIWAI
Zooplankton	Monthly	NIWAI
Benthos	Monthly	NIWAI
Water quality	Monthly	DOE Gilan
Sediment quality	Annually or seasonally	DOE Gilan
Water level	Monthly	DOE Gilan and PMO
Fishery	Annually	Shilat
Agriculture	Annually	MOJA
Hunting	Annually	DOE Gilan
Tourism	Seasonally	GCHHTO

Source: DOE and JET

(3) Preparation of the Monitoring Manual

A draft monitoring manual ver.0 was prepared in August 2008. After the recommencement of the Project in 2011, the DOE project team and JET collected monitoring data, revised indicators, and monitoring procedures with the help of several monitoring specialists, and prepared a draft monitoring manual ver. 1. The draft monitoring manual ver.1 was approved by AWMC at the 1st AWMC meeting in July 2011. Monitoring activities, in particular surface water quality monitoring, were conducted using the draft monitoring manual. The draft monitoring manual has been revised in October 2011 (ver. 2) and in April 2012 (ver.3). Version 3 of the draft monitoring manual was approved as the official monitoring manual (Attachment 7) by AWMC at the 3rd AWMC meeting in July 2012. The contents of the monitoring manual are as follows.

- 1. Introduction
- 2. Overview of the Monitoring Manual
- 3. Indicators of Wetland Conditions
- 4. Quality Control and Quality Assurance
- 5. Data Handling and Reporting
- 6. Review of Present Sampling and Analysis
- 7. Sampling and Analysis Methods
- 8. Training Needs
- 9. Monitoring Budget

2.2.3 Monitoring Activities

Monthly monitoring activities using the draft monitoring manual were conducted for: 1) water/sediment quality in January 2011–June 2012; 2) plankton/benthos survey in January 2011–January 2012; and 3) bird survey in January 2011–June 2012.

Water quality monitoring was conducted intensively in the Project. Sampling stations are shown in Figure 2.2-2. The collected data was analyzed and measures were considered as follows:

- (1) Organic Pollution
 - a) Indicators of Organic Pollution

Organic substances are necessary as nutrient for organisms in Anzali Wetland. However, the excess discharge of organic substances measured by total nitrogen (T-N) and total phosphorus (T-P) from factories, households, and farmlands causes organic pollution, and the phenomenon is called "eutrophication". Organic pollution is usually indicated with COD (standing water) and BOD (river) and accordingly, the result of T-N, T-P, COD (in Anzali Wetland) and BOD (in rivers flowing into Anzali Wetland) are shown below.

T-N

Before further consideration, it must be mentioned that some T-N results seem extremely high. It is recommended to check sampling and analysis process.

Figures 2.2-1 and 2.2-3 show the analysis results of annual average T-N in rivers and Anzali Wetland. All stations exceeded the Japanese T-N standard in lakes/wetlands. Although there were some differences in concentration among stations, no specific trend was confirmed. The results from January to June 2012 were similar to the results in 2011 in terms of concentration, but values among stations were randomly changed (no trend among stations was detected).





Figure 2.2-1 T-N in Rivers (Average from January to December 2011)





Figure 2.2-2 Sampling Stations



Source: DOE and JET

Figure 2.2-3 T-N in Anzali Wetland (Average from January to December 2011)

T-P

Figures 2.2-4 and 2.2-5 show the analysis results of annual average T-P in rivers and Anzali Wetland. All stations in rivers exceeded the Japanese T-P standard in lakes/wetlands. In particular, the T-Ps in Pir Bazar and Bahambar were high. Meanwhile, stations W4, W5, and W6 in Anzali Wetland were below the standard. The T-P value was relatively high in the eastern part of Anzali Wetland. As a whole, T-P did not show severe deterioration compared to T-N.



Source: DOE and JET





Source: DOE and JET

Figure 2.2-5 T-P in Anzali Wetland (Average from January to December 2011)

COD in Anzali Wetland

Given the current conditions of the Anzali Wetland, some COD results seem to be too low and also too high at some stations. It is again recommended to check the sampling and analysis processes, with the aim of minimizing the possibility of wrong interpretation. These are excluded in the following consideration.

Figure 2.2-6 shows the analysis result of 75% of COD in 2011 in Anzali Wetland. Except for station W3, other stations were less than the EU COD standard in surface water (as the Japanese standard is for COD (Mn), the EU COD standard for COD (Cr) was used). COD was relatively low, even though T-N and T-P were high.





Figure 2.2-6 COD in Anzali Wetland (75% of COD in 2011)

BOD in Rivers

Figure 2.2-7 shows the analysis result of 75% of BOD in 2011 in rivers. All stations in rivers exceeded the Japanese BOD standard in rivers. Similar to the T-P, the BOD in Pir Bazar was especially high. Figure 2.2-8 shows the analysis result of 75% of BOD in January and June 2012. BOD values were relatively low compared to the values in 2011, but BOD in Pir Bazar was still high.



Source: DOE and JET

Figure 2.2-7 BOD in Rivers (75% of BOD in 2011)







b) Eutrophication Levels in Anzali Wetland and Inflowing Rivers

Table 2.2-3 shows eutrophication levels and their corresponding concentrations of T-P and T-N. Most of the T-P data in Anzali Wetland (refer to Figure 2.2-5) were over the eutrophic level, 0.03 to 0.1 mg/l. On the other hand, the T-P data in rivers and T-N data both in Anzali Wetland and in rivers (refer to Figures 2.2-1, 2.2-3 and 2.2-4) were by far higher than the eutrophic level, 0.5 to 1.3 mg/l. The wetland was identified to be in eutrophic conditions in regard to T-P, and the rivers were identified to be in hyper-eutrophic conditions in regard to T-P.

Item	Oligotrophic	Mesotrophic	Eutrophic	Source
T-P (mg/l)	0.005 - 0.010	0.010 - 0.030	0.030 - 0.100	Vollenweider, 1967
T-N (mg/l)	0.020 - 0.200	0.100 - 0.700	0.500 - 1.300	Sakamoto, 1966

 Table 2.2-3
 Eutrophication Levels and their T-P and T-N

Generally speaking, as the ratio of N/P comes closer to 16, there is a higher possibility of severe bloom of phytoplankton. According to the data in 2011, the average N/P in the wetland was 33. It can be said that T-P in the wetland limits the severe bloom of phytoplankton. An explosive bloom of phytoplankton is controlled by several factors in the wetland, such as the nutrient level, water temperature, hours of sunshine, and detention period of water. However, T-P is not low and the bloom of phytoplankton in the wetland was observed in some parts of the wetland in summer 2011. Decreasing T-P and T-N is one of the most urgent issues.

c) Organic Pollution in Anzali Wetland and Inflowing Rivers

The COD in Anzali Wetland and BOD in rivers implied further difference of organic pollution between the wetland and rivers. BOD values were much higher than the Japanese standard, but most of COD values were less than EU standard. It is inferred that the wetland has a self-purification function against the pollution load from rivers to the wetland, and as a result, organic pollution was less serious than that in rivers. However, the self-purification function in the wetland must be limited, and if the function collapses, the wetland will suddenly and seriously become polluted. The pollution load in rivers has to be lowered while the function is working.

d) Pollution Source of T-N and T-P

The JICA M/P Study for Integrated Management for Ecosystem Conservation of the Anzali Wetland identified five sub-basins around the wetland as shown in Figure 2.2-9. Part of Rasht City is located in Sub-basin A. Figure 2.2-10 illustrates the flow mechanism of pollution load discharged from the five sub-basins.



Figure 2.2-9 Sub-Basins around the Anzali Wetland



Source: M/P Study (2005)

Figure 2.2-10 Pollution Load Flow from Sub-Basins around the Anzali Wetland

Tables 2.2-4 and 2.2-5 show the amount of pollution loads, T-N and T-P, that the five sub-basins discharge, calculated in the JICA M/P study. Pollution loads, T-N and T-P, were mainly discharged from Sub-basin A that include capital city Rasht, of which most originated from the population. It may be one of the major reasons causing the relatively high concentration of T-N and T-P observed in the rivers in eastern part of the wetland.

The pollution loads from Sub-basins B and C flow into Siakeshim. Much of the pollution loads were generated by livestock, farm lands, forests, and pastures, which may have caused the relatively high concentration of T-N and T-P monitored around Siakeshim.

(Unit: ton/year)

						(eme ton jeu)
Dollation Source		Sub-Basin				
Pollution Source	Α	В	С	D	Ε	Totai
Population (Urban)	2,068	31	330	73	481	2,982
Population (Rural)	80	114	134	89	57	475
Industry	66	0	0	0	0	66
Livestock (Cow and	43	67	114	109	11	344
Buffalo)						
Livestock (Sheep and	0	27	51	64	0	142
Goat)						
Farmland	284	257	461	335	74	1,412
Forest and Pasture	226	482	331	451	15	1,505
Total	2,766	978	1,421	1,122	639	6,925

Table 2.2-4 Discharged T-N Load

Source: M/P Study, 2005

	14,		isenargea 1	Loui	(U	nit: ton/year)
Dollution Source		Sub-Basin				
ronution Source	Α	В	С	D	Ε	Total
Population (Urban)	338.4	5.0	54.0	11.9	77.8	488.0
Population (Rural)	13.1	18.7	22.0	14.6	9.4	77.7
Industry	13.1	0.0	0.0	0.0	0.0	13.1
Livestock (Cow and	7.3	11.5	19.7	18.8	1.9	59.3
Buffalo)						
Livestock (Sheep and	0.0	4.6	8.8	11.1	0.0	24.5
Goat)						
Farmland	19.5	17.6	31.6	23.0	5.1	96.7
Forest and Pasture	8.9	19.0	13.1	17.8	0.6	59.4
Total	400.4	76.5	149.0	97.2	95.8	818.8

Table 2.2-5Discharged T-P Load

Source: M/P Study, 2005

(2) Heavy Metal Pollution

Since January 2011, several heavy metals such as zinc (Zn), cadmium (Cd), lead (Pb) and mercury (Hg) have been surveyed in the Anzali Wetland and rivers once in every three months. The concentrations have been compared to Japanese standards. Figure 2.2-11 shows the result of Hg as an example, and many of the results exceeded the standards. Due to the limited number of results, it is difficult to identify more accurately the conditions of heavy metal pollution in the wetland. It is necessary to monitor more points on a monthly basis. Besides, the sampling and analysis processes must be re-checked. As Figure 2.2-11 shows, the results vary a lot during the four-month survey in 2011. It is not usual that heavy metal concentration shows such big fluctuations.

The results of Hg at all stations in 2012 were under the detection limit. If these results are correct, it can be concluded that accuracy has improved through the project period.



Source: DOE and JET

Figure 2.2-11 Hg in Rivers in 2011

(3) Consideration of Measures

Based on the data analysis above, the sub-basins and pollution sources in Tables 2.2-4 and 2.2-5 are prioritized in consideration of measures to improve water quality of the Anzali Wetland in terms of organic pollution. Possible measures are summarized in Table 2.2-6.

Prioritized Sub-Basins and Pollution Sources		Possible Measures	
Sub-Basin	Pollution Sources		
А	Population	- Promote installation and appropriate operation of septic tanks	
		- Develop low-cost and small-scale domestic wastewater treatment	
		facility	
		- Develop sewerage system and centralized treatment facility	
		- Promote use of phosphorus free detergent	
C and D	Livestock	- Treat waste in industrial animal husbandry	
		- Control livestock waste in grazing land	
	Farmland	- Promote use of compost	
		- Improve pest management	
		- Control and lessen fertilizer and pesticide use	
	Forest and pasture	- Reforestation	
	_	- Conservation of protected forests	
		- Control and lessen fertilizer use	

 Table 2.2-6
 Summary of Possible Measures to Improve Water Quality

Source: JET

(4) Recommendations

a) Improving Credibility of Sampling and Sample Analysis

Many unreliable data were found in the results of the water quality monitoring. For example, 17 out of 20 samples had 10 mg/l of BOD in May 2011. Variability of Hg in rivers was too irregular to be possible. Such unreliable data could not be used for interpretation of the wetland and rivers conditions. Although the data in October-November 2011 and in 2012 are relatively stable and different from the data in January-February, April-May, and June-July 2011, the credibility of sampling and sample analysis should be improved. Quality control and quality assurance (QC/QA) methods are written in the monitoring manual. The QC/QA of the monitoring activities should be strictly introduced.

b) Implementation of Adequate Data Interpretation

The purpose of monitoring is to observe the wetland conditions and feedback to the wetland management. In order to monitor the wetland conditions, collected data must be interpreted, and the interpretation is carried out by an individual. The person(s) in charge has (have) to consider several methods in using the data, but usually it is not necessary to do complex analysis. Data can be compared with target or standard values, and necessary actions can be inferred. The type of parameters, seasonal changes, and differences of values among stations could imply the source of pollution. In this case, further monitoring should be considered and conducted to detect the source of pollution and propose necessary actions.

c) Collaboration among Related Organizations

Water and sediment quality monitoring has a limitation to understand the wetland condition. Several monitoring on fishes, birds, plants, hydrological conditions, and pollution loads are necessary to be conducted and shared for comprehensive analysis in order to sufficiently understand the wetland conditions and sources of problems. Several monitoring could not be conducted by one organization; and therefore, collaboration among related organizations is crucial, for which, a cross-sectoral committee, the Anzali Wetland Management Committee, has been established. Collaboration should be arranged for comprehensive analysis by the committee.

d) Introduction of Monitoring and Feedback System

A monitoring and feedback system has to be introduced to realize the overall goal of the Project, i.e., adaptive management. In the system, a feasible target level for the management must be established according to past monitoring results. At the same time, necessary actions depending on the actual level after a certain period of time must be decided with management. Monitoring must be continued and after a certain period, e.g., one year later, the level is analyzed, and the necessary actions decided at the first stage must be taken. The effect of the

action is confirmed with monitoring, and the next target level is considered. This cycle is called monitoring and feedback system. The flowchart is shown in Figure 2.2-12.



Source: JET

Figure 2.2-12 Monitoring and Feedback System

2.2.4 Monitoring and Wetland Management Training

Training programs on monitoring and wetland management were carried out as follows.

Table 2.2-7	Training for Monitoring and Wetl	and Management
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	Title	Period
1	GIS and RS Training	28 June and 12 July 2011
2	Bird Monitoring Training	28 September and 6 October 2011
3	Physiochemical and Biological Training	16 to 20 October 2011
4	Monitoring and Feedback System Training	21 to 24 April 2012

Source: JET

(1) GIS and RS Training

In order to develop the basic GIS and RS abilities of DOE staff, the DOE project team and JET held training courses on GIS and RS from 28 June to 12 July 2011. Twenty DOE staff were trained with practical work. The GIS and RS training courses were held for four days each, with a total of eight days. According to questionnaire results of the trainees, their GIS and RS abilities were developed dramatically after the training courses.

(2) Bird Monitoring Training

The DOE project team and JET held two bird monitoring training courses on 28 September and 6 October 2011, respectively. Fifty eight hunters from Somesara City and 150 hunters from Rasht City and Anzali City joined the training. The bird specialist of DOE Gilan explained the ecological and socio-economic importance of birds, protected and threatened bird species, and how hunters could join monitoring of birds using a monitoring notebook prepared by the Project. The monitoring notebooks and reference picture books were distributed to all participants. Questionnaires filled by the participants showed that most of them were satisfied and appreciated the training course very much. They also improved their knowledge about threatened birds in the Anzali Wetland.

(3) Physiochemical and Biological Training

The Physiochemical and Biological Monitoring Training Course was held from 16 to 20 October 2011. There were 22 people from DOE Gilan, DOE Anzali, Port and Maritime Organization (PMO), and universities who attended the course. The subjects were as follows:

- Water quality monitoring
- Sediment quality monitoring
- Quality assurance and quality control
- Plankton and benthos monitoring
- Database and data analysis
- Wetland management and monitoring
- Evaluation and report writing

The DOE project team and JET asked the specialists who were active in the frontlines of each subject to be lecturers of the monitoring course, and appropriate specialists joined. Most of the participants improved their knowledge and skills in all the subjects according to the questionnaires.

Among the subjects of physiochemical and biological monitoring training course, the database and data analysis course was relatively not effective. It was considered that the basic understanding of the participants about the subject was not enough, and the contents of the lecture were difficult for them. Database and data analysis are crucial for feedback to the decision-making process, thus strengthening the knowledge and skills on the subject should be continued.

- (4) Monitoring and Feedback System Training
 - a) Outline of the Training

Training had been carried out from 21 to 22 April 2012 for birds monitoring and from 23 to 24 April 2012 for water quality monitoring as follows:

- 1) Birds Monitoring
- 21 April 2012

-Some case studies about wildlife management in Japan were lectured, mainly about deer management conducted in Hokkaido Prefecture as an example of the monitoring and feedback control system.

-The basics of a mathematical model for monitoring and feedback system were lectured.

22 April 2012

-How to use TRends and Indices for Monitoring (TRIM) data that is a free computer program for analyzing bird count monitoring data, which has been developed by Statistics Netherlands, was instructed.

-How to build a monitoring and feedback control system in Anzali Wetland was discussed.

2) Water Quality Monitoring

23 April 2012

-Water pollution, eutrophication, and some diseases caused by heavy metals, and some case studies to improve water quality in Japan were lectured.

-The importance of long-term monitoring and the usage of "moving average" were explained. Subsequently, the current results from the water quality monitoring data were discussed.

24 April 2012

-How to use "R" that is a free computer program for statistical computing and graphics, developed by the Comprehensive R Archive Network (CRAN) was instructed.

-How to build a monitoring and feedback control system in Anzali Wetland was discussed.

b) Results of the Training

1) Birds Monitoring

There were eight participants and most of them were DOE guards. One of the questions was about birds monitoring and practical use of monitoring results in Japan. Many bird census surveys have been conducted in Japan, however results have been seldom used for actual conservation activities. except for the protection of endangered species. Necessary actions both in Japan and Iran were discussed. Participants discussed not only birds, but also wild boars which have been increasing in the farmlands around Anzali Wetland and causing problems in agriculture.

2) Water Quality Monitoring

There were eleven participants and half of them are laboratory experts. One of the questions was about the water quality improvement methods conducted in Japan. The spread of phosphorus-free detergents and a case study on the development of political measures pushed by public movements were introduced.

c) Discussion

1) Birds Monitoring

Illegal hunting, too many hunters, and shallow water were recognized as present problems. These are problems that the participants cannot solve by themselves. Even if the criteria for hunting management were established, it is not guaranteed to reduce illegal hunting. The participants understood that there are some issues on wintering birds, which make it difficult to build a management model because the timing of migration is different and they may change their wintering and breeding sites as well. Therefore, estimating the factors of population dynamics would be difficult.

2) Water Quality Monitoring

The participants understood that the current water quality could get worse, and this must be improved as soon as possible. However, planning to improve the domestic wastewater treatment system is not their role, and control of polluted wastewater discharge from factories has not been enough so far. It seemed that it is difficult to consider feasible regulations and measures.

d) Conclusion and Recommendation

The training succeeded as the participants understood the concept of feedback control and the role of monitoring in the control system. Furthermore, the following points were understood during the birds monitoring session;

- The effectiveness of mathematical modeling, and

- Introduction of measures should not be delayed for reasons like inability to build a control model.

These were also agreed during the water quality monitoring session. It seemed that some participants of the water quality monitoring session thought that using statistical model is the most important, but understanding the current water quality is more vital.

Since the participants were not the staff trained to make a control plan, the monitoring and feedback system could not be formulated by the participants themselves. A feedback control needs many components such as making a control plan, data collection, data interpretation, and implementation of the plan, and each component needs specific specialists. An employee is capable to handle two or more roles in DOE, but it is impossible for a monitoring specialist to handle several roles. Furthermore, implementation of the plan needs discussions among stakeholders including decision-makers.

Therefore, further training need to be provided to specialists including decision-makers to make a political decision and to negotiate with relevant organizations. DOE needs to consider

the roles for monitoring and feedback that is also wetland management. The knowledge and skills of the staff for each role must be developed.

In addition, information should be shared among related staff without delay. It seemed that the participants of the training did not have enough information about the feedback control which should be carried out for the Anzali Wetland Management and their own roles for the feedback. In order to conduct the control successfully, it is necessary that the policy of the wetland management and its measures should be clarified and shared among related staff. And monitoring results should be reported to the decision makers immediately. An interruption in information sharing causes delay in the conduct of measures or implementation of inappropriate measures. The information about the effect of measures that is useful in the revision of the monitoring methods should be provided to the monitoring staff in order to improve the data interpretation.

Finally, the monitoring and feedback system will not work well as long as illegal activities are allowed. In parallel with the construction of monitoring and feedback system, appropriate control of illegal hunting and illegal water discharge must be carried out.

2.3 Output 3: Determination of Zoning

2.3.1 Outline of Output 3

(1) Activities Defined in the PDM and PO

Table 2.3-1 summarizes the expected output and indicators of achievements defined in the PDM and the activities outlined in the PO.

Expected Output	Zoning is determined, and management strategies (rules & regulations) for each zone are drafted, considering socio-economic status of the Anzali area.			
Objectively Verifiable	3. At the end of July 2012, a zoning map is prepared, and rules and regulations for each zone are drafted.			
Indicators:				
Activities Outlined	3.1 Conduct a socio-economic survey in the Anzali Wetland and the surrounding area			
	3.2 Based on the results of the socio-economic survey, review the zoning plan presented in the master plan and draft regulations for each zone3.3 Hold stakeholder meetings to explain zoning, the survey results and the draft			
	regulations to receive feedback			

Table 2.3-1	Activities	Defined i	n the PDM	and PO (Output 3)
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Source: M/M on 22 September 2010

(2) Outline of Activities

In the JICA M/P study, a draft zoning plan of the Anzali Wetland was determined. However, DOE and relevant organizations did not utilize the draft zoning plan efficiently.

In the first and second years, a socio-economic survey was conducted by a local consultant company in order to get information for the new zoning plan. JET and the DOE project team, along with the company, collected indicative data. The DOE project team and JET formulated the first draft zoning plan.

When the Project restarted in 2011, a socio-economic survey part 2 was conducted by a local NGO to collect indicative data and public opinions for zoning under the supervision of JET and the DOE project team. In parallel with the survey, the DOE project team and JET collected geographical data and regulations in relation with the Anzali Wetland. In order to analyze the present condition in/around the Anzali Wetland, GIS database was made by the DOE project team and JET. In addition, present land use in/around the Anzali Wetland was analyzed by RS (Remote Sensing) technology using satellite images and the result of ground survey. The DOE project team and JET had a meeting with local people and stakeholders to get opinions regarding the draft zoning plan.

Based on the results and data, the draft zoning map and regulations were revised.

The zoning plan was approved as the official zoning plan (Attachment 9) by AWMC at the 3rd AWMC meeting in July 2012.

(3) Major Achievements

The major achievements of the Project are summarized as follows:

- The draft zoning plan was explained in the 2nd AWMC meeting in Feb 2012.
- Socio-economic surveys part 1 and part 2 were conducted and the present socio-economic status around the Anzali Wetland was clarified.
- The GIS database which indicates the natural and socio-economic conditions in/around the Anzali Wetland was prepared.
- The zoning plan was approved in the 3rd AWMC meeting in July 2012.
- (4) Evaluation

Output 3 was mostly achieved. From the viewpoint of objectively verifiable indicators, a zoning map was prepared, and regulations for each zone were also prepared at the end of July 2012.

In addition, the GIS database made from the result of socio-economic survey, satellite data analyses, and data from relevant organizations is very useful to operate the zoning plan after the Project.

2.3.2 Basic Surveys of the Present Conditions in/around the Anzali Wetland

The DOE project team and JET conducted basic surveys about natural and socio-economic conditions in/around the Anzali Wetland as follows. A list of collected GIS data is shown Attachment 8.

(1) Socio-economic Status

In the first year, in order to get information for the zoning, the DOE project team and JET conducted a socio-economic survey with a local company, which JET subcontracted. The company collected indicative data under the supervision of JET and DOE project team. Based on the result of the survey, the boundary of the wetland, present conditions of land use, livelihood and activities including tourism and industry in/around the wetland, and regulations in relation with the wetland were clarified.

In the third year, in order to get information for the zoning, the DOE project team and JET conducted another socio-economic survey with a local NGO (CENESTA) which JET subcontracted. According to the said survey, monitoring surveys of the economic conditions and sustenance of households residing in the wetland borders demonstrated that the most important source of income for households residing in these areas is agriculture. In addition to agricultural activities, animal husbandry is also common as one of the widespread activities. Since hundreds of years ago, communities have lived around Anzali Wetland and exploited wetland resources alongside farming activities. Exploitation of vegetation for producing handicrafts, fishing, hunting native and migratory birds are the most common means to meet some of the family food needs and livelihood source of income by selling wetland products. Studies as well as local communities' statements in the workshops and focus group discussions showed that local exploitation of the wetland especially hunting and fishing followed a specific customary system and organization which is flexible to the environmental, social, economic, and managerial conditions of Anzali Wetland. The most significant point in this customary exploitation system is the commitment of exploiters to conserve and adopt sustainable use of biological and ecological sources of the wetland. In other words, hundreds of years ago, the local communities have exploited the wetland resources in parallel with their conservation through a customary and local system known as "Ab-Bandan-dari".

(2) Natural Environment and Land Use

In the first and second years, in order to get information for the zoning, the DOE project team and JET collected geographical data such as legislative protected area, topographical and land use information.

In the third year, in order to analyze the present conditions in/around the Anzali Wetland, GIS database was made by DOE and JET. In addition, present land use in/around the Anzali Wetland

was analyzed by RS technology using satellite images and the result of ground survey. Land use GIS database was precisely created based on ground truth surveys. GIS database on important bird and fish habitats was made through information from DOE and Shilat.

According to the data, the Anzali Wetland, a large complex of fresh water lagoons with extensive reed-beds, and seasonally flooded meadows in the Southwest Caspian lowlands, is extremely important as a spawning and nursery ground for fishes, and as breeding, staging, and wintering areas for a wide variety of waterfowl. Parts of the wetland are protected in Siyahkeshim Protected Area and Selke, Sorkhankol, and Choukam wildlife refuges. The entire wetland has been designated as a Ramsar site. Anzali City, in the north of the wetland, is a highly developed urban area. The wetland is bordered on the south by cultivated lands (mainly rice) and patches of woodland.

(3) Development Plan of Relevant Organizations

In the third year, in order to get information for the zoning, the DOE project team and JET, with a local expert, collected data on the development plans from relevant organizations such as the Housing Foundation and Gilan Cultural Heritage and Handicraft and Tourism Organization (GCHHTO).

There are a lot of small villages around the wetland, many of which have *Terh-e Hadi* plans (rural land use plan) with permitted construction areas.

2.3.3 Concepts of the Zoning Plan

In the first and second years, the DOE project team and JET determined basic concepts of zoning of the Anzali Wetland based on the Resolution of Ramsar Convention and United Nations Educational, Scientific and Cultural Organization's (UNESCO) Man and the Biosphere (MAB) Program.

In the third year, according to the basic survey of the present conditions in the Anzali Wetland, the DOE project team and JET revised the basic zoning concepts of the Anzali Wetland.

The wetland is a very important habitat for birds and fishes. On the other hand, there are many development plans in/around the Anzali Wetland and local people have a close affinity with the wetland as a place of fishing, hunting, and agriculture. In order to accomplish the coexistence of conservation of the Anzali Wetland and human activities, zoning can play an important role in minimizing user conflicts by separating potentially incompatible activities.

(1) Based on International Standards

The entire wetland has been designated as a Ramsar site. Therefore, the zoning plan of the Anzali Wetland should be based on international standards.

To carry out complementary activities of nature conservation and using the natural resources, biosphere reserves, some of which are also Ramsar sites, are areas of terrestrial and coastal ecosystems that are internationally recognized within the framework of UNESCO's Man and the Biosphere (MAB) Programme. Biosphere reserves are organized into three interrelated zones, known as the core zone, buffer zone, and transition zone.

In the Anzali Wetland, three main zones have been defined as follows:

- Wetland Zone
- Buffer Zone
- Transition Zone

In addition, the concepts of the zoning plan are based on the International Union for Conservation of Nature (IUCN) Guideline, Satoyama Initiative and Indigenous Community Conserved Area (ICCA).

(2) Covering the Existing Rules and Regulations

Zoning regulations should comply with existing laws and regulations such as the "Manual of Surface Water Qualitative Limits Determination", "Industrial and Productive Activities and Units Construction Criteria and Regulation" and each village's "*Tarh-e Hadi* Plan". New and effective regulations should be introduced in addition to the existing regulations.

There are already many activities in/around the wetland which have been permitted. The zoning regulations should not prohibit such activities after the approval of the zoning plan by the Anzali Wetland Management Committee (AWMC). However, it should exclude illegal activities from the zones.

(3) Promotion of Wise Use

The wetland has been used by local people and communities for a long time. Local people have close relationship with the Anzali Wetland. Therefore, the new zoning plan should promote the wise use of the wetland. Wise use of the wetland is the maintenance of its ecological character, achieved through the implementation of ecosystem approaches within the context of sustainable development.

Therefore, the new zoning regulations should permit low-impact ecotourism, environmental education, and research activities (including monitoring) without destruction of the wetland. In addition, the regulations should permit a restoration project for the improvement of wetland quality, and allow low-impact small-scale facilities for ecotourism and environmental education. Basically, other activities should not be permitted in the wetland zone.

(4) Promotion of Satoyama Initiative

The Satoyama Initiative aims to conserve sustainable human-influenced natural environments (Socio-Ecological Production Landscapes: SEPL) through broader global recognition of their value. Inside/around the Anzali Wetland is SEPL, not human-influenced wilderness. The local people have been using natural resource of the Anzali wetland. Therefore, the zoning plan should promote the Satoyama Initiative.

(5) Promotion of ICCA Concept

In each historical era, the mechanisms and institutional structure of the *Ab-Bandan-Dari* system is in direct relation and compatible with the social structure as well as the customary and official ownership systems. Nowadays, this system is still alive and sustainable as a kind of Indigenous Community and Conserved Area (ICCA) system. Therefore, the zoning plan should promote the ICCA concept.

(6) Screening of Development Plans by AWMC

Basically, prohibited activities by zoning regulations should not be permitted, however requisite activities inside the zones can be made by getting permission from the Anzali Wetland Management Committee (AWMC). Even permitted activities need an environmental impact assessment (EIA) and mitigation to minimize the environmental impact to the wetland.

(7) Adaptive Management

The permitted people can hunt and fish outside the protected sub-zones. Hence based on the result of monitoring, the permission of hunting and fishing should be limited in cases of critical decreases in populations of bird and fish as the adaptive management.

2.3.4 Definitions and Regulations of Zones

In the first and second years, the DOE project team and JET determined the draft definitions and regulations of zoning based on the draft concepts.

In the third year, according to the basic survey of the present conditions of the Anzali Wetland, the DOE project team and JET revised the definitions and regulations of zoning for the Anzali Wetland.

The definitions and regulations, including permitted activities for the three zones (including two sub-zones), are provided below. The zoning map is shown in Figure 2.3-1.

Zone	Component of Zone	Sub-zone	Source
	Inside the boundary of wetland (Seasonal submerged area, lagoon, swamp, marsh (reed bed), Riparian forest, natural grassland) *Boundary of wetland by MOE should be included	Outside of Protected Sub-zone is Wise-use Sub-zone	MOE DOE
1. Wetland	by wetland zone. Wildlife refuge, protection area, no hunting area	Protected Sub-zone	DOE
Zone	Important habitat (bird & fish)	Outside of Protected Sub-zone is Wise-use Sub-zone	DOE & Shilat
	<i>Ab-Bandana</i> reas (for fishing and hunting) which DOE permitted	Outside of Protected Sub-zone is Wise-use Sub-zone	DOE
2 Buffer Zone	2,000 m from wetland zone	Manual of Surface Water Qualitative Limits Determination, Industrial and Productive	
2. Buffer Zone	500 m from main river(inflow) and lagoon	Activities and Units Construction Criteria and Regulation	
	Except development areas based on the urban plan s	uch as <i>Tarhe Hadi</i> plan	<i>Tarhe Hadi</i> plan
	2,000 m from the buffer zone		-
3. Transition	(However this may be varied locally to take into account of the second s		
Zone	on the ground such as road, bridge and canal.)		
	Except development areas based on the urban plan su	uch as <i>Tarhe Hadi</i> plan	Tarhe Hadi plan

Table 2.3-2Definition of Zones

Source: DOE and JET

Table 2.3-3 Permitted Activities of 2

Zone		Permitted Activities		
1. Wetland Zone		-		
- 1.a Protected Sub-zone		Research and monitoring (by approval) Conservational management (by approval) Low impact eco-tour and environmental education activity		
	1.b Wise-use Sub-zone	As Protected Sub-zone Low impact hunting and fishing (by permission)		
2. Bu	ıffer zone	All of the above Low impact agriculture (such as organic farming) Low impact industrial and productive activities (based on the Industrial and Productive Activities and Units Construction Criteria and Regulation and Surface Water Qualitative Limits Determination)		
3. Transition zone		All of the above Other activities (Large developments need an EIA and mitigation to the wetland) Transition zone must control to include at least 10,000 ha paddy field and pasture for conservation of waterfowls.		

Source: DOE and JET





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2.3.5 Operation of Zoning

In the third year, the DOE project team and JET determined the operation plan for zoning below.

An updating of the zoning plan should involve stakeholders' participation, since it is in drawing the lines between the zones that conflicts could materialize. Agreeing on the zoning and the management objectives for each zone (and hence, what activities should and should not be permitted within each zone) is an important part of the process of establishing close involvement of local communities and other stakeholders in the management of the wetland. It is therefore proposed that the zones and the regulations for their use should be approved by the Anzali Wetland Management Committee (AWMC), and then disseminated to the wider public with the use of maps and presentations in the surrounding communities. The presentations should include the rationale for establishing and delineating the zones, and a concise description of the functions of, and restrictions applied, within each zone.

The boundaries of each zone should be considered of updating according to considerable changes in water level of the Caspian Sea, revisions in wetland boundary by MOE, and other significant changes in/around the wetland.

DOE Gilan plays a strong leadership in the operation of the zoning plan of the Anzali Wetland in cooperation with relevant organizations and local people in order to accomplish the coexistence of conservation of the Anzali Wetland and human activities. Guideline is presented Attachment 14.

2.3.6 Preparation of Zoning Plan of the Anzali Wetland

In the third year, referring to the survey results and considerations explained in Sections 2.3.2 to 2.3.4 above, and discussions with relevant organizations, the DOE project team supported by JET finalized the zoning plan which was approved in the third AWMC meeting. Its table of contents is presented in Table 2.3-4, and the full texts are in Attachment 9.

Fable 2 3.4	Table of Contents of Zoning Plan in the Anzali Wetland
Lable 2.3-4	Table of Contents of Zoning I fail in the Anzah Wettahu

1. Introduc	tion
2. Present	Condition around the Anzali Wetland
(1)	Natural Environmental Condition
(2)	Socio-economic Condition
(3)	Land Use and Urban Plan
3. Concept	ts of the Zoning Plan
(1)	Basic Concept
(2)	Based on International Standard
(3)	Covering the Existing Rules and Regulations
(4)	Promotion of Wise-use
(5)	Promotion of Satoyama Initiative
(6)	Promotion of ICCA Concept
(7)	Screening by AWMC
(8)	Adaptive Management
4. Guide	lines of the Zones
(1)	Wetland Zone

(1) Wetfalld Zolle (2) Buffer Zone

(3) Transition Zone	
5. Operation of the Zoning Plan	
Source: DOE and IET	

2.3.7 Meeting with Local People

The DOE project team and JET conducted meetings with local people in Anzali and Somesara in order to explain the draft zoning plan and to solicit comments about the plan. The main comment was a request to use the wetland for fishing and hunting as *Ab-bandan-dari*.

No.	Date	Participants	Topics
1st	19	- Local people (Headmen of villages and	- To introduce the draft zoning map and
	February	Ab-bandan owners) in Anzali	regulations
	2012	- Silkworm Organization	- Promotion of Satoyama Initiative
		 Hunting and Fishing Company 	
		- DOE Gilan	
		- JICA Expert Team	
2nd	21	- Local people (Headman of village and	- To introduce the draft zoning map and
	February	Ab-bandan owners) in Somesara	regulations
	2012	- DOE Gilan	- Promotion of Satoyama Initiative
		- JICA Expert Team	

 Table 2.3-5
 Summary of Meetings with the Local People

Source: DOE and JET

2.3.8 Recommendations for Zoning Operation

(1) Strong Leadership and Openness of DOE Gilan

DOE Gilan is one of the most crucial organizations to operate the zoning plan of the Anzali Wetland. It must be open for the other organizations and local people around the Anzali Wetland. DOE must publicize the zoning plan to the relevant organizations and local people by distributing zoning maps and having explanatory meetings when it updates the zoning plan. In addition, DOE Gilan and relevant organizations set sign boards on the boundary of each zone.

(2) Managing the Wetland in Cooperation with Local People

To promote sustainable use of the Anzali Wetland, DOE needs cooperation with the local people, especially *Ab-bandan* (area for fishing and hunting) owners. The wise-use sub-zone in the wetland zone must be prescribed as ICCA (Indigenous Peoples' and Community Conserved Areas), therefore DOE must develop a managing method of the wetland with *Ab-bandan* owners such as making a notification system of illegal activities in the wetland.

(3) Updating of the Zoning Plan

MOE will delineate the boundary of the wetland based on the Manual of Surface Water Qualitative Limits Determination. If MOE's boundary is outward from the wetland zone, the wetland zone must be expanded immediately. In addition, DOE Gilan updates and improves the zoning plan based on the conditions of the wetland by using monitoring data. The boundaries of each zone should be considered of updating according to considerable changes in water level of the Caspian Sea, revisions in wetland boundary by MOE, and other significant changes in/around the wetland. The wetland water level and water margin should therefore be monitored and the boundaries reviewed.

2.4 Output 4: Environmental Education

2.4.1 Outline of Output 4

(1) Activities Defined in the PDM and PO

Table 2.4-1 summarizes the expected output and indicators of achievements defined in the PDM and the activities outlined in the PO.

Expected Output	The basis for environmental education using the Environmental Education Center			
	of the Anzali Wetland is developed.			
Objectively	4.1 At the end of July 2011, an action plan for environmental education is			
Verifiable	formulated.			
Indicators:	4.2 At the end of June 2012, materials for environmental education in the above			
	action plan are developed.			
Activities Outlined	4.1 Collect information on the on-going activities and existing materials for			
in the PO	environmental education in Gilan Province.			
	4.2 Based on the results of the pilot project in the master plan study, formulate			
	an action plan for environmental education, including the training schedu			
	at the Environmental Education Center.			
	4.3 Make an agreement on the environmental education action plan in the			
	committee.			
	4.4 Produce materials for environmental education in the above action plan,			
	including audio-visual materials, and pilot implementation of environmental			
	education.			

 Table 2.4-1 Activities Defined in the PDM and PO (Output 4)

Source: M/M on 22 September 2010

(2) Outline of Activities

The Anzali Wetland Environmental Education Center, which is located adjacent to the Selkeh Wildlife Refuge in the central southern area of the Anzali Wetland, was constructed in the Master Plan Study in 2003.

In the first and second years, the DOE project team and JET collected information on the on-going activities and existing materials for environmental education in Gilan Province. DOE has conducted many events for environmental education so far. These events were mainly festivals, ceremonies,

and dramas that emphasize nature conservation. However, these are part of the natural environmental education only. In addition, some activities of environmental education have been conducted irregularly in the center by utilizing the existing facilities and materials so far after starting its operation in October 2004. The natural environmental education should be basically carried out at the field and with educational facilities including equipment for experiments and practical activities. Therefore, the DOE project team and JET examined the environmental education by using the environmental education center. As a result, a first draft action plan for environmental education was prepared in August 2008.

When the Project restarted in 2011, the DOE project team and JET updated the first draft action plan. The draft action plan for environmental education was approved by AWMC at the 1st AWMC meeting in July 2011. The DOE and JET produced materials for environmental education in the draft action plan, including audio-visual and booklet materials, and conducted pilot implementation of environmental education by using materials and the environmental education center in Selkeh. The DOE and JET updated the draft action plan based on the result of the trial programs of environmental education. The action plan for environmental education was approved by AWMC at the 3rd AWMC meeting in July 2012.

(3) Major Achievements

The major achievements of the Project are summarized as follows:

- The draft action plan was approved by AWMC at the 1st AWMC meeting in July 2011.
- Audio-visual materials, including five programs for environmental education, were produced in February 2012.
- The booklet and game materials for elementary school students were produced in November 2011. The trial programs for environmental education by using these materials were conducted four times (on 17 and 18 December 2011, 13 March and 23 April 2012).
- The booklet materials for guidance of school students were produced in June 2012. The trial programs for environmental education by using these materials were conducted twice (on 11 and 14 July 2012).
- The action plan was approved by AWMC at the 3rd AWMC meeting in July 2012.
- (4) Evaluation

Output 4 has been mostly achieved. From the viewpoint of objectively verifiable indicators, an action plan for environmental education was formulated at the end of June 2011. Environmental materials for environmental education, including audio-visual and booklet materials in the above action plan are developed at the end of June 2012. The DOE project team conducted trial

environmental education programs by using the materials. An updated action plan for environmental education was approved in the 3rd AWMC meeting.

However, the capacity and experience of environmental education staff in the field are still insufficient in order to achieve the overall goal within a few years. Additional and regular training and gaining field experience are necessary after the Project.

2.4.2 Basic Survey of Activities for Environmental Education

In the first and second years, the DOE project team and JET collected information about events carried out for environmental education in Gilan Province from relevant organizations. In the third year, the DOE project team and JET collected additional information. The list of previous activities is shown in Table 2.4-2. DOE has conducted many events for environmental education in the Project. Though these events were mainly lectures, festivals, ceremonies, and dramas that emphasize nature conservation. However, these were only part of the natural environmental education have been conducted in the Anzali Wetland Environmental Education Center by utilizing the existing facilities and materials so far, after starting its operation in October 2004.

Name of Event	Organizer	Year	Contents
New Year Tourists Education Plan	DOE Gilan	Every	Distribution of leaflets, educating cards and trash bags
		year	
Kindergarten Managers' Education	DOE Gilan	Every	Explain skills in order to educate children about the
Plan		year	importance of the environment
Museum Tour	DOE Gilan	Every	Explanations on the biodiversity of Gilan Province for
		year	visitors held about 50 times in a year.
			About 3000 visitors (children, elementary school,
			guidance school and university students, teachers, local
			people and tourists) visit the museum in a year.
Familiarization of Anzali Wetland	DOE Gilan	Every	About 500 students (elementary-university) were
Biodiversity (Plants)		year	educated through the observation of water lily.
Familiarization of Anzali Wetland	DOE Gilan	Every	About 500 students were educated through the
Biodiversity (Birds)		year	observation of migratory (winter) birds.
TV Program "Sard-e sabz" Musical	DOE Gilan	Every	Air, water, and soil pollution, and biodiversity were
		year	shown.
Geography Teachers' Education	DOE Gilan	2002	The guidance school geography book has a lot of topics
			related to environment. A seminar was carried out to
			familiarize teachers with the environmental concepts.
Training for the Teachers of Nehzat	DOE Gilan	2003	About 350 teachers in Nehzat were educated about the
			environment.
TV Program "It is Beautiful, but"	DOE Gilan	2003	About 450-minute film was produced for ecotourism and
			beautiful sights in Gilan Province.
Rural Council Education (around	Gilan Governor	2005-	Training classes were held to familiarize local decision
the wetland)	Office	2008	makers with the problems of Anzali Wetland.
Education of Environmental	DOE Gilan and	2007	Professors educated 50 environment guards how to
Conservation	Tehran		conserve wetland and surrounding areas. (Anzali
			Education Center was used)
Marine and Wetland Convention	DOE Gilan	2007	Dr Nabavi educated around 30 DOE Experts about the
			international importance of aquatic ecosystem. (Anzali
			Education Center was used)

 Table 2.4-2
 Previous Activities for Environmental Education

Name of Event	Organizer	Year	Contents		
Wetland Pollution and Biological	DOE Gilan	2007	Professor Dr Ahmadi educated around 30 experts of DOE		
Indicators			Gilan using biological indicators such as plankton,		
			benthos, and fish. (Anzali Education Center was used)		
Biology Teachers Education	DOE Gilan	2002	About 300 teachers were educated about the important		
			biological zones of Gilan Province.		
"Don't Waste Paper" Campaign	Sabzkaran	Every	Books that educate how to use waste paper (such as		
	(NGO)	year	artistic use) were published.		
1st Gilan Province Wetlands	Sabzkaran	2005	The seminar tried to familiarize participants with the		
Seminar	(NGO)		project that local people should take care of their own		
			environment.		
2nd Gilan Province Wetland	Sabzkaran	2006	The seminar emphasized the importance of 4 sensitive		
Seminar	(NGO)		wetlands (Anzali, Boujagh, Amirkelayeh and		
			Siyahkeshim).		
Workshop for Teachers	Sabzkaran	2006	Discussed about "how to act to realize the environmental		
Environmental Education	(NGO)		concepts"		

Source: DOE Gilan

2.4.3 Environmental Education Program

In the first and second years, the DOE project team and JET determined the concept, target, and draft programs for environmental education by using the Anzali Wetland Environmental Education Center. In the third year, these programs were updated.

(1) Concept

Through implementation of the experimental environmental education activities based on the action plan, participants of the environmental education programs are anticipated

- ➢ To be aware of
- > To take action for
- > To voluntarily participate in

not only the Anzali Wetland conservation activities (in specific), however also in the various fields of environmental conservation activities (in general).

(2) Target

Target participants for the environmental education programs range between kindergarten children to adults. Environmental education programs for all ages should be prepared. Schoolchildren are classified as lower grades of the elementary school, higher grades of the elementary school, junior high school, and high school. University students will be included in the adult age group. The environmental education programs for the students should be prepared to be conducted in both school curriculum and voluntary participation in holidays.

(3) Programs

In the first year and second year, the DOE project team and JET determined programs for environmental education by using the environmental education center. In the third year, the DOE project team and JET updated the following seven environmental education programs as summarized in Table 2.4-3. Table 2.4-4 shows classification of the programs based on implementation difficulty.

No	Title	Category/ Season	Target Group	Time required	No. of participant	General Objectives
1	Environmental Puzzle Entertainment	Birds/all seasons	Students in the 3rd and 4th class level in elementary school	1 hour	5 - 20	To know the birds and their problems in the wetland.
2	Birds in the Anzali Wetland	Birds/all seasons	Elementary school students	1 hour	10 - 40	To know the birds and their problems in the wetland.
3	Observations on (Aquatic) Plants in the Wetland	Plant/Summer	Higher grade elementary school/junior high school students	90 min.	0 - 30	To know the aquatic plants and their problems in the wetland.
4	Food for Animals in the Wetland	Biodiversity/all seasons	Elementary school/junior high school students	90 min.	10 - 40	To understand the ecosystem in the wetland.
5	Bird Migration and Preciousness of the Wetland	Birds/winter	Elementary school students	80 min.	10 - 30	To understand the importance of the wetland for migration birds.
6	Research on Breeding of Terns in the Wetland	Birds/May–August	Junior high school or older students	2 hours, once a week in the season (around 12 times in total)	5 - 15	To understand the importance of the wetland for breeding birds.
7	Wildlife as an Indication of Water Quality	Biodiversity/Summer	Higher grade elementary school to high school students	90 min.	10 - 30	To understand the relation between wildlife species and water quality, the importance of water quality in the wetland.

Table 2.4-3	Programs f	for Environment	al Education
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Source: JET and DOE Gilan

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Category 1 (Immediate Implementation 1)	Category 2 (Immediate Implementation 2)	Category 3 (Target Year: 2014)	
Program 1	Program 3	Program 6	
Program 2	Program 4	Program 7	
-	Program 5	-	

Note: "Target Year" means a year in which the program can appropriately be implemented with necessary conditions such as adequate number of instructors.

Source: JET and DOE Gilan

2.4.4 Environmental Education Materials

(1) Audio-visual Materials

In the second year, the DOE project team and JET determined specifications of audio-visual programs for environmental education. In the third year, the sub-contractor prepared the environmental education video which explains present conditions of the Anzali Wetland. Table 2.4-5 summarizes its contents. The audio-visual material, including five programs, was completed in February 2012.

Title	Life in Anzali Wetland			
Duration	Approximately 10 minutes \times 5 programs			
Language	Narration in Farsi, subtitles in English			
Media	DVD			
Number	500 copies			
Target	Elementary School Students or older			
Contents	1. Over the Anzali Wetland,			
	2. Birds' Life in Anzali Wetland,			
	3. Aquatic Life in Anzali Wetland			
	4. Human Activities in Anzali Wetland			
	5. Conservation Activities in Anzali Wetland			

 Table 2.4-5
 Summary of Audio-visual Materials

Source: JET and DOE Gilan

(2) Booklet Materials

In the third year, the DOE project team and JET produced booklet materials for environmental education programs by using the Anzali Environmental Education Center. Table 2.4-6 summarizes its contents. The first booklet was produced in November 2011, and the second in June 2012.

1) Title	1. Let's Know the Anzali Wetland	2. Ecosystem in the Anzali Wetland		
	(for Program 2)	(for Program 4)		
2)Number	3,000 copies	5,000 copies		
3)Target group	Elementary School Students	Junior High School Students		
4) Concept	To introduce birds in the Anzali Wetland	To introduce the ecosystem in the Anzali Wetland		
5) Outline	➢ What is a Wetland?	About Anzali Wetland		
	Benefit from the Wetland	Ecosystem of the Anzali Wetland		
	Map of the Anzali Wetland	Problems of the Anzali Wetland		
	Pictorial Game	Conservation of the Wetland		
	➤ What is Migration?			
	Main 10 Birds in the Anzali Wetland			
	Lets' Conserve the Birds			
	Messages from the Wetland			
	(Game materials)			
	Card Game (<i>Karuta</i>)			
	➢ Board Game (Sugo-roku)			

 Table 2.4-6
 Summary of Booklet Materials

Source: JET and DOE Gilan

2.4.5 Pilot Environmental Education

Referring to the survey results and considerations explained in Sections 2.4.3 to 2.4.4 above and using the Anzali Wetland Environmental Education Center and small-scale facilities in Selke, the DOE project team and JET conducted the pilot environmental education in the third year. Table 2.4-7 summarizes the pilot environmental education. Students obtained knowledge in the classroom lectures and studied the wetland through observation from the watch tower. The DOE experts joined as lecturers. Photos are shown in Attachment 18.

No.	Date	Target	No. of Students	Gender	Program	Materials
1	17 December	4th Grade of	34	Female	No.4. Birds in the	Booklet (Let's know
	2011	Elementary			Anzali Wetland	the Anzali Wetland)
		School				
2	18 December	5th Grade of	19	Female	No.4. Birds in the	Booklet (Let's know
	2011	Elementary			Anzali Wetland	the Anzali Wetland)
		School				
3	13 March 2012	5th Grade of	25	Male	No.4. Birds in the	Booklet (Let's know
		Elementary			Anzali Wetland	the Anzali Wetland)
		School				
4	23 April 2012	5th Grade of	14	Female	No.4. Birds in the	Booklet (Let's know
		Elementary			Anzali Wetland	the Anzali Wetland)
		School				
5	11 July 2012	Junior High	28	Female	No.6. Ecosystem of	Video Material,
		School			the Anzali Wetland	Booklet (Ecosystem
						of the Anzali
						Wetland)
6	14 July 2012	Junior High	24	Male	No.6. Ecosystem of	Video Material,
		School			the Anzali Wetland	Booklet (Ecosystem
						of the Anzali
						Wetland)

 Table 2.4-7
 Summary of Pilot environmental education

Source: JET and DOE Gilan

2.4.6 Preparation of Action Plan for Environmental Education

Referring to the survey results and considerations explained in Sections 2.4.2 to 2.4.5 above, and discussions with the Education Organization, the DOE project team supported by JET finalized the Action Plan for Environmental Education by using the Anzali Wetland Environmental Education Center, which was approved in the 3rd AWMC meeting. Its table of contents is presented in Table 2.4-7, and the full texts are in Attachment 10.
Table 2.4-7	Table of Contents of Action Plan for Environmental Education by Using the
	Anzali Wetland Environmental Education Center

Chapter 1	Introduction
1.1	History of Anzali Wetland Environmental Education Center
1.2	The Goals of the Action Plan
1.3	Flow Chart of Operation Plan Process
1.4	Target Group for Environmental Education
1.5	How to Use the Action Plan
Chapter 2	Definition and Implementation Principles of the Environmental Education
2.1	Definition of Environmental Education
2.2	Environmental Education in the Anzali Wetland
2.3	Environmental Education by Utilizing the Center
Chapter 3	Environmental Education Programs by Utilizing the Center
3.1	Classification of Target Groups for EE Programs
3.2	Outline of EE Programs
Chapter 4	Environmental Education Materials
4.1	Environmental Education Materials
4.2	Video Materials
4.3	Booklet
4.4	Game Materials
Chapter 5	Instructor's Training
5.1	Introduction
5.2	Required Competence of the Instructor
5.3	Training Program
5.4	Training of the Instructors
Chapter 6	Maintenance and Replacement Plan for the Facilities
Chapter 7	Guidelines on Environmental Education by Using the Anzali Wetland Education Center
7.1	Definition of Guidelines
7.2	Guidelines
1.3	Implementation of Guidelines
Chapter 8	Implementation Plan
8.1	Overall Implementation Schedule
0.2	Koles and Kesponsionities of Kelevant Organizations
0.3 8 /	Paquiramente
0.4	Requirements

2.4.7 Activities after the Project

After the Project, DOE Gilan and the Education Organization should promote the Anzali Wetland Environmental Education following the action plan. DOE Gilan needs the cooperation of the NGOs. The environmental education programs are divided into three categories according to the technical level of the instructors required for the program. The programs under both categories 1 and 2 will be started during the JICA Anzali Wetland Ecological Management Project. Necessary lecture for the instructor and pilot activities will be conducted for both categories of the programs in 2011-2012, respectively. The programs should be implemented continuously for the students around the Anzali Wetland after the Project.

The environmental education programs under the Category 3 require instructors with adequate experience and skills as well as knowledge. Therefore, the target year is set to 2013. Until 2013, the instructor(s) should conduct other categories of the environmental education programs and take some instructor's training mentioned in the previous section.

2.4.8 Recommendations for Sustainable Environmental Education by Using the Center

(1) Leadership of DOE Gilan

DOE Gilan is one of the most crucial organizations to promote environmental education by using the Anzali Wetland Environmental Education Center. DOE Gilan plays a leadership role for the development of environmental education for students and local people around the Anzali Wetland. DOE Gilan should implement environmental education programs, development, provide materials and maintain facilities in Selke.

(2) Close Cooperation among DOE Gilan, Education Organization, and NGOs

DOE Gilan should cooperate with the Education Organization and NGOs which promote environmental education and open up the Anzali Wetland Environmental Education Center and small-scale facilities to them. The center and facilities should be used effectively. In addition, DOE Gilan should maintain the center and facilities appropriately.

(3) Improvement of the Skills of Instructors

A common training for all education programs is required of all instructors who will be engaged in environmental education programs. The DOE staff members have experiences and knowledge in several environmental education programs; however they are still deficient in other programs especially on field observation. Scientific knowledge about the nature of the Anzali Wetland is the most critical qualification for natural environmental education.

The environmental education activity should be increased every year. Therefore, more instructors on environmental education programs are needed. Not only the DOE staff members however also school teachers and NGO staff should act as instructors of environmental education. The action plan for environmental education by using the Anzali Wetland Environmental Education Center proposed a method for training instructors. DOE Gilan and Education Organization are recommended to conduct instructor training programs following the action plan.

(4) Development of Environmental Education Programs and Materials

The Project has prepared seven environmental education programs and several materials. DOE Gilan should promote environmental education activities by using these programs and materials. In addition, DOE Gilan should develop new environmental education programs and materials in cooperation with Education Organization and NGOs. These materials should be provided to students and local people around the Anzali Wetland.

2.5 Output 5: Development of Ecotourism

2.5.1 Outline of Activities

(1) Activities Defined in the PDM and the PO

Table 2.5-1 summarizes the expected output and indicators of achievement defined in the PDM and the activities outlined in the PO.

Expected Output	The basis for ecotourism is developed.
Objectively Verifiable	5.1 At the end of July in 2012, an action plan for ecotourism is formulated.
Indicators:	5.2 At the end of June in 2012, small-scale facilities for ecotourism are
	constructed, which may include wooden trails, observation huts, and sign
	boards.
Activities outlined in	5.1 Collect information on the on-going ecotourism activities conducted in Gilan
the PO	Province including activities of private sector.
	5.2 Referring to the results of the pilot project in the master plan study,
	formulate and action plan for ecotourism including training and development
	of small-scale facilities.
	5.3 Make an agreement on the ecotourism action plan in the wetland
	management committee.
	5.4 Construct small-scale facilities for ecotourism, which may include wooden
	trails, observation huts, and sign board with pilot eco-tours.

Table 2.5-1 Activities Defined in the PDM and PO (Output 5)

Source: M/M on 22 September 2010

(2) Outline of Activities

First, the DOE project team supported by JET gathered relevant information such as laws, regulations, policies, and activities of the Provincial Ecotourism Committee. In parallel, meetings with Gilan Cultural Heritage, Handicraft and Tourism Organization (GCHHTO), the Port and Marine Organization, private sectors and local communities were held to share the project activities and the concept of ecotourism. Besides, the DOE project team and JET conducted the surveys on natural and social resources in/around the Anzali Wetland and the tourism market. Referring to the gathered information, an action plan for the Anzali Wetland Ecotourism was drafted.

After the re-start of the Project, the DOE project team and JET organized a series of meetings with the private sector and local communities to promote their participation to the Anzali ecotourism development. Aiming at enhancing cooperation among DOE, GCHHTO, the private sector and local communities, Establishment of the Association for Promotion of Anzali Wetland Ecotourism was discussed in the meetings.

On the other hand, following the action plan, a series of nature guide training was conducted and small-scale facilities in Selke and other parts of the wetland were constructed. Afterwards, based on cooperation among training nature guides, tourism agencies and DOE, pilot ecotours were organized in the winter and summer seasons of 2012. Through the pilot ecotours, the DOE project team and JET evaluated the mechanism to implement ecotours and to develop the Anzali Wetland

Ecotourism proposed in the action plan. Their findings were reflected in the revision of the action plan. It was approved in the 3rd AWMC meeting in July 2012.

(3) Major Achievements

The major achievements of the Project are summarized as follows:

- The action plan of the Anzali Wetland Ecotourism was approved in the 3rd AWMC meeting in July 2012.
- As an institutional foundation, the establishment of the Association for Promotion of Anzali Wetland Ecotourism (hereinafter referred to as the Association) and its Secretariat was prepared.
- The basis of the cooperation scheme among DOE, GCHHTO, the private sector and local communities was established for the sustainable development of the Anzali Wetland Ecotourism.
- Capacity of nature guides was improved through nature guide training and pilot ecotours.
- Small-scale facilities were constructed in/around the Anzali Wetland.
- The DOE project team acquired knowledge and skills for the development of ecotourism.
- (4) Evaluation

Output 5, which is the basis for ecotourism that was developed, has been mostly achieved.

From the viewpoint of objectively verifiable indicators, the action plan was prepared at the end of July 2012. The small-scale facilities were also constructed. In terms of institutional development, the establishment of the Association for Promotion of Anzali Wetland Ecotourism and its Secretariat were prepared. They play a leading role in the development of the Anzali Wetland Ecotourism and in the promotion of the cooperation among DOE, GCHHTO, the private sector and local communities. Through the series of pilot ecotours, tourism agencies, nature guides, and DOE obtained good experiences and skills for the implementation of ecotours. They showed their willingness to continue their cooperation and ecotours in the Anzali Wetland. After the Project, they are expected to spearhead sustainable ecotourism activities.

2.5.2 Basic Surveys

In the first and second years, the DOE project team supported by JET conducted surveys about the natural and social resources and tourism market in/around the wetland. In the third year, supplementary surveys were conducted to update the information obtained in the first and second years.

(1) Natural and Social Resources in/around the Wetland

The wetland is composed of diverse ecosystems such as freshwater lagoons, extensive reed beds, shallow impoundments, and seasonally flooded meadows. They have nurtured crucial habitats for various creatures such as fishes and birds. In addition to the natural resources, the area is famous for having a variety of social resources which nurtured a traditional lifestyle. The major natural and social resources are summarized in Table 2.5-2.

Category	Item	Explanation			
Natural	Plants	The vegetative community of the wetland is largely classified into three			
Resources		categories, (i) Phragmites community, (ii) submerged plants community			
		and (iii) Azolla community. The Phragmites community is largely			
		distributed in the shallow area of the eastern wetland, and covers about a			
		quarter of the wetland excluding the lagoon. The submerged plants			
		community covers almost the entire area of the lagoon. The Azolla			
		community covers about a quarter of the wetland, except for the lagoon.			
		Based on net weight measurement, the dominant plant species appear to be			
		Ceratophyllum demersum, Typha latifolia and Phragmites australis.			
	Birds	About 77 species of migratory birds fly to the wetland. The wetland supports			
		a large breeding colony of <i>Chlidonias hybridus</i> , small colonies of six species			
		of ardeidae, and a large resident population of <i>Porphyrio porphyrio</i> . It also			
	E'-l	supports wintering concentrations of ducks, geese, swans, and cools.			
	Fisnes	Approximately 47 lish species were listed in 2005. Among them, 8 species			
		Butilus frisii kutum Lucionarea lucionarea and Abramis brama orientalis			
	Rentiles and	Wetland from and little freshwater turtles were found			
	Amphibians	wettand nogs and nule neshwater turnes were found.			
	Mammals	Boars, water buffaloes and wild horses were found.			
Social	Traditional Methods	There are several traditional methods for hunting and fishing, such as:			
Resources	of Hunting and	hunting: airy net, balar dam, tasht soo; fishing: mashk, shil, ab larg			
	Fishing				
	Local Foods	There are several local foods such as Mirza Ghasemi, Sarde Pela Ba Ashpal,			
		Morghe Torsh, Baghala Ghatog, and Torshe Tare.			
	Handicrafts	Several local handicrafts are produced, e.g., wicker worker and Morvar Bafi,			
		around the wetland.			
	Religious Places	There are several religious places which are important for locals, e.g., Agha Seved Khoram Kia Shrine, Sang Mazar, Pire Abed.			
	Markets	Local people buy and sell local products at markets such as Shanbe Bazaar,			
		fish market, free economic zone, and bazaar.			
	Historical Monuments	Around the wetland, there are several attractive establishments which show			
		the history of the area, e.g., Mian Poshte Palace, Ghazian Bridge and Mian			
		Poshte Bridge, Boghe Bibi Houriye, and Clock Tower.			
	Local Activities	Residents enjoy local sports and games such as Lafand Bazi, Varza Jang,			
		Tokhm Morgh Bazi, and Khil va Chomagh.			

 Table 2.5-2
 Summary of Natural and Social Resources in/around the Wetland

Source: JET

(2) Tourism Market

In the supplementary survey conducted in August 2011, a total of 100 respondents answered the questionnaire. The questionnaire and summary of results are presented in Attachment 11. One of the major findings was that although around 60% of respondents would visit or have visited the wetland, almost half of them did not have good knowledge about it. Nevertheless, over 90% of respondents were interested in a nature guide tour in the wetland. Around 50% selected a boat tour as the most interesting activity.

2.5.3 Organizational Development

For the development of the Anzali Wetland Ecotourism, a core organization, the Association for Promotion of Anzali Wetland Ecotourism plans to be established. Its members and tasks are shown in Table 2.5-3 and Table 2.5-4, respectively. As a leading body of the Association, the secretariat of Anzali Wetland Ecotourism is established. DOE Gilan, GCHHTO, and a representative of Tourism Agency Union are supposed to be its members. These organizational structures for ecotourism are described in the Outline of Establishment of the Association for Promotion of the Anzali Wetland Ecotourism (see Attachment 12).

No.	Organization	Title in Organization	Position in the Association
1	DOE Gilan	Head	Deputy
2	GCHHTO	Head	Vice-Deputy
3	DOE Anzali Municipality	Head	Member
4	DOE Somesara Municipality	Head	Member
5	Anzali Municipality	Mayor	
6	Somesara Municipality	Mayor	
7	Tourism Agency Union	Head	
8	Hotel Union	Head	
9	Boat Union	Head	
10	Dam Owner Union	Head	
11	Nature Guides Union	Head	
12	Secretariat of Anzali Wetland Ecotourism	Staff of DOE Gilan, Staff of	
		GCHHTO, Head of	
		Tourism Agency Union	

 Table 2.5-3
 Members of the Association

Source: JET

Table 2.5-4Tasks of the Association

- 1. Development and/or conduct of ecotours, and coordination among stakeholders
- 2. Development and monitoring of compliance with the Guidelines (Rules) of the Anzali Wetland Ecotourism
- 3. Training and management of nature guides
- 4. Development and operation and maintenance (O&M) of facilities
- 5. Monitoring of ecotours and their impacts
- 6. Information and advertisement management
- 7. Management of the conservation fund *

Note: * After a fund system is established. Source: JET

2.5.4 Ecotours

(1) Pilot Ecotours

Utilizing the small-scale facilities developed in Selke, the DOE project team and JET, cooperating with the tourism agency and nature guides, organized the pilot ecotours.

The pilot ecotours in winter were conducted twice. Tourists mainly enjoyed bird watching and learned the importance of the Anzali Wetland to migratory birds. In summer, seven pilot ecotours were implemented. Tourists enjoyed a short walk in Selke and a boat tour watching water lilies in Sorkhankol. At the end of the tours, they participated in a role-playing game to learn

responsibilities of each stakeholder, such as a hunter, fisher, and tourist in the conservation of the Anzali Wetland. Table 2.5-5 summarizes the pilot ecotours.

These were practices for stakeholders to implement in pilot ecotours. Through them, DOE Gilan, tourism agencies and nature guides confirmed their responsibilities and roles, and learned how they could cooperate with one another within the framework of the Anzali Wetland Ecotourism. The tourism agency and nature guides had their responsibilities in planning and implementation. On the other hand, DOE Gilan had mainly provided advice and instructions to them. Some photos are shown in Attachment 19.

Period	Date	Participants	Outline of Ecotours		
Winter	6	- Staffs from tourism	(Start in Selke)		
	February	agencies: 4 persons	1. Observation from watch tower and bird hide		
	2012	- Staffs from GCHHTO:	2. Short walk in Selke		
		2 persons	3. Boat tour (including watching fishing practice)		
		- Staffs of hotels: 2 persons	(Selke-Sorkhankol-Siahkeshim-Siahdarvishan)		
			4. Lunch		
			(Return to Rasht)		
	7	- Dam owners: 7 persons	(Start in Selke)		
	February	- Anzali Municipality:	1. Observation from watch tower		
	2012	1 person	2. Boat tour		
		- Somesara Municipality: (Selke-Sorkhankol-Siahkeshim-Siahdarvis			
		1 person	3. Lunch		
			(Return to Rasht)		
Summer	12 June	- General tourists	(Start in Selke)		
	2012	(total of 15)	1. Explanation of schedule, guidelines (rules) and		
			wetland		
			2. Observation from watch tower and bird hide		
			3. Short walk to the rest area		
			4. Boat tour (Selke–Sorkhankol)		
			5. Lunch		
			6. Boat tour (Sorknankol–Seike)		
			/. Quiz, role-playing game, and wrapping up		
	12		(Return to Rasht)		
	15 June	- General tourists	(Start in Seike)		
	2012	(total of 15)	1. Explanation of schedule, guidelines (rules) and		
			2 Observation from watch tower and hird hide		
			3 Boat tour (Selke–Sorkhankol–Anzali		
			Port_Sorkhankol)		
			5 Lunch		
			6 Boat tour (Sorkhankol–Selke)		
			7. Quiz, role-playing game, and wrapping up		
			(Return to Rasht)		
	20 June	- General tourists	(Start in Selke)		
	2012	(total of 15)	1. Explanation of schedule, guidelines (rules) and		
			wetland		
			2. Observation from watching tower and bird hide, and		
			short walk in Selke		
			3. Boat tour (Selke–Sorkhankol)		
			4. Lunch		
			5. Boat tour (Sorkhankol–Selke)		
			(Return to Rasht)		
	20 June	- Tourism agencies and	(Start from Anzali City)		
	2012	nature guides from Anzali	1. Explanation of schedule, guidelines (rules) and		
		City, and general tourists	wetland		
		(total of 19)	2. Boat tour (Anzali Port–Selke)		
			3. Explanation of the wetland		

 Table 2.5-5
 Summary of Pilot Ecotours

Period	Date	Participants	Outline of Ecotours
	9 July 2012	- General tourists (total of 19)	 4. Observation from watch tower and bird hide, and short walk in Selke 5. Boat tour (Selke–Sorkhankol–Anzali Port) 6. Move to Talab 7. Lunch 8. Fishing and game (Return to Rasht) (Start from Anzali City) 1. Explanation of schedule, guidelines (rules) and wetland 2. Boat tour (Anzali Port–Selke) and give some explanation about rivers in wetland 3. Explanation of the wetland (fauna, socio-economic conditions) 4. Observation from watch tower and bird hide, and short walk in Selke (explanation of wetland flora and their usage by people around the wetland) 5. Boat tour (Selke–Sorkhankol–Anzali Port) 6. Move to Talab 7. Lunch 8. Fishing and game (Return to Rasht)
	12 July 2012	- General tourists (total of 20)	Ditto
	13 July 2012	- General tourists (total of 11)	 (Start in Selke) 1. Explanation of schedule, guidelines (rules) and the wetland 2. Observation from watch tower and bird hide 3. Boat tour (Selke–Sorkhankol–Anzali Port–Sorkhankol) 4. Lunch 5. Boat tour (Sorkhankol–Selke) 6. Quiz, role-playing game, and wrapping up (Return to Rasht)

(2) Ecotour Development

Taking account the natural and social resources and results of the pilot ecotours, the DOE project team and JET considered potential ecotours in/around the wetland. Table 2.5-6 summarizes the details of the ecotours. In Selke, the nature study tour and nature boat tour were conducted as the pilot ecotours, for the tourism agency, nature guide and DOE Gilan, can continue to organize by utilizing the experiences in this Project. The other two, the sports tour and tour of the visitor center, are proposed as ecotours within/around a five-year period. In the long-term, ecotours utilizing natural and social resources around the wetland are planned to be developed. The Association intends to implement them, including development of necessary facilities, after the Project.

	1	2	3	4
Name	Selke Nature Study Tour	Nature Boat Tour	Sports Tour (Canoeing Tour with Guide)	Tour of the Visitor Center
Туре	Guided tour · Half day	Guided tour · 2 hours, Around 6 tourists in one boat	Guided tour · Half day	Guided tour/self guide tour · Time depending on tourists
Theme	Study and experience nature in conjunction with environmental education programs	Enjoy seasonal nature nurtured by water	Enjoy sporting and experiencing water-nurtured nature	Enjoy and study materials and displays in visitor center
Location	Selke	 Selke – Sorkhankol – Siahkeshin – Siahdarvishan Anzali Port – Lagoon – Sorkhankol – Anzali Port Others developed by private tour providers 	Abkenar (departure point and routes need to be discussed further)	Need to be discussed
Target tourists	Youth, middle age, family	Youth, middle age, family	Youth	Youth, middle age, family
Main target resources	Nature in Selke	Depending on a season, e.g. plants, birds and mammals	The nature in the Wetland	Materials and displays in visitor center
Season	All seasons	All seasons	Spring and summer	All seasons
Arrangement of nature guide	Nature guide tour or self-tour	Nature guide tour	Nature guide tour	Nature guide tour or self-tour
Facilities	Facilities in Selke (renovated bird hide, watch tower, education center, etc.)	Facilities in Selke, Place for lunch	Jetty	Visitor center
Equipment	Binocular	Boat and life vest, binocular, safety equipment	Canoe, life vest	Displays in visitor center
Guidance	Map, materials	Map, materials	Map, materials	Materials in visitor
materials	explaining nature	explaining nature	explaining the nature	center
Fee	Up to IRR 400,000	Up to IRR 400,000	To be considered	To be considered
Target starting vear	Already started	Already started	In 2014	In 2016

Note: * The Association will have further discussion. Source: JET

2.5.5 Guidelines (Rules) on Anzali Wetland Ecotourism

The guidelines are formulated so as to provide tourists with satisfactory ecotours in/around the wetland in a sustainable manner. The guidelines are voluntary rules, not having legal power. The definition is the 'concrete agreement for conservation of local nature and social resources in order to accomplish sustainable development of the Anzali Wetland Ecotourism. The five guidelines, for

tour providers, tourists, nature guides, boat operators, and governmental organizations (DOE Gilan and GCHHTO) are prepared as shown in Table 2.5-7.

Target		Guideline
Tour Providers	1.	Following relevant regulations and zoning plan, plan and operate ecotours with minimum
		environmental impacts.
	2.	Facilitate communication between tourists and local people.
	3.	Arrange a nature guide and/or boat operator having skills and knowledge as a nature guide in
		every ecotour.
	4.	Instruct tourists and nature guides to follow the Guidelines of the Anzali Wetland Ecotourism.
	5.	Incorporate safety measures into ecotours, such as a first aid kit, life vest and mobile phone.
		Prepare emergency contact addresses and numbers.
	6.	Improve quality of ecotours continuously reflecting opinions from tourists, nature guides, and
		local people.
Tourists	1.	Do not disturb wildlife. Tourists do not make loud voice. approach the wildlife too close and
		feed the wildlife.
	2.	Do not collect protected animals and plants.
	3.	Do not discard rubbish and pollute the environment.
	4.	For prevention of accidents and injuries, do not take arbitrary actions. Follow safety instruction
	_	from the nature guide and/or boat operator.
	5.	Do not enter protected zones without a permission or proper instruction.
	6.	Respect the natural/social environments, and enjoy communicating with the local people.
	7.	Be interested in local products and local cuisine. Do not buy protected animals, plants and
Nature Cuides	1	products made from them.
Nature Guides	1.	interpret the natural and social environments for tourists to deepen their understanding on the
	2	Entertain tourists through nature interpretation
	2. 3	Eacilitate communication between tourists and local people
	3. 4	Instruct tourists not to create adverse impacts on the environment and follow the Guidelines of
	т.	the Anzali Wetland Ecotourism
	5	Be familiar with the natural and social conditions the Guidelines of the Anzali Wetland
	5.	Ecotourism, and relevant laws and regulations.
	6. Improve continuously skills and knowledge as a nature guide.	
	7.	Have appropriate skills and knowledge about safety measures and first aid actions.
Boat Operators	1.	Do not make loud noises, approach the wildlife too close and disturb the wildlife.
-	2.	In protected zones, traveling speed is limited to 30 km/h. When boats reach closer to the birds,
		plants, and mammals, the boat operator should decrease the speed and noise.
	3.	Outside of protected zones, traveling speed is limited to 45 km/h.
	4.	Travel only in permitted areas.
	5.	Request tourists to follow the Guidelines of the Anzali Wetland Ecotourism.
	6.	Communicate with tourists for interpreting the natural and social environments, and
		entertaining them.
	7.	Operate boats with due consideration to safety.
	8.	Have appropriate skills and knowledge about safety measures and first aid actions. Request
	-	tourists to wear a life vest. Equip with a first aid kit and mobile phone.
Governmental	1.	Develop a basic framework and monitor activities relevant to the ecotourism.
Organizations	2.	Cooperate closely with private sectors and local communities for the promotion of ecotourism.
(DUE Glian and	an and 3. Coordinate governmental organizations, the private sector, and local communities	
GCHHIU)	ecotourism activities.	
	4.	be open and fair for private sector and local communities to utilize facilities and the wetland under the framework of the Anzali Watland Ecotopricm
	5	Prepare appropriate hudget every year for the development of ecotourism
	6	Re transparent in account processing
Organizations (DOE Gilan and GCHHTO)	2. 3. 4. 5. 6.	Cooperate closely with private sectors and local communities for the promotion of ecotourism. Coordinate governmental organizations, the private sector, and local communities in the ecotourism activities. Be open and fair for private sector and local communities to utilize facilities and the wetland under the framework of the Anzali Wetland Ecotourism. Prepare appropriate budget every year for the development of ecotourism. Be transparent in account processing.

 Table 2.5-7
 Guidelines on the Anzali Wetland Ecotourism

Source: JET

2.5.6 Nature Guides

(1) Nature Guide Training

A qualified nature guide needs to be arranged in every guided tour. A nature guide introduces the splendor of nature nurtured by the wetland. He/she also has the role in explaining the Guidelines of the Anzali Wetland Ecotourism to tourists. A nature guide assists tourists to feel the nature by using their five senses and find the wonders and secrets of the natural and social environments in/around the wetland.

For nature guides to acquire appropriate skills, the DOE project team supported by JET held nature guide trainings. They covered knowledge about the natural and social environments in/around the wetland, interpretation skills and emergency measures in ecotours. The participants are expected to be leaders of ecotours in the wetland. Table 2.5-8 summarizes the training.

Season	Date	Participants	Trainers	Programs	Training Materials
Winter	17	3 students and	Mr Farzad Rashidi	- Outline of the Anzali	- Text book 1: Anzali
	November	graduates of	Vezmatar (Tourism	Wetland Ecotourism	Wetland Ecotourism
	2011	tourism	Instructor),	- Natural conditions of the	- Text book 2: Nature
		school, and 1	Mr Shahin Javady	Anzali Wetland	in the Anzali Wetland
		tour guide	(DOE Gilan),	- Skills of nature guide in	- Text book 3: Skills
			Mr Takashi Kaji	wetland	of Nature Guide
			(JICA Expert Team)	- Ecotour in the wetland	
			- Filed visit (Selke and		
				wetland)	
	29	5 tour guides	Mr Shahram	- Outline of the Anzali	
	November		Farhangi (Tour	Wetland Ecotourism	
	2011		Guide), Mr Farzad	- Natural conditions of the	
			Rashidi Vezmatar	Anzali Wetland	
			(Tourism	- Skills of nature guide in	
			Instructor),	wetland	
			Mr Shahin Javady	- Ecotour in the wetland	
			(DOE Gilan),	- Simulated ecotour in Selke	
			Mr Takashi Kaji	(walking) and wetland	
			(JICA Expert Team)	(boating)	
Summer	15 May	8 tour guides	Mr Shahram	- Outline of the Anzali	
	2012		Farhangi (Tour	Wetland Ecotourism	
	16 May	8 tour guides	Guide), Mr Shahin	- Natural conditions of the	
	2012		Javady (DOE	Anzali Wetland	
			Gilan), Ms Homeira	- Skills of nature guide in	
			Safari (DOE Gilan)	wetland	
				- Ecotour in the wetland	
				- Simulated ecotour in Selke	
				(walking) and wetland	
				(boating)	

 Table 2.5-8
 Summary of Nature Guide Training

Source: JET

(2) Nature Guide Management

In order to keep and improve the quality of nature guides, a Nature Guide Management System was introduced. The aim of the system is to maintain the nature guides' qualifications. The secretariat and GCHHTO have the main responsibility for this system. Figure 2.5-1 illustrates the Nature Guide Management System. The secretariat and/or GCHHTO conducted nature guide

training, and participants received their certificates issued by the Association and GCHHTO. The secretariat and/or GCHHTO prepared a list of certified nature guides. When a tour provider plans an ecotour, it requests the secretariat and/or GCHHTO to recommend a nature guide. If a tour provider is acquainted with a nature guide, he/she can contact him/her directly.



Figure 2.5-1 Nature Guide Management System

2.5.7 Development of Small-Scale Facilities

(1) Small-Scale Facilities Constructed in the Wetland

In the first and second years, the small-facility development plan was prepared. In the third year, taking into account the consideration of potential ecotours and the existing situation (see Section 2.5.4), the plan was revised. After the construction started in the third year, some modification was made again based on scrutiny of necessity and feasibility to install them. Table 2.5-9 shows the constructed facilities, and some photos are shown in Attachment 19.

No.	Location	Repair/ New	Development Plan		Finally Constructed	Reason of Cancellation or Addition
1	Selke	Repair	ear	Bird hide, wooden trail and board	0	-
2			ntil Second Y	Jetty for boat to enter inside of Selke	×	During the suspension period, DOE constructed the wooden bride to enter inside of Selke. So, a jetty was no longer
3			n u	Watch tower with board	\cap	liecessary.
4			Pla	Toilet	0	_
5				Wooden bridge	0	The wooden bridge was so
U			in Third r			weak. Because of safety concern, the structure was reinforced.
6			Added Plan Yea	Environmental Education Center	0	In the third year, rainwater flowing in from the doors and windows was found. So, windows, doors, floors, and walls were repaired.
7		New	r	Small terrace with bench and signboard	×	Appropriate location could not be found, so it was cancelled.
8			d Yea	Footstep	×	Appropriate location could not be found, so it was cancelled.
9			lan until Secon	Small cabin	×	It was found that after the project, DOE Gilan planned to construct a small cabin. So, instead of small cabin, benches and tables were installed.
10			Р	Path with signboards	0	-
11				Main signboard	0	-
12	Siakeshim	Repair	Year	Renovation of research center, new jetty and signboard	×	Until the second phase, the research center was in good condition and there is the
13		New	Plan until Second	Boardwalk	×	possibility to renovate it. However, after the suspension, it was almost destroyed. It was identified that renovation is costly and will take a long time. So, the renovation and development of this area were cancelled.
14	North Sorkhankol	Repair	ar	Signboard	0	-
15	Sorkhankol (water lily)		n until nd Ye:	Signboard	0	-
16	Boat station in Anzali Port		Plar Secoi	Signboard	0	-
17	Anzali Bridge	New	ar	Signboard	×	It was not difficult for tourists to reach the Anzali Port to use a
18	Mala sq. in Anzali		₁nd Ye	Signboard	×	boat riding service. So, it was identified that signboards along
19	Ghazlan Bridge in Anzali		ıntil Seco	Signboard	×	main roads for car users were not necessary.
20	Entrance to Selke from Main Road		Plan t	Signboard	0	-

(2) Initial Environmental Examination

The Supreme Council for Protection of Environment in Iran issued the lists about projects which need an EIA approval. Although tourism plans/projects are included in the lists, DOE Gilan clarified that the facility development in the wetland does not need an EIA because of its small-scale category. Based on the categories specified by the Guidelines for Environmental and Social Considerations by JICA, the development is under Category C, 'Project having minimal or little adverse impact on the environment and society.' Under the circumstances, the Project conducted the initial environmental examination (IEE) to develop necessary mitigation measures and monitoring because the areas cover a wildlife refuge. In the IEE, some impacts, even minor, on water quality, waste, noise and vibration, protected area, ecosystem and accident were predicted during construction and implementation of ecotours. Their mitigation measures and monitoring plans were proposed as an IEE document (see Attachment 13). Following the proposed measures, the construction activities caused no severe impacts.

2.5.8 Budgeting Scheme

In order to accomplish a self-reliant development of ecotourism, establishment of a self-sustaining funding system is necessary. For the first few years, DOE Gilan needs to guarantee the budget for ecotourism by itself. Afterwards, to cover these costs, an Anzali Wetland Ecotourism Fund is planned to be established in the near future. In this scheme, a conservation fund as part of the fee for ecotours and the budget from DOE Gilan and GCHHTO will be collected and managed by the Secretariat. Figure 2.5-2 shows the mechanism of the fund.



Figure 2.5-2 Scheme of Anzali Wetland Ecotourism Fund

2.5.9 Preparation of Action Plan for the Anzali Wetland Ecotourism

Referring to the survey results and considerations explained in Sections 2.5.2 to 2.5.8 above, and discussions with stakeholders (refer to Section 2.5.10), the DOE project team supported by JET finalized the Action Plan for the Anzali Wetland Ecotourism, which was approved in the 3rd AWMC meeting. Its table of contents is presented in Table 2.5-10, and the full texts are in Attachment 14.

Table 2.5-10	Table of Contents of Action Plan for the Anzali Wetland Ecotourism
1 abic 2.5-10	Table of Contents of Action I fan for the Anzan Wettahu Ecotourism

CHAPTE	R 1 INTRODUCTION
1.1	Background
1.2	What is Ecotourism?
1.3	Objective of the Action Plan
1.4	Target Users of the Action Plan
1.5	Current Conditions in/around the Anzali Wetland
1.5.1	Natural and Social Resources in/around the Wetland
1.5.2	Issues of Tourism Market
СНАРТЕ	R 2 DEVELOPMENT OF THE ANZALI WETLAND ECOTOURISM
2.1	Outline of the Anzali Wetland Ecotourism
2.1.1	Concept of the Anzali Wetland Ecotourism
2.1.2	Components of the Development of the Ecotourism
2.2	Institutional Structure
2.2.1	Association for Promotion of Anzali Wetland Ecotourism
2.2.2	Secretariat of Anzali Wetland Ecotourism
2.3	Ecotours
2.3.1	Policy of Ecotours
2.3.2	Target Tourists and Resources
2.3.3	Ecotours
2.3.4	Implementation of Ecotours
2.4	Guidelines (Rules) on the Anzali Wetland Ecotourism
2.4.1	Definition of Guidelines
2.4.2	Guidelines
2.4.3	Implementation of Guidelines
2.5	Nature Guides
2.5.1	Role and Qualification of Nature Guides
2.5.2	Nature Guide Training
2.6	Development of Small-Scale Facility for the Anzali Wetland Ecotourism
2.6.1	Policy for Development
2.6.2	Development of Small-Scale Facilities
2.7	Monitoring and Evaluation of Ecotours
2.8	Management of Information and Advertisement
2.9	Safety Management
2.10	Budgeting Scheme

Source: JET

2.5.10 Ecotourism Meetings

The DOE project team and JET organized a total of seven ecotourism meetings with relevant stakeholders. Their purposes were to disseminate the concept of ecotourism, to discuss the action plan, and to develop a cooperation scheme among DOE Gilan, GCHHTO, and the private sector. Table 2.5-11 summarizes these meetings.

No.	Date	Participants	Topics
1st	4 February	- Tourism Agencies	- Introduce the Anzali Wetland Ecological
	2008	- DOF Gilan	Management Project and concept of ecotourism
	2000		and avaluance opinions
		- JICA Expert Team	and exchange opinions
2nd	8 June 2008	- Hotels	- Introduction of the Project and sharing the
		 Tourism agencies 	concept of ecotourism
		- NGOs	 Report of tentative results of surveys on natural
		- Mass media	and social resources, and tourism market
		Fish and	and social resources, and tourism market
		- Hunters	
		- Farmers	
		 Researchers 	
		- GCHHTO	
		- DOF Gilan	
		- IICA Expert Team	
21	21 August	Description of the second seco	
Sra	31 August	- Representative of fishers' and nunters' union	- Introduction of Outline of the Draft Action Plan
	2008	- NGOs	- Exchanging Opinions about the Draft Action
		 Representative of travel agencies 	Plan
		 Representative of hotel union 	
		- Representative of suite union	
		- Anzali Municipality	
		MOLA	
		- MOJA	
		- GCHHIO	
		- DOE Gilan	
		 JICA Expert Team 	
4th	26 June	- Developmental Affairs Deputy Bureau of	 Discussion on the Action Plan
	2011	Provincial Governor Office	
		 Somesara-Tolamat 	
		- Somesara-Mirzakouchak	
		- Somesara Central Demarche Office	
		DOE Cilar /Eastannian Tann of the Drainet	
		DOE Glian/Ecotourism Team of the Project	
		- Somesara-Espand Village Islamic Assembly	
		 Somesara-Fatmesar Village Islamic Assembly 	
		 Somesara- Espand Village 	
		- GCHHTO	
		 Bandar Anzali–Moallem St.Beside Anzali MOJA 	
		- Somesara- Gourabzarmikh Municipality	
		- Pacht Sadi St Shahid Fathi St	
		\mathbf{R}	
		- Rasht, Pirbazar, Siyandarvishan Village	
		 Rasht, Hotel Owners Secretariat 	
		 JICA Expert Team 	
5th	31 January	 Staffs of GCHHTO 	- Discussion on the Guideline (rules) on the
	2012	 DOE Gilan/Ecotourism Team of the Project 	Anzali Wetland Ecotourism
		- IICA Expert Team	 Discussion on the Association for Promotion of
		sterrExpert team	the Anzali Wetland Ecotourism
6th	5 February	- Representative of tourism agency union	- Discussion on the Guideline (rules) on the
oui	2012	- Depresentative of tourism agency union	Anzali Wetland Ecotourism
	2012	Representative of noter union	Alizari wetrand Ecotourism
		- Representative of dam union	Discussion on the Association for Promotion of
		 Association of Tour Guides 	the Anzali Wetland Ecotourism
		- GCHHTO	 Discussion on Nature Guide Management
		 DOE Gilan/Ecotourism Team of the Project 	_
		- IICA Expert Team	
7th	10 April	- Dem union	- Introduction of the Droject and Sharing a
/ ui	2012 April		Concert of Ecotomics
	2012		Discussion on the Calibrian (mlas) on the
		- GCHHIO	- Discussion on the Guideline (rules) on the
		 DOE Gilan/Ecotourism Team of the Project 	Anzalı Wetland Ecotourism
		- DOE Anzali	
8th	26 April	- Dam union	- Discussion on the Guideline (rules) on the
	2012	- Boat union	Anzali Wetland Ecotourism:
		- Nature guide groups	- Discussion on the Association for Promotion of
		- GCHHTO	the Anzali Wetland Ecotourism
		- DOE Cilar/Eastouriar: T	- Discussion on Nature Cuida Management
		- DOE Glian/Ecotourism leam of the Project	Discussion on mature Ourde Management
0.1	17 1	- JICA Expert Team	
9th	17 June	 Tourism agencies 	 Introduction of Small-scale Facilities in Selke
	2012	 DOE Gilan/Ecotourism Team of the Project 	- Introduction of Mechanism to Implement
		- JICA Expert Team	Ecotourism by Tourism Agencies
		por roun	- Discussion on the Association for Promotion of
			the Anzali Wetland Ecotourism

Table 2.5-11	Summary of	of Ecotourism	Meetings
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2.5.11 Activities After the Project

After the Project, as the Secretariat of the Association, DOE Gilan will promote the Anzali Wetland Ecotourism following the action plan. DOE Gilan will need the close cooperation with other members

of the Secretariat, GCHHTO, and tourism agency union. Table 2.5-12 summarizes the continuing activities for the Anzali Wetland Ecotourism after the Project.

Category	Activities	Responsible Organization	Time/Frequency
Institutional Works	- Meeting of the Association	- Secretariat	- Secretariat: six times/year
			- Association: twice/year
Ecotours	- Regular ecotours (Selke	- Private sectors	- Regular ecotours: regularly
	nature study tour, nature	(tourism agency,	- New ecotours: sports tour
	boat tour)	nature guides, NGOs)	in 2014; visiting of visitor
	- Development new ecotours	- Secretariat	center in 2016
	(sports tour, visiting of visitor center)		
Guidelines (Rules)	- Dissemination	- Secretariat	- Regularly
on the Anzali	Dissemination	Secretariat	icegulary
Wetland Ecotourism			
Nature Guides	- Nature guide training	- DOE Gilan	- Training: four times/year
	- Management of nature	- GCHHTO	- Management: regularly
	guide		
Small-scale	- Maintenance of existing	- DOE Gilan	- Maintenance: regularly
Facilities	facilities	- GCHHTO	- Development of new
	- Development of new		facilities: facilities for
	facilities		sports tour in 2013;
			facilities for the tour of
			visitor center in 2013
Monitoring and	- Monitoring of environment	- DOE Gilan	- Regularly
Evaluation of	in the wetland	- GCHHTO	
Ecotours	 Monitoring of ecotours 		
	- Monitoring of nature		
	guides		
Budgeting Scheme	- Development of funding	- Secretariat	- Discussions with the
	scheme for ecotourism		Association and secretariat

 Table 2.5-12
 Activities After the Project

Source: JET

2.5.12 Recommendations for Sustainable Development of Anzali Ecotourism

(1) Strong Leadership and Openness of DOE Gilan

DOE Gilan is one of the most crucial organizations to promote the Anzali Wetland Ecotourism. Its leadership is vital in the Association for Promotion of the Anzali Wetland Ecotourism as well as its Secretariat. DOE Gilan's responsibilities are broad, i.e., support of the private sector in implementation of ecotours, its monitoring, training of nature guides, development and O&M of facilities. Strong leadership of DOE Gilan is inevitable in all of these aspects. In addition, it must be open and fair to any stakeholders which plan ecotours in the wetland. If they propose appropriate ecotours within the framework of the Anzali Wetland Ecotourism articulated in the action plan, DOE Gilan must issue permission based on fair evaluation of proposals.

(2) Close Cooperation between DOE Gilan and GCHHTO

The GCHHTO is a main government stakeholder to promote tourism in Gilan Province. It also has a responsibility in training and certifying nature guides. As one of the members of the Association as well as its Secretariat, GCHHTO has critical responsibilities in the promotion of the Anzali Wetland Ecotourism. The Project had already established the basis of cooperation between GCHHTO and DOE Gilan but it is necessary to enhance it more. It is recommended for GCHHTO and DOE Gilan to work closely through the activities of the Association and its Secretariat.

(3) Close Cooperation among Governmental Organizations and the Private Sector

The private sector is one of the most important players to implement ecotours. Especially, tourism agencies and nature guides are expected to plan and conduct ecotours based on their original ideas within the framework of the Anzali Wetland Ecotourism. Thus, the private sector, as ecotour implementers, and DOE and GCHHTO, as supervisors of ecotours, must cooperate closely in serving and promoting ecotours. They are expected to utilize the Association and its Secretariat to share their ideas for the development of the Anzali Wetland Ecotourism

(4) Improvement of the Skills of Nature Guides

The Project conducted several nature guide training courses and GCHHTO also has its own programs for nature guides. Through the pilot ecotours, however, it was found that the capacity of nature guides was still weak especially in ecotours in the Anzali Wetland. Many of nature guides have experiences and knowledge in tours for hiking and mountainous areas, but are still insufficient in ecotours for the wetland. Scientific knowledge about the nature of the Anzali Wetland and safety knowledge on boat tours are most critical qualifications for nature guides to acquire. The action plan of the Anzali Wetland Ecotourism proposed a mechanism for the nature guide training. DOE Gilan and GCHHTO are recommended to conduct regular training programs following the action plan.

(5) Improvement of Awareness of Boat Drivers

The Project had disseminated the concept of ecotourism and raised the level of environmental awareness of boat drivers through conduct of several meetings and pilot ecotours. It was found in the pilot ecotours, however, that the level of their understanding was still insufficient. The boat drivers drove fast sometimes in the protected areas and went too close to water lilies. In the light of environmental impact as well as safety, their boat driving manner needs to be changed. It is recommended that DOE will continue to have regular trainings for boat drivers to improve their understanding on ecotourism and raise their level of environmental awareness.

(6) More Participation from the Tourism Agency

The Project had promoted the involvement of tourism agencies in the Anzali Wetland Ecotourism. Through the pilot ecotours and several meetings, its concept, development plan, and small-scale facilities in the wetland were introduced to them. However, the number of tourism agencies who are interested in ecotourism is still small. Besides, those having enough capacity to serve an ecotour in the wetland are limited. So, DOE Gilan and GCHHTO are recommended to provide more opportunities for tourism agencies to understand the Anzali Wetland Ecotourism and to obtain capacity for ecotours through meetings as well as pilot ecotours.

(7) Guarantee of Budget of DOE Gilan

DOE Gilan has to prepare the appropriate budget for the sustainable development of the Anzali Wetland Ecotourism. As Section 2.5.8 describes, it needs to cover the costs for activities of the Association and its Secretariat, monitoring of ecotours, O&M of small-scale facilities, and nature guide training. It is strongly recommended for DOE Gilan to take urgent action to prepare the budget in Iranian fiscal year of 1391 (June 2012 to June 2013).

2.6 Capacity Development and Assessment

2.6.1 Capacity Development

Based on the PDM, PO (refer to Section 1.2) and results of the initial capacity assessment (refer to Section 2.6.2), the Project prepared a capacity development plan for each output at the beginning of the recommencement period in April 2011 (refer to Table 2.6-1). With these, the Project had promoted capacity development of the C/P throughout the project period.

Item	Output 1	Output 2	Output 3	Output 4	Output 5	
Activities	 Collect and summarize information on the wetland management activities of relevant organizations Draft a plan for a system for the wetland management that shows the institutional structure, committee members, roles, responsibilities and others Make an agreement between relevant government offices on the formulation of a wetland management committee as part of the management system Establish and hold the wetland management committee with DOE as the Secretariat that plays key roles in the management system Provide on-the-job training to DOE for the management of the committee 	 Collect information on the on-going monitoring activities conducted by each organization, capacity of the staff and equipment Identify and determine indicators for wetland conservation Determine method for collection, analysis and handling of data, and prepare draft monitoring manual Explain draft monitoring manual and establish consensus in the wetland management committee Settle and implement the monitoring training plan 	 Conduct a socio-economic survey in the Anzali Wetland and surrounding area Based on the results of the socio-economic survey, review the zoning plan presented in the master plan and draft regulations for each zone Hold stakeholder meetings to explain zoning, the survey results and the draft regulations to receive feedback 	 Collect information on the on-going activities and existing materials for environmental education in Gilan Province Referring to the results of the pilot project in the master plan study, formulate an action plan for environmental education including the training schedule at the Environmental Education Center Make an agreement on the environmental education action plan in the committee Produce materials for environmental education in the above action plan, including audio-visual materials, and pilot implementation of environmental education 	 Collect relevant information about ecotourism (laws/regulations, plans, organization, current ecotourism activities, natural and social resources in/around the wetland, and tourism market) Revise action plan Develop cooperation scheme among relevant organizations and local communities Develop small-scale facilities Implement pilot ecotours 	
Capacity to be Transferred	 Roles of AWMC and its Secretariat Necessary works in the preparation of the AWMC meeting Arrangement and operational methods of AWMC 	 Methods for information gathering Methods for water level monitoring Methods for water quality monitoring Methods for biological monitoring Technology for database construction 	 Concepts of zoning Methods for information gathering Technology for geographical data analysis Arrangement of the stakeholder's meeting Methods for operation of zoning plan 	 Concepts of environmental education Methods for information gathering Methods for production of environmental education materials Arrangement of the environmental education programs 	 Concept of ecotourism Skills for tourism market survey and its analysis Methods of development of action plan Skills for development of cooperation scheme among relevant organizations and local communities 	

 Table 2.6-1
 Capacity Development Plans

Item	Output 1	Output 2	Output 3	Output 4	Output 5
		 Technology for data analysis Methods for feedback to wetland management Methods for conducting trainings 		 Skills to implement environmental education programs 	 Skills to implement pilot ecotours
Intended Person/ Body for Capacity Development	 DOE Gilan Deputy of Public Relations DOE Gilan Deputy of Environmental Education Relevant organizations participating in AWMC 	 DOE Gilan Deputy of Natural Resource and Biodiversity DOE Gilan Deputy of Human Environment DOE Gilan laboratory DOE Gilan Anzali, Somesara, and Rasht branch offices Monitoring staff of relevant organizations 	 DOE Gilan Deputy of Natural Resource and Biodiversity DOE Gilan Deputy of Human Environment DOE Gilan Deputy of Inspection DOE Gilan Anzali, Somesara, and Rasht branch offices Relevant organizations participating in AWMC 	 DOE Gilan Deputy of Natural Resource and Biodiversity DOE Gilan Anzali, Somesara, and Rasht branch offices Education Organization NGOs 	 DOE Gilan Deputy of Natural Resource and Biodiversity GCHHTO Relevant organizations participating in AWMC
Methods of Capacity Development	 On-the-job training Discussion with JET 	 On-the-job training Meetings and workshops Training courses by visiting lecturers Conducting actual monitoring 	 On-the-job training Discussion with JET Supervising of sub-contractor's work Meetings with local people 	 On-the-job training Discussion with JET Production of environmental education materials Pilot of environmental education program 	 On-the-job training Discussion with JET Ecotourism workshops Questionnaire survey Training courses by visiting lecturers and study tour Pilot ecotours
Expected Results of the Capacity Development (Technical Capacity)	 To understand the functions of AWMC and roles of AWMC's Secretariat To be able to conduct necessary arrangement of the AWMC meeting To operate AWMC as the Secretariat 	 Information sharing among relevant organizations is developed Monitoring skill is improved Skills on database construction and data analysis is improved 	 To understand the condition of natural environment in/around the wetland, laws/regulations, plans and relevant organization's activities and responsibilities To understand the method of socio-economic survey To understand the concept of zoning To understand the method of planning and zoning 	 To understand the concept of environmental education To understand the method for production of environmental education materials To manage the implementation of environmental education programs To have an understanding on the necessary information to revise action plan, and to collect and analyze them 	 To understand the laws/regulations, plans and relevant organization's activities and responsibilities To understand the natural and social resources in/around the wetland, and tourism market To understand the concept of ecotourism To have an understanding on the necessary information to revise action plan, and to

Item	Output 1	Output 2	Output 3	Output 4	Output 5
			- To understand the method of operation and zoning plan		 collect and analyze them To manage the implementation of ecotours To monitor ecotours and identify effects and issues, and to improve ecotours
Expected Results of the Capacity Development (Core Capacity)	 To promote cooperation among relevant organizations AWMC member organizations understand the importance of AWMC with intention of further cooperation 	 Consciousness for collaboration among relevant organizations in monitoring is enhanced Understanding of monitoring and feedback system is deepened Consciousness for the need of monitoring is enhanced Recognition of the need of budget allocation and capacity development for monitoring is enhanced 	 To promote cooperation among relevant organizations Each organization understands the importance of zoning, and operate it based on close cooperation 	 To promote cooperation among relevant organizations Each organization understands the importance of environmental education, and promote it based on close cooperation 	 To promote cooperation among relevant organizations and local communities Each organization understands the importance of ecotourism, and promote it based on close cooperation

2.6.2 Capacity Assessment

At the beginning of the third year, in April 2011, the Project conducted a simple capacity assessment to identify the baseline capacity of the DOE project members. A total of 10 project team members answered the questionnaire based on self-assessment.

Near the end of the project period, in June 2012, the Project assessed the improvement of the members' capacity. The same members answered the questionnaire. The same questions as those in the first assessment were asked to identify the capacity development in each member. The respondents chose their capacity to each question based on five-grade score: 5 (expert on the subject); 4 (high experience/knowledge); 3 (average experience/knowledge); 2 (little experience/knowledge); and 1 (no experience/knowledge). Besides, the respondents freely wrote their opinions about any knowledge and skills they think needs improvement.

(1) Output 1: Institutional Development

Table 2.6-2 shows the results of self-evaluation regarding Output 1. As a whole, the scores showed improvement of their capacities. Especially, in terms of skills for planning and implementation of institutional development, the average score increased from 3.3 to 4.0 and 3.8 to 4.3, respectively. It is considered that the increase was due to the activities for establishing the AWMC. One of the DOE project members who was involved in the Project since 2007 before the suspension, obtained skills and knowledge about planning of institutional development for wetland conservation throughout the project period. On the other hand, one of the respondents mentioned necessity of regular training of relevant stakeholders about their responsibilities and regulations.

No	Category	Question	Initial	Final
1	Basic knowledge about institutional	Do you understand laws/regulations and plans relevant to institutional development?	3.5	4.0
2	development	Do you understand roles and activities of relevant organizations of the Anzali Wetland, such as MOJA, NRGO, GWWO, etc.?	4.0	4.5
3		Do you understand economic activities in/around the Anzali Wetland?	3.5	4.5
4		Do you understand natural and social resources in/around the Anzali Wetland?	4.0	4.5
5		Do you understand the concept of institutional development?	3.5	4.5
		Average of basic knowledge	3.7	4.4
6	Planning of institutional development	Do you understand necessity of ad-hoc inter-organizational committee for environmental management of the Anzali <u>Wetland as Anzali Wetland Management Committe</u> e?	4.0	4.5
7		Do you understand necessity of Secretariat for the Anzali Wetland Management Committee?	3.5	4.5
8		Do you have knowledge to develop the Anzali Wetland Management Committee?	3.5	4.0
9		Do you have knowledge to develop a Secretariat of the Anzali Wetland Management Committee?	3.5	4.0
10		Do you have knowledge and experience to develop ad-hoc inter-organizational committee?	3.0	4.0
11		Do you have knowledge to develop the articles of an association on ad−hoc inter−organizational committee?	2.5	3.5
12		Do you have knowledge and experience to develop guidelines (rules) for ad-hoc inter-organizational committee?	3.0	4.0
13		Do you have knowledge to develop a monitoring and evaluation system about ad-hoc inter-organizational committee?	3.0	3.5
		Average of planning	3.3	4.0
14	Implementation of institutional	Can you coordinate with governmental organizations to conduct ad-hoc inter-organizational committee?	4.0	4.5
15	development	Can you play a role for secretariat of the ad-hoc inter- organizational committee?	4.0	4.5
16		Can you prepare meeting record of the ad-hoc inter- organizational committee?	3.5	4.5
17		Can you monitor and evaluate implemented ad-hoc inter- organizational committee?	3.5	3.5
		Average of implementation	3.8	4.3

 Table 2.6-2
 Result of Capacity Assessment: Output 1

(2) Output 2: Wetland Management and Monitoring

Table 2.6-3 shows the results of self-evaluation regarding Output 2. The average score showed good increase from 3.0 to 3.9. It is noticeable that skills for determination of monitoring indicators and building database showed high scores, 4.5. This was attributed to the Physiochemical and Biological Monitoring Training Course and the Monitoring and Feedback System Training Course conducted in the Project.

On the other hand, as the DOE project members mentioned in the questionnaire and interviews in the final project evaluation, more intensive training courses are necessary for them. It is expected that DOE will conduct regular training programs on monitoring activities after the Project.

No	Category	Question	Initial	Final
1	Basic knowledge about monitoring	Do you understand relevant laws, regulations and plans?	2.7	4.0
2		Do you understand activities of relevant organizations?	3.3	4.0
3		Can you prepare a budget plan for moitoring?	2.7	3.5
4		Can you determine indicators for monitoring?	3.3	4.5
5		Can you plan and/or execute a water level survey?	2.7	3.5
6		Can you plan and/or execute a water quality survey?	2.7	3.5
7		Can you plan and/or execute a ecological survey?	2.7	3.5
8		Can you build a database?	3.0	4.5
9		Can you use Excel sofware?	4.3	5.0
10		Can you analyze monitoring data?	2.0	4.0
11		Can you evaluate monitoring results?	2.7	3.5
12		Can you feedback monitoring results to the wetland management?	3.0	3.5
13		Can you develop training curriculum for monitoring?	2.7	4.0
14		Can you conduct training for monitoring?	3.3	4.0
15		Can you feedback training results to a monitoring manual?	3.3	4.0
		Average of basic knowledge	3.0	3.9

Table 2.6-3	Result of Capacity Assessment	: Output 2
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(3) Output 3: Zoning

Table 2.6-4 shows the results of self-evaluation regarding Output 3. The average score showed an increase from the initial to the final assessment. The zoning project members conducted a number of meetings with stakeholders to develop the zoning plan of the Anzali Wetland. It is considered that the members could obtain good experiences through the communication/discussions with relevant organizations and meetings with local communities. The members obtained high scores on the skills for identification of stakeholders and organizing meetings. DOE Gilan is expected to utilize these experiences and skills in other wetlands in Gilan Province.

No	Category	Question	Initial	Final
1	Basic knowledge about zoning	Do you understand nessesity of a zoning plan?	3.5	4.5
2		Can you collect relevant geological materials (laws, regulations, natural resources, etc.) to a zoning plan?	3.0	4.5
3		Can you plan a socio-economic survey?	3.0	3.5
4		Can you supervise a contractor of socio-economic survey?	4.0	4.5
5		Can you refrect a socio-economic survey result to a zoning plan?	3.5	4.0
6		Can you analyze with a GIS (Arc GIS) software?	3.5	4.0
7		Can you implement a zoning plan?	4.0	4.5
8		Can you make regulations for each zone?	4.5	4.0
9		Can you indentify stakeholders for a zoning plan?	4.5	4.5
10		Can you organize stakeholders meetings?	4.5	4.5
11		Can you make necessary materials about zoning for the Anzail Wetland Management Committee?	4.0	4.0
12		Can you feedback results of stakholders meeting and Committee to a zoning plan?	4.0	4.0
		Average of basic knowledge	3.8	4.2

Table 2.6-4 Result of Capacity Assessment: Output 3

(4) Output 4: Environmental Education

Table 2.6-5 shows the results of self-evaluation regarding Output 4. The average score showed an increase from the initial to the final assessment. Through production of environmental education materials and implementation of the environmental education programs, the DOE project members obtained good skills and experiences for the promotion of environmental education. On the other hand, the scores in relation with the action plan did not increase and the scores in the first assessment were high. They had not prepared, however, any detailed plans for their educational activities before. Thus, it is considered that the preparation of the action plan and the implementation of several educational activities following it provided good experiences and knowledge to the DOE project members.

No	Category	Question	Initial	Final
1	Basic knowledge about environmental	Do you understand nessesity of the environmental education?	3.7	4.0
2	education	Can you collect relevant materials (laws, regulations, plans, et <u>c.) to environmental education?</u>	4.0	4.5
3		Can you conduct hearings at relevant organizations/ persons?	4.0	4.5
4		Can you analyze collected materials and information?	3.7	4.5
5		Can you establish a basic policy of environmental education?	3.7	3.5
6		Can you prepare materials of environmental education?	4.0	4.5
7		Can you supervise contractors to make environmental educations materials?	4.3	4.5
8		Can you develop an education plan using environmental education center?	3.3	4.0
9		Can you set responsibilities of stakeholders participating in environmental education?	3.7	3.5
10		Can you collaborate with stakeholders (e.g. Ministry of Education)?	4.0	4.5
11		Can you make an action plan of environmental education?	4.3	4.0
12		Can you conduct environmental education activities?	4.3	4.5
13		Can you monitor of environmental education activities?	3.7	4.0
14		Can you feedback results of environmental education activities to an action plan?	4.0	4.0
		Average of basic knowledge	3.9	4.2

 Table 2.6-5
 Result of Capacity Assessment: Output 4

(5) Output 5: Ecotourism Development

Table 2.6-6 shows the results of self-evaluation regarding Output 5. The average scores showed an increase from the initial to the final assessment. Through the preparation of the action plan and implementation of the pilot ecotours, the DOE project members could obtain good skills and experiences for the promotion of ecotourism. It is supported by the increase of average scores in the planning of ecotourism development and implementation of ecotours.

The results showed that there are still rooms for the improvement of their capacities. As one of the members wrote in the questionnaire, they have good 'theoretical' skills but do not have enough 'practical' skills for developing ecotourism. Both respondents mentioned that the Project was their first time to do actual activities for ecotourism development, and they needed more practical knowledge and experiences. Thus, it is expected that DOE will assign them to develop ecotourism in other possible wetlands utilizing the skills and knowledge obtained through the Project.

No	Category	Question	Initial	Final
1	Basic knowledge about ecotourism	Do you understand laws/regulations and plans relevant to ecotourism?	3.0	3.0
2		Do you understand roles and activities of relevant organizations, such as GCHHTO, PMO, etc.?	2.5	3.0
3		Do you understand tourism activities in/around the Anzali Wetland?	3.5	3.0
4		Do you understand the tourism market in/around the Anzali Wetland?	3.5	3.0
5		Do you understand natural and social resources in/around the Anzali Wetland?	3.0	3.5
6		Do you understand the concept of ecotourism?	3.5	4.0
		Average of basic knowledge	3.2	3.3
7	Planning of ecotourism	Do you have knowledge to develop organizational structure for ecotourism?	3.0	3.0
8	development	Do you have knowledge and experience to develop ecotour programs?	2.0	3.0
9		Do you have knowledge and experience to develop guidelines (rules) <u>for ecotourism?</u>	3.0	3.0
10		Do you have knowledge to develop nature guide training and management?	3.0	3.5
11		Do you have knowledge about facility development for ecotourism?	2.0	3.5
12		Do you have knowledge to develop a monitoring and evaluation system about ecotourism?	2.5	3.5
13		Do you have knowledge to develop a safety management system about ecotourism?	0.5	3.5
		Average of planning	2.3	3.3
14	Implementation of ecotours	Can you organize meetings with governmental organizations to discuss about ecotourism in/around the Anzali Wetland?	3.0	3.0
15		Can you organize stakeholder meetings and/or workshops with private sectors and local residents to discuss about <u>ecotourism in/around the Anzali Wetland?</u>	2.5	3.0
16		Can you implement and/or supervise nature guide training?	3.5	3.0
17		Can you manage and/or supervise facility construction for ecotours?	2.0	3.0
18		Can you manage and/or supervise ecotours?	2.5	3.5
19		Can you monitor and evaluate implemented ecotours?	2.5	3.5
		Average of implementation	2.7	3.2

 Table 2.6-6
 Result of Capacity Assessment: Output 5

2.7 Guidelines for Sustainability of the Project

The Project has established the basic system for the management of the Anzali Wetland in which DOE is the core constituent. The management system covers the establishment of the institutional structure and monitoring procedures, development of environmental education, and development of ecotourism.

The guidelines had been prepared to support sustainable activities for the management system after the Project. As Table 2.7-1 shows, the guidelines comprised five subjects that are outputs of the Project. Each subject listed necessary actions to continue the management system and they are

written in simple sentences. Thus, relevant stakeholders can easily understand the implementation procedures of, and their roles/responsibilities in, the management system. The full texts are in Attachment 14.

Table 2.7-1Table of Contents of Guidelines for Sustainability of the Anzali Wetland EcologicalManagement Project

1		OVERVIEW
2		OPERATION OF THE ANZALI WETLAND MANAGEMENT COMMITTEE
-	2.1	Introduction
	2.2	Operation System of AWMC
		-F
3		MONITORING FOR THE ANZALI WETLAND MANAGEMENT
	3.1	Introduction
	3.2	Basic Concept of Monitoring
	3.3	Implementation of Comprehensive Monitoring
	3.4	Enhancement of the Monitoring Accuracy
	3.5	Monitoring and Feedback for Adaptive Management
	3.6	Budgeting Scheme
4		ZONING FOR THE ANZALI WETLAND MANAGEMENT
	4.1	Introduction
	4.2	Basic Concepts of the Zoning Plan
	4.3	Wetland Zone
	4.4	Buffer Zone
	4.5	Transition Zone
	4.6	Operation of the Zoning Plan
5		ENVIRONMENTAL EDUCATION AT ANZALI WETLAND
	5.1	Introduction
	5.2	Implementation Principle
	5.3	Materials, Facilities, and Equipment
	5.4	Environmental Education Programs
	5.5	Instructor Training
6		ECOTOURISM AT ANZALI WETLAND
	6.1	Introduction
	6.2	Institutional Development
	6.3	Ecotours
	6.4	Rules on the Anzali Wetland Ecotourism
	6.5	Nature Guides
	6.6	Facilities
	6.7	Monitoring
	6.8	Budgeting Scheme

2.8 Common and Advisory Activities

2.8.1 Publicity

(1) Newsletter

The Project published and circulated five newsletters with one thousand copies each, as listed in Table 2.8-1. The newsletters were distributed to DOE staff, relevant organizations, NGOs, and residents by DOE.

No.	Month Issued	Contents
1	February 2008	Messages from the Project, Outline of the Project, Project Report, Project
		Members
2	June 2008	Messages from the Project, Main Activities in 2nd Year of the Project,
		Project Report, Counterpart Training in Japan, Message from JICA Expert
3	July 2012	Messages from the Project, Outline of the Project, Project Report, Life in
		the Anzali Wetland, Project Members
4	February 2012	Messages from the Project, Counterpart Training in Japan, Project Report
5	July 2012	Messages from the Project, Project Report, Terminal Evaluation of the
		Project

Table 2.8-1 List of Newsletters

(2) Installation of Video System in the Biodiversity Museum

There is the Anzali Wetland section in the Biodiversity Museum in the premises of Pardisan Park where DOE HQ is located. Thus a video system was installed at the Anzali Wetland section in the museum in July 2012 in order for visitors to watch the video programs which the Project produced for environmental education.

(3) Cooperation to Mass Media

Project activities were reported as news articles and videos in Iran and overseas. The Project cooperated to them for publicity. Not all the news were collected, and collected news articles, including those reported on the Internet such as the website of Ramsar Convention, are shown in Attachment 20. NHK broadcasted project activities on its news programs, "Ohayo Nippon", "BS World Wave Tonight" and "NHK World" in July 2012.

(4) Other Publications

Other publicity materials such as T-shirts, badges, and caps were produced in July 2011. Posters and calendars were prepared in February 2012. The materials were distributed through workshops, trainings, and trials of environmental education and eco-tourism.

2.8.2 Workshop

Three workshops were held during the project period in order to disseminate the project outputs. Records of the workshops are attached in Attachment 16.

No. of Workshop	Date	Venue	Number of Participants	Contents
1st Workshop	28 November 2007	Dehkadeh Saheli, Gilan	75	Introduction of the Project
2nd Workshop	1 February 2012	DOE Gilan Anphitheater	65	Progress Report of the Project
3rd Workshop	26 May 2012	DOE HQ Sarv Conference Room	31	Introduction of the Project Achievement

Table 2.8-2 Outline of the Workshops

Source: JET

2.8.3 Study Tour

A study tour was carried out from 25 to 27 February 2012. The destination was Lake Parishan, the site of the United Nations Development Programme (UNDP) Conservation of Iranian Wetland Project. Six DOE project members participated and achieved the following purposes of the study tour:

- Exchange experiences between the UNDP Project in Lake Parishan and Anzali Wetland Ecological Management Project because they are unique projects in the wetland sector in Iran; and
- Understand the outputs and difficulties which the UNDP Project faces.

2.8.4 Partnership between Anzali and Kushiro

In order to develop the conservation management system in Anzali Wetland and ensure its sustainability, further cooperation and establishment of a long-term relationship with Japan are desired.

The Project made a proposal of partnership between Anzali Wetland and Kushiro Wetland in Japan which have a number of common features. Its purpose is technical information sharing on wetland conservation.

During the project's training course in Japan in September 2011 and June 2012, DOE members attended meetings with the Kushiro International Wetland Center which is jointly operated by six municipalities in the wetland area, administrative divisions of Hokkaido, and the national government, regarding the partnership between Anzali Wetland and Kushiro Wetland. They attended a third meeting in Romania when they participated in the 11th Meeting of the Conference of the Contracting Parties to the Ramsar Convention on Wetlands (COP11) in Bucharest, Romania in July 2012.

The two entities had a series of constructive discussions on their communication activities and signed the Memorandums of Understanding (MOU) on 15 September 2011, 20 June 2012 and 9 July 2012 (Attachment 17). Based on the MOU, the communication and cooperation between Anzali and Kushiro are expected to be developed towards future exchange of information and knowledge between the two entities, which can contribute to the overall goal of the Project.

2.8.5 Biweekly Meetings

The Project started having biweekly meetings from the beginning of the third year, regularly held at DOE Gilan until the end of the Project. There were a total of 23 meetings held on the management and coordination of the Project attended by JET and the DOE project team. The main agenda were the progress report of each output, preparation and reporting of events, and introduction of experiences in Japan.

The agenda and minutes of the meeting of each meeting were prepared by DOE project members as an on-the-job training. The records were submitted to the Project Director and Project Manager in DOE HQ.

2.8.6 Sections for the Post-Project Activities

Sections responsible for each project activity after the end of the Project was identified by Mr Abdoos, Provincial Project Coordinator and Director General of DOE Gilan, as shown in Table 2.8-3. The Secretariat of AWMC would soon be established using the project office.

Table 2.8-3 Responsible Sections in Charge of Post-Project Activities

	In the Name of GOD			ہستہ تعالی	
R	esponsible Sections for activities after Anzali Wetland Joi	nt Management Committee	ب الزقی بنده	واحدهای مسئول پیکیری فغالبتهای کمینه مدیریت مشترک کالا پس از پایان پروژه مدیریت اکولوژیک کالاب اتر کی و در آ	
	After Anzali Wetland Ecological Managem	ent Project	فعاليت	یغث /راجد	
	cuter stand of change Ecological standingen	carriojer	مديريت كعيته	محيط زيست طيعى/روابط عمومى	
			متطقه بندى	محیط زیست طبیعی سر کر 515	
			اكوتوريسيم	محيط ويست طبيعي - المريك محاوله والح	
			أموزنى زيست محيطى	اموزش	
No.	Section/Unit	Activity	بايش و مونيتورينگ	محيط زيست السانى الزمايشكاد	
1	Deputy of Natural Resource and Biodiversity/ Public Relation Section, DOE Gilan	Secretariat of AWMC			
2	Deputy of Natural Resource and Biodiversity /GIS Section, DOE Gilan	Zoning		وبالاسترانية المارينة المدام موزمونا وملايية -	ء تو فراست ش
3	Deputy of Natural Resource and Biodiversity /Habitat and Protected Area section, DOE Gilan	Ecotourism			19 000 61
4	Education Section, DOE Gilan	Environmental Education			
5	Deputy of Human Environment/ Laboratory, DOE Gilan	Monitoring	1	ي الم	
-		(Les Cra	A PIC	

Source: DOE

2.8.7 Budget Planning

The Project prepared the budget plans for monitoring, environmental education, and ecotourism in order for DOE Gilan to continue the project activities. Table 2.8-4 presents the proposed budget plans in the Iranian fiscal year of 1391 to 1395. It was also submitted to the Budgeting Section of DOE Gilan.

	1391 1392										139	3				130	4				1395							
				(J	un 2012 te	o Jun 2013)			(Jun	2013 to	o Jun 2014)			(Jun 2	2014 to	Jun 2015)			(Ju	n 2015 to	Jun 2016)		(Jun 2016 to Jun 2017)					
Organization	Main Task	Activity		Exp	penditure		Budget		Exper	nditure	_	Budget		Expense	diture		Budget		Expe	nditure		Budget		Expen	diture		Budget	
			Unit Cost	1	Unit	Sub-Total	Source	Unit Cost	Ur	nit	Sub-Total	Source	Unit Cost	Un	iit	Sub-Total	Source	Unit Cost	ι	Unit	Sub-Total	Source	Unit Cost	Ur	nit	Sub-Total	Source	
	Develop and conduct ecotours	 Plan and implement ecotours through coordination among stakeholders 	2.50	6	times	15.00	DOE budget	3.25	4	times	13.00	DOE budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2 compliance with the Guidelines	- Monitor compliance with the Guidelines	2.00	4	times	8.00	DOE budget	2.60	4	times	10.40	DOE budget	3.38	4	times	13.52	DOE budget	4.39	4	times	17.58	DOE budget/ Conservation fund	5.71	4	times	22.85	DOE budget/ Conservation fund	
		- Conduct nature guide training	2.00	4	times	8.00	DOE budget	2.60	4	times	10.40	DOE budget	3.38	4	times	13.52	DOE budget	4.39	4	times	17.58	DOE budget/ Conservation fund	5.71	4	times	22.85	DOE budget/ Conservation fund	
	Training and management of nature guides	- Monitor quality of nature guides	To be conducted with Task 2, 'Compliance monitoring'	-	-	-	DOE budget	To be conducted with Task 2, 'Compliance monitoring'	-	-	-	DOE budget	To be conducted with Task 2, 'Compliance monitoring'	-	-	-	DOE budget	To be conducted with Task 2, 'Compliance monitoring'	-	-	-	DOE budget/ Conservation fund	To be conducted with Task 2, 'Compliance monitoring'	-	-	-	DOE budget/ Conservation fund	
DOE Guilan	4 Develop facilities and O&M	- O&M of facilities	5.00	1	-	5.00	DOE budget	6.50	1	-	6.50	DOE budget	16.90	1	-	16.90	DOE budget	21.97	1	-	21.97	DOE budget/ Conservation fund	28.56	1	-	28.56	DOE budget/ Conservation fund	
	5 Monitor ecotours and their impacts	- Monitoring the natural conditions in the Wetland	To be conducted as wetland monitoring	-	-	-	DOE budget	To be conducted as wetland monitoring	-	-	-	DOE budget	To be conducted as wetland monitoring	-	-	-	DOE budget	To be conducted as wetland monitoring	-	-	-	DOE budget	To be conducted as wetland monitoring	-	-	-	DOE budget	
	6 Manage conservation fund	 Manage revenue and expenditure, and control equal distribution and appropriate use 	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7 Organize a meeting of	- Arrange a meeting	1.00	2	time	2.00	DOE budget	1.30	2	time	2.60	DOE budget	1.69	1	time	1.69	DOE budget	2.20	1	time	2.20	DOE budget/ Conservation fund	2.86	1	time	2.86	DOE budget/ Conservation fund	
	the Association	- Meetings of secretariat	1.00	6	time	6.00	DOE budget	1.30	6	time	7.80	DOE budget	1.69	6	time	10.14	DOE budget	2.20	6	time	13.18	DOE budget/ Conservation fund	2.86	6	time	17.14	DOE budget/ Conservation fund	
Unit: 1,000,000 II	RR	Grand Total				44.00					50.70				_	55.77	-				72.50					94.25	5	
		Inflation rate: 30% per year																										
	÷			(1	13 aby 2012 to	391 o July 2013)			(July	13	92 9. July 2014)			(Inly ?	139 2014 to	3 July 2015)			(Inl	139 v 2015 to	14 July 2016)			(Inly)	1395 (July 2016 to July 2017)			
Item	Main Task	Activity		Exp	penditure	0 July 2015)	Budget		Exper	diture	0 July 2014)	Budget		Expend	diture	3 uly 2013)	Budget		Expe	nditure	July 2010)	Budget		Expen	diture	uly 2017)	Budget	
			Unit Cost		Unit	Sub-Total	Source	Unit Cost	Ur	nit	Sub-Total	Source	Unit Cost	Un	it	Sub-Total	Source	Unit Cost	Ì	Unit	Sub-Total	Source	Unit Cost	Ur	nit	Sub-Total	Source	
	Water and sediment quality sampling and	- Sampling	3.00	12	times	36.00		3.90	12	times	46.80		5.07	12	times	60.84		6.59	12	times	79.09		8.57	12	times	102.82	2	
Monitoring	sample analysis	- Sample analysis	25.00	12	times	300.00		32.50	12	times	390.00		42.25	12	times	507.00		54.93	12	times	659.10		71.40	12	times	856.83	3	
-	2 Bird survey	- Field identification and counting	5.00	2	times	10.00		6.50	2	times	13.00		8.45	2	times	16.90		10.99	2	times	21.97		14.28	2	times	28.56	5	
	3 Data interpretation	- Database and data analysis	1.00	2	times	2.00		1.30	2	times	2.60		1.69	2	times	3.38	ŝ	2.20	2	times	4.39		2.86	2	times	5.71	1	
Unit: 1,000,000 II	RR	Grand Total				348.00	-				452.40	-			-	588.12				-	764.56				-	993.92	2	
		Inflation rate: 30% per year																										
					13	391				13	92				139	3				139	4				1395			
Itom	Main Task	Activity		(Ju	uly 2012 to	o July 2013)			(July	2013 t	o July 2014)			(July 2	2014 to	July 2015)	,		(Jul	y 2015 to	July 2016)			(July)	2016 to J	uly 2017)		
nem	Mail Task	Activity		Exp	penditure		Budget		Exper	nditure		Budget		Expend	diture		Budget		Expe	nditure		Budget		Expen	diture		Budget	
	Implementation of	-Program for elementary school	Unit Cost	6.0	Unit	Sub-Total	Source	Unit Cost 3.3	Ur 12.0	nit school	Sub-Total 39.0	Source	Unit Cost 4.2	Un 18.0	school	Sub-Total	Source	Unit Cost 5.5	24.0	Unit school	Sub-Total	Source	Unit Cost 7.1	32.0	school	Sub-Total	Source	
	1 Environmental Education Program	-Program for guidance school	2.5	6.0	school	15.0	<u> </u>	3.3	12.0	school	39.0		4.2	18.0	school	76.1	<u> </u>	5.5	24.0	school	131.8		7.1	32.0	school	228.5	<u> </u>	
Emironmental	Reprint of booklet for	-Material for elementary school	-	-	-	-		-	-		-		0.015	1,000.0	copy	15.0		-	-	-	-		0.025	1,000.0	сору	25.4		
Education	2 Environmental Education	-Material for guidance school		1- 1		-					-		0.010	1,000.0	copy	10.0					-		0.017	1,000.0	сору	16.9		
	Organize a meeting with Education	- Arrange a meeting	2.5	1.0	time	2.5		3.3	1.0	time	3.3		4.2	1.0	time	4.2		5.5	1.0	time	5.5		7.1	1.0	time	7.1		
	Organization and NGOs																											
Unit: 1,000,000 II	Organization and NGOs RR	Grand Total				32.5					81.3					181.3					269.1					506.4	L	

Table 2.8-4 Budget Plans of DOE Gilan

CHAPTER 3 ACTUAL INPUTS TO THE PROJECT

3.1 Inputs of the Japanese Side

3.1.1 Dispatch of JICA Expert Team

The Japanese side dispatched five experts in 2007-2008 as shown in Table 3.1-1 and Figure 3.1-1, and six experts in 2011-2012 as shown in Table 3.1-2 and Figure 3.1-2. The total man-month (MM) input is 19.23 from 2007 to 2008 and 28.20 from 2011 to 2012 at the end of the Project, including work in Japan.

Name	Field	Period of Dispatch	No. of Days	Affiliated Office
		29 Oct. 2007-31 Oct. 2007*	3	
		01 Nov. 2007-18 Nov. 2007	18	
Tamaa	Chief Advisor/	22 Dec. 2007-26 Jan. 2008	36	Ninnen Keel
	Institutional Davalonment	29 Feb. 2008-20 Mar. 2008	21	Nippon Koei
AOKI	Institutional Development	07 May 2008-09 May 2008 [*]	3	CO. LID
		11 May 2008-09 Jul. 2008	60	
		04 Aug. 200 -02 Sep. 2008	30	
		29 Oct. 2007-31 Oct. 2007*	3	
		01 Nov. 2007-25 Dec. 2007	55	
Shinichiro	Wetland Conservation/	22 Jun. 2007-20 Mar. 2007	59	N' I I I I I I I I I I I I I I I I I I I
TANIMOTO	Monitoring	11 May 2008-14 Jul. 2008	65	Nippon Koei
		09 Oct. 2008-11 Nov. 2008	34	CO. LID
		12 Dec. 2008-18 Dec. 2008	7	
	Project Coordination (2)	04 Aug. 2008-02 Sep. 2008**	30	
		12 Nov. 2007-29 Nov. 2007	18	Ninnen Kesi
Paul	Zoning/Institutional	01 Mar. 2007-21 Mar. 2007	21	Nippon Koei
DRIVER	Development (2)	17 May 2008-6 Jun. 2008	21	(Ninnon Kooi UK)
		12 Aug. 2008-29 Aug. 2008	18	
		25 Feb. 2007-10 Mar. 2007	15	Nippon Koei
Naoko	Environmental Education			Co. LTD
NAGATOMI	Environmental Education	01 Jun. 2008-30 Jun. 2008	30	(Eco-planning
				Research)
		22 Dec. 2007-05 Jan. 2007**	15	
	Ecotourism	15 May 2008-13 Jun. 2008	30	Ninnon Koei
Takashi KAJI		04 Aug. 2008-02 Sep. 2008	30	Co I TD
	Project Coordination	01 Nov. 2007-25 Nov. 2007**	25	
		06 Jan. 2007-09 Feb. 2007**	35	

Table 3.1-1	Dispatch	of Experts	2007-2008
	Dispaten	or Experts	2007 2000

Note: *: Work in Japan

**: These costs for experts were shouldered by the Nippon Koei Co. Ltd Source: JET

Name	Field	Period of Dispatch	No. of Days	Affiliated Office
		04 Apr. 2011-6 May 2011*	3	
		07 Apr. 2011-12 May 2011	36	
		04 Jun. 2011-01 Aug. 2011	59	
		18 Aug. 2011-01 Sep. 2011	15	Nippon Koei Co. LTD Nippon Koei Co. LTD (Kyodo Consultant) Nippon Koei Co. LTD Nippon Koei Co. LTD Nippon Koei Co. LTD Nippon Koei Co. LTD Nippon Koei Co. LTD
Chinishing	Chief Advisor/	18 Sep. 2011-02 Nov. 2011	45	Ninnen Kesi
Shinichiro	Wetland Conservation	19 Jan. 2011-03 Mar. 2011	45	Co. LTD
TANIMOTO	and Monitoring	09 Apr. 2012-29 Apr. 2012	21	CO. LID
		11 May 2012-09 Jun. 2012	30	
		15 Jun. 2012-20 Jun. 2012*	6	
		25 Jun. 2012-19 Jul. 2012	26	
		20 Jul. 2012–22 Jul. 2012**	3	
Shigeki SASAKI	Wetland Conservation and Monitoring (2)	13 Apr. 2012-27 Apr. 2012	15	Nippon Koei Co. LTD (Kyodo Consultant)
	Deputy Chief	14 May 2011-08 Jun. 2011	26	N' K
Tomoo AOKI	Advisor/Institutional	05 Jan. 2011-29 Jan. 2011	25	Co LTD
	Development	19 Apr. 2012-17 May 2012	29	CO. LID
		27 Apr. 2011-25 May 2011	90	
	Zoning/Environmental	26 Sep. 2011-24 Dec. 2011	90	
III: to al.	Education	19 Jan. 2011-17 Feb. 2011	30	Ninnen Kesi
		11 May 2012-09 Jun. 2012	30	Co I TD
WATANADE	Coordination/Assistant	18 Feb. 2011-18 Mar. 2011	30	CO. LID
	for Environmental	10 Jun. 2012-09 Jul. 2012	30	
	Education (2)	10 Jul. 2012-22 Jul. 2012**	13	
		07 Apr. 2011-06 May 2011	30	
Talashi KAU	Fastanian	19 Oct. 2011-22 Dec. 2011	65	Nippon Koei
Takashi KAJI	Ecotourism	13 Jan. 2011-14 Feb. 2011	32	Co. LTD
		17 May 2012-23 Jun. 2012	38	
Haruko CHIKARAISHI	Coordination/Assistant for Environmental Education	03 Jul. 2011-01 Aug. 2011	30	Nippon Koei Co. LTD

Table 3.1-2 Dispatch of Experts 2011-2012

Note: *: Work in Japan

**: These costs for experts were shouldered by the Nippon Koei Co. Ltd Source: JET

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					Rasan]							 		[Rasa I ←	n 🕈	 	- - -		 		Iran	Japan	Iran	Japan	Iran	Japan
Ŧ		1	Chief Advisor /Institutional Development(1)	Tomoo Aoki		1 18 (18)	B 22	26 36)	29 1 (12	20		11	(60)	9 1	4 (30)	2			1				2.50	-	3.00	-	5.50	 -
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3.1-1		3	Zoning/Institutional Development(2)	Dr. Paul Driver		12 (18)	29)			21 21)		17 (2	6 1)	1 	12 29	1		1	1		1		1.30	-	1.30	-	2.60	 -
As	k in Iran	4	Environmental Education	Naoko Nagatomi		1			25	10 ∎ 15)			1 3 (30)	0				 	1		1		0.50	-	1.00	-	1.50	 -
signm	Work	5	Eco-tourism	Takashi Kaji		 	22 (1	5 5)				15	13 30)		4 (30)	2]		 		0.00	-	2.00	-	2.00	 _
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chedu		7	Coordinator	Shinichiro Tanimoto		1		 					 	1	4 (30)	2		 	1		1 		-	-	-	-	-	 _
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of the	apan	1	Chief Advisor /Institutional Development(1)	Tomoo Aoki	(П 3)					(0 3)	1			 		 	1		 		-	0.10	-	0.10	-	0.20
JET	ork in J	2	Wetland Conservation /Monitoring	***	(D (3)							 	1) 		 		-	0.10	-	0.00	-	I I 0.10
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)7-20	Leg	end	: Work in Iran	Main Work		IC/R				 C/R(1	1)		1	1	P	ÀR IR			1	C/R	(2)						19	.23
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IC/R: Inception Report, C/R(1): Annual Completion Report for 1st fiscal year, P/R: Progress Report, C/R(2): Annual Completion Report for 2nd fiscal year
				Third Year						Third Ver-												
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	1	Chief Advisor/ Wetland Conservation/ Monitoring	Shinichiro Tanimoto	7 (3	12 6)	4 (5	i9)	1 18 (15	1 19	i (45)	2		19	(45)	13 I	9 29 (21)	11 (30	9 24) (2	19202 6) (3)	2	9.23	-
	2	Wetland Conservation/ Monitoring (2)	Shigeki Sasaki			, 	i I I			1	, 				1	13 27 (15)		1	, 		0.50	-
Iran	3	Deputy Chief Advisor/ Institutional Development	Tomoo Aoki		14	8 26)	1 1 1			1	 		5 2 (25)	9	1	19 (2	17 9)	 	 		2.67	-
Work in	4	Zoning/ Environmental Education	Hitoshi Watanabe	27		(90)	25		26	 	(90)	24	19 (3	17 0)	1		11 (3	9 0)	1 1 1		8.00	-
	5	Ecotourism	Takashi Kaji	7 (30	6)	1]]	1 			19	(65)	22	13 (32	14)			17 (3	23 8)	1 		5.50	-
	6	Coordinator/Assistant Environmental Education	Haruko Chikaraishi			 	3 (30)			 	1 1 1								1 1 1		-	-
	7	Coordinator/Assistant Environmental Education	Hitoshi Watanabe			1 1	- 			- 	 				3 18 30)		 	> ¹⁰ (3	9 <u>10 2</u> 2 0)(13)	2.00	-
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Work	2				1	1 	 			 	1 				 			 	1 		-	-
		Sub-total					I I				l				1			 			-	0.30
Re	gend	: Work in Iran	Report			1	I I		$\mathbf{A}_{P/R}$		 				P/R			 	 	∩∆ PC/R	Total	28.20
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			Field work																			
			Work in JPN				 					}										

P/R: Progress Report C/R: Completion Report PC/R: Project Completion Report AWMC: Anzali Wetland Management Committee JCC: Joint Coordination Committee

3 - 4

3.1.2 Training in Japan

The country-focused training in Japan to develop the capacity of DOE project members was conducted three times by JICA as a program within the Project. The names of trainees, training period, and main training places are shown in Table 3.1-3–Table 3.1-5.

	Fable 3.1-3 Firs	t Training in Japan	(Wetland Management)
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Name	Duration	Main Training Place
Kamran Zolfinezhad	21-28 Apr. 2008	Lake Biwako, Sakata Wetland,
Mahmoud Farajpoor	21 Apr. 2008–11 May 2008	Kushiro Wetland
Source: DOE and JET		

Table 3.1-4 Second	l Training in Ja	apan (Wetland	Management)
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Name	Duration	Main Training Place
Akbar Mighi	4-17 Sep. 2011	
Ali Bali	4-17 Sep. 2011	Kabukuri Wetland,
Alireza Markieh Ghorbani	4-17 Sep. 2011	Izunuma-Uchinuma, Kushiro
Shahin Javadi	4-17 Sep. 2011	Wetland, Kiritappu Wetland
Elahe Dehaghi Kalantari	21 Apr. 2008–11 May 2008	
Source: DOE and IET		

Source: DOE and JET

Table 3.1-5 Third Training in Japan (Managerial Meeting)

Name	Duration	Main Training Place	
Amir Abdoos	15-21 Jun. 2012		
Masoud Bagherzadeh Karimi	15-21 Jun. 2012	Kushiro Wetland	

Source: DOE and JET

3.1.3 Participation in Ramsar Convention COP11 Bucharest

The Project Manager and chief advisor of the JICA Expert Team were dispatched to Bucharest in order to participate in the Ramsar Convention COP11 by JICA. Names and main activities are as follows.

 Table 3.1-6
 Participation in Ramsar Convention COP11 Bucharest

Name and Position	Duration	Main Activity
Masoud Bagherzadeh Karimi, Deputy Director General on Wetlands and National Parks (Project Manager)	6-15 July 2012	 Presentation at JICA side event Discussion with Kushiro International Wetland Center Communication with the people who are related to
Shinichiro Tanimoto, Chief Advisor of JET	6 -10 July 2012	the conservation of Kushiro Wetland

Source: DOE and JET

3.1.4 Provision of Equipment

Various equipment were provided by JICA's budget for the effective and smooth implementation of the Project. These include office equipment, computers used for facilitating works, computers as server, and satellite images, with a total cost of approximately USD 9225 and JPY 513,096 as shown in Table 3.1-7.

No	Equipment	Quantity	Currency	Total price	Allocation	JFY Granted
1	Vehicle	2	Procureo	l by JICA	Project Office	
2	Desktop Computer	1	USD	990	Project Office	
3	Laptop Computer	1	USD	1300	Project Office	
4	Laser Printer	1	USD	1420	Project Office	
5	Copy Machine	1	USD	1970	Project Office	
6	Projector	1	USD	1076	Project Office	
7	Screen	1	USD	117	Project Office	2007
8	TV	1	USD	1940	Project Office	
9	DVD Player	1	USD	87	Project Office	
10	UPS	1	USD	141	Project Office	
11	Color Printer	1	USD	184	Project Office	
12	GPS	3	JPY	103,800	Project Office	
13	Video camera	1	JPY	88,096	Project Office	
14	ASTER Image	1	JPY	19,600	Project Office	2008
15	ASTER Image	2	JPY	39,200	Project Office	0011.10
16	Tehran Museum Video System	1	JPY	262,400	Tehran Museum	2011-12
	Total			U	SD 9,225 + JPY 513,096	ō

Table 3.1-7Provision of Equipment

Source: JET

3.1.5 Sub-contract Works

(1) Socio-economic Survey- Part 1

In the first year, a socio-economic survey was conducted by a local consultancy company in order to get information for output 3 zoning. The company collected indicative data under supervision of the JET and DOE project team. As a result of the survey, the boundary of the wetland, present conditions of land use, livelihood, and activities including tourism and industry in/around the wetland, and regulations in relation with the wetland were clarified.

(2) Socio-economic Survey- Part 2

In the third year, a second socio-economic survey was conducted by a local NGO in order to update the information for output 3 zoning. The NGO collected indicative data and public opinions for zoning (setting boundaries of each zone and making regulations) through participatory workshops and interviews with key stakeholder groups, under supervision of the JET and DOE project team. As a result, present conditions of land use, resident households in/around the wetland and public opinions on zoning were clarified.

(3) Production of Audio-Visual Material for Environmental Education

In the third year, in order to introduce the present situation of the Anzali Wetland for output 4 environmental education, an audio-visual material was produced by a local filming company. The audio-visual material, including five programs, was produced under supervision of the JET and DOE project team. Five hundred DVD copies of the material were produced.

3.1.6 Expenses for Project Implementation

The total expense for project implementation supported by the Japanese side is approximately equivalent to JPY 49,592,000 as shown in Table 3.1-8. Major expenses are for activities that include hiring local staff, construction of small-scale facilities, sub-contract works and publications.

Table 3.1-8 Project Implementation Expenses Provided by Japanese Side

				(U	nit: JPY thousand)
Item	Jap	Total			
Item	2007	2008	2011	2012	Total
Counterpart Training	683	0	927	0	1,610
Provision of Equipment	1,262	9	39	139	1,449
Sub-contract	2,192	1,980	10,323	0	14,495
Hiring Local Staff	797	760	7,647	2,844	12,048
Other Expenditures	2,049	1,688	7,565	7,910	19,212
Total	6,983	4,437	26,501	10,893	48,814

Note: Sub-contract includes a socio-economic survey and the production of audio-visual materials for environmental education. Other expenditures include car maintenance, consumables, transport, communication, car rental, training, material of ecotourism, small-scale facilities, and miscellaneous.

Source: JET

3.2 Inputs of the Iranian Side

3.2.1 Appointment of Counterpart Personnel

The Iranian side assigned 14 counterparts during 2007-2008 as shown in Table 3.2-1, and 14 counterparts for 2011-2012 listed in Table 3.2-2.

Name	Role in the Project	Position
Delavar NAJAFI	Former Project Director	Deputy Head of Natural Environment and
		Biodiversity Division, Central DOE HQ
Kamran ZOLFINEJHAD	Former Project Manager	Director General of DOE Gilan
KHASARI		
Asan BAGHERZADEH	Monitoring	Senior Wetland Expert of DOE Gilan (on loan to
		GRWO)
Abbas ASHOORI	Monitoring	Bird Expert of Natural Resources and Biodiversity
		of DOE Gilan
Reza ALAEE	Monitoring	Anzali, Expert of DOE Gilan, Anzali Laboratory
Mohammadreza BORGI	Zoning/Institutional Development	Manager of DOE Gilan, Langrod Office
Sepideh KESHTKAR	Zoning/Institutional Development	GIS Expert of Natural Environment and
-		Biodiversity of DOE Gilan
Abbas HASSANPOUR	Zoning/Institutional Development	GIS Expert of Natural Environment and
		Biodiversity of DOE Gilan
Mahmoud FARAJPOUR	Environmental Education	Expert of Public Relation Section of DOE Gilan
Hosein DIDEBAN	Environmental Education	The Head of Public Relation Section of DOE Gilan
Siavash HOMAN	Environmental Education	Expert of Public Relation Section of DOE Gilan
Mansour SARBARI	Ecotourism	Deputy of Natural Resources and Biodiversity
		Division of DOE Gilan
Mr. Dalal DAVAN	Ecotourism	Deputy of Human Environment Section of DOE
MI. Balai DA I AN		Gilan
Delerer COLMARVI	Ecotourism	Senior Expert of Natural Resources and
Detatatii GOLWAR VI		Biodiversity Division of DOE Gilan

Table 3.2-1 Assignment of Counterpart Personnel 2007-2008

Source: DOE

Table 3.2-2	Assignment of Counterpart Personnel 2011-2012

Name	Role in the Project	Position
Asghar MOHAMMADI FAZEL	Project Director	Deputy Head of Directorate for Natural
		Environment of DOE HQ
Masoud BAGHERZADEH	Project Manager	Deputy of Habitats and
KARIMI		Protected Area Bureau of DOE HQ
Amir ABDOOS	Provincial Project Coordinator	Director General of DOE Gilan
Elahe KALANTARI	Deputy Project Manager and	Expert of Education Section of DOE Gilan
	Environmental Education	
Mahmoud FARAJPOUR	Institutional Development	The Head of Public Relation Section of DOE Gilan
Akbar MIGHI	Monitoring	The Head of Environment Protection
		Administration of DOE Gilan Anzali Office
Seyyed Hassan JAFARI	Monitoring	Environment Protection Administration Expert of
		DOE Gilan Anzali Office
Azam MIRROSHANDEL	Monitoring	The Head of Laboratory of DOE Gilan
Abbas HASSANPOUR	Zoning	GIS Expert of Natural Environment and
		Biodiversity of DOE Gilan
Abbas REZANEJAD	Zoning	Expert of Supervision and Inspection Section of
		DOE Gilan
Sedighe GHOLIPOUR	Environmental Education	Expert of Education Section of DOE Gilan
Shahin JAVADI	Ecotourism	Expert of Natural Environment and Biodiversity of
		DOE Gilan
Homeira SAFARI	Ecotourism	Expert of Natural Environment and Biodiversity of
		DOE Gilan

Source: DOE

3.2.2 Provision of Facilities

The Iranian side provided the following facilities:

- Office spaces in DOE Gilan

- Desk and chair for each expert, and cabinets and air conditioners in DOE Gilan
- Amphitheater for conference and meeting spaces
- Electricity, water supply, and telephone in DOE Gilan

3.2.3 Budget Allocation

Cost for operational expenses covering construction of small-scale facilities, sampling, and chemical analysis for monitoring have been borne by DOE.

CHAPTER 4 RECORDS OF JOINT COORDINATION COMMITTEE

Six Joint Coordination Committee (JCC) meetings were held as summarized below. As the role of the JCC is to coordinate operation of the overall project, issues, and actions to ensure sustainability of the project activities towards the end of the project were discussed. Minutes of the meetings are presented in Attachment 17.

No. of JCC	Date	Venue	Number of Participants	Contents
1st JCC	13 November	DOE Tahran	12	-Presentation of the Inception Report,
(Central Level)	2007		12	-Discussion
1st JCC	14 November	Hotel Kadus	14	-Presentation of the Inception Report
(Local Level)	2007	Hotel Radus	14	-Discussion
2nd JCC	5 March 2008	Governor's Office of Guilan Province	44	 -Presentation of the Progress of the Project in the 1st year -Report of the 2nd Wetland Specialist Group Meeting -Approval of and Signature to the Minutes of Meeting -Discussion
3rd JCC	27 April 2011	Ghalamgudeh Inn Anzali	45	-The Ramsar Convention and the Anzali Wetland -Background and Purpose of the Project -Outputs and Activities of the Project -Discussion
4th JCC	1 February 2012	DOE Guilan	23	-Towards the End of the Project and Future Activities -Discussion
5th JCC	30 May 2012	DOE Tehran	19	-Background, Purpose and Development after the Project , -The Report of Terminal Evaluation Survey -Discussion
6th JCC	21 July 2012	DOE Tehran	14	-Presentation of the Completion Report of the Project -Discussion

Table 4-1	Outline of Joint Coordination Committee Meetings
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Source: DOE and JET

CHAPTER 5 LESSONS LEARNED AND RECOMMENDATIONS

5.1 Lessons Learned

(1) Involvement of High-ranked Individuals

One of the great achievements of the Project is the involvement of key stakeholders related to Anzali Wetland Management in AWMC. Commitment of the Guilan Provincial Governor and the Japanese Ambassador was one of the major contributing factors in managing the stakeholders. Cooperation of relevant high-ranked individuals was considerably effective in the Iranian context, as they can facilitate the activities through high-level decision-making.

(2) Effective Use of Local Experts

Several types of skills are required for wetland management. JET hired supplementary local experts and succeeded to achieve the outputs. With the knowledge and experience of JET's five experts, they were able to deal with the project activities in general. However, some specific skills were required to complete the activities such as GIS/RS technology for zoning and architectural technology for the construction of small-scale facilities for ecotourism. It was possible to find the experts who have the skills in Iran. Although these local experts tend not to have the knowledge to utilize their skills for wetland management, their skills were effectively utilized under the supervision of JET.

(3) Additional Activities Out of the Project Implementation Plan

In the Project, the ability of dealing with on-site requirements for necessary and meaningful activities in a flexible way was gained, which was very effective in terms of both successful achievement of the project purposes and ensuring sustainability of the Project. These on-site needs that were identified and implemented during the Project as additional project activities but were not included in the project implementation plan, are as follows: 1) Promotion of partnership between Anzali and Kushiro wetlands, 2) Adoption of the Anzali Declaration, 3) Presentation at COP11, 4) Organizing study tours, and 5) Development of the wetland management guidelines.

(4) Direct Communication with Local People

The Anzali Wetland has a socio-ecological landscape (see 2.3.2(4)) and therefore, cooperation with local people was indispensable for its management. The Project made direct communication with local people through socio-economic surveys, public consultations for zoning, bird training course, and ecotours in order to accelerate the cooperation, and to achieve the outputs. Promotion of the SATOYAMA initiative is one of the key concepts of the Anzali Wetland Management. Through direct communications, it was made possible for the local people to understand the Anzali Wetland Management as not only for control but also wise use.

5.2 **Recommendations**

Recommendations for each output are mentioned in Chapter 2. The general recommendations raised from the Project are as follows.

(1) Further Strengthening Collaboration among Governmental Organizations

Collaboration among governmental organizations is necessary as the Anzali Wetland Management requires a comprehensive approach. Several governmental organizations are related to the Anzali Wetland Management, but these organizations have played their own roles separately. The organizations have to share information and collaborate with each other. AWMC was established to promote collaboration, and comprehensive management should be achieved under the AWMC.

(2) Further Awareness-Raising among Local People

Illegal hunting and fishing, solid waste dumping, wastewater discharge, and inadequate use of agricultural chemicals have been issues for the Anzali Wetland Management. The Project established the framework to improve social understanding, and raise awareness. However, it takes a long time to considerably change people's awareness and behavior, and therefore, further development of social understanding is necessary.

(3) Further Capacity Development of Organizations and Related Staff

The Project implemented capacity development for the Anzali Wetland Management and made a certain achievement (see Section 2.6, Chapter 2 on individual capacity). However, due to time limitation, the capacity of organizations and related staff are not enough for the achievement of the overall goal of the Project. Capacity of other relevant organizations for the Anzali Wetland Management is particularly sufficient. Further capacity development is necessary for the organizations and their related staff.

(4) Application of the Management System Established in the Project for the Other Wetlands

Iranian wetlands face similar issues in management; in particular, five more wetlands are listed on the Montreux Record. The basic management system established in the Project would be useful for the other wetlands. Accordingly, DOE should apply the experience of the Project to the other wetlands in Iran and neighboring countries through various ways such as holding training courses in Guilan Province, gathering managers and experts respectively to the Anzali Wetland to explain the management system, and organizing international conference with Ramsar Regional Center.

(5) Development of the Partnership with Kushiro

Three Memorandums on Partnership between Anzali Wetland and Kushiro Wetland were signed on 15 September 2011 and 20 June 2012 at Kushiro during the training in Japan, and on 9 July 2012 in Bucharest at COP 11 by the representatives of DOE and KIWC. The relationship from both sides was deepened and specific mechanisms and communication ways were written in the third memorandum in Bucharest. The partnership is quite effective for the continuation of the project activities after the end of the Project. The partnership with Kushiro must be developed through continuous mutual communications and actions.

(6) Development of Integrated Wetland Management in the Watershed

The Master Plan for the Integrated Anzali Wetland Management was prepared by JICA in 2003-2005. Six plans were developed and three soft component plans out of the six have been partially implemented to establish a basic Anzali Wetland Management System under the Project. In order to conserve the Anzali Wetland, six plans have to be implemented in an integrated manner. Accordingly, the integrated wetland management described in the master plan should be developed and implemented through the framework of AWMC.

Attachments

List of Attachments

Attachment 1	Project Design Matrix (PDM) ver 01
Attachment 2	Project Design Matrix (PDM) ver 02
Attachment 3	Project Design Matrix (PDM) ver 03
Attachment 4	The Decree on Establishment of AWMC
Attachment 5	The Anzali Declaration
Attachment 6	Provincial Statute on AWMC
Attachment 7	Monitoring Manual (in CD)
Attachment 8	List of GIS Data
Attachment 9	Zoning Plan in the Anzali Wetland (in CD)
Attachment 10	Action Plan for Environmental Education by Using
	Anzali Wetland Environmental Education Center (in
	CD)
Attachment 11	Questionnaire and Results of Tourism Market Survey
Attachment 12	Outline of Establishment of the Association for
	Promotion of the Anzali Wetland Ecotourism
Attachment 13	IEE Document
Attachment 14	Action Plan for the Anzali Wetland Ecotourism (in CD)
Attachment 15	Guidelines for Sustainability of the Anzali Wetland
	Ecological Management Project
Attachment 16	Records of the Workshop
Attachment 17	Memorandums between Anzali and Kushiro
Attachment 18	Minutes of Meeting of the JCC
Attachment 19	Photographs
Attachment 20	News Articles
Attachment 21	List of Collected Data and Documents

Attachment 1 Project Design Matrix (PDM) ver 01

Project Design Matrix (PDM)

Project Name: Anzali Wetland Ecological Management Project

Target Area: The Anzali wetland in Guilan Province, including the transition zone that was determined in the Master Plan as the most of the zone lines outside of the wetland. Target group: Staff of the DOE Guilan Provincial office and staff who participate in the project. Duration: April 2007 - March 2009 (2 years)

			January 2007
Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal The Anzali wetland management system, for which DOE is a core constituent, practices adaptive management.	• The Anzali wetland management committee, of which DOE is the secretariat, evaluate s /updates management actions that are based on scientific data at least once a year. (The name of the organization to be revised)	• Minutes of the Anzali wetland management committee meeting	Relevant organization make further efforts for the management of the Anzali wetland.
Project Purpose A basic system including institutional and technical aspects for the management of the Anzali wetland, for which DOE is the core constituent, is established.	• By the end of XXX in 2009, management actions are presented based on the scientific data under the agreement in the committee.	 Minutes of the Anzali wetland management committee meeting Progress reports and final report of the project 	 Necessity measures including budget allocation for the Anzali wetland management are continued by relevant organizations. The Anzali wetland system is not damaged by massive natural disasters. The water level of the Caspian Sea does not significantly fluctuate.
Outputs A basic institutional structure for the integrated wetland management, for which DOE is the core organization, is established. 	1.1 By the end of XXX in 200X, the committee is established.1.2 By the end of XXX in 200X, the wetland management committee is held XXX times annually.	 Minutes of the Anzali wetland management committee meeting Progress reports and final report of the project 	• Drastic changes in the economy do not occur during the project period that affect the management policy on the Anzali wetland.
2. Monitoring procedures for the wetland management is established.	2.1 A monitoring manual which contains indicators, methods of data collection and analysis is prepared.2.2 By the end of XXX in 200X, collecting data for the wetland management using the monitoring manual is started.	Interview with relevant staffReports of monitoring results	 Staffs are secured for such management activities, as monitoring and environmental education.
3. Zoning is determined, and management strategies (rules & regulations) for each zone are drafted, considering socio-economic status of the Anzali area.	3. By the end of XXX in 200X, a zoning map with regulations for each zone is drafted.	Zoning map and regulations for each zoneProgress reports of the projectReport of the socio-economic survey	
4. The basis for environmental education using the Environmental Education Center of the Anzali wetland is developed.	4.1 By the end of XXX in 200X, an action plan for environmental education is formulated.4.2 By the end of XXX in 200X, materials for environmental education in the above action plan are developed.	Action plan for environmental educationMaterials for environmental education	
5. The basis for ecotourism is developed.	5.1 By the end of XXX in 200X, an action plan for ecotourism is formulated.5.2 By the end of XXX in 200X, small-scale facilities for ecotourism are constructed, which may include wooden trails, observation huts and sign boards.	Action plan for ecotourismFacilities for ecotourism	

Ver.01

Activities	Innut		1
1-1 Collect and summarize information on the wetland management	IADAN	IRAN	Principal members in each activity do not
activities of relevant organizations	Experts	CP (8 nos)	leave / transfer for the project period
1-2 Draft a plan for a system for the wetland management that shows	Chief Advisor / Institutional Development: XXMM	Project Director	iouve, indisier ist the project period
institutional structure committee members roles responsibilities and	Watland Conservation and Monitoring: XXMM	Project Manager	Preconditions
others	Zoning (rules & regulations): XXMM	Institutional Development	• The security of the target area does not
1-3 Make an agreement between relevant government offices on	Eastourism: XXMM	Zoning (rules & regulations)	 The security of the target area does not abanga far warsa
formulation of a wetland management committee as part of the	Ecolourism. AAlwiwi Environmental Education: XXMM	Monitoring (water quality fauna & flora)	 Dird fly door not become enidemic in the
management system	Draiget Coordinatory XXMM	Ecotourism	 Bita nu does not become epidemic in the terret energy
1-4 Establish the wetland management committee with DOE as the	Short term experts (number and technical fields to be	Environmental Education	target area.
secretariat that plays key roles in the management system	determined)	Other staff	
1-5 Provide on-the-job training to DOE for the management of the	Equipment	Administrative staff	
committee	Vehicle (2)	Drivers (2)	
1-6 Provide trainings to the staff of the relevant government offices for	Equipment for data collection	Facilities	
further understanding of the wetland management	Equipment for Environmental Education	Office space	
2-1 Collect information on on-going monitoring activities conducted by	Construction material for small scale infrastructure	Equipment	
each organization canacity of the staff and the equipment	on ecotourism	Equipment for administration	
2-2 Identify indicators for the wetland conservation such as water level	Training	Equipment for Environmental Education	
water quality and wildlife	Training Iranian counternarts in Japan and/or the	Local Cost	
2-3 Determine monitoring procedures for collection, analysis of data and	third countries (1-2 persons per year)		
data handling (database) for the Anzali wetland and develop them into a	unité countries (1 2 persons per year)		
manual.			
2-4 The monitoring manual be presented and have an agreement in the			
committee.			
2-5 Provide trainings to relevant organizations on monitoring procedures.			
3-1 Conduct a socio-economic survey in the Anzali wetland and the			
surrounding area.			
3-2 Based on the results of the socio-economic survey, review the zoning			
plan presented in the Master Plan and draft regulations for each zone.			
3-3 Hold stakeholder meetings to explain zoning, the survey results and			
the draft regulations to receive feedback.			
3-4 Finalize zoning plan with boundaries and regulations, which need to			
be presented at the committee for discussions.			
4-1 Collect information on on-going activities and existing materials for			
environmental education in Guilan Province.			
4-2 Referring to the results of the pilot project in the Master Plan study,			
training schedule at the Environmental Education including the			
4.3 Make an agreement on the environmental education center.			
4-5 iviaxe an agreement on the environmental education action plan in the			
4-4 Produce materials for environmental education in the above action			
nlan including audio-visual materials			
pian, merading addio-visuar materials.			
5-1 Collect information on on-going ecotourism activities conducted in			
Guilan Province including activities of private sector.			
5-2 Referring to the results of the pilot project in the Master Plan study			
formulate an action plan for ecotourism including training and			
development of small-scale facilities.			
5-3 Make an agreement on the ecotourism action plan in the wetland			
management committee.			
5-4 Construct small-scale facilities for ecotourism, which may include			
wooden trails, observation huts and sign board.			

Attachment 2 Project Design Matrix (PDM) ver 02

Project Design Matrix (PDM)

Project Name: Anzali Wetland Ecological Management Project

Target Area: The Anzali wetland in Gilan Province, including the transition zone that was determined in the Master Plan as the most of the zone lines outside of the wetland. Target group: Staff of the DOE Gilan Provincial office and staff who participate in the project.

Duration: November 2007 - October 2008 and approx. 1 year after recommencement of the Project in 2011 (total approx. 2 years)

		······································	22 September 2010
Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal The Anzali wetland management system, for which DOE is a core constituent, practices adaptive management.	• The Anzali wetland management committee, of which DOE is the secretariat, evaluate s /updates management actions that are based on scientific data at least once a year. (The name of the organization to be revised)	• Minutes of the Anzali wetland management committee meeting	Relevant organization make further efforts for the management of the Anzali wetland.
Project Purpose A basic system including institutional and technical aspects for the management of the Anzali wetland, for which DOE is the core constituent, is established.	• By the end of June in 2012, management actions are presented based on the scientific data under the agreement in the committee.	 Minutes of the Anzali wetland management committee meeting Progress reports and final report of the project 	 Necessity measures including budget allocation for the Anzali wetland management are continued by relevant organizations. The Anzali wetland system is not damaged by massive natural disasters. The water level of the Caspian Sea does not significantly fluctuate.
Outputs			
1. A basic institutional structure for the integrated wetland management, for which DOE is the core organization, is established.	 By the end of <u>July in 2011</u>, the committee is established. By the end of <u>June in 2012</u>, the wetland management committee is held <u>3 times in total</u>. 	 Minutes of the Anzali wetland management committee meeting Progress reports and final report of the project 	 Drastic changes in the economy do not occur during the project period that affect the management policy on the Anzali wetland.
2. Monitoring procedures for the wetland management is established.	2.1 A monitoring manual which contains indicators, methods of data collection and analysis is prepared.2.2 By the end of June in 2012, collecting data for the wetland management using the monitoring manual is started.	 Interview with relevant staff Reports of monitoring results 	 Staffs are secured for such management activities, as monitoring and environmental education.
3. Zoning is determined, and management strategies (rules & regulations) for each zone are drafted, considering socio-economic status of the Anzali area.	3. By the end of <u>June in 2012</u> , a zoning map with regulations for each zone is drafted.	Zoning map and regulations for each zoneProgress reports of the projectReport of the socio-economic survey	
4. The basis for environmental education using the Environmental Education Center of the Anzali wetland is developed.	 4.1 By the end of <u>July in 2011</u>, an action plan for environmental education is formulated. 4.2 By the end of <u>June in 2012</u>, materials for environmental education in the above action plan are developed. 	 Action plan for environmental education Materials for environmental education 	
5. The basis for ecotourism is developed.	 5.1 By the end of <u>July in 2011</u>, an action plan for ecotourism is formulated. 5.2 By the end of <u>June in 2012</u>, small-scale facilities for ecotourism are constructed, which may include wooden trails, observation huts and sign boards. 	Action plan for ecotourismFacilities for ecotourism	

Ver. 02

Activities	Input		
1-1 Collect and summarize information on the wetland management	IAPAN	IRAN	 Principal members in each activity do not
activities of relevant organizations	Exports	CP (9 positions)	leave / transfer for the project period
1.2 Draft a plan for a system for the watland management that shows	Chief A duiser	Project Director	ieuve, aunsier for ale project period
institutional structure committee members reles responsibilities and		Project Manager	Preconditions
institutional structure, committee memoers, roles, responsionnes and	Deputy Chief Advisor	Project Manager	Freconducions
1 2 Mala an annual hataran mlaurit annual f	Institutional Development	Deputy Project Manager	• The security of the target area does not
1-3 Make an agreement between relevant government offices on	Wetland Conservation and Monitoring	Provincial Project Coordinator	change for worse.
formulation of a wetland management committee as part of the	Zoning (rules & regulations)	Institutional Development	 Bird flu does not become epidemic in the
management system.	Ecotourism	Zoning (rules & regulations)	target area.
1-4 Establish and hold the wetland management committee with DOE as	Environmental Education	Monitoring (water level, water quality, <u>birds</u>)	
the secretariat that plays key roles in the management system.	Project Coordinator	Ecotourism	
1-5 Provide on-the-job training to DOE for the management of the	Short term experts (number and technical fields to be	Environmental Education	
committee.	determined)	Other staff	
1-6 Provide trainings to the staff of the relevant government offices for	Equipment	Administrative staff	
further understanding of the wetland management.	Vehicle (2)	Drivers (2)	
	Equipment for data collection	Facilities	
2-1 Collect information on on-going monitoring activities conducted by	Equipment for Environmental Education	Office space	
each organization canacity of the staff and the equipment	Construction material for small-scale infrastructure	Equipment	
2-2 Identify indicators for the wetland conservation such as water level	on ecotourism	Equipment for administration	
water quality and birds	Training	Equipment for environmental education	
2.3 Determine monitoring procedures for collection analysis of data and	Training Iranian counterparts in Japan and/or the	Local Cost	
deta handling (detahasa) for the Angeli watland and develop them into a	thind countries (1.2 mension and of the	Elocal Cost	
data handring (database) for the Anzah wettand and develop them into a	third countries (1-2 persons per year)		
Inditual.			
2-4 The monitoring manual be presented and have an agreement in the			
committee.			
2-5 Provide trainings (lecture and on-the-job) to DOE and relevant			
organizations on monitoring procedures.			
3-1 Conduct a socio-economic survey in the Anzali wetland and the			
surrounding area.			
3-2 Based on the results of the socio-economic survey, review the zoning			
plan presented in the Master Plan and draft regulations for each zone.			
3-3 Hold stakeholder meetings to explain zoning, the survey results and			
the draft regulations to receive feedback.			
3-4 Finalize zoning plan with boundaries and regulations, which need to			
be presented at the committee for discussions.			
4-1 Collect information on on-going activities and existing materials for			
environmental education in Gilan Province.			
4-2 Referring to the results of the pilot project in the Master Plan study,			
formulate an action plan for environmental education including the			
training schedule at the Environmental Education Center.			
4-3 Make an agreement on the environmental education action plan in the			
committee.			
4-4 Produce materials for environmental education in the above action			
plan, including audio-visual materials, and pilot implementation of			
environmental education.			
5-1 Collect information on on-going ecotourism activities conducted in			
Gilan Province including activities of private sector.			
5-2 Referring to the results of the pilot project in the Master Plan study.			
formulate an action plan for ecotourism including training and			
development of small-scale facilities.			
5-3 Make an agreement on the ecotourism action plan in the wetland			
management committee.			
5-4 Construct small-scale facilities for ecotourism, which may include			
wooden trails, observation huts and sign board with pilot eco-tours.			

Note: Items modified from the PDM Ver. 01 are shown with red color and underline.

Attachment 3 Project Design Matrix (PDM) ver 03

Project Design Matrix (PDM)

Project Name: Anzali Wetland Ecological Management Project

Target Area: The Anzali wetland in Gilan Province, including the transition zone that was determined in the Master Plan as the most of the zone lines outside of the wetland. Target group: Staff of the DOE Gilan Provincial office and staff who participate in the project.

Duration: November 2007 - October 2008 and approx. 1 year after recommencement of the Project in 2011 (total approx. 2 years)

			<u>9 Iviaicii 2012</u>
Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Important Assumption
Overall Goal The Anzali wetland management system, for which DOE is a core constituent, practices adaptive management.	• The Anzali wetland management committee, of which DOE is the secretariat, evaluate s /updates management actions that are based on scientific data at least once a year. (The name of the organization to be revised)	Minutes of the Anzali wetland management committee meeting	• Relevant organization make further efforts for the management of the Anzali wetland.
Project Purpose A basic system ¹ including institutional and technical aspects for the management of the Anzali wetland, for which DOE is the core constituent, is established.	• By the end of June in 2012, management actions ² are presented based on the scientific data ³ under the agreement in the committee.	 Minutes of the Anzali wetland management committee meeting Progress reports and final report of the project 	 Necessity measures including budget allocation for the Anzali wetland management are continued by relevant organizations. The Anzali wetland system is not damaged by massive natural disasters. The water level of the Caspian Sea does not significantly fluctuate.
Outputs 1. A basic institutional structure for the integrated wetland management, for which DOE is the core organization, is established.	1.1 By the end of July in 2011, the committee is established. 1.2 By the end of June in 2012, the wetland management committee is held 3 times in total.	 Minutes of the Anzali wetland management committee meeting Progress reports and final report of the project 	 Drastic changes in the economy do not occur during the project period that affect the management policy on the Anzali wetland
2. Monitoring procedures for the wetland management is established.	2.1 By the end of July in2011, a monitoring manual which contains indicators, methods of data collection and analysis is prepared.2.2 By the end of June in 2012, collecting data for the wetland management using the monitoring manual is started.	 <u>Monitoring manual</u> Reports of monitoring results 	 Staffs are secured for such management activities, as monitoring and environmental education.
3. Zoning is determined, and management strategies (rules & regulations) for each zone are drafted, considering socio-economic status of the Anzali area.	3. By the end of July in 2012, a zoning map is prepared, and rules and regulations for each zone are drafted.	Zoning map and regulations for each zoneProgress reports of the projectReport of the socio-economic survey	
4. The basis for environmental education using the Environmental Education Center of the Anzali wetland is developed.	4.1 By the end of July in 2011, an action plan for environmental education is formulated.4.2 By the end of June in 2012, materials for environmental education in the above action plan are developed.	 Action plan for environmental education Materials for environmental education 	
5. The basis for ecotourism is developed.	5.1 By the end of July in 2011, an action plan for ecotourism is formulated.5.2 By the end of June in 2012, small-scale facilities for ecotourism are constructed, which may include wooden trails, observation huts and sign boards.	Action plan for ecotourismFacilities for ecotourism	

¹ "A basic system" means the system to implement actions that would be presented with output 2-5 under the framework of the Anzali wetland management committee.

Ver. 03

9 March 2012

² "Management actions" mean the actions that would be presented with output 2-5.

³ "Based on the scientific data" means to use available information such as satellite image and socio-economic data in zoning. It does not require the model of adaptive management.

Activities	Input		
1-1 Collect and summarize information on the wetland management	JAPAN	IRAN	 Principal members in each activity do not
activities of relevant organizations.	Experts	CP (9 positions)	leave / transfer for the project period
1-2 Draft a plan for a system for the wetland management that shows	Chief Advisor	Project Director	
institutional structure, committee members, roles, responsibilities and	Deputy Chief Advisor	Project Manager	Preconditions
others.	Institutional Development	Deputy Project Manager	 The security of the target area does not
1-3 Make an agreement between relevant government offices on	Wetland Conservation and Monitoring	Provincial Project Coordinator	change for worse.
formulation of a wetland management committee as part of the	Zoning (rules & regulations)	Institutional Development	 Bird flu does not become epidemic in the
management system.	Ecotourism	Zoning (rules & regulations)	target area.
1-4 Establish and hold the wetland management committee with DOE as	Environmental Education	Monitoring (water level, water quality, birds)	
the secretariat that plays key roles in the management system.	Project Coordinator	Ecotourism	
1-5 Plovide on-the-job training to DOE for the management of the	Short term experts (number and technical fields to be	Other steff	
1.6 Provide trainings to the staff of the relevant government offices for	determined)	Administrative staff	
further understanding of the wetland management	Equipment	Drivers (2)	
further understanding of the wettand management.	Equipment for data collection	Facilities	
2-1 Collect information on on-going monitoring activities conducted by	Equipment for Environmental Education	Office space	
each organization, capacity of the staff and the equipment.	Construction material for small-scale infrastructure	Equipment	
2-2 Identify indicators for the wetland conservation, such as water level,	on ecotourism	Equipment for administration	
water quality and birds.	Training	Equipment for environmental education	
2-3 Determine monitoring procedures for collection, analysis of data and	Training Iranian counterparts in Japan and/or the	Local Cost	
data handling (database) for the Anzali wetland and develop them into a	third countries (1-2 persons per year)		
manual.			
2-4 The monitoring manual be presented and nave an agreement in the			
2.5 Provide trainings (lecture and on the job) to DOE and relevant			
organizations on monitoring procedures			
organizations on monitoring procedures.			
3-1 Conduct a socio-economic survey in the Anzali wetland and the			
surrounding area.			
3-2 Based on the results of the socio-economic survey, review the zoning			
plan presented in the Master Plan and draft regulations for each zone.			
3-3 Hold stakeholder meetings to explain zoning, the survey results and			
the draft regulations to receive feedback.			
3-4 Finalize zoning plan with boundaries and regulations, which need to			
be presented at the committee for discussions			
4-1 Collect information on on-going activities and existing materials for			
environmental education in Gilan Province.			
4-2 Referring to the results of the pilot project in the Master Plan study,			
training schedule at the Environmental Education Contor			
4-3 Make an agreement on the environmental education action plan in the			
committee			
4-4 Produce materials for environmental education in the above action			
plan including audio-visual materials and pilot implementation of			
environmental education.			
5-1 Collect information on on-going ecotourism activities conducted in			
Gilan Province including activities of private sector.			
5-2 Referring to the results of the pilot project in the Master Plan study,			
formulate an action plan for ecotourism including training and			
development of small-scale facilities.			
5-3 Make an agreement on the ecotourism action plan in the wetland			
5.4 Construct small scale facilities for acotourism, which may include			
wooden trails, observation huts and sign board with pilot eco-tours.			

Note: Items modified from the PDM Ver. 01 are shown with red color and underline.