E.2 Minutes of Steering Committee Meeting

# MINUTES OF MEETING

ON

## STEERING COMMITTEE MEETING

OF

THE STUDY

ON

# THE NATIONWIDE FLOOD RISK ASSESSMENT AND THE FLOOD MITIGATION PLAN FOR THE SELECTED AREAS

IN

THE REPUBLIC OF THE PHILIPPINES

MANILA, September 26, 2006

Mr. Raule. Asis

Assistant Secretary and Chairman,

Steering Committee

Department of Public Works and

Highways

Mr. Yoshiharu Matsumoto

Team Leader JICA Study Team

Witness:

Mr. Shozo Matsuura

Resident Representative

Japan International Cooperation Agency

## I. General

The meeting focused mainly on the presentation of the Inception Report for the Study on the Nationwide Flood Risk Assessment and the Flood Mitigation Plan for the Selected Areas in the Republic of the Philippines (hereinafter referred to as "the Study"). It was held on September 26, 2006 at the Diamond Hotel, Manila, Philippines.

The list of attendance is shown in the Attachment.

## II. Discussions

First, Mr. Yoshiharu Matsumoto, Leader of the Study Team, informed that thirty (30) copies of the Inception Report have been submitted to the Philippine side. He then proceeded on the presentation of the contents of the Inception Report and they have been accepted in principle by the Philippine side.

In the meeting, the following confirmation and comments on the Study were made:

## 1. Comments on Institutional Arrangement

## 1) Partnership between Related Agencies

The Philippine side (DENR) stressed that River Basin Control Offices (RBCOs), DPWH and NDCC should work in partnership on vital concerns, such as the scoring criteria and assessments, including geo-hazard and socio-economic aspects, which have already been done by other agencies for consistency and avoid duplication.

## 2) Coordination between Steering Committee Members

The Philippine side (NEDA) stressed that coordination is necessary to get information from related agencies who have been chosen as Steering Committee Members, especially, with the DENR.

## 3) Coordination with LGUs

The Philippine side (DPWH) stressed that commitment of local officials and municipal councils is necessary for implementation in the future. As such, proper coordination with Local Government Units is also important.

## 4) DPWH as the Major Counterpart Agency

JICA expert stressed that DPWH already has enough experience, existing staff and data relevant to the Study. JICA expert also stressed that DPWH should be the major counterpart of this Study since it has already conducted several related activities. Aside from DPWH, other agencies are

invited to get involved in the Study, especially in providing contribution and additional information, and in sharing the results of the Study.

## 2. Comments to the Inception Report

## 1) Term "River Segment"

The Philippine side (DPWH) commented that the Study Team should use the same term, if "River Segment" in the presentation of DPWH counterpart means the same as "Grouping of River Basins" in the presentation of the Study Team.

The Study Team answered that the term "river segment" will be verified.

## 2) Flood Management

The Philippine side (NEDA) stressed that, in these days, flood management is regarded more important than flood control which puts emphasis on structural approach. NEDA also stressed that integrated water resource management should be considered in the Study.

The Study Team answered that the basin-wide approach, such as watershed management, will be considered in the plan formulation for the model river basins.

## 3) Strategy for Grouping

The Philippine side (DPWH) stressed that strategy for grouping should be a foundation for identification of problem type. Based on these identification processes, we should decide whether we take a structural approach or a non-structural approach.

The Study Team answered that non-structural measures will be mentioned in formulating plans for the model river basins.

#### 4) Focus of the Study

The Philippine side (NEDA) asked clarification whether the focus of the Study is the major river basins or the principal river basins.

JICA expert answered that small river basins with high flood risk should be covered in the Study because the Study started after the flood in Ormoc which is not located in the major river basins but in a principal river basin, yet, it experienced very huge damages.

## 5) Prioritized River Basins of DENR

The Philippine side (DENR) informed that there is a difference between the number of major river basins considered by the Study Team and the DENR. The number of major river basins adopted by the Study Team is 18, while the study by DENR adopted 20 major river basins.

Based on the study, DENR formulated a master plan, and RBCOs are set up. DENR requests the

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Study Team to adopt these 20 major river basins.

JICA expert answered that DPWH and JICA have already signed for the Study on June 19, 2006, and the Study has already started based on this signed agreement. What the representative from the DENR mentioned is related to policy, not to the Study itself. JICA expert also answered that the Study Team will conduct the prioritization based on the agreed scope of the Study.

#### 3. Comments to Other Matters

#### 1) Data from FCSEC

JICA expert stressed that from the experiences of the Ministry of Infrastructure, Land, and Transportation of Japan, it can be said that the total management is very important for flood management. JICA expert also stressed that one of the main purposes of FCSEC is to collect data and information, and FCSEC can offer those data to the Study.

## 4. Deadline of Comments on the Inception Report

The Philippine side informed that comments on the Inception Report, which were not mentioned in this open session, should be provided to the Study Team within one week. The Philippine side also commented that DPWH will regularly inform the Steering Committee Members of the progress of the Study Team, and that the Members can make comments and suggestions on the Study.

#### 5. Comment of the Chair on the Study

The Chair commented that the Study will be aimed at contributing to the improvement of the flood management competence of the Philippines and the agencies concerned, which are especially composed of the members of the Steering Committee. This will promote better relationship between these agencies to prevent further flood disasters in the Philippines.

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#### **ATTACHMENT**

List of participants in the Steering Committee Meeting on September 26, 2006 at the Diamond Hotel Philippine, Manila is shown below:

#### ATTENDEES

## A. Members of the Steering Committee and Invited Officials

Manuel M. Bonoan	Undersecretary	DPWH
Raul C. Asis	Assistant Secretary	DPWH

Maria Catalina E. Cabral, PhD OIC-Director Planning Service, DPWH

 Resito V. David
 Project Director
 PMO-FCSEC

 Patrick B. Gatan
 Project Director
 PMO-MFCP-I

 Philip Menez
 Project Director
 PMO-MFCP-II

Narciso PrudenteOIC-WRDNEDARosa PerezRepresentativePAGASAMa. Isabel T. AbiganiaRepresentativePHILVOCS

Crispina B. Abat Division Chief Planning Division, OCD

Ricarte Javeloza Director DENR/RBCO
Perfecto L. Zaplan Engineer V Bureau of Design

Emmie Ruales Representative NWRB

Alejandro A. Sosa Project Manager II PMO-MFCP-II
Teodora P. Santos Sr. Weather Specialist PAGASA
Richellein F. I. Lim Engineer V BOD

Ricardo J. Ugalde Technical Staff DENR/RBCO

Belinda Fajardo Chief, EMP ESSO

 Leonardo P. Sanchez
 Engr. III
 PMO-MFCP-I

 Christine Selda
 EDS II
 NEDA

## B. Local Counterpart Team

PMO-FCSEC Julius T. Borja Proj. Manager/Co-Team Leader Orlando M. Casio Engr. III/Assistant Team Leader DPD, PS, DPWH Engr. III/ River Engineering 1 DPD, PS, DPWH Agulina T. Decilos PMO-MFCP-I Engr. IV,/ River Engineering 2 Leonila R. Mercado PMO-FCSEC Engr. III/ River Engineering 2 Grecile Damo Non-Structural PMO-FCSEC Galileo Fortaleza Engineer V/

Measures

Madelyn B. Loyola Engineer III/ Non-Structural DPD, PS, DPWH

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Estelita M. Leonado Economist II/ Environmental DPD, PS, DPWH

and Social Consideration

Ignacia M. Ramos Engineer III/Environmental and ESSO, DPWH

Social Consideration

Gloria L. Atillano Data Encoder DPD, PS, DPWH

Jaime Surot Engineer II/GIS DPD, PS, DPWH

C. JICA Philippines Office

Shozo Matsuura Resident Representative JICA
Takeshi Kanome Assistant Resident JICA

Representative

Mae Leyson Program Assistant JICA

D. JICA Experts

Shunta DozonoJICA ExpertDPWH, P.S.Yoshio TokunagaJICA ExpertFCSECTakeo MitsunagaJICA SABO ExpertFCSEC

E. JICA Study Team

Yoshiharu Matsumoto Team Leader/Flood Control and Flood Damage JICA

Reduction Plan

Kenichiro Kondo Co-Team Leader/River Engineering-1 (Flood Risk JICA

Assessment-1/Structural Measures)

Kenji Toyota River Engineering-2 (Flood Risk Assessment-2) JICA Keiko Tsuji Coordinator JICA

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## MINUTES OF MEETING

ON

## THE SECOND STEERING COMMITTEE MEETING

OF

THE STUDY

ON

# THE NATIONWIDE FLOOD RISK ASSESSMENT AND THE FLOOD MITIGATION PLAN FOR THE SELECTED AREAS

IN

## THE REPUBLIC OF THE PHILIPPINES

MANILA, January 12, 2007

Mr. Raule. Asis

Assistant Secretary and Chairman,

Steering Committee

Department of Public Works and

Highways

Mr. Yoshiharu Matsumoto

Team Leader JICA Study Team

Witness

Mr. Kenzo Iwakami

Deputy Resident Representative

Japan International Cooperation Agency

## I. General

The meeting for the presentation of the Progress Report for the Study on the Nationwide Flood Risk Assessment and the Flood Mitigation Plan for the Selected Areas in the Republic of the Philippines (hereinafter referred to as "the Study") was held on January 12, 2007 at the Operation's Room, Office of the Secretary, 2<sup>nd</sup> Floor of DPWH Central Office, Manila.

The list of attendance is shown in the Attachment.

#### II. Discussions

First, Assistant Secretary Mr. Raul C. Asis, the Chairman of the Steering Committee, called the meeting to order.

Then, Mr. Yoshiharu Matsumoto, the Leader of the Study Team, proceeded to explain the contents of the Progress Report to the Philippine side. The contents were accepted in principle by the Philippines side.

In the meeting, the following confirmation and comments on the Study were made:

#### 1. Comment on Study Area

## 1) Identification of Flood Prone Areas

The Philippine side (PHIVOLCS) commented that the Study Area seems to be better to cover the flood prone areas identified by DPWH rather than the 947 cities/municipalities identified by NDCC. The Philippine side (PHIVOLCS) also stressed to make sure that the flood prone areas selected should be consistent with the high risk areas/hazard areas previously identified by the Philippine Government.

The Study Team answered the Study was started with 947 cities/municipalities as a given condition, and identification was relied on the works by the Philippine side.

In this connection, JICA expert answered that the 947 flood prone areas identified by NDCC are the only one official data, therefore, the Study Area should cover these areas. The Philippine side understood.

#### 2. Comments on Identified River Basins

## 1) Control and Region Number of Identified River Basins

The Philippine side (DPWH) suggested control number as well as water resources and administrative region number should be incorporated to each river basin in the list in order to easily recognize the river basins.

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The Study Team answered, in the report, the control number as well as water resources and administrative region number are incorporated to each river basin.

#### 2) Number of Identified River Basins

The Philippine side (NWRB) questioned whether the number of Major River Basins (18) is included in the total number of the identified river basins (1,164).

The Study Team answered the number of Major River Basins is included in the total number.

The Philippine side understood.

## 3) Definition of River Basins

The Philippine side (DPWH) commented the definition of the river basins is not clear.

The Study Team answered the definition is based on the NWRC's one. The definition will be confirmed further through discussion with NWRB.

The Philippine side understood.

#### 3. Comments on Evaluation Indexes

## 1) Data on Flood Casualties and Damages

The Philippine side (PHIVOLCS and PAGASA) commented that the data on the flood casualties and damages should cover long term, i.e., more than 50 years, if possible, in terms of statistical aspect, while the present Study covers only 5 to 10 years data.

The Study Team answered the data were collected from related agencies located only in Metro Manila, because it was impossible to visit every local office under this study period. In this connection, all available data which cover nationwide were only 5 to 10 years data. As far as rainfall and tropical cyclone data concern, these data cover long term.

The Study Team also expressed that data should be collected by the Philippine side after this Study in order to elaborate the evaluation of flood vulnerability.

In this regard, JICA expert expressed that the GIS system of this Study will be turnover to DPWH, therefore, the related agencies will be able to add or improve the data anytime.

The Philippine side understood.



## 2) Inclusion of Flood Event Magnitude

The Philippine side (PAGASA) suggested to include the magnitude of flood events as one of the selection indexes.

The Study Team answered the flood events with magnitude will be investigated through discussions with regional offices and field reconnaissance, and reflected in the second screening.

The Philippine side understood.

## 3) Relationship between Flood Frequency and Flood Casualties/Damages

The Philippine side (PAGASA) required the Study Team to explain the relationship between the flood frequency and the flood casualties/damages, since the flood frequency developed by the flood casualties/damages seems to be double counted.

The Study Team answered there were no suitable data on flood frequency except the developed one. As for the comment of double counting, the Study Team explained there are no strong linear correlation between the flood frequency and the flood casualties/damages, hence, this is not double counting.

The Philippine side understood.

#### 4) Selection of Evaluation Indexes

The Philippine side (DPWH) commented that other available indexes should be considered.

The Study Team answered the indexes were decided through a series of discussions with DPWH. The Study Team also answered the first screening was conducted focusing on the selection of the top 100 river basins. For this selection, the effective evaluation indexes were chosen considering the availability of numerical data, i.e., total 13 indexes consisting of 8 and 5 ones for socio-economic and natural condition, respectively. The Study Team expressed there are no other indexes, which are available for the first screening.

The Philippine side agreed.

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## 4. Comment on Selection of 100 River Basins

## 1) Source of "Dangerous River Basins"

The Philippine side (PHIVOLCS) questioned how to determine the dangerous river basins,

The Study Team answered the dangerous river basins are referred to the report named "Water and Flood" prepared by DPWH in 2004. In addition, the Study Team required the related agencies to provide names of other dangerous river basins, if there are any.

In this regard, JICA Sabo expert expressed that the related agencies may observe river basins with perennial flood events experienced. Hence, the related agencies should provide the names of such river basins in order to incorporate them into the dangerous river basins.

The Philippine side accepted.

#### 2) Sensitivity Analysis

The Philippine side (DPWH) commented that the 100 river basins are still a long list which will be probably implemented for a long period. The Study still goes through the second screening priority listing which will require more data. The Philippine side (DPWH) also suggested to conduct the sensitivity analysis of the 100 river basins and see how the selection of river basins would behave.

The Study Team agreed

## 3) Selected 100 River Basins

The Study Team presented the list of 100 river basins which were selected based on the guideline prepared by the Study Team. The Study Team also explained there will be minor modification in the listed river basins through the discussions with regional offices and with the provided names of dangerous river basins from the relating agencies.

The Philippine side accepted.

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# ATTACHMENT

# THE STUDY ON NATIONWIDE FLOOD RISK ASSESSMENT AND THE FLOOD MITIGATION PLAN FOR THE SELECTED AREAS IN THE PHILIPPINES

The Second Steering Committee Meeting OPERATION'S Room, 2<sup>ND</sup> FLOOR, DPWH Central office, Manila January 12, 2007 (9:00 AM-12:00 PM)

## ATTENDANCE LIST

Raul C. Asis	ommittee and Invited Officials Assistant Secretary	DPWH
Resito V. David	Project Director	PMO-FCSEC
Philip Menez	Project Director	PMO-MFCP-II
Narciso Prudente	OIC-WRD	NEDA
Crispina B. Abat	CDO-II	OCD/NDCC
Rebecca T. Garsuta	Engineer V	PS, DPWH
Emmie Ruales	Engineer IV	NWRB
Leonardo P. Sanchez	Engr. III	PMO-MFCP-I
Isidra D. Paaiuo	OIC-PPD	NWRB
Renat Solidum	Executive Director	PHIVOLCS
Priso D. Nilo	OIC-Administrator	PAGASA
B. Local Counterpart Team		
Julius D. Borja	Proj. Manager/Co-Team Leader	MFCP-CII
Orlando M. Casio	Engr. III/Assistant Team Leader	DPD, PS, DPWH
Aquilina T. Decilos	Engr. III/ River Engineering 1	DPD, PS, DPWH
Leonila R. Mercado	Engr. IV/ River Engineering 2	PMO-MFCP-CI
Grecile Christopher R. Damo	Engr. III/ River Engineering 2	PMO-FCSEC
Estelita M. Leonado	EconomistII/ Environmental and Social Consideration	DPD, PS, DPWH
Gloria L. Atillano	Data Encoder	DPD, PS, DPWH
C. JICA Philippines Office		
Kenzo Iwakami	Deputy Resident Representative	ЛСА
Takeshi Kanome	Assistant Resident Representative	JICA
Mae Leyson	Program Assistant	JICA
D. JICA Experts		
Shunta Dozono	JICA Expert	DPWH, P.S.
Takeo Mitsunaga	JICA SABO Expert	FCSEC
E. JICA Sutudy Team		
Yoshiharu Matsumoto	Team Leader/Flood Control and Flood Damage Reduction Plan	JICA Study Team
Kenichiro Kondo		
Kenji Toyota	Assessment-1/Structural Measures) River Engineering-2 (Flood Risk Assessment-2)	JICA Study Team
Hideki Konno	Coordinator	ЛСА Study Team



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# MINUTES OF MEETING

ON

## THE THIRD STEERING COMMITTEE MEETING

OF

THE STUDY

ON

# THE NATIONWIDE FLOOD RISK ASSESSMENT AND THE FLOOD MITIGATION PLAN FOR THE SELECTED AREAS

IN

## THE REPUBLIC OF THE PHILIPPINES

MANILA, April 24, 2007

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Resito V. David

Project Director of PMO-FCSEC,

**Steering Committee** 

Department of Public Works and

Highways

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Mr. Yoshiharu Matsumoto

Team Leader JICA Study Team

Witness

Mr. Kenzo Iwakami

**Deputy Resident Representative** 

Japan International Cooperation Agency

Noted:

Mr. Raul C. Asis

Assistant Secretary and

Chairman, Steering Committee

Department of Public Works and Highways

#### I. General

The meeting for the presentation of progress of the Study including result of the first screening and the criteria of the second screening on the Nationwide Flood Risk Assessment and the Flood Mitigation Plan for the Selected Areas in the Republic of the Philippines (hereinafter referred to as "the Study") was held on Åpril 24, 2007 at the Operations Room, 2<sup>nd</sup> Floor of DPWH Central Office, Manila.

The list of attendance is shown in the Attachment.

#### II. Discussions

First, Resito V. David, Project Director of PMO-FCSEC, on behalf of Assistant Secretary Mr. Raul C. Asis, the Chairman of the Steering Committee, called the Steering Committee Meeting to order and discussed with the participants on the Minutes of Meeting of the previous Steering Committee Meeting, which had been held on January 12, 2007.

Mr. Iwakami, Deputy Resident Representative of JICA, briefly mentioned the contents of the Minutes of the 5<sup>th</sup> TWG Meeting, the progress of the project, the proposed strategy for 2<sup>nd</sup> screening and the topics which had been discussed and previously agreed. Then, he thanked those who worked for the Study and expressed the necessity of the sustainable development plan for the sake of the people of the Republic of Philippines.

Then, Mr. Yoshiharu Matsumoto, the Team Leader of the Study Team, proceeded to explain the progress of the Study including the result of the first screening and the criteria for the second screening. The contents were accepted in principle by the Philippine side.

Mr. Matsumoto also informed that the Stakeholders' Meeting will be held sometime in July, this year.

In the meeting, the following confirmation and comments on the Study were made:

# 1. Approval of the Minutes of Meeting of 2<sup>nd</sup> Steering Committee Meeting

The Minutes of Meeting of 2<sup>nd</sup> Steering Committee Meeting was accepted by the Philippine side and the Japanese side.

#### 2. Comments

#### 1) Classification of Urban River basin and General River basin

The Philippine side (DPWH) recommended adding the classification of the river basins in the list, "Urban River Basin" and "General River Basin", so that appropriate estimate of the project budget can be made using the relation between unit cost and general

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discharge prepared by the Study Team.

The Study Team agreed.

## 2) Information of Other Plans and Projects

There was a question from Philippine side (NWRB) whether the factors like integrated river basin management or mitigation plans prepared by DENR are taken into account in the Study.

The Study Team informed that so far those are not considered substantially but those will be considered on the pilot project stage.

## 3) Information of Flood Cause from Field Survey

There was a question from the Philippine side (DPWH) whether the causes of the flood as gathered from the field survey were identified following the definition used by the Study Team.

The Study Team answered that the results were derived from the interviews of local people without such strict definition. The Study Team believed that the local people understand the terminologies.

## 4) Exclusion of Four River Basin from the List

There was a question from Philippine side (PAGASA) on the reason why the number of major river basins listed is only 14 instead of 18.

The Study Team answered that the flood control projects of 4 major river basins out of 18 have already been implemented or the implementation is already scheduled, and thus they are not included in the list.

## 5) Questionnaire of Land-Use Plan

There was a question from Philippine side (PAGASA) whether land-use plan is included in the questionnaire or not, to reflect it on the second screening.

The Study Team answered that the plan is included in the questionnaire as a question of existence of related plan, but there is no detailed information enough to reflect on the second screening.

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## 6) Prioritization of River Basins

The Philippine side (DPWH) clarified on the method of prioritizing the river basins among "Major", "Dangerous" and "Principal" river basins and also questioned about the definition of the "Dangerous" river basin.

The Study Team answered that this Study puts priority on "Major" and "Dangerous" river basins, but not for the "Principal" river basin. The Study Team explained the difficulty to provide the clear definition of "Dangerous River Basins" in quantitative manner.

Philippine side understood.

## 7) The Way of Scoring River Basins

The Philippine side (DPWH) asked clarity of adding the scores using both "B-C" and "B/C" which might be double counting since the two (2) indicators have the same meaning.

The Study Team explained that "B-C" and "B/C" have different aspects; one reflects the absolute magnitude and the other reflects the relative one.

The Philippine side agreed.

## 8) Consideration of Possible Investment Cost

As one of the three key points of the second screening, "Consideration of Possible Investment Cost", the Philippine side pointed out the possibility that not enough river basins might be covered with the presented scenarios on the estimated budget by the Study Team.

The Study Team explained that various scenarios will be examined so that the desirable scenarios, which at least could cover the priority river basins be included in the target planning period.

The Philippine side understood.

## 9) Consideration of Budget from Other Organization

JBIC questioned whether budgets coming from various organizations (except DPWII) have been taken into account for estimating the possible investment cost or not

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The Study Team answered that budgets from other organization are not taken into account because the major portion of the project cost is decided by structural measure which is arranged by DPWH budget, and thus the budget from other organization will not affect to the consequence of the Study.

## 10) Consideration of River Improvement Stretch

It is recommended by the JICA expert to consider narrowing down the river improvement stretch so that the proposed plan will become economically more viable.

The Study Team mentioned that performing such analysis is hard to be applied on this stage because of the limitation of the time, and such factors will be taken into account for the analysis on the pilot project stage.

## 11) Possibility of Using Sector Loan

The JICA expert expressed his observation that the applied method for this Study is reasonable and also commented on the factors like irrigation, watershed management, etc. should be considered in the course of other studies.

Furthermore, the JICA expert explained that the sector loan for flood control is to be arranged and suggested application of the loan to the river basins which are identified, in the course of the Study where there is necessity of early implementation before 2010.

For example, DPWH has the results of the feasibility studies of some river basins carried out in the past. In the case of these river basins with high priority ranking; DPWH may provide appropriate local fund to these projects. Furthermore, DPWH can regard them as one project for the flood control sector loan and request the support of the Japanese government.

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# **ATTACHMENT**

# THE STUDY ON THE NATIONWIDE FLOOD RISK ASSESSMENT AND THE FLOOD MITIGATION PLAN FOR THE SELECTED AREAS IN THE PHILIPPINES

The Third Steering Committee Meeting OPERATION'S Room, 2<sup>ND</sup> FLOOR, DPWH Central office, Manila April 24<sup>th</sup>, 2007 (9:00 AM-12:00 PM)

# ATTENDANCE LIST

	Mombors of th	a Steering	Committee and	Invited Officials
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Resito V. David	Project Director	PMO-FCSEC	
Rebecca T. Garsuta	Engineer V	DPWH, Planning Service	
Philip Menez	Project Director	PMO-MFCP-II	
Patrick B. Gatan	Project Director	PMO-MFCP-I	
Ramon Marin Lasam	DIR-II	RBCO-DENR	
R. Marino	CDOII	OCD	
Isidra D. Penaranda	OIC-PPD	NWRB	
Prisco D. Nilo	OIC-Administrator	PAGASA	
Catherine G. Vidar	Project Officer	JBIC	
B. Local Counterpart Team			
Leonila R. Mercado	Engr. IV/ River Engineering 2	PMO-MFCP-CI	
Orlando M. Casio	Engr. III/Assistant Team Leader	DPD, PS, DPWH	
Aguilina T. Decilos	Engr. III/ River Engineering 1	DPD, PS, DPWH	
Grecile Christopher R. Damo	Engr. III/ River Engineering 2	PMO-FCSEC	
Gloria L. Atillano	Data Encoder	DPD, PS, DPWH	
C. JICA Philippines Office			
Kenzo Iwakami	Deputy Resident Representative	JICA	
Takeshi Kanome	Assistant Resident Representative	JICA	
Mae Leyson	Program Assistant	JICA	
Jennifer Barba	JICA Intern	JICA	
D. JICA Experts			
Shunta Dozono	JICA Expert	DPWH, P.S.	
Takeo Mitsunaga	JICA SABO Expert	FCSEC	
E. JICA Sutudy Team			
Yoshiharu Matsumoto	Team Leader/Flood Control and Flood Damage Reduction Plan	JICA Study Team	
1.	Co-Team Leader/River		
Kenichiro Kondo	Engineering-1 (Flood Risk	JICA Study Team	
	Assessment-1/Structural Measures)		
	River Engineering-2	110 t Gt   1 T	
Hideki Konno	(Flood Risk Assessment-2)	JICA Study Team	
Daisaku Kivota	Coordinator	JICA Study Team	

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