

***MINUTES OF MEETING  
ON  
THE FIFTH TECHNICAL WORKING GROUP 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 19, 2007*



**Ms. Dolores M. Hipolito**  
**Project Manager II, PMO-FCSEC**  
**Chair of Technical Working Group**  
**Department of Public Works and**  
**Highways**



**Mr. Yoshiharu Matsumoto**  
**Team Leader**  
**JICA Study Team**

*Am*

## **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 April 19, 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, Ms. Dolores M. Hipolito, Project Manager II of PMO-FCSEC, on behalf of Ms. Rebecca T. Garsuta, the Chairwoman of the TWG, called the TWG meeting to order and discussed with the participants on the Minutes of Meeting of the previous TWG meeting, which had been held on March 1st, 2007.

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.

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

### **1. Approval of the Minutes of Meeting of 4<sup>th</sup> TWG Meeting**

There was a question from Philippine side whether the issue on the replacement of Daraga and Lubayat River Basins had been settled down or not.

The Study Team informed that this issue had been clarified with 1/50,000 scale map and settled down soon after the 4<sup>th</sup> TWG Meeting.

Philippine side understood it.

### **2. Comments on the Results of the First Screening**

#### **1) Survey of the Additional River Basins**

The Study Team informed that it was requested through the discussion with regional offices that maximum 31 river basins be added to list of the first screening.

Regarding this matter, the Study Team explained to identify the necessity of adding to the list with provided information, then for those included the Study Team proposed to survey river basins with collected information because conducting field survey is virtually impossible with limited time and budget.

Philippine side agreed.

**2) Definition of the “Dangerous River Basin”**

The Philippine side (DPWH) questioned about the definition of the “Dangerous River Basin”.

The Study Team answered that this study has been conducted based on the information provided by the Philippine side and that the Study Team would consider reasonable definition.

Philippine side agreed.

**3) Terminology of Grouping for the Selected River Basins**

The Philippine side (FCSEC) pointed out the confusion on terminology describing the type of flood, one is described as “Inundation Water” and the other is described as “Landside water” and proposed to use “Inland Flooding”.

The Study Team agreed to use the word “Inland Flooding”.

**4) Information for Planned Countermeasure against Flood**

JICA Expert (FCSEC) requested to furnish the information of planned countermeasures against flood so far collected by the Study Team.

The Study Team agreed to supply the information, explaining the limitation of collected information.

**5) Definition of “Preparedness Plan”**

The Study Team questioned the definition of “Preparedness Plan” in which whether “Hazard map”, “Flood Warning” and “Flood Fighting” are included or not.

The Philippine side (DPWH) answered that those are included in the “Preparedness Plan”.

The Study Team understood the conditions.

### **3. Comments on the Criteria of the Second Screening**

#### **1) Calculation of the Project Cost Estimate**

The Philippine side (NEDA) pointed out that the estimation of the project cost has been conducted with GDP deflator by the year of 2003. The Philippine side (NEDA) suggested using inflation rate instead of using GDP deflator because of its availability of recent information.

The Study Team answered that the GDP deflator is the preferable index since it can reflect changes of values of more various items for estimation of project cost than that of inflation rate.

The Study team also explained the possibility of using inflation rate if the policy or guideline in Philippine suggests.

The Philippine side agreed.

#### **2) Calculation of the Project Benefit Index**

The Philippine side (NEDA) suggested taking land-use plans into consideration of Project Benefit Index.

The Study Team explained that the objective of this index is to put the priority of river basins for seeking general trend.

The JICA expert explained that one can understand the possibility that an analysis result will become more exact by utilizing the land-use plans which exist in the state of the printed paper etc., but the study period and its availability of the budget are limited. It is desirable to conduct the predetermined analysis effectively by utilizing GIS database which is already completed by the Study Team.

The JICA expert suggested that the buildings of the built-up area of Metro-Manila and the ones of the local are clearly different. Moreover about agriculture area, the production worth of rice field and the ones of coconuts plantation may be different as well. It is important to consider of such differences into account so that the result of analysis does not deviate with the actual condition.

The Philippine side agreed.

#### **3) Meaning of Strategic Importance**

am

82

The Philippine side (DPWH) questioned about the objectives of the strategic importance for the Study.

The Study Team answered the strategy is provided to avoid the risks of dropping the substantially vulnerable river basins which have not shown high-ranking risk index in the statistical information. The Study Team also explained importance of regional distribution, "Luzon, Visayas and Mindanao" to avoid concentration of investment for flood control project in certain area.

JICA expert explained the importance showing the example of some areas in Japan which are critical regarding the national benefit in view of future regional development and such area has been given higher safety level for disaster prevention.

The Philippine side agreed.

**ATTACHMENT**

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

**The Fifth Technical Working Group Meeting  
OPERATIONS Room, 2<sup>ND</sup> FLOOR, DPWH Central Office, Manila  
April 19, 2007 (9:00 PM-12:00 PM)**

**ATTENDANCE LIST**

**Philippine Side**

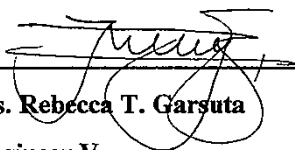
NAME	POSITION	OFFICE
Dolores M. Hipolito	Project Manager II	DPWH, FCSEC
Alejandro A. Sosa	Project Manager II	DPWH, PMO-MFCP-II
Julius D. Borja	Project Manager/ Co-Team Leader	MFCD-CII
Emmie Ruales	Engineer V	NWRB
Leonila R. Mercado	Engineer IV	DPWH, PMO-MFCP-II
Tirso R. Perlada, Jr.	Engineer IV	DPWH, BOC,
Jesse.C. Felizardo	Engineer IV	PMO-FCSEC
Robert L. Domingo	Economist. Dwt. Specialist	NEDA
Ramon Martin S. Lasay	Forester	DENR (RBCO)
Florentino R. Sison	Representative	OCD
Francis B. Hilarie	Economist	NWRB
Grecile Christopher R. Damo	Engineer III	DPWH, PM-FCSEC
Aquilina T. Decilos	Engineer III	DPWH, Planning Service
Orlando M. Casio	Engineer III	DPWH, Planning Service
Estelita M. Leonado	Economist II	DPWH, Planning Service
Gloria L. Atillano	Staff	DPWH, PS

**Japanese Side**

NAME	POSITION	OFFICE
Takeshi Kanome	JICA Assistant Resident Representative	JICA Philippine Office
Mae Leyson	JICA Program Assistant	JICA
Jennifer Barba	JICA Intern	JICA
Shunta Dozono	JICA Expert	DPWH, PS
Yoshio Tokunaga	JICA Expert	DPWH, FCSEC
Yoshiharu Matsumoto	Team Leader/Flood Control and Flood Damage Reduction Plan	JICA Study Team
Kenichiro Kondo	Co-Team Leader/River Engineering-1 (Flood Risk Assessment-1/Structural Measures)	JICA Study Team
Hideki Konno	River Engineering-2 (Flood Risk Assessment-2)	JICA Study Team
Daisaku Kiyota	Coordinator	JICA Study Team

***MINUTES OF MEETING  
ON  
THE SIXTH TECHNICAL WORKING GROUP 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, July 10, 2007***



---

**Ms. Rebecca T. Garsuta**

**Engineer V  
Chair of Technical Working Group  
Department of Public Works and  
Highways**



---

**Mr. Yoshiharu Matsumoto**

**Team Leader  
JICA Study Team**

## **I. General**

The meeting for the presentation of progress including the result of the second screening and the selection of model river basins 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 July 10, 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, Ms. Rebecca T. Garsuta, the Chairwoman of the TWG, called the TWG meeting to order and discussed with the participants on the Minutes of Meeting of the previous TWG meeting, which had been held on April 19, 2007.

Then, Mr. Yoshiharu Matsumoto, the Team Leader of the Study Team, proceeded to explain the progress of the Study including the result of the second screening and the selection of model study river basins. The contents were accepted in principle by the Philippine side.

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

### **1. Approval of the Minutes of Meeting of 5<sup>th</sup> TWG Meeting**

The Minutes of Meeting of 5<sup>th</sup> TWG Meeting was accepted by the Philippine side and the Japanese side.

### **2. Comments on the Results of the Second Screening**

#### **1) Estimation of Flood Prone Area**

The Philippine side (DPWH) questioned the estimation of the flood prone area whether it was based on the basins' previous studies or the results of simulation.

The Study Team answered that the area was estimated by multiplication of the result of simulation to a coefficient of 1.4. The coefficient was obtained from the relation between the basins' previous studies and the results of simulation.

Philippine side understood.

#### **2) Estimation of Flood Damage Rate**

The Philippine side (DPWH, NWRB, FCSEC) questioned about how the flood damage rate was determined.



The Study Team answered that the rate was referred from the results of the previous studies, and the details are explained in the Interim Report.

Philippine side agreed.

### **3) Economic Evaluation applied B/C and B-C**

The Philippine side (DPWH and NEDA) questioned that application of B/C and B-C in the scoring may be considered as double count for the economic evaluation.

The Study Team answered that it is not considered as a double count, which was explained and understood in the previous 3<sup>rd</sup> steering committee meeting; B/C and B-C are represented as a relevant value and an absolute value, respectively. The Study Team explained that large-scale river basins with even a low value of B/C should be given an advantage for the national development, compared to small-scale river basins with a high value of B/C, when a value of B-C for large-scale river basins is higher than small-scale river basins. Regarding this matter, the Study Team considered these two types of indicators should be applied for the evaluation at the same time as noticed from the fact that the economic evaluation in principal is undertaken three indices; IRR, B/C, B-C, though IRR is not available in this study.

Philippine side agreed.

### **4) Budget for flood mitigation project**

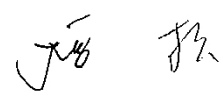
The Philippine side (FCSEC) questioned whether inflation rate was considered for a calculation of the total budget between 2011 and 2034.

The Study Team answered that the inflation rate was considered for a calculation of the total budget between 2011 and 2034. The inflation rate was calculated at 4.9 %/yr based on CPI between 1988 and 2006.

Philippine side agreed.

The Philippine side (FCSEC) requested to indicate in the case of the growth rate at 11% in the slide 38, which is the projected rate for the budget of DPWH until 2010.

The Study Team agreed.



### **3. Selection of Model River Basins**

The members of TWG discussed and finalized on model river basins as Ilog-Hilabangan (Region VI), Dungcaan (Region VIII), Meycauayan (Region III), Real-1 (Region IV-A), Tuganay (Region XI), and Compol (Region X) considering the proposed criteria for the selection of model river basins as well as the ranking resulted by 2<sup>nd</sup> screening, safety on the site, and avoidance of selecting more than two river basins from the same region.

### **4. Other Comments/Recommendation**

#### **1) Data Accessibility/Modification**

The JICA expert questioned whether the data prepared for this study can be reviewed for the ranking and the screening, and easily be modified if necessary.

The Study Team answered that the composition of data and the process of data development will be explained in detail on the report so that the update / modification can be easily carried out.

The JICA expert agreed.

#### **2) Effectiveness of Non-Structure Measure**

The Philippine side (FCSEC) questioned about effectiveness of non-structure measure for flood mitigation, i.e., contribution to reduction of runoff.

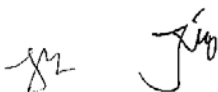
The Study Team answered that the numerical analysis is difficult to apply to the evaluation of non-structure measure. Regarding this matter, the way of evaluating the non-structure measure will be introduced on the next meeting.

Philippine side agreed. ;

#### **3) Possibility of Using Sector Loan**

The Philippine side (FCSEC) questioned about applicability of the sector loan after this study.

The JICA expert answered the discussion of prospect sector loan has been started among relevant officials.



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

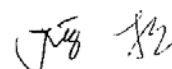
**The Sixth Technical Working Group Meeting**  
**Operation's Room, 2<sup>ND</sup> Floor, DPWH Central Office, Manila**  
**July 10<sup>th</sup>, 2007 (9:00 AM-12:00 PM)**

**ATTENDANCE LIST****Philippine Side**

NAME	POSITION	OFFICE
Rebecca T. Garsuta	Engineer V	DPWH, DPD, Planning Service
Orlando M. Casio	Engineer III	DPWH, DPD, Planning Service
Aquilina T. Decilos	Engineer III	DPWH, DPD, Planning Service
Elmo F. Atillano	Engineer III	DPWH, DPD, Planning Service
Mar G. Tolentino, Jr.	Engineer III	DPWH, DPD, Planning Service
Estelita M. Leonado	Economist II	DPWH, DPD, Planning Service
Gloria L. Atillano	Staff	DPWH, DPD, Planning Service
Dolores M. Hipolito	Project Manager II	PMO-FCSEC
Grecile Christopher Damo	Engineer III	PMO-FCSEC
Leonardo P. Sanchez	Engineer II	PMO-MFCP I
Alvin Y. Diaz	Engineer II	PMO MFCP II
Tirso R. Perlada, Jr.	Engineer IV	DPWH, BOC
Ramon Martin J. Lasay	Director II	DENR
Emmie Ruales	Engineer IV	NWRB
Francis B. Hilarie	Economist IV	NWRB
Florentino R. Sison	CDO-I	OCD-NDCC
Ma. Lynn Delos Santos	Sr. SRS	PHIVOLCS
Robert L. Domingo	Sr. EDS	NEDA

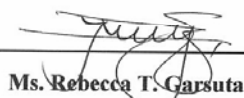
**Japanese Side**

NAME	POSITION	OFFICE
Takeshi Kanome	Assistant Resident Representative	JICA
Mae Leyson	Program Assistant	JICA
Minoru Kamoto	JICA Expert	DPWH, DPD, Planning Service
Yoshio Tokunaga	Chief Advisor	PMO-FCSEC
Yoshiharu Matsumoto	JICA Study Team	PMO-FCSEC
Kenichiro Kondo	JICA Study Team	PMO-FCSEC
Hideki Konno	JICA Study Team	PMO-FCSEC
Sah B. P.	JICA Study Team	PMO-FCSEC
Satoshi Takata	JICA Study Team	PMO-FCSEC
Naomi Kato	JICA Study Team	PMO-FCSEC
Nobuyuki Sato	JICA Study Team	PMO-FCSEC

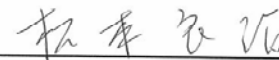


**MINUTES OF MEETING  
ON  
THE SEVENTH TECHNICAL WORKING GROUP MEETING  
OF  
THE STUDY  
ON  
THE NATIONWIDE FLOOD RISK ASSESSMENT  
AND THE FLOOD MITIGATION PLAN FOR THE SELECTED AREAS  
IN  
THE REPUBLIC OF THE PHILIPPINES**

**MANILA, SEPTEMBER 10, 2007**

  
Ms. Rebecca T. Garsuta

Engineer V  
Chair of Technical Working Group  
Department of Public Works and  
Highways



Mr. Yoshiharu Matsumoto  
Team Leader  
JICA Study Team



## **I. General**

The meeting for the presentation on the interim 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 September 10, 2007 at the Training Room, 5<sup>th</sup> Floor of DPWH Central Office, Manila.

The list of attendance is shown in the Attachment.

## **II. Discussions**

First, Ms. Rebecca T. Garsuta, the Chairwoman of the TWG, called the TWG meeting to order and discussed with the participants on the Minutes of Meeting of the previous TWG meeting, which had been held on July 10, 2007.

Then, Mr. Yoshiharu Matsumoto, the Team Leader of the Study Team, proceeded to explain the contents of interim report of the Study including all accomplishment up to August, 2007. The contents were accepted in principle by the Philippine side.

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

### **1. Approval of the Minutes of Meeting of 6<sup>th</sup> TWG Meeting**

The Minutes of Meeting of 6<sup>th</sup> TWG Meeting was accepted by the Philippine side and the Japanese side.

### **2. Implementation Schedule**

#### **1) Methodology to prepare implementation schedule**

The Philippine side (FCSEC) questioned why the order of implementation is different from ranking, especially for foreign fund portion.

The Study Team answered that the order is basically based on the ranking, however, regional distribution and exceptional basins such as those are related to on-going projects are taken into account. As a result the order of implementation is proposed.

The Philippine side (DPWH) suggested adding supplementary explanation and tables to clarify the methodology used. For example, ranking by each area and list of on-going projects should be shown.

The Study Team agreed to the proposal.

#### **2) Case of the growth rate at 11%**

The Philippine side (DPWH) claimed that implementation schedule should be shown in the case of the growth rate at 11%, based on the agreement during the 6<sup>th</sup> TWG Meeting.

The Study Team answered that in the case of the growth rate at 11%, all of 120 river basins are included within the implementation period, which will be prepared as supplementary information.

The Philippine side understood.

### **3) Possibility to formulate sector program loan (SPL)**

The JICA Chief Advisor (FCSEC) explained the concept of SPL on Flood Mitigation and questioned if some of river basins listed in the implementation schedule can be implemented as a SPL project.

The Philippine side (DPWH) commented that the SPL project is good idea to implement small to middle size river basins. It can be considered one of requested projects for 28<sup>th</sup> loan.

### **4) Exceptional cases**

The JICA Sabo expert stressed that the methodology used in the study for evaluation of cost- benefit index has limitation for applying to the river basins which have severe sediment-related disaster, although limited time frame of the study would not allow conducting deeper assessment for it. Such limitation should be mentioned in the report at least, and it should be recommended to conduct further study in the next study stage such as F/S and D/D. For example the project cost of YAWA River will be bigger than the estimation of the study and foreign fund would be needed for implementation. So depend on the further study the implement schedule should be updated at any time.

The Study Team agreed.

## **3. Implementation Period**

The Philippine side (DPWH) questioned if the implementation period can be changed to “2009 to 2034” from “2011 to 2034”. To reflect the result of the study for Mid-term investment program for 2009-2010, it is better to change the implementation period to “2009 to 2034”.

The Study Team answered that the implementation period for “2011 to 2034” has already discussed and agreed before. Although it is difficult to change the period now, the Study Team understood the point the Philippine side wants to use the result of the study as early as possible and agreed the modification.

## **4. Consideration of on-going projects**

The JICA expert introduced the list for requested projects for year 2008 and 2009 to GOJ and commented that these will be used as reference for formulating future projects.

In relation to the above, representative of JICA explained that they received the request of flood control projects for two river basins in Camigin island, which is not included in the list of 56 river basins since the request had been submitted before this study was started.

Both the Philippine side and the Study Team understood.

The JICA expert commented that expectation for progress of on-going projects should be mentioned, especially for year 2008 and 2009, and it should be introduced together with the implementation schedule

The Study Team understood.

## **5. Model River Basins**

### **1) Clarification of selected river basins**

The Philippine side (FCSEC) questioned if Compol river basin is excluded from the model river basin or not.

The Study Team answered that Dinaggasan river basin is actually same basin as Compol river basin. Based on the information the study team got after 6<sup>th</sup> TWG Meeting, it is judged that the name of Dinaggasan river basin is more suitable.

The Philippine side understood.

### **2) Comment for implementation of the study**

The Philippine side (DPWH) commented that the study team should be careful to explain the purpose of the study for the model river basins. Because, LGUs in the study area tend to think that actual project implementation will be done as soon as the study will be completed, although it will take time to prepare on the implementation of the priority projects.

The Study Team understood.

## **6. Other Comments**

The Philippine side (DPWH) claimed that explanation on how to evaluate effectiveness on non-structural measure is necessary based on the agreement during the 6<sup>th</sup> TWG Meeting.

The Study Team answered that direction of evaluation for some of non-structural measures will be presented under consideration of the existing condition for the model river basins at the next TWG meeting.

The Philippine side agreed.

The Philippine side (DPWH) also suggested including in the next TWG meeting the presentation on the progress of the environmental and social concerns of the study.

The Study Team agreed.



**ATTACHMENT**

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

**The Seventh Technical Working Group Meeting  
Training Room, 5<sup>TH</sup> Floor, DPWH Central Office, Manila  
September 10<sup>th</sup>, 2007 (9:00 AM-12:00 PM)**

**ATTENDANCE LIST**

**Philippine Side**

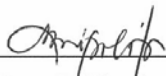
NAME	POSITION	OFFICE
Rebecca T. Garsuta	Engineer V	DPWH, DPD, Planning Service
Orlando M. Casio	Engineer III	DPWH, DPD, Planning Service
Aquilina T. Decilos	Engineer III	DPWH, DPD, Planning Service
Estelita M. Leonado	Economist II	DPWH, DPD, Planning Service
Gloria L. Atillano	Staff	DPWH, DPD, Planning Service
Dolores M. Hipolito	Project Manager II	PMO-FCSEC
Grecile Christopher Damo	Engineer III	PMO-FCSEC
Leonila R. Mercado	Engineer IV	PMO-MFCP I
Leonardo P. Sanchez	Engineer II	PMO-MFCP I
Alejandro A. Sosa	Project Manager II	PMO-MFCP II
Ramos Ignacia		DPWH, ESSO
Ramon Martin J. Lasay	Director II	DENR
Emmie Ruales	Engineer IV	NWRB
Florentino R. Sison	CDO-I	OCD-NDCC
Robert L. Domingo	Sr. EDS	NEDA
Dick Borki	Sr. EDS	NEDA

**Japanese Side**

NAME	POSITION	OFFICE
Takeshi Kanome	Assistant Resident Representative	JICA
Beth Elizabeth Candelario	Program Assistant	JICA
Minoru Kamoto	JICA Expert	DPWH, DPD, Planning Service
Yoshio Tokunaga	Chief Advisor	PMO-FCSEC
Takeo Mitsunaga	JICA Sabo Expert	PMO-FCSEC
Yoshiharu Matsumoto	JICA Study Team	PMO-FCSEC
Kenichiro Kondo	JICA Study Team	PMO-FCSEC
Hideki Konno	JICA Study Team	PMO-FCSEC
Tadanori Kitamura	JICA Study Team	PMO-FCSEC

**MINUTES OF MEETING**  
**ON**  
**THE EIGHTH TECHNICAL WORKING GROUP 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, November 22, 2007*



Ms. Dolores M. Hipolito  
Project Manager II, PMO-FCSEC  
Co-Chair of Technical Working Group  
Department of Public Works and  
Highways



Mr. Yoshiharu Matsumoto  
Team Leader  
JICA Study Team

## **I. General**

The meeting for the presentation of progress of the Study including result of analysis and the mitigation plans of 6 selected river basins 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 November 22<sup>nd</sup>, 2007 at the Multi-purpose Room, 5<sup>th</sup> Floor of DPWH Central Office, Manila.

The list of attendance is shown in the Attachment.

## **II. Discussions**

First, Ms. Dolores M. Hipolito, Project Manager II of PMO-FCSEC, on behalf of Ms. Rebecca T. Garsuta, the Chairwoman of the TWG, called the TWG meeting to order and discussed with the participants the Minutes of Meeting of the 7<sup>th</sup> TWG meeting, which was held on September 10<sup>th</sup>, 2007.

Then, Mr. Yoshiharu Matsumoto, the Team Leader of the Study Team, proceeded to explain the formulation of implementation schedule of river basins followed by presentations (1: structural measures of flood mitigation plan for selected model river basins by Mr. Kondo, 2: non-structural measures by Mr. Kitamura and 3: Initial Environmental Examination by Ms. Kato). The contents were accepted in principle by the Philippine side.

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

### **1. Approval of the Minutes of Meeting of 7<sup>th</sup> TWG Meeting**

The Minutes of Meeting of 7<sup>th</sup> TWG Meeting was accepted by the Philippine side and the Japanese side.

### **2. Comments on the Formulation of Implementation Schedules**

#### **1) Classification of Foreign Assisted Projects and Local Fund Projects**

JICA Expert commented that share of local fund projects is only 5%, while that of foreign assisted projects is 95%, so that most of Central Government Budget will be consumed for the foreign assisted projects. Consequently, flood control projects which should be covered by local governments can be hardly realized.

The Study Team explained that the classification of foreign assisted projects and local fund projects is just tentative and the share of fund is based on the previous practice by DPWH as shown in DPWH med-term program for 2005-2010. The share should be finalized in accordance with DPWH strategy through further discussion.



## **2) Package of Project for Application to Flood Sector Program Loan**

JICA Expert questioned that, in the presentation, there was no comment on making packages of flood control projects for application to flood sector program loan. Is it possible to give any comments for making such packages in this study?

The Study Team answered that it may be slightly away from the study scope to clearly mention about the source of fund, but the Study Team will give any recommendation to make project package to facilitate implementation of small scale projects which should be implemented soon but facing difficulty in funding.

## **3) Implementation schedule**

The Philippine side (DPWH-PMO) pointed out that feasibility studies of several projects on the proposed list have been completed, therefore, schedules of those projects should be considered.

The Study Team agreed.

## **3. Comments on the Structural Measures of Flood Mitigation Plan**

### **1) Return Period Setting**

JICA River Management Advisor asked the reason why there are several basins which have different return-period setting for the probability of design discharge.

The Study Team answered that the 20-year setting is for the comparison of the basins in the Second Screening while part of the basins projects are on going which have varied return periods. Thus the Study Team decided to use those return periods for such basins.

Philippine side understood.

### **2) Benefit of Kinanliman Basin**

JICA expert pointed out that the benefit figure of Kinanliman basin is different from the result of the Second Screening and asked the Study Team to reconfirm the result.

The Study Team answered that the calculation is still on going and promised to reconfirm the result of Kinanliman basin.

### **3) Problems occurred from Right-of-Way**

The Philippine side (DPWH-PMO) asked the occurrence of any problems from the proposed right-of-way.

The Study Team explained that the team acquired comments of the local officials from selected river basins which showed no particular problem expected so far.

*Am*

*fl*

#### **4. Comments on the Non-Structural Measures of Flood Mitigation Plan**

##### **1) Estimation of Flood Damages**

The Philippine side (DPWH) asked that there might be a way to quantify “intangible benefit, loss of life”.

The Study Team answered that as Philippine side mentioned there are several ways to quantify such figure but it is very difficult and troublesome task to verify. Thus, the Study Team decided to focus on only tangible benefit for concerning flood damages.

The Philippine side agreed.

##### **2) Terminology of Resettlement**

The Philippine side (PHIVOLCS/NWRB) pointed out that there are several paragraphs in which the word “Relocation” is used addressing the changes of residential place for the project.

“Relocation” means sometimes the removal of residents without installing infrastructure and relating facilities, or temporal resettlement. Thus, the word “Resettlement” is more proper for one of the non-structural measures for flood mitigation.

The study team received the comments.

##### **3) Effects of reforestation**

JICA Expert pointed out that it is very hard to quantify the effects of reforestation concerning the amount of reduction of flood damages.

The Study team agreed the point of view and mentioned that there is at least certain amount of reduction of the sediment by the reforestation. Therefore some amount of the reduction of OM cost maybe assumed, although it is not counted quantitatively in the Study.

JICA Expert understood.

##### **4) Estimation of reforestation rate**

The Philippine side (DENR-RBCO) asked whether DENR information is used for estimating reforestation rate and whether the Study Team included other agencies watershed management program (NPC, LWUA, etc) and private sector initiatives for the calculation.

The Study Team answered that DENR information is used for this matter and other government and private sector reforestation are also included for estimating this.

*AM*

*fr*

The Philippine side understood.

**5. Comments on the Initial Environmental Examination**

**1) Mitigation Method**

The Philippine side (PHIVOLCS) pointed out that the mitigation methods should be included as clearly defined actions to prevent the possible adverse effects especially for mangrove forest and requested the Study Team to put such mitigation methods.

The Study Team agreed.

**6. Comments on the Project Approach**

**6-1) Enhancement of the Counterpart Capability**

JICA Expert commented that after this study, DPWH itself will make flood control river basin master plans with the study output of 6 model river basins as reference. For that purpose, will any recommendations for flood control river basin master plan be incorporated in the report?

The Study Team replied that basic procedure to formulate flood control plan will be in principle shown in the report for different types of flood for 6 river basins. However due to limit of study period and available data, accuracy of the study output may not be validated. In this sense, the Study Team will comment, in the report, on the points to be carefully examined to apply the output of these model river basins.

**ATTACHMENT**

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

**The Eighth Technical Working Group Meeting  
Multi-Purpose Room, 5<sup>TH</sup> FLOOR, DPWH Central Office, Manila  
November 22<sup>nd</sup>, 2007 (13:30 PM-4:30 PM)**

**ATTENDANCE LIST**

**Philippine Side**

NAME	POSITION	OFFICE
Dolores M. Hipolito	Project Manager II	DPWH, FCSEC
Ma. Lyn Melo Santos	SR Sci. Res. Specialist	PHIVOLCS
Alvin Y. Diaz	Engineer II	PMO-MFCDP II
Pallomert Bernardo	EDS II	NEDA - IS
Clarissa Laysa	EDS II	NEDA - IS
Eugenio Diaz, Jr.	Engineer III	DENR - RBCO
Grecile Christopher R. Damo	Engineer III	DPWH, PMO-FCSEC
Emmie Ruales	Engineer V	NWRB
Leonila R. Mercado	Engineer IV	DPWH, PMO-MFCP-I

**Japanese Side**

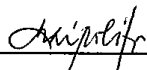
NAME	POSITION	OFFICE
Minoru Kamoto	JICA River Management Adviser	DPWH
Yoshio Tokunaga	JICA Expert	PMO-FCSEC
Takeo Mitsunaga	JICA Expert	PMO-FCSEC
Yoshiharu Matsumoto	Team Leader: JICA Study Team	PMO-FCSEC
Kenichiro Kondo	Co-Team Leader: JICA Study Team	PMO-FCSEC
Hideki Konno	JICA Study Team	PMO-FCSEC
Tadanori Kitamura	JICA Study Team	PMO-FCSEC
Satoshi Takata	JICA Study Team	PMO-FCSEC
Naomi Kato	JICA Study Team	PMO-FCSEC
Sah B.P	JICA Study Team	MO-FCSEC
Daisaku Kiyota	JICA Study Team	PMO-FCSEC

*am*

*fr*

**MINUTES OF MEETING  
ON  
THE NINTH(FINAL) TECHNICAL WORKING GROUP 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, FEBRUARY 15, 2008**



**Ms. Dolores M. Hipolito  
Project Manager II, PMO-FCSEC  
Co-Chair of Technical Working Group  
Department of Public Works and  
Highways**



**Mr. Yoshiharu Matsumoto  
Team Leader  
JICA Study Team**

## **I. General**

The meeting for the presentation on the draft final 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 February 15, 2008 at the Multi-purpose Room, 5<sup>th</sup> Floor of DPWH Central Office, Manila.

The list of attendance is shown in the Attachment.

## **II. Discussions**

First, Ms. Dolores M. Hipolito, Project Manager II of PMO-FCSEC, on behalf of Ms. Rebecca T. Garsuta, the Chairwoman of the TWG, called the TWG meeting to order and discussed with the participants on the Minutes of Meeting of the previous TWG meeting, which had been held on November 22, 2007.

Mr. Yoshiharu Matsumoto, the Team Leader of the Study Team, informed that 30 hard copies of Draft Final Report (Main Report and Summary) had been submitted to DPWH, then proceeded to explain the contents of draft final report of the Study including all accomplishments during the Study. The contents were accepted in principle by the Philippine side.

It is confirmed that written comments on the draft final report from the member of TWG should be submitted to DPD-PS by 22 February, 2008.

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

### **1. Approval of the Minutes of Meeting of 8<sup>th</sup> TWG Meeting**

The Minutes of Meeting of 8<sup>th</sup> TWG Meeting was accepted by the Philippine side and the Japanese side.

### **2. Database**

#### **1) Maintenance and Updating of Database developed in the Study**

The Philippine side (DPD-PS) asked how the database developed in the Study should be maintained and updated, so that re-evaluation of ranking will be conducted in the future.

The Philippine side (Co-Chairwoman of the TWG) answered that the Study is being completed and the maintenance and updating, particularly on damage data, are under responsibility of the Philippine side.

The Study Team added that during the study, a base of the database and screening method has been developed and it is desirable that the review and revision for both data and methodology be conducted by the Philippine side.

*Am*

*JK*

## **2) Short-term Expert**

The JICA representative explained that it is necessary to officially request a short-term expert for technical assistance on maintenance and updating of the database when DPWH needs him/her based in the recommendation by the Study. At this moment, JICA can not commit about the dispatch of the short-term expert.

The Philippine side appreciated the recommendation by the Study and understood the explanation by the JICA representative.

## **3. Implementation of the Study**

### **1) Study for Model River Basins**

The Philippine side (DPWH) asked if the data and the results for the study on model river basins can be applied directly for the F/S and the implementation or not.

The Study Team answered that the data used in the study were quite limited and consequent analysis were also not enough for actual implementation of the project; therefore it is not possible to directly apply the data and the result of the study for the implementation. It is necessary to conduct further study such as the F/S.

The Philippine side understood.

### **2) M/P and F/S for Selected 56 River Basins**

The JICA in-house consultant asked what will be the scheme for developing M/P and F/S for the selected 56 model river basins after completion of the Study.

The Philippine side (Co-Chairwoman of the TWG) answered that there are some river basins that already have F/S level study, which are considered for early implementation in the proposed implementation schedule in the draft final report. For other basins, there is an option for applying a packaged sector loan. For small river basins, DPWH should take initiative for developing M/P, F/S and funding.

Both the Philippine side and the Japan side understood.

### **3) Role of FCSEC**

The JICA expert (FCSEC) emphasized that FCSEC should support to develop the M/P and F/S. This item should be included in the recommendation.

Both the Philippine side and the Japan side understood.

*Ann*

*js*

#### **4. Other Comments**

##### **1) Proof Reading**

The JICA Advisor (DPWH) suggested for DPWH staffs to conduct proof reading of the Draft Final Report, including checking of names of rivers, places and numbers.

The Philippine side understood.

##### **2) Study on flood mitigation for Cavite area**

The JICA Advisor (DPWH) asked if the study area for on-going JICA study on Cavite area for flood mitigation is included in the selected 56 river basins.

The Study Team answered that it is included as the Imus River Basin.

Both the Philippine side and the Japan side understood.

##### **3) Effect of sabo works**

The JICA Sabo expert (FCSEC) asked if cost and benefit of sabo works have been considered in the 2<sup>nd</sup> screening or not.

The Study Team answered that for 5 river basins which may have high risk for sediment disaster, the cost and benefit by sabo dam was roughly considered based on available information. It may be better to consider more detail whenever it is necessary.

Both the Philippine side and the Japan side understood.

##### **4) Region of the selected 56 model river basins**

The Philippine side (Co-Chairwoman of the TWG) requested to show the corresponding regions of the selected 56 river basins in the proposed implementation schedule.

The Study Team agreed.

##### **5) Explanation on responsible agency for flood warning system**

The Philippine side (Co-Chairwoman of the TWG) suggested to add explanation on the responsible agencies for flood warning system, particularly PAGASA and PHIVOLCS.

The Study Team understood.

##### **6) Non-Structural Measures**

The Philippine side (NEDA) declared that the trend in investments in flood mitigation is to combine structural measures with non-structural measures, considering that infrastructure requires high investment. He emphasized the importance of reforestation and paddy field conservation.

Both the Philippine side and the Japan side understood.

*Am*

*Jr*

**ATTACHMENT**

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

**The Ninth Technical Working Group Meeting  
Multi-Purpose Room, 5<sup>TH</sup> FLOOR, DPWH Central Office, Manila  
February 15<sup>th</sup>, 2008 (1:30 PM-4:30 PM)**

**ATTENDANCE LIST**

**Philippine Side**

NAME	POSITION	OFFICE
Dolores M. Hipolito	Project Manager II	DPWH, FCSEC
Julius B. Borja	Project Manager	DPWH, PMO-MFCP-II
Alejandro A. Sosa	Project Manager	PMO-MFCP II
Leonila R. Mercado	Engineer IV	PMO-MFCP I
Leonardo P. Sanchez	Engineer III	PMO-MFCP I
Elmo F. Atillano	Engineer III	DPWH, DPD, Planning Service
Aquilina T. Decilos	Engineer III	DPWH, DPD, Planning Service
Gloria L. Atillano	Staff	DPWH, DPD, Planning Service
Estelita M. Leonado	Engineer II	DPWH, DPD, Planning Service
Robert L. Domingo	Sr. EDS	NEDA
Jose C. Rosana Jr.	CEO II	OCD-NDCC

**Japanese Side**

NAME	POSITION	OFFICE
Takeshi Kanome	Assistant Resident Representative	JICA
Minnie M. Dacanay	In-House Consultant, Planning & Coordination Section	JICA
Minoru Kamoto	JICA River Management Adviser	DPWH
Takeo Mitsunaga	JICA Expert	PMO-FCSEC
Yoshiharu Matsumoto	Team Leader: JICA Study Team	PMO-FCSEC
Kenichiro Kondo	Co-Team Leader: JICA Study Team	PMO-FCSEC
Hideki Konno	JICA Study Team	PMO-FCSEC
Tadanori Kitamura	JICA Study Team	PMO-FCSEC

*am*

*JK*