

*The Feasibility Study of the Flood Control Project for
the Lower Cagayan River in the Republic of the Philippines
Final Report
Supporting Report*

ANNEX XII : TRANSFER OF TECHNOLOGY

THE FEASIBILITY STUDY OF
THE FLOOD CONTROL PROJECT FOR THE LOWER CAGAYAN RIVER IN
THE REPUBLIC OF THE PHILIPPINES

FINAL REPORT

Volume III-2 SUPPORTING REPORT

ANNEX XII TRANSFER OF TECHNOLOGY

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CHAPTER 1 GENERAL

1.1 Introduction

Transfer Technology was conducted as one of the Study objectives during the course of Study period according to the Technology Transfer Program which had been prepared with a view to ensure more efficient transfer of technology to the counterpart personnel of the Government of the Philippines (GOP) in the course of the Study period, especially during works in the Philippines. All of the works in the Philippines were carried out in close cooperation and joint-work with the counterpart personnel consisting of engineers and officers at Central and Local Government levels.

1.2 Method for Technology Transfer

The Study Team has made their efforts to the transfer of technology on investigation/planning methods and skills as well as the basic data/information required for the planning. During the Works in the Philippines, the following four categories of transfer technology method were adopted.

- (1) On-the-job Training
- (2) Joint Meetings
- (3) Workshops
- (4) Technology Transfer Seminars

1.3 Record of Technology Transfer

The technology transfer has been made according to the schedule prepared at the beginning of the Study. In total, 8 joint meetings, 4 workshops and 2 technology transfer seminars were held. The record of those is shown below.

Record of Activities of Transfer Technology

Category	1st Year		2nd Year				3rd Year										
	1st Works in the Philippines (1)		2nd Works in the Philippines (2)		Work in Japan	3 rd Works in the Philippines (3)		Work in Japan	4th Works in the Philippines (4)		Work in Japan	5 th Works in the Philippines (5)		Work in Japan	6 th Works in the Philippines (6)		Work in Japan
<u>OJT</u>	■ ■ ■ ■		■ ■			■			■			■			■		
<u>Joint Meeting</u>	1st ■ 03/27/2000	2nd ■ 04/07	3rd ■ 06/06	4th ■ 04/25	5th ■ 08/29/2000	6th ■ 09/21	7th ■ 01/29/2001		8th ■ 05/10/2001								
<u>Work-shop</u>	1st ■ 03/28/2000	2nd ■ 09/05	3rd ■ 10/03 ~07/2000						4th ■ 05/22/2001								
<u>Seminar</u>									1st Seminar ■ 05/25/2001							2nd Seminar ■ 12/11/2001	

CHAPTER 2 EACH TRANSFER PROGRAM

2.1 On-the-job Training

On-the-job training has been provided to each counterpart through day-to-day works. Not only each team member undertakes his investigation responsibilities, but provides the counterpart with guidance as to purpose and procedure of the investigation. In addition, each team member explains to and discusses with the individual counterpart all activities of the investigation and its results based on the knowledge and experience possessed in each team member's area of expertise. A list of the study members showing his responsible study field and the counterparts allocated to each study member is shown in Table 2.2.1.

2.2 Joint Meeting

Total 8 joint meetings were held in Tuguegarao with the counterparts and the Study Team. The dates and main subjects of the meetings are summarized below:

(1) First Joint Meeting on March 27, 2000

- 1) Introduction of the Study Team members and counterparts of DPWH Region 2,
- 2) Explanation of the Inception Report by the Study Team,
- 3) Confirmation of undertakings of the GOP including the office space and furniture, and supporting staff, and,
- 4) Preparation for the First Workshop.

(2) Second Joint Meeting on April 7, 2000

- 1) Explanation by the Study Team about work progress including data collection, field reconnaissance, and investigation and survey, and new findings obtained through preliminary reconnaissance,
- 2) Reporting by DPWH Region 2 about organization and staffing, work experience, ongoing projects, annual budget, medium-term program, and evacuation and resettlement, and,
- 3) Confirmation of work schedule and office space, etc.
- 4) The agenda of meeting is shown in Attachment 1 of Appendix 1.

- (3) Third Joint Meeting on April 25, 2000
 - 1) Reporting by the Study Team on movement of the Study Team members/ counterparts, and progress of data collection, field reconnaissance and investigation and survey,
 - 2) Reporting by DPWH Region 2 on the organization and staffing, work experiences, ongoing projects, short/medium/long-term programs and evacuation and resettlement,
 - 3) Explanation by the Study Team on the overall workflow and workflow for socioeconomic development planning, watershed conservation planning, flood control planning and land use planning,
 - 4) Confirmation on security and work schedule, and,
 - 5) Initiatives by the Counterpart to hold the Joint Meeting at the next time and so forth.
 - 6) The agenda of meeting is shown in Attachment 2 of Appendix 1.
- (4) Fourth Joint Meeting on June 6, 2000
 - 1) Reporting by the counterparts of the progress and problems on the investigation and survey,
 - 2) Reporting by the Study Team on the progress of the Study, and,
 - 3) Explanation about hydrological analysis for the Cagayan River basin.
 - 4) The agenda of meeting, the attendance record and the record of discussion are shown in Attachment 3 of Appendix 1.
- (5) Fifth Joint Meeting on August 29, 2000
 - 1) Presentation by the Study Team of work progress and the program of the Second and Third Workshops,
 - 2) Presentation of Ibanag Heritage by the Counterpart, and,
 - 3) Presentation by the Study Team of the present condition of the Cagayan River.
 - 4) The agenda, minutes and attendance record are shown in Attachment 4 of Appendix 1.
- (6) Sixth Joint Meeting on September 21, 2000
 - 1) Presentation by the Study Team of work progress and the program of the Third Workshop,
 - 2) Presentation of Filipino social norms and values by the Counterpart, and,
 - 3) Presentation by the Study Team of poverty incidence in the Master Plan area.
 - 4) The agenda, minutes and attendance record are shown in Attachment 5 of Appendix 1.

- (7) Seventh Joint Meeting on January 29, 2001
 - 1) Presentation by the Study Team of work progress and next study schedule, and,
 - 2) Discussion on the urgent works.
 - 3) The agenda and attendance record are shown in Attachment 6 of Appendix 1.
- (8) Eighth Joint Meeting on May 10, 2001
 - 1) Presentation by the Counterparts of the study progress for the urgent works,
 - 2) Explanation by the DPWH Region 2 on operational plan for the Regional Equipment Services, and budget and operational plans of DPWH Region 2.
 - 3) The agenda, minutes and attendance list are shown in Attachment 7 of Appendix 1.

2.3 Workshops

In total, four workshops were held at Tuguegarao during the First, Second and Fourth Works in the Philippines. The second workshop was also held at Santiago and Bayombong.

(1) First Workshop in Tuguegarao

In order to introduce the Study to local people and local government officials, the First Workshop was held in Tuguegarao on March 28, 2000. Total number of attendees for the Workshop was 61 persons including Provincial Governors and/or their representatives, Municipality Mayors, DPWH Region 2 Regional Director and its counterpart personnel, and the Study Team members.

The first part of the Workshop was the introduction of the Study to explain the Inception Report to the attendees. The second part covered the participation and problem analyses using the Project Cycle Management (PCM) method. The participation analysis aimed to clarify participants on the flood control works in terms of their tasks and duties. The problem analysis was to clarify problems being encountered in flood control and river management.

The record of discussion, programme of workshop and participant list are shown in Attachment 2 of Appendix 1.

(2) Second Workshop in Tuguegarao, Santiago and Bayombong

The Second Workshop was held during September 5 to 7, 2000 at three different places of Tuguegarao, Santiago and Bayombong with the same agenda. The purpose of the Second Workshop was hearing opinions of the participants in the different areas on 1) needs/demands/requirements for the river basin development, 2) first priority sector/requirement in the basin development, and 3) problems hampering the implementation of the first priority requirement. Before hearing the opinions, an example of the basin development in Indonesia and an outline of the 1987 Master Plan for the Cagayan River basin were presented by the Study Team for participants' reference.

The conclusions of the Workshop are that flood control is the first priority in all three areas, and problems/constraints identified are financial constraints, inadequate technology, land acquisition problems, political intervention, inadequate information/education/campaign, lack of comprehensive plan, inaccurate and inadequate data for planning, hence no project implementation.

The record of discussion, programme of workshop and participant list are shown in Attachment 2 of Appendix 2.

(3) Third Workshop in Tuguegarao

The Third Workshop was held on October 3, 2000 at Tuguegarao for the purpose of hearing opinions about the problems in implementing the priority projects and solutions to cope with the problems. Participants came from three areas in which the Second Workshop was held, gathered in Tuguegarao and discussed with each other. Before hearing the opinions, the issues being encountered in the ongoing river projects in the Philippines were presented by the Study Team, followed by an introduction of the river management in Japan made by JICA expert of DPWH.

The solutions identified are administrative support, sharing of resources, good governance, transfer of technology, formulation of appropriate plans, advocacy, institutional development and infrastructure support.

The record of discussion, programme of workshop and participant list are shown in Attachment 2 of Appendix 2.

(4) Fourth Workshop in Tuguegarao

The Fourth Workshop was held on May 22, 2001 at Tuguegarao for the purpose to discuss "community participation" in the implementation of the flood control projects. The number of attendees was 57 consisting of officials of DPWH Central Office, Regional Offices of the line agencies and LGUs such as Province,

City and Municipalities. During the Workshop, all the participants expressed their willingness to implement and participate in the Lower Cagayan Flood Control Project in the parts of land acquisition, resettlement area development and resettlement activities. They are also willing to share the cost within their capacity to pay and technical capability. They asked, on the other hand, the active support of the National Government since they have insufficient capacity and capability.

The record of discussion, programme of workshop and participants list are shown in Attachment 2 of Appendix 2.

2.4 Technology Transfer Seminars

(1) First Technology Transfer Seminar

The First Technology Transfer Seminar was held on May 25, 2001 at Tuguegarao. The number of attendees was 61 consisting of officials of DPWH Central and Region 2 Offices, Regional Offices of the line agencies, and LGUs. The main subjects were 1) Formulation of the Master Plan, 2) Watershed Conservation, 3) Land Use Plan, and 4) Flood Control. These are the main components of the Reviewed Master Plan. In addition to the above, the Provincial Planning and Development Coordinator (PPDC) of the Cagayan Province presented 1) history of the Cagayan Valley, 2) organization and function of the PPDC, 3) Medium-term development plan of the Cagayan Province.

The record of discussion, programme of workshop and participants list are shown in Attachment 1 of Appendix 3.

(2) Second Technology Transfer Seminar

The Second Technology Transfer Seminar was held on December 11, 2001 at Tuguegarao. The number of attendees was 52 consisting of officials of DPWH Central and Region 2 Offices, Regional Offices of the line agencies, and LGUs. The main subjects were 1) contents of Draft Final Report, 2) difference between Philippines and Japan, 3) planning of irrigation and drainage projects, 4) culture in the Cagayan River basin, 5) lessons learned by the Cagayanos, and 6) river characteristics.

The record of discussion, program, and participants' list are shown in Attachment 2 of Appendix 3.

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Annex XII: Transfer of Technology*

Tables

Table 2.2.1 List of Study Team Expert and Their Counterpart Personnel

Study Team	DPWH Regional Counterpart	DPWH Central Office Counterpart
1. Hideki SATO Team Leader	(Reynato M. UBINA, OIC Asst. Regional Director) Roberto B. BALGUA, Team Leader, Engineer V	(Michael T. ALPASAN) Elmo ATILLANO
2. Shinsuke HINO, Co-Team Leader/ Flood Control Planner	Zoisimo L. BALISI, Engineer III	
3. Takayuki NOBE, River Engineer	Mariano MALUPENG, Engineer III Edmund De LUNA, Engineer II	Orlando CASIO (Napoleon F. FAMADICO)
4. Jun MATSUMOTO, Hydrologist/ Hydraulic Engineer	Benjamin TABUAC, Engineer III	
5. Osamu HIRAOKA, Design Engineer	Cecil M. SANTOS, Engineer II	
6. Takashi KURAUCHI, Land Use Planner	Marina D. TAGACAY, Eigineer III	Carlos ZAMORA
7. Kiyohito YAMAZAKI, Construction Planner	Romeo D. BATANG, Engineer IV Felipe T. LINGAN, Engineer III	
8. Takashi HARADA, Geodetic Engineer	Clarito D. de ASIS, Engineer III	
9. Hideo TAMURA, Geologist	Hilario Y. CASEM, Engineer II	
10. Hitoshi SAKAI, Environmentalist	Crisogono DECENA, Engineer III	Jesse C. FELIZARDO
11. Tatsuo TASHINO, Economist	Susan P. DANAQ, Economist II	Calixto P. de CASTRO
12. Hitoshi HASHIURA, Bridge Engineer	Jocelyn P. PALEG, Engineer III Rhet Willem VARILLA, Draftman II	
13. Akio MAEDA, Agronomist	Eugenio L. LASAM, Engineer III	
14. Kensuke SAKAI, Coordinator	Domingo M. URBINA, Engineer III	

ANNEX XII
APPENDIX 1
Second Joint Meetings

Second Joint Meetings

THE FEASIBILITY STUDY OF THE FLOOD CONTROL PROJECT
FOR THE LOWER CAGAYAN RIVER

DISCUSSION MEETING WITH COUNTERPARTS (April 7, 2000)

AGGENDA

1. OBJECTIVES OF THE STUDY
 - 1) Review of Master Plan
 - 2) Feasibility Study
 - 3) Transfer of Technology

2. WORK PROGRESS
 - 1) Data Collection
 - 2) Field Reconnaissance
 - 3) Aerial Photographing
 - 4) River Profile and Cross Section Survey
 - 5) Geological Survey
 - 6) Material Survey

3. FINDINGS (Findings by preliminary reconnaissance)
 - 1) General View of River Basin
 - a) Changes of River Condition
 - Bank erosion due to river meandering in the main Cagayan
 - b) Denudation of Mountainous Area
 - Reforestation by DENR, NIA, OISCA
 - Land slide
 - Slash-and-burn farming in higher elevation in mountainous area
 - 2) City and Municipality
 - a) No financial and technical capability for river project implementation
 - 3) Magat Dam Operation
 - a) Suitable operation for flood control?
 - b) Time lag

4. Report by DPWH R-2
 - 1) Organization and Staffing
 - 2) Work Experiences by R-2
 - 3) On-going projects (Infrastructure projects: Flood control and others)
 - 4) Annual Budget
 - 5) Short/Medium/Long-term Programs
 - 6) Evacuation and resettlement

5. WORK SCHEDULE
 - 1) Short-term schedule
 - a) Site reconnaissance for the Upper Cagayan and Ilagan
 - b) Data collection
 - c) Supervision of field investigation works

 - 2) TWG Meeting in Manila
 - a) Work Progress
 - b) Undertaking by GOP

6. Undertakings by GOP
 - 1) Office arrangement (Permanent use of Conference room)

5. SECURITY

- 1) The Study Team will submit Monthly Itinerary to DPWH/R-02
- 2) The DPWH/R-02 will submit its copy to Provincial Police Command
- 3) The Counterpart will confirm the peace and order situation in the specific areas getting advises/information from Provincial Command in advance of site inspection/investigation to be conducted.

6. WORK SCHEDULE

- 1) Collection of data on LGUs (Province, City/Municipality)
 - a) Data collected: Cagayan Pr., Tuguegarao City, and Municipalities of Piat, Enrile, Naguilian, Tuao, Cabagan, Camalaniugan, Iguig, Tumauini, Ilagan, Ichague
 - b) To be collected: Isabela Pr. And all other Municipalities which have been affected by flood (objective Municipality should be identified)
- 2) Collection of Data on Respective Experts/Counterparts
- 3) TWG Meeting in Manila on May 2nd, 2000
 - a) Work Progress
 - b) Undertakings by GOP
 - c) Security

7. Joint Meeting with Counterpart and JICA Study Team

- 1) Meeting will be held once a month or twice a month
- 2) The Counterpart should take an initiative of the said meeting:
 - a) Preparation of Meeting Agenda and call Meeting
 - b) Reporting by the Counterpart
 - Work progress
 - Problems encountered
 - Flood control works
 - c) Questionnaire from the Counterpart to the JICA Study Team if any
- 3) Special issues (Lectures by the Counterpart)
 - a) Culture of the Philippines
 - b) History of the Philippines
 - c) Others

Third Joint Meetings

THE FEASIBILITY STUDY OF THE FLOOD CONTROL PROJECT FOR THE LOWER CAGAYAN RIVER

JOINT MEETING WITH COUNTERPARTS AND JICA STUDY TEAM (April 24, 2000)

AGGENDA

1. MOVEMENT OF JICA STUDY TEAM MEMBERS / COUNTERPARTS

- 1) New comers: T. Kurauchi (Land use planner), H. Sakai (Environmentalist), T. Tashino (Economist)
- 2) Movement: H.Sato to Manila (April 26) / Tokyo (May 3)

2. WORK PROGRESS

1) Data Collection

The data already collected are as shown in the separate sheets. (Copy to be furnished if necessary)

2) Field Reconnaissance

Overall reconnaissance was completed. The Study Team will conduct more detailed site inspection further specifically on severe bank erosion sites

3) Survey and Investigation Work

Work Item	Technical Specification	Selection of Contractor	Contract	Start	Progress	Accomplishment
Aerial photographing					100%	
River survey					20%	
Geological Inv.						
Material Inve.						
Gauging station						
Flood damage survey						
Soil inve.						
Environ't survey						
Social survey						

The Local Contractors selected by the JICA Study Team undertake all the above works, that should be completed by June 20, 2000

The JICA Study Team requests DPWH/R-02 to supervise the above works with respective JICA Study Team Members.

As for hydrological gauging station, the JICA Study Team requests DPWH/R-02 to conduct hydrological measurements (water level, runoff, sediment discharge by water sampling)

3. REPORT BY DPWH R-2

- 1) Organization and Staffing (Received but further breakdown by specialty is required)
- 2) Work Experiences by R-2 (Not yet)
- 3) On-going projects (Infrastructure projects: Flood control and others: not yet)
- 4) Annual Budget (Received)
- 5) Short/Medium/Long-term Programs by DPWH/R-02 (Not yet)
- 6) Evacuation and resettlement by DPWH/R-02 (Not yet)

4. OVERALL WORK FLOW

- 1) Overall Work Flow (As shown in the attached flow chart)
- 2) Socio-economic Development Framework Plan
- 3) Watershed Conservation
- 4) Flood Control Plan
- 5) Land Use Plan

5. SECURITY

- 1) The Study Team will submit Monthly Itinerary to DPWH/R-02**
- 2) The DPWH/R-02 will submit its copy to Provincial Police Command**
- 3) The Counterpart will confirm the peace and order situation in the specific areas getting advises / information from Provincial Police Command in advance of site inspection / investigation to be conducted.**

6. WORK SCHEDULE

- 1) Collection of data on LGUs (Province, City/Municipality)**
 - a) Data collected: Cagayan Pr., Tuguegarao City, and Municipalities of Piat, Enrile, Naguilian, Tuao, Cabagan, Camalaniugan, Iguig, Tumauni, Ilagan, Ichague**
 - b) To be collected: Isabela Pr. And all other Municipalities which have been affected by flood (objective Municipality should be identified)**
- 2) Collection of Data on Respective Experts/Counterparts**
- 3) TWG Meeting in Manila on May 2nd, 2000**
 - a) Work Progress**
 - b) Undertakings by GOP**
 - c) Security**

7. Joint Meeting with Counterpart and JICA Study Team

- 1) Meeting will be held once a month or twice a month**
- 2) The Counterpart should take an initiative of the said meeting:**
 - a) Preparation of Meeting Agenda and call Meeting**
 - b) Reporting by the Counterpart**
 - Work progress**
 - Problems encountered**
 - Flood control works**
 - c) Questionnaire from the Counterpart to the JICA Study Team if any**
- 3) Special issues (Lectures by the Counterpart)**
 - a) Culture of the Philippines**
 - b) History of the Philippines**
 - c) Others**

Fourth Joint Meetings

FEASIBILITY STUDY OF FLOOD CONTROL PROJECT FOR
LOWER CAGAYAN RIVER
JOINT MEETING

AGGENDA

Date : June 06, 2000 Time : 9:00 a.m. – 10:30 a.m.

Place : Conference Room, DPWH Region 02

Subjects :

1. Reporting Progress and Problem of Investigation and Survey Works
(counterparts)
 - a. Longitudinal Profiling and Cross Sectioning – Engr. C. de Asis
 - b. Flood Damage Survey – Engr. Z. Balisi
 - c. Geological Investigation by Core Drilling & Laboratory Test – Engr. Casem
 - d. Embankment Material & Riverbed Material Investigation – Engr. Casem
 - e. Soil Survey and Analysis - Engr. Tagacay
 - f. Environmental Impact Assessment Survey - Engr. Decena
 - g. Social Impact Assessment Survey - Engr. Decena
 - h. Installation of Streamflow Gauges & Observation - Engr.Tabuac

2. Reporting Progress of Feasibility Study by Mr. Hino

3. Discussion/Presentation on Hydrology : Data Collection Importance & Reasons
(Mr. Matsumoto)

FEASIBILITY STUDY OF FLOOD CONTROL PROJECT FOR
LOWER CAGAYAN RIVER

Records of Discussion of the Joint Meeting

Date : June 06, 2000
Time : 9:00 a.m. – 10:30 a.m.
Venue : Conference Room, DPWH Region 02

4th Joint Meeting was held to discuss among the JICA Experts and Counterparts, the progress of the Project. Agenda of the meeting, Attendance List as well as other handouts delivered are attached.

1. Reporting Progress and Problem of Investigation and Survey Works

The following presentation was made by each JICA Counterparts from DPWH Region 2 office regarding the investigation and survey works presently conducted :

- | | |
|--|--------------------|
| a. Longitudinal Profiling and Cross Sectioning | – Engr. C. de Asis |
| b. Flood Damage Survey | – Engr. Z. Balisi |
| c. Geological Investigation by Core Drilling & Laboratory Test | – Engr. Casem |
| d. Embankment Material & Riverbed Material Investigation | – Engr. Casem |
| e. Soil Survey and Analysis | – Mr. Hino |
| f. Environmental Impact Assessment Survey | – Engr. Decena |
| g. Social Impact Assessment Survey | – Engr. Decena |
| h. Installation of Streamflow Gauges & Observation | – Engr. Tabuac |

During the above reports presented, attentions were made to the progress of Environmental Impact Assessment, Geological Investigation and Installation of Streamflow Gauges and Observations, all of which are behind the schedule. It was emphasized that the JICA Contracts cannot have any time extension and all efforts will be made to complete the contracted works before the target date, i.e. 20 June 2000.

2. Reporting Progress of Feasibility Study by Mr. Hino

Mr. Hino presented the progress of the Study as of June 5, 2000, as presented in the attached handout. As for the Report Presentation and Preparation, Mr. Hino explained that the draft report will be presented to Counterparts at Tuguegarao on Friday June 16, 2000. JICA Experts will then finalize the report and will present the Progress Report I to JICA and

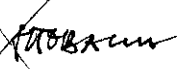










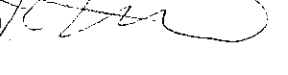

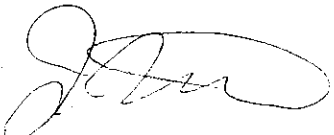
DPWH in Manila.

3. Discussion/Presentation on Hydrology : Data Collection Importance & Reasons

Mr. Matsumoto explained the method of hydrological analysis and explained the reasons for the hydrological data collection. He noted the importance of data collection and analysis, the result of which will be utilized for the flood routing analysis. After his presentation, the discussion of the Joint Meeting confirmed that it is important for JICA experts to explain to their counterparts the reasons for the necessity of collecting data.

Jm/jm

ATTENDANCE LIST
 JICA-DPWH JOINT MEETING JUNE 6, 2000

NAME	DESIGNATION	SIGNATURE
1. ZOSIMO L. BALISI	ENGR III	
2. S. HIND	JICA Study Team	
3. K. SAKAI	"	
4. ENGENE LARAN	ENGR III	
5. CARLOS T. DECEA	ENGR III	
6. Jocelyn P. Paley	ENGR III	
7. Susan P. Danao	Economist II	
8. Nestor M. Sujan	Hydro Met	
9. Roberto R. Balgua	ENGR. V	
10. ORLANDO M. CASIO	ENGR III	
11. BENJAMIN P. TABUAC	ENGR III	
12. HILARIO Y. CASEM	ENGR. II	
13. CLARITO D. DE ASIS	ENGR. IV	
14. Jun MASUMOTO	Hydrologist, JICA	

Fifth Joint Meetings

5th JOINT MEETING

August 29, 2000

at 9:00 a.m

at JICA Office

XII-14-14

AGENDA:

1. Presentation of Work Progress and Workshop Schedule SHINSUKE HINO
2. Presentation of Work Accomplishment of JICA Sub Contractors
 - Survey of GPS Installation ENGR. CLARITO DE ASIS
 - Core Drilling ENGR. ZOISIMO BALISI
3. Lecture on River Morphology MR. TAKAYUKI NOBE
4. Presentation on Ibanag Heritage ENGR. CRISOGONO DECENA

Minutes of Joint Meeting

Venue: DPWH Region II Compound, JICA Study Team Office

Date: August 29, 2000

Time: 0900 hours to 1130 hours

The 5th Joint Meeting was held at JICA Study Team's Office located within DPWH Region II compound. List of participants, agenda and handouts presented are attached.

1. Presentation of Work Progress and Workshop Schedule

Co-Team Leader of the Study Team, Mr. Shinsuke Hino presented the Work Progress and Workshop Schedule. As in the attachment, draft programme of the 2nd workshop has been presented and was agreed upon by all participants. It was confirmed during the meeting that the 2nd workshop will be held at three different places in Tuguegarao, Santiago City, and Bayombong. The 2nd workshop will be held on September 5 to 7, 2000.

2. Presentation of Ibanag Heritage

Ibanag Heritage was then presented by Mr. Crisogono Decena. His presentation material is also attached. After Mr. Decen's presentation, it was discussed by the participants that understanding of the Ibanag heritage is important to the study. Mr. Decena also noted that most of the counterpart team members are Ibanag.


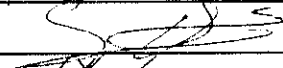


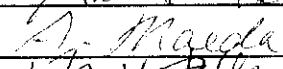
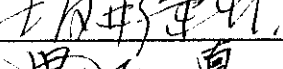
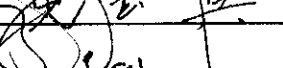
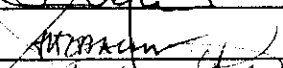

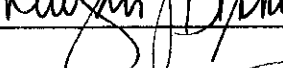

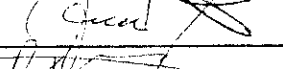
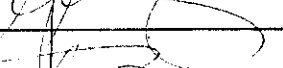





3. Presentation of Present River Condition of the Cagayan River

Mr. Takayuki Nobe, the River Engineer of the Study Team, presented his on-going study results to date on the present river condition of the Cagayan River. His presentation focused on river morphology, its definition, course of works and analysis method. He stressed the importance of the survey to grasp the present condition of river channels in view of the various aspects, as noted in detail in his presentation material.

5TH JOINT MEETING LIST OF PARTICIPANTS

Date: 29 August 2000

Venue: JICA Office DPWH - Tuguegarao

	NAME	SIGNATURE
1	Mr. Hideki Sato	
2	Mr. Shinsuke Hino	
3	Mr. Takayuki Nobe	
4	Mr. Jun Matsumoto	
5	Mr. Takashi Karauchi	
6	Mr. Akio Maeda	
7	Mr. Kensuke Sakai	
8	Mr. Makoto Kodama	
9	Mr. Roberto B. Balgua	
10	Mr. Zoisimo L. Balisi	
11	Mr. Claro D. de Asis	
12	Mr. Benjamin Tabuac	
13	Mr. Mariano B. Malupeng	
14	Mr. Crisogono T. Decena	
15	Mr. Edmund de Luna	
16	Mr. Eugene Lasam	
17	Mr. Felipe T. Ligan	
18	Ms. Susan P. Danao	

Sixth Joint Meetings

6th JOINT MEETING

September 21, 2000

at 9:00 a.m

at JICA Study Team Office

XII-IV-18

AGENDA:

1. Presentation of Work Progress and Workshop Schedule SHINSUKE HINO
2. Presentation in Filipino Social Norms & Values..... ENGR. CRISOGONO DECENA
3. Presentation on Poverty Incidence in the Master Plan Area AKIO MAEDA

Minutes of Joint Meeting

Venue: DPWH Region II Compound, JICA Study Team Office

Date: September 21, 2000

Time: 0900 hours to 1130 hours

List of participants: Attached.

The 6th Joint Meeting was held at JICA Study Team's Office located within DPWH Region II compound. List of participants, agenda of the meeting, as well as handouts prepared for the meeting are attached.

1. Presentation of Work Progress and Workshop Schedule

Co-Team Leader of the Study Team, Mr. Shinsuke Hino presented the Work Progress and Workshop Schedule. As in the attachment, draft programme of the 3rd workshop has been presented and was agreed upon by all participants. It was confirmed during the meeting that the 3rd workshop will only be held in Tuguegarao, instead of holding the workshop at three different places as in the 2nd workshop. The 3rd workshop will be held on October 3, 2000 at Crown Lodge in Tuguegarao City.

2. Presentation of Filipino Social Norms and Values

Social Norms and Values of the Philippine people were then presented by Mr. Crisogono Decena. His presentation material is also attached. After Mr. Decen's presentation, Engineer Balgua noted that the negative traits presented are minor sectors of the Philippine's people and should not be regarded in general terms.

3. Presentation of Poverty Incidence in the Master Plan Area

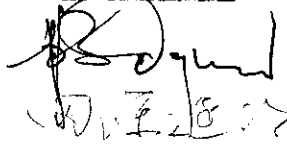
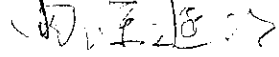
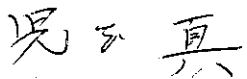
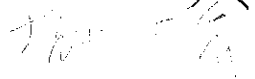
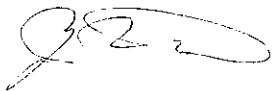

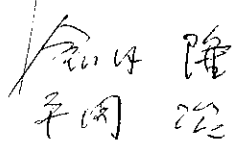

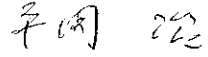





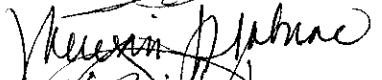


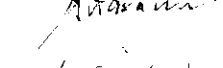
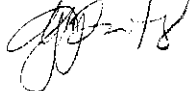
Mr. Akio Maeda, the Agronomist of the Study Team, presented his on-going study results to date on the poverty incidence in the Master Plan Area. His presentation material is attached. As shown in Figure 2 of his presentation materials, Mr. Maeda noted that obtaining correlation between subsistence incidence and agricultural conditions by municipality has been difficult. Discussion on the vicious cycle of farmer's livelihood in Lower Cagayan River Area was made thereafter. Engineer Balgua noted that should there be more irrigation systems, it would be a solution for the farmers in the area to get out of the vicious cycle. Engineer Balgua noted that irrigation should also be considered in the Feasibility Study. Mr. Sato responded that all irrigation projects included in the Master Plan are now being reviewed.

4. Examination for all DPWH Region II Engineers

Mr. Sato asked the counterpart team members present during the Joint Meeting whether it is agreeable by DPWH Region II to conduct examinations prepared by Study Team members to all DPWH Region II staff. On behalf of the counterpart team, Mr. Balgua agreed to hold such examination.

Examination by each sector will be prepared by Study Team Members. Examination will be conducted before the departure of the Study Team in early October.

6th JOINT MEETING
 SEPTEMBER 21, 2000

NAME	DESIGNATION	SIGNATURE
1. ROBERTO B. BALGUA	Engr. V	
2. Tatsuo TASHINO	JICA Study Team	
3. MAKOTO KOBAYASHI	"	
4. Kazuo SAKAI	"	
5. Jun MAZUMOTO	"	
6. A. MAEDA	"	
7. EDMUND B. DE LUNA	ENGR. II	
8. Takashi KURAUCHI	JICA Study Team	
9. OSAMU HIRAOKA	"	
10. Hitoshi SAKAI	"	
11. CRISOGONO T. DE CENA	Engr. III	
12. Takayuki NOBE	JICA Study Team	
13. Hideki SATO	JICA Study Team	
14. Shinsuke HINO	"	
15. BENJAMIN P. TABUAC	ENGR. III	
16. CLARITO D. DE ASIS	ENGR. III	
17. Juan P. Danao	Economist	
18. ZOSIMU L. PALISI	ENGR. III	
19. CECIL M. SANTOS	Engr. II	

Seventh Joint Meetings

The Feasibility Study
of the Flood Control Project for the Lower Cagayan River
in the Republic of the Philippines

7th Joint Meeting

January 29, 2001
at 8:30 am
at JICA Study Team Office in Tuguegarao

Agenda

1. Presentation of General Work Progress and Next Study Schedule S. Hino
2. Presentation of Work Progress for Each Sector..... T. Nobe, T. Kurauchi, S. Hino
3. Discussion on Urgent Works
4. Others

LIST OF ATTENDANCE 7TH JOINT MEETING
JANUARY 29, 2001

1. SHINSUKE HINO
2. TAKAYUKI NOBE
3. OSAMU HIRAOKA
4. TAKASHI KURAUCHI
5. MAKOTO KODAMA
6. HITOSHI HASHIURA
7. ROBERTO B. BALGUA
8. ZOISIMO L. BALISI
9. BENJAMIN P. TABUAC
10. MARINA D. TAGACAY
11. CRISOGONO T. DECENA
12. DOMINGO M. URBINA
13. NICOS PEREZ
14. JOCELYN P. PALEG
15. CECIL M. SANTOS
16. EDMUND B. DE LUNA
- ~~17. RHET VARILLA~~
- ~~18. CLARITO D. DE ASIS~~
19. MARIANO B. MALUPENG

Handwritten signatures and Japanese text are present next to several items in the list. Item 1 has a signature. Item 2 has a signature. Item 3 has the Japanese text '平岡 浩' (Hiraoka Hiroshi). Item 4 has the Japanese text '倉内 隆' (Kurauchi Takashi). Item 5 has the Japanese text '児玉 真' (Kodama Makoto). Item 6 has a signature. Item 7 has a signature. Item 8 has a signature. Item 9 has a signature. Item 10 has a signature. Item 11 has a signature. Item 12 has a signature. Item 13 has a signature. Item 14 has a signature. Item 15 has a signature. Item 16 has a signature. Item 19 has a signature.

Eighth Joint Meetings

8th Joint Meeting

May 10, 2001

9:00 A.M.

JICA Conference Room

MESSAGE BY: Rodolfo k. Alday
Regional Director

AGENDA:

- I. Progress of the preparation for the Urgent Works (river improvement works)
 - a. slope protection work plans
 - b. resettlement plans
2. Operational Plan for the Regional Equipment Service
3. Budget and Operational Plans for DPWH Region II
4. Problems

PRESENTATION BY:

- I. Engr. Roberto B. Balgua
Chief Planning & Design Division
Engr. Zoisimo L. Balisi
Engr. Edmund de Luna
Engr. Cecil M. Santos
2. Engr. Warlito Valencia
Regional Equipment Engineer/ (or his representative)
3. a. Budget - Ms. Dialita G. Mandac
Fiscal Comptroller
b. Operatinal Plans-Dr. Angela Abiqui
Administrative Off. V

MINUTES OF THE 8TH JOINT MEETING

Venue : JICA Study Team's Office, DPWH Region 2 Compound, Tuguegarao
Date : May 10, 2001
Time : 0900 hours to 1130 hours
Participants : List is attached.

The 8th Joint Meeting was held at JICA Study Team's Office located within DPWH Region 2 compound. List of participants, agenda of the meeting, as well as handouts prepared for the meeting are attached.

1. Dir. Alday, in his opening speech, mentioned the acceptance of the Interim Report given by the Steering Committee in the Steering Committee Meeting held on May 08, 2001 in Manila. He also stated his expectation that implementation of the urgent works would commence in 2003.

Urgent Works

2. Mr. Balgua stated that DPWH Region 2 prepared draft implementation program for the urgent works, of which the coverage is middle to upper reaches of the Cagayan River. He asked the Study Team to give comments on the draft program and the Study Team agreed to do.
3. Mr. Z Balisi gave briefing regarding design and cost estimate for the urgent works. He explained 3 design schemes adopted for the urgent works, which are the design with gabion and riprap proposed by the Study Team and those with gabion and steel sheet pile designed by DPWH Region 2. The total length of the works is 27.6 km. He further explained how they came about the project cost by detailing its component.

The estimated construction cost its as follows :

For design scheme 1 (gabion and riprap)	: 1.6 billion pesos
For design scheme 2 (gabion and sheet pile)	: 2.9 billion pesos
For design scheme 3 (gabion and sheet pile)	: 2.6 billion pesos

4. Mr. Edmund de Luna presented the methods to come up with the project benefit for the urgent woerks.

5. Mrs. Cecil Santos gave briefing on economic evaluation for the urgent works. Base year of 2000, project life of 20 years and construction period of 3 years were applied.
6. Mr. Z Balisi explained progress of preparation of the resettlement plan needed in Ilagan and Jones for the urgent works. A consultation meeting was held in Ilagan and the Mayor promised to take full responsibility for the resettlement. The Mayor of Jones signed on the Certification stating that the Mayor has the responsibility for the resettlement.

Regional Equipment Service (RES)

7. Mr. Gacias of RES presented the operational plan of RES including organization and functions of RES, and equipment demand and availability in 2001. Further, he cited that a lot of equipment are waiting for repair because of insufficient allocation of repair cost coming from the Central Office.
8. Mr. Sato, Team Leader of the Study Team, requested RES to furnish further data on road length requiring repair/maintenance and the number of equipment needed for the repair. The RES agreed to furnish the data.

Budget and Operational Plan of DPWH Region 2

9. Mrs. Manda and Mr. Balgua gave the breakdown of budget for DPWH Region 2 in 2001.
10. Dr. Angela Abiqui gave an overview about the DPWH communication system, office operations, office building, service vehicle and the employee empowerment. She mentioned that the communication system will be established by the year 2002.

The Feasibility Study of the Flood Control Project
for the Lower Cagayan River in the Republic of the Philippines

8th Joint Meeting
on May 10, 2001 at 8:30am
at JICA Office, Tuguegarao City

	NAME	DESIGNATION	SIGNATURE
1.	RODOLFO R. ALDAY	R.D	
2.	ROMULO H. MABUNGA	OIC ABD	
3.	H. Sato	JICA	
4.	S. Hino	"	
5.	T. Nobe	"	
6.	Hitoshi Sakai	"	
7.	OSAMU HIRAOKA	"	
8.	TAKASHI KURAUCHI	"	
9.	DANIEL G. DOMINGO	Asst. Regional Director	
10.	Angela B. Cibiqui	Adm. Offr. I	
11.	ROBERTO B. BALGUA	Engr. IV	
12.	ZOSIMIO L. BALISI	Engr. III	
13.	DIACITA G. MANDAC	Fiscal Controller I	
14.	Wanito C. Valenciano	DEC	
15.	R. Valenciano	Engr. III	
16.	CECIL M. SANTOS	ENGR. II	
17.	WILHELMINA C. ARAO	ACCOUNTANT IV	
18.	BENJAMIN P. TABUAC	ENGINEER III	
19.	JOCELYN P. PALEG	Engineer III	
20.	RHETT WILLEM P. VARILLA	Engineer II	
21.	HILARIO Y. CASEM	ENGINEER II	
22.	MELECIO C. UMOQUIT	Engineer III	
23.	Marina D. Tagacay	Engr. III	
24.	MARXIMO B. MALWENO	Engr. III	
25.	CRISOGONO T. DECEZA	ENGR. III	
26.	EDMUNDO B. DE GUANA	Engr. II	
27.	SUSAN P. DAINAU	Accountant II	
28.	CLARITZ P. DE ASK	ENGR. III	
29.	FELIPE T. LINGAY	ENGR. III	
30.	ROGELIO S. GACIAS	Engineer III	
31.			
32.			

**ANNEX XII
APPENDIX 2
Workshops**

First Workshop

Japan International Cooperation Agency Study Team
Feasibility Study on the Flood Control Project for the Lower Cagayan River
1st Workshop
March 28, 2000 – Tuguegarao City

RECORDS OF DISCUSSION

The First Workshop for the Feasibility Study of the Flood Control Project for the Lower Cagayan River was held at Crow Lodge in Tuguegarao City on March 28, 2000.

I. INTRODUCTION

1. Opening Remarks

Mr. Tomas T. Reginaldo, CESO III DPWH Regional Director opened his speech noting that the Workshop is the first one being conducted under this JICA Study. He noted that each province has its own problem and priority and continued that this Workshop will consolidate problems and will identify priorities. He concluded his speech by stating that successful implementation of the Study will tackle the problems here and gradually change the lifestyle of the residents in the Cagayan valley.

2. Courtesy

Mr. Hideki Sato, Team Leader of the JICA Study Team, extended his welcome to participants. He also thanked for everyone's attendance, especially for those participants, who had to come to Tuguegarao from far away. He extended his sincere thanks to Region 2 office of DPWH for their arrangement of this workshop.

Mr. Sato explained briefly that this first workshop will be held to introduce the Project Cycle Management (PCM) method by a PCM moderator because the PCM would be used in planning in order to consult concerned parties in the Philippines. He further explained that there would be 3 workshops and this was the first workshop.

Mr. Sato stressed that the Study Team would like to have not only technology transfer but also technology exchange.

At the end, he expressed his thankfulness to the participants for their active participation.

3. Inception Report

Mr. Hino, Co-team leader of the Study Team, continued the presentation of the Inception Report on the Project. He explained a whole picture of the project and time schedule of the study including joint meetings, another three workshops and technical transfer seminars.

4. Workshop

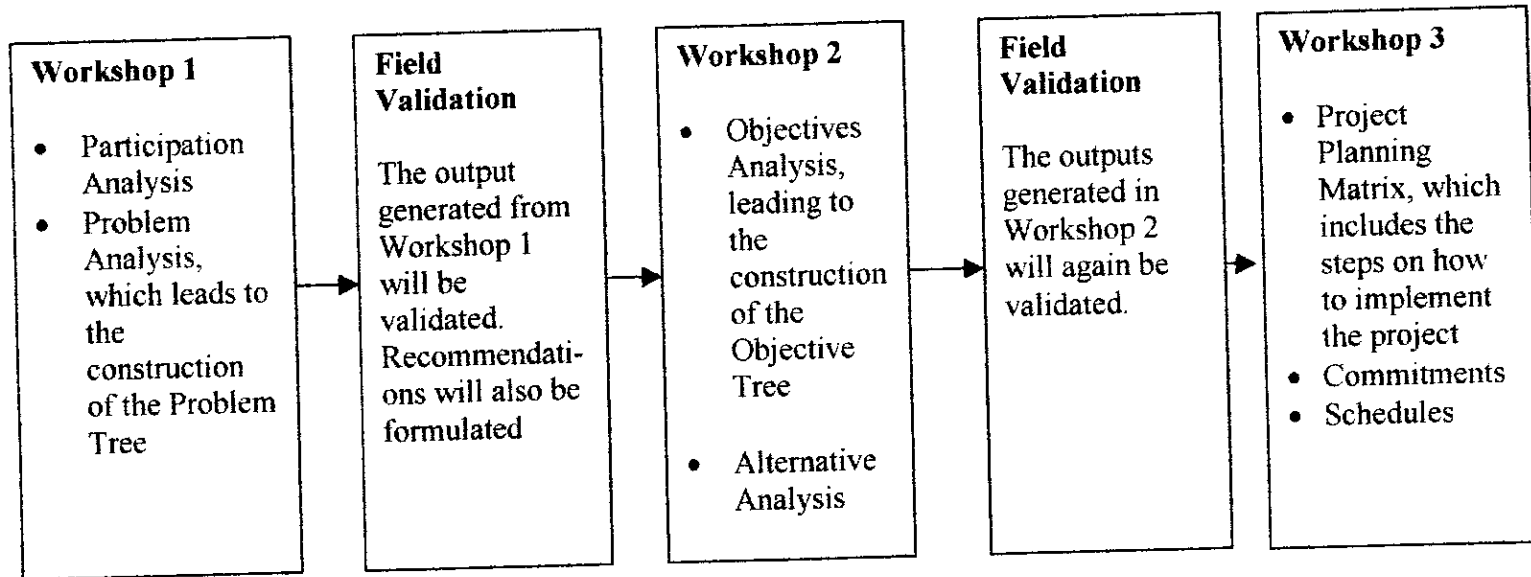
After opening remarks by Mr. Tomas T. Reginaldo and briefing on workshop by Mr. Hideki Sato, the Moderator, Ms. Rosario C. Viarte gave a lecture to the participants. Details are shown in the following pages.

Project Cycle Management (PCM) Planning Method

Introduction on the Project Cycle Management

The Moderator introduced the Project Management Cycle or PCM to the participants. She said that the preparation of the PCM is highly dependent on the active participation of the concerned parties.

Below is the flow of activities for the preparation and conduct of the PCM:



PCM Workshop Rules

The following are the rules to be followed during the conduct of a successful PCM Workshop:

- ☞ Think positively, and write your ideas on the card
- ☞ Write only one idea per card
- ☞ Describe ideas briefly and clearly
- ☞ Stick to facts and avoid generalization
- ☞ Final outputs are based on consensus



The Moderator, Ms. Rosario C. Uriarte giving the rules for the PCM Workshop

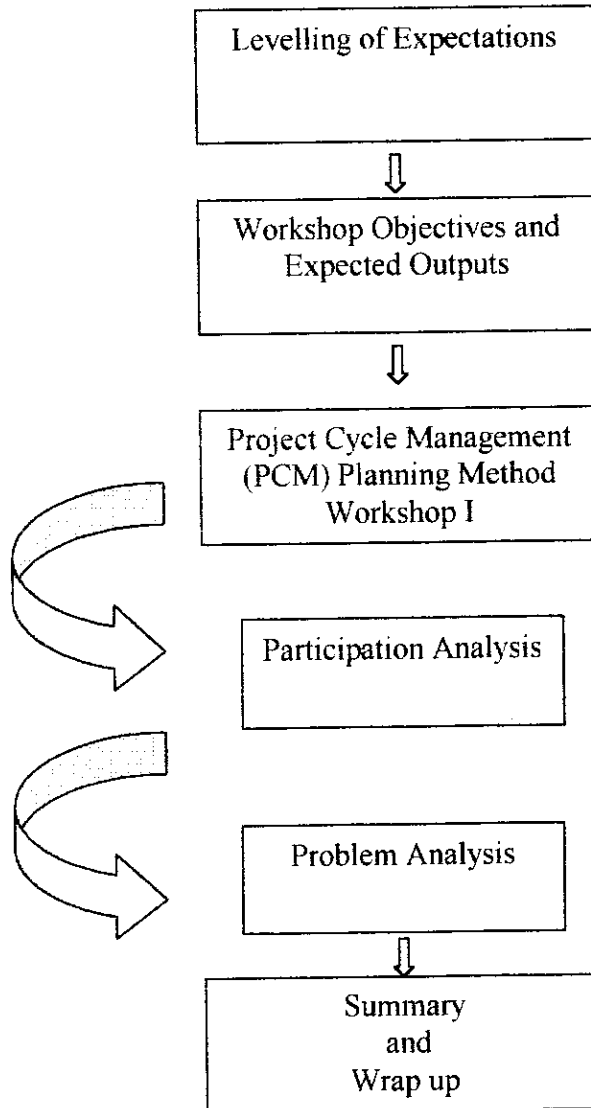
ONE IDEA PER
CARD

WRITE
BIG

BE BRIEF AND
CONCISE

The Workshop Flow

Workshop Flow



Participants' Expectations

The following were the expectations of the participants, as gathered during the leveling off session:

- Municipalities should ensure the safety of the team
- Water to be used to its maximum, will no longer experience water shortage especially during the dry season
- Enjoy the workshop
- Project to be finished on time
- Immediate funding for the projects identified
- Successful project implementation / immediate project implementation
- Be able to identify problems on flood control and find solutions, thereby improving socioeconomic conditions in the area
- Ensure that the workshop outputs are inputted in the study
- Solutions should be practical, cost effective, and manageable
- Identify problem areas
- Active participation of participants
- Crop damage will be minimized
- Contribute ideas useful to project planners
- Support fund
- Closer coordination among line agencies
- Brief idea on project cycle management
- Study should not remain a study, should be implemented
- Travel to Japan
- After the project, flooding should no longer be a problem

Participants' Expectations

Workshop Objectives And Expected Outputs

The Moderator explained that among the expectations of the participants, only those related to the following objectives can be achieved during Workshop 1. All the rest may be achieved during succeeding workshops.

WORKSHOP OBJECTIVES

At the end, of the workshop, the participants should be able to:

- Identify, characterize, and analyze persons and groups connected with and /or influenced by the project
- Clarify current problems and issues concerning flood control in the area.

EXPECTED OUTPUTS

The Participants are expected to come out with the following outputs:

- Participation Analysis
- Problem Analysis, or Problem Tree



Workshop participants listening to the proceedings.

Conduct of Participation Analysis

- Write down all persons and groups connected with or influenced by the disaster prevention activities/projects in the Philippines
- Categorize them accordingly, e.g., whether they are beneficiaries, affected groups, funding agencies, decision makers, community leaders, potential opponents, implementing agencies, etc
- Characterize and analyze, whether they are supporters of the project, possible oppositor, or needs technical assistance to successfully implement the project
- Identify the consequences for the project work, e.g., reaction to the project



Participants during the Participation Analysis Session.

Conduct of Participation Analysis

Conduct of Participation Analysis

Examples of Participation Analysis

First Categorization

- Beneficiaries
- Affected groups
- Decision makers
- Community leaders
- Potential Opponents
- Funding Agencies
- Implementing Agencies

Detailed Participation Analysis

- Characteristics of the group/s
 - Social, religious, and cultural background
 - Structures / organization or condition, etc.
- Interests, Motives, Attitudes of the Group(s)
 - Needs, expectations, hopes, fear, interests, attitude towards other groups, etc.
- Strengths, Weaknesses, Potential, Constraints of the Group(s)
- Potentials of assisting the project implementation
- Positions or roles of the group(s) within the project
- Project's direct benefits and impacts towards the group(s)
- Group potential factors which could possibly impede project implementation

PARTICIPATION ANALYSIS OUTPUT

Beneficiaries	Affected Groups	Decision Makers	Funding Agencies
<ul style="list-style-type: none"> • Irrigators Association • Tribes • Residents in low-lying areas • Businessmen • Farmers • Fisherfolk • Local government units (LGUs) 	<ul style="list-style-type: none"> • Irrigators association • Residents in low lying areas • Businessmen • Farmers • Fisherfolk 	<ul style="list-style-type: none"> • President of the Republic of the Philippines • Congressmen • Non-Government Organizations (NGOs) • Disaster Coordination Council • LGUs • Development councils <ul style="list-style-type: none"> • Regional • Provincial • Municipal • National Economic and Development Authority • Housing and Land Use Regulatory Board 	<ul style="list-style-type: none"> • Department of Budget and Management (DBM) • Financial institutions • Japan International Cooperating Agency (JICA) • Department of Finance • Overseas Economic Cooperation Fund • World Bank
Potential Opponents	Implementing Agencies	Community Leaders	Monitoring Groups
<ul style="list-style-type: none"> • Loggers • Non-government organizations • Insurgents 	<ul style="list-style-type: none"> • National Irrigation Authority Regional Office • Department of Agrarian Reform • PAG-ASA (Philippine Atmospheric, • Local government units • Department of Public Works and Highways (DPWH) • Department of Environment and Natural Resources • Office of Civil Defense 	<ul style="list-style-type: none"> • Religious organizations • Tribes • Barangay officials in low lying areas • Pastoral councils 	<ul style="list-style-type: none"> • Non-government organizations • Media • Philippine National Police (PNP) • Disaster Coordination Councils • Contractors • Schools • Pugad-Lawin • Kabalikat • React • Local Government Units

Accordingly, the following categories were arrived at:

Supporters – DPWH, Development Councils, LGUs, residents in low-lying areas,

Opponents – insurgents, some NGOs, loggers, tribes

Needs Technical Assistance – media, PNP, DBM, JICA, President of the Republic of the Philippines

Participation Analysis Workshop Outputs

Conduct of Problem Analysis

Conduct of Problem Analysis

- Analyze and identify the existing situation surrounding a given problem condition, in this case, the flooding in lower Cagayan River area
- Identify the major problems in this context
- Define the core problem of a situation
- Visualize the cause-effect relationships in a diagram problem tree

Problem Identification

- Identify existing problems, not possible, imagined, or future ones
- One problem per card
- State the problem/s in a negative condition
- A problem is not the absence of a solution, but an existing negative state

AVOID

No Flood Control System

SUITABLE

Inadequate Flood Control System

- Avoid co-existence of “cause and effect” of the problem on the same card

AVOID

Frequent floods destroy farms

SUITABLE

Farms are often damaged and destroyed

SUITABLE

River is frequently flooded

Cards generated from Problem Identification Workshop

Lack of Political Will

Inadequate Flood Control Program in the Area

Constricted River Channel

Siltation

Denudation of Forest

Inadequate Implementation of Log Ban (Exploitation of natural resources)

Massive River Bank Erosion

Low Funding Priority for Flood Control for Region II

Inadequate River Bank Protection (Structures)

Lack of Equipment to Measure/Record Extent of Scouring

Inadequate Warning System on the Release of Excess Dam Water

Inadequate Flood Forecasting

Inappropriate Land Use (Settlements are allowed in critical areas)

Piece Meal Flood Control Project Implementation

Problems Identified by the Participants Workshop Outputs

10

XII-A2-14

Constructing the Problem Tree

How to Construct the Problem Tree

- Identify the major problems existing within the stated problem situation
- Write a short statement on the core problem
- Write the cause of the problem
- Write the effects caused by the core problem
- Form a diagram showing the cause and effect in the form of the problem tree
- Review the diagram as a whole and verify its validity and completeness



Participants analyzing the cards to form “cause and effect” relationship into a problem tree.

During the Creation of the Problem Tree major problems and the cause and effects of the problems were identified. The Problem Tree was subjected to critiquing. Additional technical inputs were given to the participants regarding the project.

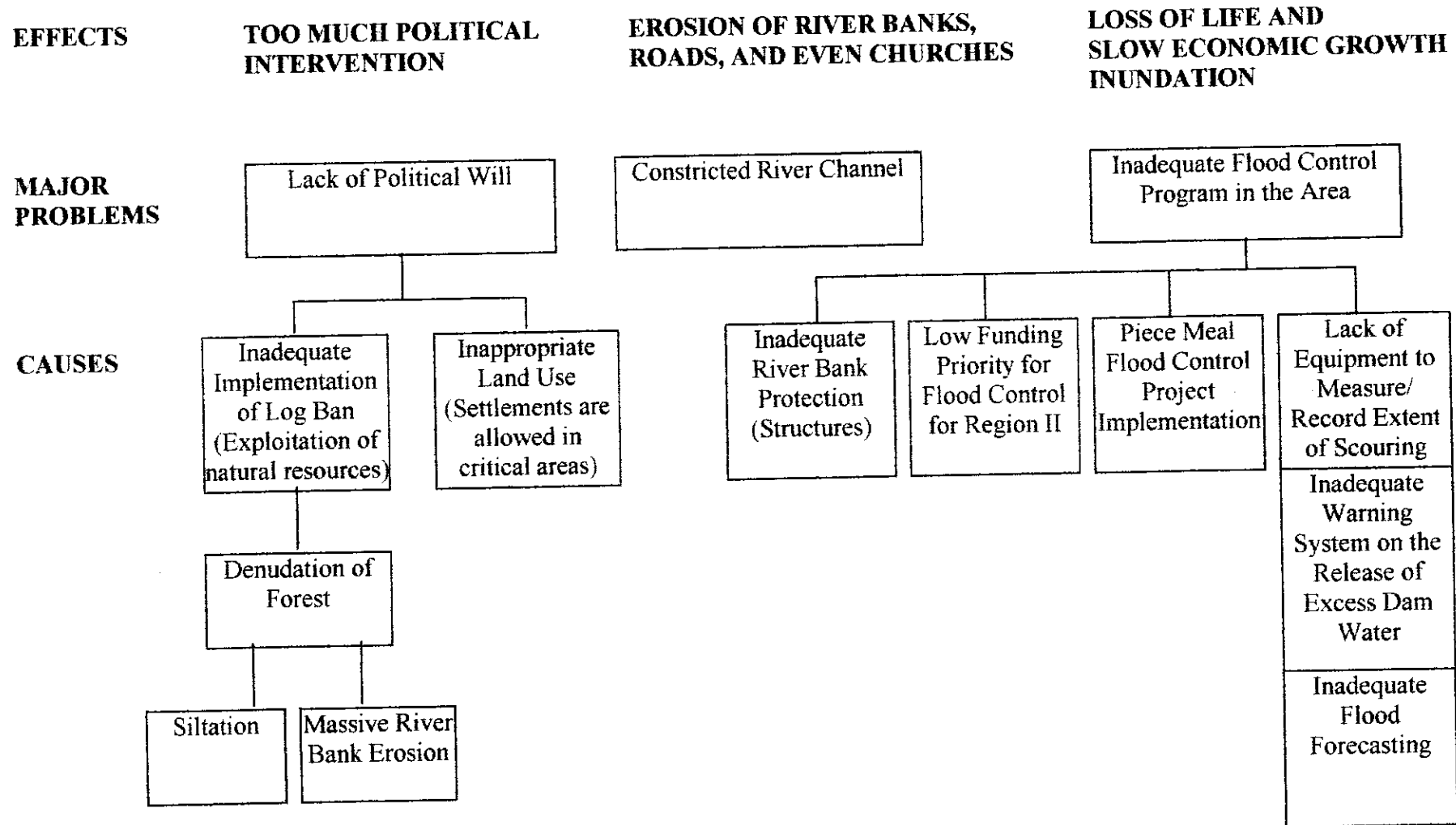
As such, a new problem tree wherein a core problem from among the major problems was identified.

The Problem Tree Workshop Outputs



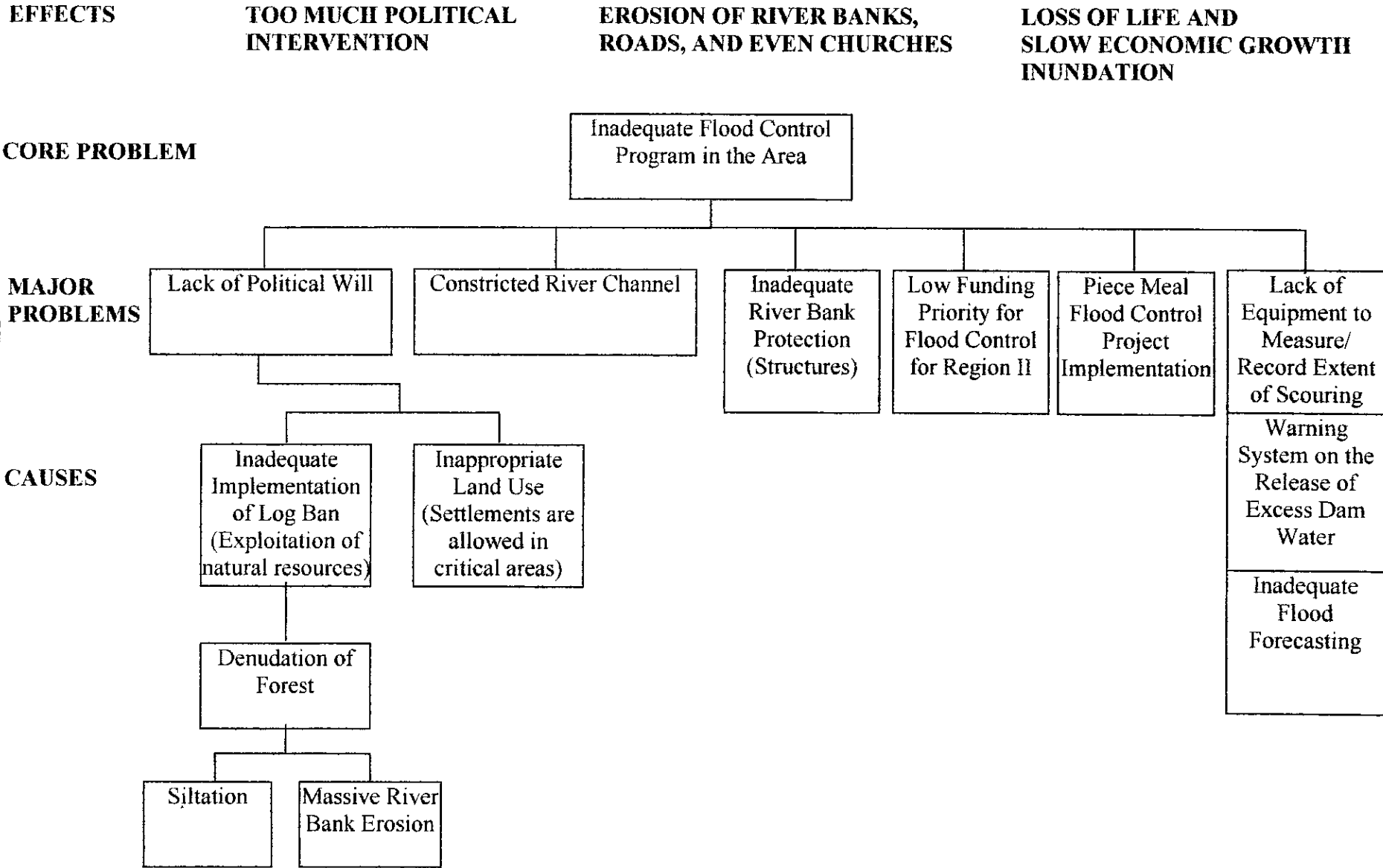
Participants were grouped into four during the two workshop sessions.

PROBLEM TREE



XII-A2-17

REVISED PROBLEM TREE



XII-A2-18

**FEASIBILITY STUDY OF FLOOD CONTROL PROJECT
FOR LOWER CAGAYAN RIVER**

**Program of 1st Workshop
on March 28, 2000
at Crown Lodge, Tuguegarao**

First Workshop

Registration		8:00 – 9:00 am
Invocation		9:00 – 9:05
National Anthem		9:05 – 9:10
 I. Introduction of JICA Study		
1. Opening Speech	Tomas T. Reginaldo, CESO III, DPWH Regional Director	9:10 – 9:20
2. Courtesy	Hideki Sato, Team Leader	9:20 – 9:30
3. Explanation of Inception Report	Shinsuke Hino, Co-Team Leader	9:30 – 10:00
4. <i>Coffee Break</i>		<i>10:00 – 10:30</i>
5. Discussion on Inception Report		10:30 – 11:30
6. <i>Lunch Break</i>		<i>11:30 am – 12:30 am</i>
 II. Workshop		
7. Opening Remarks	Tomas T. Reginaldo, CESO III, DPWH Regional Director	12:30 – 12:40
8. Briefing on Workshop	Hideki Sato, Team Leader	12:40 – 12:50
9. Introduction on PCM	Moderator	12:50 – 1:00
10. Participant/Attendant Analysis	Moderator	1:00 – 2:30
11. Problem Analysis	Moderator	2:30 – 4:30
12. Summary of PCM	Moderator	4:30 – 5:30
13. Closing Remarks	Hideki Sato, Team Leader	5:30 – 5:45

List of Participants

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
 OFFICE OF THE REGIONAL DIRECTOR
 Region II - Cagayan Valley Region
 Tuguegarao, Cagayan

NO.	ATTENDANCE SHEET	DATE	O AM	O PM
COURSE TITLE / ST. S/W FLOOD CONTROL PROJECT (LOWER CAG. RIVER)				
NAME	DESCRIPTION/OFFICE	SIGNATURE	TIME	
(pls. print legibly)				
1. ROMEO D. BATANG	: Engr. IV - DPWH		7:50	
2. PATERNO I. JUNIO	: ARD - CCD		8:00	
3. SAMUEL G. SINDAYAN	: MUA - ENGR - IGA/T		8:00	
4. MB MAMPETEL	: DPWH ENGINEER III		8:00	
5. C. D. Du Arce	: DPWH ENGINEER III		8:00	
6. CHAL SANTOS	: DPWH RO2 Engr II		8:00	
7. DOMINGO M. URBINA	: - - - - -		8:00	
8. TAKAYUKI NOBE	: STUDY TEAM		8:00	
9. CRISOGONO T. DECEJA	: Engr III		8:00	
10. AUREL A. PEREZ	: ENGINEER II		8:00	
11. FRANCIS JOSEPH P. YOSTHY	: ENGR II - PED. N. VIZCAYA		8:00	
12. P33 AMETO G. TOLENTINO	: CAC. P. P. P.		8:00	
13. JOCELYN P. PALEO	: DPWH - RO2		8:15	
14. ENRIQUE MATAHORA JR.	: CGU - TUG.		8:15	
15. Abrino L. Aydenan	: DAR - RO		8:20	
16. JOSELUIS G. BARRIN	: PAROJA - ACOS		8:20	
17. RONALD S. YAGUE	: Agri. IT - DA - NFA		8:20	
18. ROBERT D. SIMEON	: MPDC		8:20	
19. JALME S. DY	: MPDC		8:20	
20. Guadalupe Colling	: Vice Mayor		8:21	
21. Norma R. Magano	: Engineer III / P EU		8:35	
22. DAVID C. LASQUERO	: PDO I / SOLANA		8:40	
23. ISIDORO T. CARODAN	: MAYOR - CAGAYAN		8:42	
24. LORENZO R. SANIKRIS	: MUN. ENGR. III		8:45	
25. RONALD J. CABALANG	: Mun. Engr. Alibon		8:50	
26. Reynato M. Urbina	: Acting APD		8:50	
27. ELISA CARODAN	: APPRO. CAGAYAN			
28. EUGENE LASAR	: by. Tuguegarao		8:50	
29. Kensuke Sawai	: JICA Study Team		9:00	
30. JOAQUIN B. Lagugan Jr.	: ABED		9:00	
31. SALOME G. BONNIT	: CE II		9:00	
32. MARIAN B. AVILA	: PREW		9:07	
33. ADELINA GUZMAN	: MPDC		9:07	
34. LEO C. PASIG	: ENGR ASST		9:09	
35. FELIPE URBINA	: ENGR. 3		9:09	
36. FV. LIMBANAN	: ENGR. I		9:09	
37.

COURSE TITLE **LOCKE COUNTERPART**

NAME (pls. print legibly)	DESIGNATION/OFFICE	SIGNATURE	TIME
1. ZOLISIMO L. BALISI	ENGR III		7:20 AM
2. Marina D. Tagacay	Engr. III		7:35 AM
3. SUSAN P. DANAO	ECONOMIST II		8:00 AM
4. Julius M. Tamayo	HRMO I		8:10 AM
5. Wilfredo M. Marnel	Asst. Dir. HRMO		8:10 AM
6. Julius M. Tamayo	HRMO III		8:10 AM
7. JOSE R. SANMIGUEL	HRMO II		7:30
8. Angela B. Abeyne	Admin. Officer V		8:10
9. MIRA T. ALBANO RANIVAR	Admin. Officer V		10:10
10. RIL TUAZON	Admin. Engr.		10:10
11. RALPH CATAHAN	Admin. Engr.		10:10
12. RPTABUENA	ENGR III		10:25
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ATTENDANCE SHEET

DATE

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O PM

COURSE TITLE

NAME

DESIGNATION/OFFICE

SIGNATURE

TIME

(pls. print legibly)

- 1. PROBY JONEXCIO CARRO : JET C, ROPA
- 2. PRISCILLA J. MOLINA : MPVC
- 3. Dennis S. Flores : Fr. EDS
- 4. DARWIN L. BALDO : MPDC - SOLANA
- 5. Maria Fe Villania : CPDC - Lug
- 6. FROSTINO A. ROUNOC : ME - JCY - Amilang
- 7. JOSELU C. JUAN : DPWH RD
- 8. RADEL Y. PRONORAN : DPWH - RO
- 9. MA. MERLA B. AQUINO : Consultant - ARD
- 10. ROSARIO C. URIARTE : Consultant - ARD/CIOS

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Second Workshop

Records of Discussion
2nd Workshop
Feasibility Study of the Flood Control Project for the Lower Cagayan River

The 2nd Workshop for the Feasibility Study of the Flood Control Project for the Lower Cagayan River was held during 5 to 7 September 2000 at three different places with the same agenda for the purpose of hearing opinions on the basin development in different areas. Venues of the workshop are as follows:

- September 5, 2000 Tuguegarao City, Cagayan Province (Tuguegarao Workshop)
- September 6,2000 Santiago City, Isabella Province (Santiago Workshop)
- September 7, 2000 Bayombong, Nueva Vizcaya Province (Bayombong Workshop)

The agenda for workshop consisted of common presentation for all three workshops followed by problem/opinion analysis. Therefore, the records of discussion are divided into two parts, Part I - common topics and Part II – results of respective workshops at Tuguegarao, Santiago and Bayombong.

PART I – COMMON TOPICS

Common topics presented during the three Workshops are as follows:

1. Agenda/Courtesy by the Team Leader
2. Presentation by JICA Study Team
 - Explanation of an Example of the Basin Development; Development of the Brantas River Basin in Indonesia
 - 1987 Master Plan
 - Feasibility Study of Lower Cagayan River Flood Control Project
3. Issues in River Basin Development
4. PCM Workshop
 - Methodology and its objectives and methods of problem analysis
 - Results of the first workshop.

Common topics discussed in the three workshops are summarized below.

1. Agenda/Courtesy by the Team Leader

Workshop materials including agenda are presented in **Attachment 1**.

The Team-Leader, Mr. Sato, noted and explained the followings:

(1) No implementation of the prioritized projects proposed in 1987 MP.

The unfavorable conditions surrounding the Study Area was noted and he stressed the fact that no prioritized projects which were defined in the 1987 Master Plan has been implemented to date. The reason for underdevelopment in the area is largely due to flood damages, which strike the area every year. As agricultural industry remains to be the major industry in the area, the economic development of the area is heavily depended upon the weather condition. Therefore, flood control works is essential and inevitable to enhance the agricultural production for the overall economic development in the area.

(2) Review of 1987 Master Plan and the Feasibility Study.

As 13 years have already passed since the completion of the Master Plan, JICA Study Team is now conducting a review of the Master Plan, taking into consideration socio-economic changes in the area. Feasibility Study on the prioritized projects will also be conducted after the review of the Master Plan.

(3) Workshop to be held in three places

Mr. Sato further explained that the purpose of holding workshop in three different places is to ensure participation in the workshop by participants from all study area, which may be difficult if the workshop is held only in Tuguegarao. Therefore, the workshop is also held in Isabela and Bayombong.

(4) Presentation by the JICA Study Team

The JICA Study Team made following presentations before discussion by PCM in order to give preliminary information to the participants:

- 1) Presentation of the History of the Brantas River Basin Development, as an example of the successful river basin development in a neighboring country;
- 2) Brief review of the 1987 Master Plan; and
- 3) Methodology of Problem/Opinion Analysis for the Cagayan River basin development using Project Cycle Management (PCM) planning method and the result of 1st Workshop.

2. Presentation by JICA Study Team

2.1 Explanation of an Example of the Basin Development: Development of the Brantas River Basin in Indonesia

The history of Brantas River Basin Development is presented in **Attachment 1** in detail.

(1) Brantas River Basin and First Step for Development

Characterized by the active volcanoes of Mt. Kelud and Mt. Semeru, Brantas initiates its flow from Mt. Arjuno, continues clockwise flow from south to north, outreaching to Madura Straits near Surabaya. Prior to the basin development, flood condition in the area was similar to Cagayan basin. Marsh area formulation before the basin development was main issue. Tulungagung Flood Control project, being the first project for flood control, diverted the flood flow to Indonesian Ocean in 1958. Since then, various development projects have been implemented in the basin.

Located in East Java Province in Indonesia, the basin has 11,800 km² of basin area with River length of 320 km. Annual rainfall of 1,700 mm is less than the same of Cagayan River. In 1993, the Basin had a population of 13.5 million and GRDP of US\$754/capita.

(2) Basic Strategy of the Brantas River Basin Development

Basic Strategy for the comprehensive water resources development in the Brantas basin includes **1 River – 1 Plan – 1 Management** Policy, which was also conducted under the Tennessee Valley Authority by the ex-President Franklin Roosevelt in the United States. Other basic strategies of the development include institutional setup for development, Engineer's responsibility as defined in FIDIC, and accumulation of technology know-how (transfer of technology conducted under seeing, learning and doing method).

(3) Phased Development

The Brantas River Basin Development was realized through phasing implementation plan. The Master Plan and its review/update were conducted almost every ten years. Phase I development MP was made in 1962. Flood control, hydropower, irrigation projects were incorporated in the Plan. All the projects incorporated in this 1962 MP have been implemented. Karangates and Lengkong Dams being examples of MP projects. 1972 MP (2nd Master Plan) continued the same strategy made in 1962, while river basin condition changes have been incorporated. Multi-purpose dam construction, flood control and irrigation

projects are included in 1972 MP. Porong River improvement (total length of 210km) is an example of the projects implemented under 1972 MP. There was no ROW problem for the river improvement projects. 3rd MP was established by JICA in 1985. This MP noted equitable development (i.e. diminishing inequitable development), tributary development and water supply in urban area. Priority projects such as Bening and Wonorejo Dams as well as Widas River Improvement, Surabaya River improvement have been implemented or on-going to date. Sustainability studies were conducted in 1982 and in 1992.

In these master plans and its review/update, Land Use Plan was also reviewed. It is a basis of the Master Plan. A clear land use map up to the year 2005 was created and updated in each phase. Therefore, development of the overall basin has been conducted based on this clearly defined land use map.

(4) Outcome of the Development

It is important to know for land use for paddy in the year 1970 was estimated at 314,000 ha whereas only 10,000 ha of additional land has been developed by the year 1993. On the other hand, production yield has improved from 4.5 ton/ha in 1970 to 8.2 t/ha in 1993. In 1978, self-sufficiency in food production was attained in the basin. Electrification in Brantas basin was less than 19% in 1960 while 85% has been achieved in 1993. In the year 2000, electrification in the basin is estimated to be 100%.

In terms of development in the area, water supply demand, domestic, irrigation and industry increased as well. Population increase due to industrialization and urbanization further pressures the water demand. To cope with the increasing demand, multi-purpose dam projects were implemented which created the storage capacity of 467.8 million m³. This storage volume has made double of dry season runoff by 45.3 m³/s. This has made additional availability of irrigation water in dry year, which contributed to improvements of rice yield to 8.2t/ha as mentioned above. In terms of per capita GDP (see figure 3-7 in Attachment 1), Brantas GDP became higher than national average.

Inter-Agency Information System for Water resources management cooperation was established for the Brantas River development. All government agencies related to water resources utilization have been connected with the System.

(5) Water Resources Management System

Water Resources Management MP was conducted by JICA in 1997. Socio-hydrological cycle

figure was utilized to present water cycle and noted the importance of overall water resources management in a basin for local residents. Basic concept include a) 1River- 1Plan- 1Management policy, b) full-cost recovery, c) polluters-to-pay and d) service to receive principles are applied. Consensus on the basic concept of Water Resources Management was obtained by all parties concerned. In addition, clarification of necessity of operation and maintenance was made.

2.2 1987 Master Plan

The 1987 Master Plan incorporates all the river basin development component; i.e. hydropower, water supply, irrigation development and flood control. Target year was 2005. Multi-purpose dam projects such as Matuno, Maligu, Siffu, Alimit have been included in 1987 Master Plan. F/S for Matuno has already been conducted. As for flood control, Tuguegarao Dike, widening of Nassipin Narrows (left bank); Cabagan Dike widening of Nassipin Narrows (right bank) and river bank protection at 75 sites with total area of 838,000 m² are included. Agricultural development includes 14 projects with total area of 77,628 ha are included in addition to improvement of Magat Irrigation Scheme. Hydropower development includes 9 projects. Implementation schedule for 18 years from 1987 to 2005 with total project cost of P 32,984 Million (1987 price) were recommended.

Effects of the projects of the community included income job opportunity and other issues. Institutional strengthening, equitable development in the basin, community empowerment and livelihood program through income generation and distribution are included in 1987 MP.

2.3 Feasibility Study of the Flood Control Project for the Lower Cagayan River

Prior to the detailed presentation on the Feasibility Study by Mr. Hino, Mr. Sato presented the background of this JICA Study including its authority and Scope of Works. Furthermore, he presented progress made during the first field work in the Philippines.

The First Workshop at Tuguegarao was held on March 28, 2000. Agenda included presentation of Inception report and problem analysis. Core problem identified were the inadequate flood control program in the area, as explained by the Moderator, which is reported later.

Submission of Progress Report (1) was made on June 16, 2000. Main issues asked by the

Study Team during the presentation were:

- 1) expected GRDP in the target year 2020;
- 2) need of flood control works and
- 3) poverty level in the Region II.

These three issues were presented to the participants. NEDA and provincial governments were requested to coordinate in preparing the answers.

Objectives of the 2nd Workshop was to clarify the following:

- Requirement of River Basin Development
- Priority Components
- Problems encountering in the implementation of priority components
 - Contractor's ability;
 - Land acquisition and resettlement;
 - Political will; and
 - Comprehensive development plan.

The 2nd workshop is held in order to clarify what local residents/local governments wish to implement, i.e. to clarify the real necessity in the region in terms of the river basin development. In the course of 1987 Master Plan Review which is conducted presently, the inputs obtained during the 2nd workshop is vital information which must be incorporated as part of the review.

Mr. Hino then presented explanation of Feasibility Study and its study progress. Details of his presentation are included in **Attachment 1**. Study purposes and final outputs were presented in detail. Thereafter, study schedule and its progress per sector have been explained.

3. Issues in Basin Development

Mr. Sato presented the Issues of the Basin Development to bridge works between Review of Master Plan and workshop.

Main issues are comprehensive framework plan on the river basin development and river basin management system. Basic principles are a) "one river- one plan – one management"; b) beneficiary-to-pay principle and c) consistency with regional development.

Equally important to understand in this workshop are institutional arrangement, financial arrangement and community (beneficiaries) participation. Mr. Sato stressed that the land

acquisition is responsible of the local government.

4. Project Cycle Management (PCM) Workshop

4.1 PCM Method

At the beginning of each workshop, the Moderator explained the logic and method of conducting PCM as a guidance. It is important to note that common PCM method is processed from 1) participatory analysis; 2) problem analysis, followed by 3) objective analysis in order, since the main issues would already have been defined.

While the PCM method conducted during the workshops this time commenced its program from objective analysis to define the requirement and demand (objective) first. Then it is followed by problem analysis for implementation of the objective.

Summary of the Moderator's explanation is as follows:

Objective Analysis

- Identifying the requirement and demand for basin development
- Basin development shall include but not limited to 1) watershed management; 2) flood control; 3) water supply (irrigation); 4) water supply (domestic and industry); 5) water quality; 6) river environment and 7) others.

Guidelines for Problem Analysis

The Moderator gave first a general guideline to proceed PCM method as listed below.

- One problem per card
- State the problem in negative condition
- A problem is not the absence of a solution, but an existing negative status;
e.g. avoid: "no flood control system"
suitable: "inadequate flood control system"
- Avoid co-existence of "cause-effect" of the problem on the same sheet.
e.g. avoid: "frequent flood destroy farms"
suitable: "river is frequently flooded. Farms are often destroyed."

Conduct of a Problem Analysis

- analyze and identify existing situation surrounding a given problem condition
- identify a major problem in the context

- define the core problem of a situation
- visualize the cause-effect relationship in diagram problem tree.

How to Construct a Problem Tree

- Identify problems existing within the stated problem situation.
- Write a short statement as the core problem
- Write the cause of the problem
- Write the effects caused by the core problem.

4.2 Results of the First Workshop

Explanation of the results of the first workshop was then proceeded by Moderator.

With 61 participants on March 28, 2000 first workshop was held in Tuguegarao from provincial municipal government officials and/or representatives and from other line agencies. PCM Planning Method was applied in conducting problem/opinion analysis for the project. Result obtained through PCM is a problem tree identifying effects, core problem, major problems and causes of the issue analyzed.

Objective of the 1st workshop was to identify, characterize and analyze persons and groups connected, and clarify the current problems and issues concerning flooding in the area. After all sectors involved were considered, these problems were formed into groups.

Problem tree for inadequate flood control program in the area consisted of

Effects: to much political intervention;

Erosion of river banks, roads and even churches;

Loss of life and slow economic growth inundation

Major problem were:

- Lack of political will;
- Constricted river channel;
- Inadequate river bank protection
- Low funding priority for flood control for region II
- Piece meal flood control project implementation
- Lack of equipment to measure/record extent of scouring

Causes identified were denudation of forest, massive river bank erosion, and siltation, etc.

4.3 Objectives of 2nd Workshop

Moderator explained that the objectives of 2nd workshop are to:

- identify the requirements/needs/demands for river basin development in the area
- to select top priority requirements for implementation;
- to analyze problems/concerns hampering the implementation of the top priority requirements.

She further explained that the expected outputs as follows:

- priority requirements for implementation
- problem tree for the implementation of priority requirement.

4.4 Clarification on the Problem Analysis

Prior to the commencement of problem/opinion analysis at all three Workshops, a clarification was made that this analysis is for the river basin development, an example of which was presented in the morning session. River basin development includes not only flood control but also irrigation development, hydropower, watershed management, water supply and other sectors. Institutional arrangement, funding and community participation are essential inputs to these river basin development.

PART II – RESULTS OF RESPECTIVE WORKSHOPS

1. Tuguegarao Workshop

1.1 Opening Remarks

Mr. Alday, Director OIC, DPWH Region II made his opening remarks in Tuguegarao City, stressing the importance of active participation to the Workshop by all the participants.

1.2 Opinion/Problem Analysis

In this workshop, participants are grouped into three groups, i.e. Group1, 2 and 3.

Focus Question 1:

What requirement(s)/need(s)/demand can you identify for river basin development in your area?

(number with parenthesis at the end refer to the objective category considered below)

- development of irrigation system (4)
- erosion control along river bank (river bank stabilization) (2)
- reforestation (3)
- information education on forest protection (3)
- mangrove preservation (3)
- preservation of salt water intrusion (2)
- funds for flood control facilities, e.g. dams, spur dike, revetment (2)
- reforestation program (3)
- agricultural programs for affected farmers (4)
- improve productivity providing fish gauges along selected parts of Cagayan river (4)
- Cagayan River to be used for alternative route for transportation (5)
- Flood forecasting and warning system (2)
- Improvements of roads and bridges (5)
- Extension of Aparri jetti (2)
- Water supply (5)
- Alternative cropping systems (1)
- Viable/strong organization (6)

Objective Category for Tuguegarao Workshop:

1. Development of Agricultural Program
2. Flood Control Facilities
3. Environmental Protection and Embankment Measures
4. Development of Irrigation Systems
5. Development of Infrastructure Support
6. Institutional Development

Focus Question (2)

Based in your answers to Focus Question 1, what top priority requirement(s) will you select for implementation?

Objective Category	Group 1	Group 2	Group 3	Total	Rank
Agricultural Program	3	6	4	13	3
Flood Control	1	1	1	3	1
Environment Protection	2	2	2	6	2

Irrigation System	5	5	3	13	3
Infrastructure	4	4	5	13	3
Institutional Development	6	3	6	15	6

Results of Prioritization (Tuguegarao Workshop)

As shown above, Flood Control was selected as the top priority in the river basin development in Tuguegarao Workshop.

Focus Question (3)

What problem(s)/concern(s) hamper(s) the implementation of top priority requirement(s) selected in the Focus Question 2?

(alphabets at the end indicates problem category noted below)

- lack of funds (A)
- insurgency problem (D)
- acquisition of right of way (F)
- political intervention (biased prioritization) (E)
- untimely funds (A)
- peace and order situation (D)
- rejection of projects by target beneficiaries due to lack of information campaign (G)
- frequent typhoon occurrence (C)
- Inadequate technology (B)
- Refusal of land owners affected for F/C due to unjust payment (F)
- Land use classification (F)
- Unavailability of proper equipment with required F/C facilities (B)
- Funds should be released during dry season (A)
- Non-compliance to land use classification (F)

Problem Category:

- A: Financial Constraints
- B: Inadequate Technology
- C: Calamity
- D: Problem of Peace and Order Situation
- E: Political Intervention with negative Effects
- F: Land acquisition Problem
- G: Inadequate Information Campaign

Thereafter, the same Focus Question 3 for the second priority – Environmental Protection was conducted in Tuguegarao Workshop.

- laxity in the implementation of environmental laws and regulations
- lack of alternative source of livelihood
- uncontrolled Kaingin system (slash and burn)
- mitigation to forestry area
- lack of political will to ban totally devastation of forestry area
- migration to upland due to poverty
- lack of people organization
- inadequate education campaign
- financial constraints
- peace and order
- slash and burn approach.

Obtained Problem Tree

Similar to what has been obtained during the first Workshop. Refer to report on the first workshop (Annex to Progress Report (1)).

1.3 Closing Remarks

Mr. Sato noted at the end of the Workshop that the results obtained from the problem analysis, i.e. inadequate flood control program, is the same results which 1987 Master Plan has recommended.

2. Santiago Workshop

2.1 Opening Remarks

In Santiago City, District Engineer Mr. Pedro Q. Baliton noted that in addition to roads and bridge construction, flood control projects are considered most important as agricultural production is largely affected by the floods each year.

2.2 Opinion/Problem Analysis

In this workshop, participants are grouped into four Groups, i.e. Group1, 2, 3 and 4.

Focus Question 1:

What requirement(s)/need(s)/demand can you identify for river basin development in your

area?

- irrigation facilities (E)
- funding (F)
- bank protection (B)
- flood control facilities (B)
- regulation on the use of quarries (A)
- watershed protection (A)
- pump generated irrigation (E)
- improvement of irrigation facilities (E)
- reforestation (A)
- improvement of river channel (B)
- information education campaign (C)
- erosion control (B)
- proper waste disposal (A)
- environmental management (A)
- power generation (D)
-

Objective category for Santiago Workshop:

- A. Environmental Management
- B. Flood Control Project
- C. Information Education Campaign
- D. Funding
- E. Irrigation Development
- F. Power Generation

Focus Question (2)

Based in your answers to Focus Question 1, what top priority requirement(s) will you select for implementation?

Objective Category	Group 1	Group 2	Group 3	Group 4	Total	Rank
Environment	2	3	4	4	13	3
Flood Control	3	2	2	2	9	1
Information Education	6	4	6	1	17	5
Funding	1	5	1	6	13	3
Irrigation	4	1	3	3	11	2
Power Generation	5	6	5	5	21	6

Results of Prioritization (Santiago Workshop)

As shown above, Flood Control was selected as the top priority in the river basin development in Santiago City Workshop.

Focus Question (3)

What problem(s)/concern(s) hamper(s) the implementation of top priority requirement(s) selected in the Focus Question 2?

B. Santiago City (Flood Control):

- Political intervention (change of administration brings change in priority)
- Slash and burn of forests
- Inadequate funding for flood control
- Inadequate IEC
- Implementation of project in piece meal basis
- Lack of comprehensive plan (i.e. no master plan)
- Inaccessibility to project site (poor road condition)
- Political intervention
- Flood control project is not selected as priority projects
- Economic instability (funding can be affected when economic instability occurs)
- Problem of land acquisition for ROW.

Obtained Problem Tree

Effects Expected return/benefit could not be expected
 ROW acquisition delayed

Core Problem: Inadequate Flood Control Program in the Area

Major Problems:

Phase by phase approach.
Insurgency Problem
Poor road condition/inaccessibility

Cause:

Lack of Funds
Too much political intervention

Flood not top priority
Lack of integrated plan

2.3 Closing Remarks:

Mr. Sato noted explained during Santiago workshop that according ADB manual, disaster is defined as multiply of hazard and vulnerability. While hazard is considered as natural phenomena, vulnerability depends on people and property existing in the area. If there exists a community near a river, this causes vulnerability. Workshop discussion focused on the structural measures, as shown in Santiago problem tree, however, participants should confirm the definition of vulnerability. Mr. Sato then requested the participants, focusing on LGUs, to discuss this issue among barangay captains and residents in area, and to bring the discussion results by next workshop. The key question to be discussed is “why are people living near a river? Is it because they are not willing to move? Is it because no government agency force themselves to relocate?”

3. Bayombong Workshop

3.1 Opening Remarks

In Bayombong, District Engineer Jose C. Tiongson welcomed the workshop participants and stressed the urgent measures to mitigate environmental degradation in Nueva Vizcaya, which is widely present in the area.

In Bayombong, Assistant Resident Representative, JICA Philippines Office, Ms. Noriko Bamba, explained that flood occurrence has been one of the major obstacles against the development of the Country. Presenting the fact as educational as well as economic loss that schools in the country are closed for 30 days each year due to flood, Ms. Bamba stressed the importance of flood mitigation and therefore JICA is dispatching the Study Teams in various parts of the Country. Furthermore, Ms. Bamba requested active participation to the workshop as local conditions are well known by the local residents. Ms Bamba noted her belief that both inputs, i.e. expertise brought by the Study Team and the knowledge of local conditions explained by the residents, are essential for the success of this project.

The Governor of Nueva Vizcaya, Mr. Rodolfo Q. Agbayani noted that in the Province, causes of the flood problems have already been studied locally. Nueva Vizcaya possesses 390,000 ha land area, of which 88,000 ha area is defined as disposable rolling hills with more than 18 degrees

slope. According to DENR, 320,000 ha are considered as “horizon” area. Out of the 320,000 ha, 86% was covered by the forests previously. However, due to the continuous logging which is still carried out to date in the province, forest coverage has been reduced to 20%. Such decrease in the forest coverage induces denudation of the land and therefore increase floods in the area. Out of the 375,000 population in the province, 150,000 (45% of the total population) inhabits in the mountain area, most of which depend on forest product. These inhabitants in the mountain area continue to pressure/degrade the condition of the mountains. Governor Agbayani also noted that 7 major tributaries for Magat River as well as upstream Cagayan tributary, Casecnan River, are located in Nueva Vizcaya. He stressed the fact that unless the headwaters of Cagayan is controlled in Nueva Vizcaya, flood condition of downstream provinces, Isabella and Cagayan, cannot be mitigated.

3.2 Problem/Opinion Analysis

In this workshop, participants are grouped into two groups, i.e. Group1 and Group 2.

Focus Question 1:

What requirement(s)/need(s)/demand can you identify for river basin development in your area?

- Adoption of S.A.L.T (Slow Agricultural Low Technology) (D)
- Irrigation and water supply (B)
- Reduce/minimize soil erosion (D)
- Flood control and drainage system (A)
- Sabo dams (A)
- River Training (A)
- Bank protection (A)
- Watershed management (C)
- Reforestation (C)
- Adequate financial funding support (F)
- Policy support for local initiatives (H)
- Institutional linkage (G)
- Livelihood programs (I)
- Irrigation (B)
- Potable water supply (B)
- Community participation (G)
- Preservation of river banks (A)

- Flood control in different tributaries (A)
- Comprehensive development plan / land use plan (E)
- Need of updated data for physical planning (E)
- People’s awareness/acceptability participation (G)
- Need to managed open access areas by LGUs ©
- Amendments to national policy, i.e. sharing of national wealth (H)
- Implement sustainable technology (D)
- New economic opportunities (I)
- Protection of existing irrigation system along flood plains (A)

Objective Category for Bayombong Workshop:

- A. Flood Control
- B. Irrigation and water supply development
- C. Watershed Development and Management
- D. Adoption/Sustainable Technology
- E. Comprehensive Development Plan
- F. Adequate Financial/Funding Support
- G. Institutional Development
- H. Policy Support
- I. Economic Development

Focus Question (2)

Based in your answers to Focus Question 1, what top priority requirement(s) will you select for implementation?

Objective Category	Group 1	Group 2	Total	Rank
Flood Control	3	4	7	3
Irrigation and Water Supply	6	5	11	6
Watershed Development	4	6	10	5
Sustainable Technology	8	4	12	8
Comp. Dev’t Plan (CDP)	1	1	2	1
Adeq. Fin/Funding Support	2	2	4	2
Institutional Development	7	4	11	6
Policy Support	5	3	8	4
Economic Development	9	7	16	9

Results of Prioritization (Bayombong Workshop)

As shown above, Comprehensive Development Plan (CDP) was selected as the top priority in the river basin development in Bayombong Workshop.

Focus Question (3)

What problem(s)/concern(s) hamper(s) the implementation of top priority requirement(s) selected in the Focus Question 2?

- no funds to finance preparation of the CDP
- inadequate technical capability to prepare CDP
- Funding
- Lack of feasibility study
- Lack of technical expertise
- Inaccurate/inadequate data for planning

Obtained Problem Tree

Effect: Peace and order instability
Economic Dislocation
Deterioration of Health Condition and Sanitation
Poverty
Limited access to Financing Support
Piece meal or sporadic construction of flood control project

Core Problem:

Lack of Comprehensive Development Plan (Lack of Master Plan and Feasibility Study)

Major Problems:

Political will to support the preparation of the comprehensive development plan.
Political intervention (prioritization, selection)
No funds to finance to finance the comprehensive development plan.
Inadequate technical capabilities to prepare CDP
Inadequate and inaccurate data for planning

Causes:

No funds to Finance preparation of the Comprehensive Development Plan

3.3 Closing Remarks

Bayombong's 4th priority, policy support including political intervention were discussed in detail. However, Mr. Sato raised its difficulty to understand political intervention. He requested Bayombong Workshop participants to prepare further explanation on this issue which should be submitted prior to the next workshop to be held in early October. Issues related to policy support are as follows:

- Local initiatives: devolution of forest lands/watershed for LGU management.
- Local initiatives: LGU led co-management with DENR. Local DENR offices may have agreement to manage the environment of the area with local residents. However, such agreement may not be in line with the central DENR policies.
- Pro-Tree Program (awarding of security over the tree planted)
- PD705 – giving more LGU participation on resource management.
- RA 7160 Amendment to share from the national wealth to provide more incentives to watershed areas. Example of the suggestion is Casecnan which divert water away from Nueva Vizcaya. Therefore, local government do not have initiative to the operation and maintenance of Casecnan diversion.
- RA7160 Legislation to funding support for devoted services (i.e. flood control, irrigation, etc). Operation and maintenance of CIS do not have any subsidy from National Government. Budget only comes from initiatives of the congressman and office of the Mayor. Need to have amendment to RA7160. This is an example of the LGU having not enough funds to implement.

PROGRAMME

Tuguegarao (Sept. 5, 2000)

PART – I

Registration 8:30 – 9:00
Invocation 9:00 – 9:05
National Anthem 9:05 – 9:10

INTRODUCTION OF JICA STUDY

Opening Remarks Tomas T. Reginaldo
Regional Director
9:10 – 9:20

Courtesy Mr. Hideki Sato
Team Leader/Institutional Expert
9:20 – 9:30

Explanation of an Example of the Basin Development
(Dev. of the Brantas River Basin in Indonesia) Mr. Hideki Sato
Team Leader/Institutional Expert
9:30 – 10:30

C O F F E E B R E A K 10:30 – 10:45

Explanation of “Feasibility Study of the Flood Control
Project for the Lower Cagayan River” and
Study Progress Mr. Shinsuke Hino
Co-Team Leader
10:45 – 11:15

PART – II

WORKSHOP

Issues of the Basin Development Mr. Hideki Sato
Team Leader/Institutional Expert
11:15 – 11:30

Briefing of Workshop Moderator
11:30 – 11:45

Explanation of the result of the
First Workshop Moderator
11:45 – 12:00

L U N C H B R E A K 12:00 – 13:00

Problem/Opinion Analysis Moderator
13:00 – 16:30

Summary of PCM Moderator
16:30 – 17:00

Closing Remarks Mr. Hideki Sato
Team Leader/Institutional Expert

MODERATORS: MS. ROSARIO C. URIARTE
MS. MARIA VICTORIA CADIZ

EMCEE: JOJO & CELY

PROGRAMME

Santiago (Sept. 6, 2000)

PART – I

Registration	8:30 – 9:00
Invocation	9:00 – 9:05
National Anthem	9:05 – 9:10

INTRODUCTION OF JICA STUDY

Opening Remarks	Pedro Q. Baliton District Engineer 9:10 – 9:20
Courtesy	Mr. Hideki Sato Team Leader/Institutional Expert 9:20 – 9:30
Explanation of an Example of the Basin Development (Dev. of the Brantas River Basin in Indonesia)	Mr. Hideki Sato Team Leader/Institutional Expert 9:30 – 10:30

COFFEE BREAK

Explanation of “Feasibility Study of the Flood Control Project for the Lower Cagayan River” and Study Progress	Mr. Shinsuke Hino Co-Team Leader 10:45 – 11:15
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PART – II

WORKSHOP

Issues of the Basin Development	Mr. Hideki Sato Team Leader/Institutional Expert 11:15 – 11:30
Briefing of Workshop	Moderator 11:30 – 11:45
Explanation of the result of the First Workshop	Moderator 11:45 – 12:00
L U N C H B R E A K	12:00 – 13:00
Problem/Opinion Analysis	Moderator 13:00 – 16:30
Summary of PCM	Moderator 16:30 – 17:00
Closing Remarks	Mr. Hideki Sato Team Leader/Institutional Expert

MODERATORS: MS. ROSARIO C. URIARTE
MS. MARIA VICTORIA CADIZ

EMCEE: JOJO & CELY

PROGRAMME

Bayombong (Sept. 7, 2000)

PART – I

Registration 8:30 – 9:00
Invocation 9:00 – 9:05
National Anthem 9:05 – 9:10

INTRODUCTION OF JICA STUDY

Opening Remarks Jose C. Tiongson
District Engineer
9:10 – 9:15

Introductory Speech by JICA Philippines Office. . Ms. Noriko Bamba
Asst. Resident Representative
JICA-Philippines Office
9:15 – 9:20

Courtesy Mr. Hideki Sato
Team Leader/Institutional Expert
9:20 – 9:25

Explanation of an Example of the Basin Development
(Dev. of the Brantas River Basin in Indonesia) Mr. Hideki Sato
Team Leader/Institutional Expert
9:25 – 10:30

C O F F E E B R E A K 10:30 – 10:45

Explanation of “Feasibility Study of the Flood Control
Project for the Lower Cagayan River” and
Study Progress Mr. Shinsuke Hino
Co-Team Leader
10:45 – 11:15

PART – II

WORKSHOP

Issues of the Basin Development Mr. Hideki Sato
Team Leader/Institutional Expert
11:15 – 11:30

Briefing of Workshop Moderator
11:30 – 11:45

Explanation of the result of the
First Workshop Moderator
11:45 – 12:00

L U N C H B R E A K 12:00 – 13:00

Problem/Opinion Analysis Moderator
13:00 – 16:30

Summary of PCM Moderator
16:30 – 17:00

Closing Remarks Mr. Hideki Sato
Team Leader/Institutional Expert

MODERATORS: MS. ROSARIO C. URIARTE
MS. MARIA VICTORIA CADIZ

EMCEE: JOJO & CELY

List of Participants

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE REGIONAL DIRECTOR
Region II - Cagayan Valley Region
Tuguegarao, Cagayan

NO. : ATTENDANCE SHEET : DATE : 0 AM
: : : : 0 PM
: : : : SEPT. 05, 2000

COURSE/TITLE : FIELD VISIBILITY STUDY OF CAG. RIVER FLD. CONT. PROJ.

NAME	DESIGNATION/OFFICE	SIGNATURE	TIME
1. Hideki SATO	JICA Study Team	[Signature]	7:30
2. Shinsuke HINO	"	[Signature]	"
3. Tetsuo TASHINO	"	[Signature]	"
4. Hitoshi SAKAI	"	[Signature]	"
5. OSAMU HIRAKA	"	[Signature]	"
6. Takashi KURAUCHI	"	[Signature]	"
7. JUN MATSUMOTO	"	[Signature]	"
8. AKIO MAEDA	"	[Signature]	"
9. Kensuke Sakai	"	[Signature]	"
10. Makoto Kodama	"	[Signature]	"
11. TAKAYUKI NOBE	"	[Signature]	"
12. ZOSIMO L. BALISI	ENGR III P/O	[Signature]	"
13. GEORGE R. ANNANS	HRMO-1	[Signature]	7:25
14. ROSARIO C. URANTE	MODERATOR	[Signature]	-
15. MA. VICTORIA CADIZ	ASST. MODERATOR	[Signature]	-
16. SYLVIA M. Tamayao	HRMO I	[Signature]	-
CANAL 17. ISIDRO T. ORBADDU	MUN. MASTER-CANAL	[Signature]	w/ Driver
18. LORENZO R. SANCHEZ	MUN. ENGINEER	[Signature]	-
19. Ray [Signature]	-	[Signature]	-
LAND 20. ROMULO B. [Signature]	ASST. MUN. ENGR	[Signature]	-
21. ROMULO A. PIPU	ASST. D.E. APPR	[Signature]	w/ Driver
22. PDS AMER TOLENTINO	PDIN. CAG PROJ	[Signature]	w/ Driver
23. PO2 JESSIE P. ALONZO	CAG PROJ	[Signature]	-
24. HILARIO Y. CASEM	DPWH-RO2 / ENGR. III	[Signature]	-
25. BENJAMIN O. TABUERA	DPWH-R2 ENGR II	[Signature]	-
26. Medy [Signature]	DPWH-R2	[Signature]	-
27. MARITO L. TAPPA	DPWH-R2	[Signature]	-
28. Zenaida A. Pascua	DPWH-R2	[Signature]	-
29. EDUARDO B. DE LUNA	DPWH-R2	[Signature]	-
30. DOMINGO M. URBINA	- do -	[Signature]	-
31. ELNA M. URBINA	DILG RO2 / LGD V	[Signature]	-
32. JESSELITO D. BASSIG	ENGR. II - [Signature]	[Signature]	-
33. PETER J. BASTIEN	SERVO - DHR	[Signature]	-
34. CHARITO G. MORENO	MVC - LGD - [Signature]	[Signature]	-
APAYAO 35. RODOLFO B. JUAN	Sp MUN. APAYAO	[Signature]	w/ Driver
36. CLARITO D. DE ASU	ENGR III DPWH RO2	[Signature]	-
37. PABLO L. DOMINGO	MPDC - GATAPAN	[Signature]	8:00

Republic of the Philippines
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 OFFICE OF THE REGIONAL DIRECTOR
 Region II - Cagayan Valley Region
 Tuguegarao, Cagayan

NO. : ATTENDANCE SHEET : DATE : 0 AM
 : : : : 0 PM

COURSE TITLE

NAME (pls. print legibly)	DESIGNATION/OFFICE	SIGNATURE	TIME
38. RESISTIDO F. CAMATRA	CHIEF, PAED DA-PTUCO		
39. Armando N. Duque	RD, OCD		w/ Driver
40. PATERNO N. JUAN	MRD, OCD		
41. Marina D. Tagay	Engr. III, DPWH, RO		
42. RODOLFO R. ALDAY	RD - DPWH		w/ Driver
43. ROBERTO B. BALBUENA	Engr. V - DPWH, RD		
44. EUGENE LASATH	Engr. III -		
45. PATROCINIA DALMAG	ENR/B/DEPR		
46. SALOME G. BONAIT	DEPR		
47. Ricardo A. Sanchez	de -		
48. NEMAH G. BANAN	Shvr. Engr. - LASATH		w/ Driver
49. JAIME S. DU	MRDC LASATH		
50. Pastor B. Aglay	man Adm. - Sol.		w/ Driver
51. FELIX T. LINGAN	DPWH		
52. PULIENTE T. XINTON	Engr./LGU ALCALDE		w/ Driver
53. MEYNALDO C. FLORES	PDO/LGU ALCALDE		
54. ROY F. DUMAYAG	LGU - BACARR		w/ Driver
55. Maria U. Usal	LGU - APARRI		
56. ROLANDO A. LIBERATO	LGU - APARRI		
57. SAMUEL SIROPIA	LGU - GATI		
58. Ronnie Reynosa	LGU - Ballesteros		w/ Driver
59. OLIVIA GRACE C. OLIVA	R.A. - MEMBI		
60. TOMAS O. FUERTES	LGU - S. MITYA		
61. Prudencio G. Bosing	Proc. Admin. - Aparr		
62. EUSA CARODAN	PPDO		
63. JIM R. BARURAN	"		
64. Including:			
65. JICA	Drivers		
66. GIDA VENTURA	MDA		
67. LEONAR C. ISRAEL	MDA		
68. Dennis J. Flores	MDA		
69.			
70.			
71.			
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73.			

OFFICE OF THE REGIONAL DIRECTOR
Region II - Cagayan Valley Region
Tuguegarao, Cagayan

NO.	ATTENDANCE SHEET	DATE	AM	PM
		SEPT. 06, 2000	0	0
COURSE TITLE: 2ND. WORKSHOP: FEASIBILITY STUDY OF LOWER CAG. RIVER BASIN				
NAME	DESIGNATION/OFFICE	SIGNATURE	TIME	
(pls. print legibly)				
1. TACUMPAY P. CANTOS	TRRIG. PROJ. INV. NIA	[Signature]	8:00	w/Dir
2. HIROK. SATO	JICA study Team	[Signature]	8:00	
3. Shinsuke HINO	"	[Signature]	"	
4. TATSUO TASHIRO	"	[Signature]	"	
5. Hiroshi SAKAI	"	[Signature]	"	
6. TATSUYUKI NOBE	"	[Signature]	"	
7. Takashi KUNAIUCHI	"	[Signature]	"	
8. AKIO MAEDA	"	[Signature]	"	
9. Kensuke Sakai	"	[Signature]	"	
10. Jun MATSUMOTO	"	[Signature]	"	
11. BENJAMIN TABUENA	DPWH - PO	[Signature]	"	
12. ISABELA P. CRUZ	Secretary - JICA Experts	[Signature]	"	
13. MIA B. PALENZUELA	Engr. II PMO-MECP Manila	[Signature]	8:00	
DENR 14. ROLANDO D. FROGOSO	Forester / Watershed Sec'y	[Signature]	8:00	
MAHIG 15. MARCO F. MICALAGION	MEO / MUN OF MALILI	[Signature]	8:00	
16. JOSEPH T. ANON	DPWH - ISA 4TH	[Signature]	8:00	
17. FERNANDO C. SALIM	DPWH - ISA 4TH	[Signature]	8:00	
PNP 18. P. EYDI ERNESID C. CAECOS	IPPO, DPID	[Signature]	8:00	
Santiago 19. MELCHOR E. SORIANO	LGU, Santiago City	[Signature]	8:00	
20. DOMINGO URABINA	DPWH LGU	[Signature]	8:45	
21. Marina D. Lagacay	Engr. III - RO 2	[Signature]	"	
22. ZOSIMO L. BALISI	Engr. III - RO 2	[Signature]	"	
23. EDWARD B. DE LUNA	Engr. II - RO 2	[Signature]	"	
24. DELIND GENIL	MADECO-MCI	[Signature]	8:50	
25. OSCAR G. GUMIRAL	ENGR II - DPWH ISA 3RD	[Signature]	8:40	
26. PEDRO B. BALITON, JR.	DIST. ENGR. Isa 4th	[Signature]	8:50	w/Dir
27. Dennis S. Flores	Sr. EDS / NEDA RO2	[Signature]	8:50	
28. Leonard C. Israel	Sr. EDS / NEDA RO2	[Signature]	8:50	
29. Eugene LASAM	DPWH RT PO2	[Signature]	5:00	
30. MILDRED A. AUSTRIA	PEO III / PGM GILRINO	[Signature]	8:50	w/Dir
31. Evelyn C. Costales	ADE - DPWH 4th	[Signature]	9:00	w/Dir
32. ANTONIO R. ESPEJO	DPWH - Isabela 1st	[Signature]	9:05	
33. FLORENTE G. SQUIAM	LGU - Misamis, Sultan	[Signature]	9:10	w/Dir
34. NATHAN S. DARTO	EPH - LGU, Itog. CO	[Signature]	9:10	w/Dir
35. EDMUND CULITAU	ECON. IV PPDO, ILAGI	[Signature]	9:10	
36. JOSE ARMANDO G. ARANDA JR.	PCDO - OCC/AND	[Signature]	9:10	
37. DAVID B. MONTAÑA JR.	DAR PROJ. SECY	[Signature]	9:12	

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 Region II - Cagayan Valley Region
 Tuguegarao, Cagayan

NO.	ATTENDANCE SHEET	DATE	SIGNATURE	TIME
COURSE TITLE				
NAME : DESIGNATION/OFFICE : SIGNATURE : TIME				
(pls. print legibly)				
38	1. ROGELIO A. CURAMERO	ENGR II / DPWH - ISA-200	<i>[Signature]</i>	9:-
39	2. ELMER F. ACUDA	ME. LGU. AURORA	<i>[Signature]</i>	w/ Driver
40	3. BENEDETTO B. BANGADIAN	Engr II LGU-Dep.	<i>[Signature]</i>	
41	4. NESTOR A. TIMOSA	L.G.U. Sta. City	<i>[Signature]</i>	
42	5. MARCO SOLEDAD	ENGR. III	<i>[Signature]</i>	
43	6. Ombel T. Diwan	Engr II DPWH	<i>[Signature]</i>	
44	7. RAIME B. GARHAL	Engr. II - DPWH	<i>[Signature]</i>	
45	8. FELIX ROSAS F.S. MAULIT	ENGR. II - DPWH	<i>[Signature]</i>	
46	9. MINA D. MONTERO	Engr II - DPWH	<i>[Signature]</i>	
47	10. EDUARDO MEDINA	ENGR II	<i>[Signature]</i>	
48	11. CARLITO SALIM	ENGR. I	<i>[Signature]</i>	
49	12. LEONARDO EXOTISI	ENGR. I - 1	<i>[Signature]</i>	
50	13. Aiola B. Tumanut	DPWH. Ica Hth	<i>[Signature]</i>	
51	14. GEORGE R. ANNAS	DPWH P02 FACILITATOR	<i>[Signature]</i>	7:00
52	15. Sylvia M. Tamayas	- do -	<i>[Signature]</i>	
53	16. Indayon M. Mammul	- do -	<i>[Signature]</i>	8:-
54	17. GREGORIO M. BUNAGAN	PDO / LGU TUMALUN	<i>[Signature]</i>	
55	18. Ma. Victoria Codiz	No. moderator	<i>[Signature]</i>	
56	19. Rosain Uriarte	Moderator	<i>[Signature]</i>	
57	20. Jonato S. Uy Jr.	MPDC - C. C. U. Paris	<i>[Signature]</i>	w/ Driver
58	21. JOHNNY E. CAZARO	ME - LGU JONES	<i>[Signature]</i>	
59	22. JULITA R. DEVA CAUZ	PDO II - LGU - ROXB	<i>[Signature]</i>	w/ Driver
60	23. ALEJO S. LAMSEN	ENGR II - LGU - Cagayan	<i>[Signature]</i>	w/ Driver
61	24. DELFIN ITARIANO	DRAFTSMAN - LGU - CAGAYAN	<i>[Signature]</i>	
62	25. Stefan E. Umoros	SB member	<i>[Signature]</i>	w/ Driver
63	26. NOLY A. VASIBAW	ENGR. II ISA-411	<i>[Signature]</i>	
64	27.			
65	28.			
66	29.			
67	30.			
68	31. Including: SICA Drivers	— 5		
69	32.			
70	33.			
71	34.			
72	35.			

OFFICE OF THE REGIONAL DIRECTOR
Region II - Cagayan Valley Region
Tuguegarao, Cagayan

NO.	ATTENDANCE SHEET	DATE	AM	PM
		SEPT. 07, 2000	0	0
COURSE TITLE 2ND WORKSHOP: FEASIBILITY FLOOD CONT. PROJECT				
NAME	DESIGNATION/OFFICE	SIGNATURE	TIME	
(pls. print legibly)				
1. Hideki SATO	JICA Study Team	[Signature]	8:00	
2. Shinsuke HINO	"	[Signature]	"	
3. T. NOBE	"	[Signature]	"	
4. A. MAEDA	"	[Signature]	"	
5. K. Sakai	"	[Signature]	"	
6. Hitoshi SAKAI	"	[Signature]	"	
7. J. MATSUMOTO	"	[Signature]	"	
8. Tatsuo TASHINO	"	[Signature]	"	
9. Takashi KURAUCHI	"	[Signature]	"	
10. ISABELE P. CRUZ	Secretary - JICA Experts - DPWH	[Signature]	-	
11. NIA B. PALENZUELA	Engr II, PRO-MECP, DPWH	[Signature]	8:00	
12. Evelyn M. Tagacan	HRMO I - DPWH	[Signature]	-	
13. Veronica B. Ledesma	Res. Off. I - DPWH	[Signature]	-	
14. Imogen M. Marmol	DPWH HRMO I	[Signature]	-	
15. CLARITA J. BULAN	HR Asst - DPWH	[Signature]	8-	
16. P.T. ANCHETA	A.O. III - NVED	[Signature]	8-	
17. GEORGE P. ANNANG	HRMO - I DPWH	[Signature]	-	
18. ROBERT S. GALIGUIS	ARPO	[Signature]	8:25	
19. SANTIAGO L. BULAN	OIC, NIA	[Signature]	8:31	
20. ZOSIMD L. BALIS	DPWH -	[Signature]	8:31	
21. JOSE B. ALTRE, JR.	DPWH - NVED	[Signature]	8:31	
22. JAMES A. MEXRAEG	DPWH NVED	[Signature]	8:31	
23. JOSE A. TONGSON Jr.	D.E. - DPWH	[Signature]	8:30 w/ Drive	
24. BERJANN TABUAC	ENGR III - R.O.	[Signature]	8:32	
25. GARY LEDAO	ENGR II - MELGUAMTMO	[Signature]	8:45 w/ Drive	
26. ORLANDO M. CASIO	ENGR II PED - RS	[Signature]	8:46	
27. Ma. Victoria Cajiz	Co-Moderator	[Signature]	-	
28. RASHY B. CALPO	ENGR V STAFF	[Signature]	-	
29. Marina D. Tagacan	Engr. III DPWH RO	[Signature]	-	
30. Susan P. Danas	Engr III - do-	[Signature]	-	
31. VIRGILIO M. OLESAN	Consultant, Gen. Office	[Signature]	-	
32. DOMINICO UMBRIA	Engr. III DPWH RO	[Signature]	-	
33. NORIKO BAMBA	JICA PHILIPPINES OFFICE	[Signature]	-	
34. OSEL ENRIQUETA	"	[Signature]	-	
35. Nestor A. Gonzaga	Hum. Engr - So lano	[Signature]	9:00 w/ Drive	
36. EIJI OTSUKI	JICA Expert / DPWH	[Signature]	-	
37. DELEFIN S. MILLS	DPD / PNP	[Signature]	9:00 w/ Drive	

Republic of the Philippines
 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
 OFFICE OF THE REGIONAL DIRECTOR
 Region II - Cagayan Valley Region
 Tuguegarao, Cagayan

NO.	ATTENDANCE SHEET	DATE	0 AM	0 PM
COURSE TITLE				
NAME (pls. print legibly)	DESIGNATION/OFFICE	SIGNATURE	TIME	
38	PERFECTO G. AGUIRRE	SOV. P. G., N.V.	[Signature]	9:55 w/ Drive
39	② Tony K. Duplano	Mayor - Kaysapa	[Signature]	9:55 w/ Drive
40	3. Norma L. Ansa	Off II OPA	[Signature]	
41	4. PERFECTO G. URMAO JR.	ENGR II DPWH	[Signature]	9:56
42	5. DANILLO A. BERNARDE	ENGR-II DPWH-NCH	[Signature]	9:56
43	6. ROSARIO C. URIARTE	Moderator	[Signature]	
44	7. DOMINADOR A. PEVERA	ENGR III, DENR	[Signature]	9:50
45	8. CORAZON M. RAMIREZ	MEMBER Consultant	[Signature]	9:30
46	9. RAMON T. REYES	OIC ADE N.V.	[Signature]	9:30
47	10. TEODORICO P. PADILLA JR	M. NCHS	[Signature]	9:45 w/ Drive
48	11. Albert I. Eugenio	MPOC - Santa Fe	[Signature]	9:45
49	12. DOMINICO P. MINTANE JR	MUN. ENGR. - STAIFE	[Signature]	9:46
50	13. COUNCILOR LUIS I. BINANG	S. B. QUEZON	[Signature]	9:48 w/ Drive
51	14. LUIS D. LIBAN	ENGR IV TCO	[Signature]	
52	15. NORBERTO G. URMAO	ME LGU RAMIRAN	[Signature]	9:50 w/ Drive
53	16. EDWINO B. DELUNA	ENGR. II DPWH-NV	[Signature]	8:00
54	17. EDGARDO TABAPO	PO-IV / PPOU	[Signature]	
18.				
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25.	Including Staff Drivers - 5			
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Third Workshop

Japan International Cooperation Agency Study Team
Feasibility Study of the Flood Control Project for the Lower Cagayan River
3rd Workshop
October 3, 2000 – Tuguegarao City
RECORDS OF DISCUSSION

The Third Workshop for the Feasibility Study of the Flood Control Project for the Lower Cagayan River was held at Crown Lodge in Tuguegarao City on October 3, 2000. Discussion Material as well as list of participants are attached in the Annex.

I. INTRODUCTION

1. Opening Remarks

Engineer Balsa opened his speech noting that the Workshop is the third one being conducted under this JICA Study. He noted that each province has its own problem and priority and continued that this Workshop will consolidate problems and will identify priorities. He concluded his speech by stating that successful implementation of the Study will tackle the problems here and gradually change the lifestyle of the residents in the Cagayan valley.

2. Introductory Speech by JICA Philippines Office

Introductory Speech was made by Ms. Noriko Bamba, Assistant Resident Representative of JICA Philippines Office. She noted that Cagayan River being one of the largest river in the country and is aware of the importance of the development of the area. JICA congratulates DPWH and other concerned agencies for their efforts to develop the potential of the area, which would bring eventually the betterment to the people. Encouraging measures, which government agencies are currently undertaking, will improve the government and the management system. At the same time, she trusts that these measures undertaken will reduce problems in the area. Ms. Bamba thanked the opportunity to participate in this 3rd workshop. She encouraged all participants' active involvement in the workshop. Views and insights to the constraints for Flood Control and river basin projects are welcomed, which she believes to be important input to the project's success.

3. Courtesy

Mr. Sato, Team Leader of the JICA Study Team extended his welcome to participants, including Honorable Governors, Regional Director of DPWH, City and Municipality Mayors. He thanked for everyone's attendance, especially for those participants who had to come to Tuguegarao

from far away, such as Nueva Vizcaya and Ifugao. Mr. Sato extended his sincere thanks to Region 2 office of DPWH for their arrangement of this workshop.

Mr. Sato explained briefly that this third workshop will be held by applying PCM method which is already becoming familiar with the participants from the previous two workshops.

The first workshop was held on March 28, 2000 with attendants from all project area. Objective of the project was Flood Control Project, which was given condition. Conclusion obtained from the first workshop, as core problem, was inadequate flood control program.

The second workshop was held during 5-7 Sept. 2000. In Tuguegarao, Isabela and Bayombong, with main subject being “What are needs, demands and requirements of the respective area.” Conclusions obtained are flood control as 1st priority followed by watershed management and irrigation. Core problem identified, among others, was lack of comprehensive plan. Mr. Sato noted that participants’ comments during the second workshop concentrated on 1) no fund for planning, 2) no comprehensive plan, 3) no basis for funding arrangement and thus 4) no project implementation. In summary, JICA Study Team understood that these comments are all related to funding constraints. On the other hand, he noted that there are many funding agencies and the costs should be shared. He then posed a question on the floor “Can you implement if you have all funds required?” He then stated Japan’s development example, which started from receiving loans from the World Bank in late 1940s.

This third workshop is to clarify solution of the identified problems. Mr. Sato expects to have participants to consider the method to overcome the problem, real need of the community, community participation and beneficiary-to-pay principles.

At the end of the Courtesy, Mr. Sato expressed his thankfulness to the participants for their active participation. He concluded his Courtesy by noting that “willingness to do” is as one of the most important factor to the development.

4. Presentation of the Actual Situation and Problems Encountered in the on-going Flood Control Projects Nationwide

Mr. Hino, Co-team leader of the Study Team, continued the presentation of Institutional Capability Building in River Sector, as an example of actual situation and problems encountered in the on-going projects in the Philippines. This study was implemented under SAPI (Special

Assistance for Project Implementation), which was funded by OECF. 8 on-going projects (Lower Agusan, Pampanga Delta, Agno, Metro-Manila West Mangahan, Pasig-Marikina, Ilo Ilo and Pinatubo I and II) were studied.

SAPI study noted that the problems encountered in the projects are 1) delay in project implementation, 2) difficulty in resettlement of people 3) low capability of contractors 4) delay in approval process and 5) opposition by community, NGO, etc. SAPI study noted that the study was implemented by assessing quality, budget and schedule. Regarding the quality, SAPI study concluded that some problems exist in on-going projects. However, Consultants have taken appropriate measures and no serious problems related to quality control emerged. As all projects studied were funded by OECF, therefore budget constraints are small including the local currency portion, since GOP giving first priority to allocate budget to local funding portion. SAPI study concluded that construction schedule is the most serious problem. Delay in project implementation is identified as the core problem of on-going flood control projects. Photographs taken from projects were presented, some of which showed the problems encountered, such as resettlement problems.

Causes identified in SAPI study are 1) contractor's poor capability, 2) difficulty of land acquisition and compensation, 3) time consuming procedure for approval and 4) opposition of the community, while the core problem being the delay in project implementation as noted above. Effects are also identified. Out-of-date plan and design; increase of social instability; increase in political instability; vanishing of project benefits; and ultimately the loss or less benefit of investment.

SAPI Study suggested several counter-measures to mitigate the identified problems. They are 1) provision of the revised rules and regulation for selection of the Contractor, 2) trial implementation of Construction works by force account system and 3) training of DPWH staff and capability building of the PMOs. SAPI Study also noted that laws and regulations, such as Water Code and WRAP-Bill (Water Resources Authority of the Philippines) should be reviewed. The Study also pointed out the unclear definition of "Major Rivers", as defined by. Regarding institution and organization context, following problems are identified; 1) many agencies involved; 2) staff organization of the DPWH; 3) unclear task of NWRB; 4) No river management System and 5) organization of PMO-MFCP.

SAPI Study suggested conceivable scenarios to cope with the problem, such as 1) institutional capability building, 2) preparation of law and regulation, 3) reorganization of DPWH and 4)

human resources development. Based on these suggestions, SAPI study recommends 9 short term action plans such as preparation and/or revision of standard criteria for PQ, Bid, strengthening of BOD, BOC, PMO, improvement of TOR for consultant, human resources development in priority issue and settlement of critical works of on-going projects. SAPI Study also suggested the long-term action plan 1) establishment of comprehensive river management system, 2) re-organization of DPWH 3) strengthening flood control management and 4) human resources development.

5. Presentation of River Management in Japan

Mr. Eiji Otsuki, JICA Expert on River Administration (DPWH) made his presentation on river management in Japan.

5.1 Background of River Management in Japan

Due to Japan's extreme topographic and meteorological feature, the riverbeds in Japan generally exhibit distinctive natural characteristics as follows:

- 1) as watershed slope are steep and river channels are short, riverbed have steep gradient and flood water flow rapidly;
- 2) the ratio of peak flow discharge per basin area of each river is relatively large, and is 10 times or even 100 times larger when compared to the Major rivers of other countries
- 3) water level rises and falls very quickly. Hydrographs are very short in shape.
- 4) runoff contains large amount of sediments.

5.2 Basin condition

Since ancient times, Japanese have been agricultural people mainly engaged in rice farming. In alluvial plains formed by floods, people formed communities in area where river water was easily available for irrigation. Therefore, they accepted the benefits brought by rainfall and river water – yet they were also at the mercy of nature, continuously facing floods and droughts.

This attitude of land utilization has continued up to today, and population and industry has accumulated in the flooding area of rivers where latent danger of flood disaster remain. Since ancient times, people have sought to secure space for habitation and production while continuous combating flood disasters.

Accordingly, major cities and towns in Japan developed in the flooding areas of rivers. Particularly during the high-growth phase starting in 1960s, which was marked by extensive concentration of people and property in urban areas, urbanization even spread to high-risk areas,

such as low lying marsh-land, alluvial fans, and the vicinities of cliffs. As a result, 48.7% of the population and 75% of property are located within the flood-prone areas, around 10% of the national land area (as of 1985).

5.3 Flood Disasters

Flood damage density (a ratio of damage to affected area) has risen sharply. Property damage due to river overflow and water collecting behind levees as a percentage of total damage has been increasingly also. Characteristics of recent flood disasters are:

- 1) an increase of disaster in urban areas
- 2) an increase of inundation caused by insufficient drainage capacity
- 3) an increase of flood damage density due to the concentration of people and property in flood plains.

5.4 Organization of Ministry of Construction (MOC)

Within the Ministry of Construction (MOC) of Japan, there are 5 Bureaus, including River Bureau. Furthermore, there are Regional Construction Branches, with River Department as one of the departments. Therefore, both head office in Tokyo and regional offices have river management structure.

5.5 Systematized management by River Administrator.

(1) Definition of River

In Japan, according to River Law, river is defined as public streams and water areas including river facilities, which are designated by River Law. This means legally rivers include not only natural streams and water bodies such as rivers, lakes and marshes but also such artificial streams like flood-way, etc., that have been constructed to serve a purpose for the general public.

(2) Responsibility of River Administrator

River Law (in article 7) defines that the River Administrator be a person who administer the river designated by the law. This means that the river administrator shall perform the river works, and permit or regulate the water use and land use in the river area. It can be said that River Law clarifies his many exclusive duties and authorities on the river.

(3) Classification of River and River Administrator

There are two classification in Japan: Class A and Class B. A river system is categorized as Class A when a river is bearing closely on the national economy and people's living. Class A

river systems are designated by Ministry of Construction. On the other hand, a river is categorized as Class B when a river is bearing closely on the public interest. Class B rivers are designated by prefectural governors. 109 river systems in Japan are classified as Class A with total basin area of 239,947 km² which is 2/3 of total land area of Japan. Class B consists of 2,691 river systems with 107,9970 km² of catchment area which is approximately equal to 1/3 of total area of Japan.

(4) Classification of River Area

The river area is defined as an area where land or water occupies and acts excluding river works shall be regulated, and River Law stipulates the different concept and purpose of the following three parts of the river area by the cross section.

- 1) Area no. 1 the land where water of river flows continuously and land similar to that conditions, but excluding lands which present temporarily due to floods, etc.
- 2) Area no. 2 the site of river administration facilities
- 3) Area no. 3 the land on the riverside designated by the river administrator as necessary to perform together with the area mentioned in Area No. 1.

5.6 Major strategies on River and Water Resources.

In those 50 years, MOC's basic strategies have been changed with times. In the beginning, only flood control was included. Thereafter, MOC included water resources development, as target of MOC activities. Nowadays MOC edit the plan again by including river environmental management.

To follow the Master Plan of River Management, formulation and implementation of major strategies are defined by 5-year mitigation plan. Moreover, every physical year, strategies are formulated as "annual target" in line with the 5-year plan. Each project is promoted through regional construction bureau, and prefectures and others local government agencies. Nowadays, the annual budget of River Bureau is 2.38 billion yen (approximately 1 billion Pesos). This budget is allocated to flood control, water resources and river environment projects.

During the 2nd Workshop in Bayombong, many people said budget is needed and there is no Master Plan. Mr. Otsuki considers that, noting that in Japan, there is Master Plan formulated for each river. Together with the government's 5-year program and the annual program, there

is a system which enables river-related administrators and agencies to request budget for river management. He considers that the Philippines should follow similar administrative systems which Japan has for river administration. Information related to the improvement of river management system can be shared with the Philippine government, so that the improvement can be successfully made in the Philippines also.

6. Explanation of the Study Progress of the “FS of the Flood Control Projects for the Lower Cagayan River

Mr. Hino explained the work progress of the JICA Study. Study Schedule and its progress were presented. This being the 2nd works in the Philippines, which started in July 2000 and will finish 2nd stage work on October 14, 2000. Preparation of Progress Report (2) is on-going.

Brief explanation for each sector's progress was made. On-going survey consists of the following: hydrological survey, river morphologic survey, land use survey, aerial photographic survey, geological survey, environmental impact survey, basic social impact survey, flood damage survey, socio-economic survey, and institutional survey. Details are presented in the Progress Report (2)

II. WORKSHOP

1. Explanation of the result of the 2nd workshop

Moderator explained that 2nd workshop were conducted in three different places; in Tuguegarao, Santiago and Bayombong. Three focus questions were presented: 1) what requirement need demand can you identify for river basin development in your area; 2) based on your answer for 1, what top priority requirement will you select; and 3) what is the most important one?

River basin development consists of irrigation, river environment, water supply and watershed management. Brantas Rive Basin development has been reviewed.. Thereafter, highlights of 1987 Master Plan was reviewed during the 2nd workshop.

2. Detailed Discussion on the problems raised during the second workshop and possible solutions

At the beginning of the discussion, participants were formed into groups. Groups were

formed as follows:

- Group 1: upper Cagayan Province,
- Group 2: lower Cagayan Province
- Group 3: Isabela, Quirino and Mountain Province, and
- Group 4: Nueva Vizcaya and Ifugao Provinces.

After the groups are formed as above, analysis was made. Discussion and presentation made are summarized below.

2.1 Problem Analysis

Question raised by the Moderator for the problem analysis is as follows:

- **Detailed discussions of the outputs of the second workshop. Given the outputs of workshop two, what is the real need of your community? Why?**

Based on the above question, participants were separated into 4 groups mentioned above. After brainstorming by each group, needs identified are as follows:

Group 1 (Upper Cagayan)

- Provision of flood mitigating facilities/equipment (Reasons: flooding of low lying areas; rapid erosion;)
- Development of irrigation system (Reasons: farm lands need irrigation)
- Development of Infra-structure support (Reasons: Tuao bridge; Penablanca, Tuguegarao are flooded; Catagan road is partially eroded; drainage system in Tuguegarao is needed)

Group 2 (Lower Cagayan)

- Construction of flood control facilities
- River Control Protection
- Dredging (especially at the mouth of the Cagayan River)
- Watershed Protection
- Construction of Dam for power generation, etc.

Group 3 (Isabela, Quirino and Mt. Province)

- Flood Control Projects
- Watershed Management convergence with sustainable agriculture
- Development of Irrigation Systems

Group 4 (Nueva Vizcaya and Ifugao)

- Flood Control
- Irrigation system
- Watershed management
- Dredging
- De-siltation
- Drainage system
- Flood warning devices.

Comments made by the participants:

- Instead of having individual plans, why do we not have integrated forestry management for the entire region?
- It is not too late to formulate Master Plan throughout the Cagayan Plan with having spatial works individually implemented.

2.2 Possible Solutions

Question raised by the Moderator for the possible solutions is as follows:

- **Assuming that funding is readily accessible, how are you going to address the problem/ requirement, especially at the local level?**
- **Who are the beneficiaries if the said problem/requirement is addressed?**

Group 1 (Upper Cagayan)

- Calamities (unstoppable but we could mitigate; formulation of flood mitigation plan; formulate disaster situation and framework plan)
- Inadequate technology – transfer of technology through training, etc.
- Employ services of consultants
- Purchase appropriate construction equipment
- Peace and order
- Political Intervention with negative effects (consultative dialogue with mayors and governors; training and seminars for various ethics)
- Inadequate information campaign (consultative dialogue and massive information campaign through mass media).

Group 2 (Lower Cagayan)

- Administrative Support (provide counterpart financial/human resources)
- Support implementation through POW and admin support for construction

Group 3 (Isabela, Quirino and Mt. Provinces)

- Prepare a master plan (for implementation)
- Massive information dissemination campaign on the implementation of the projects
- Local governance watershed management
- More of small water impounding projects (SWIPs) in the uplands (Beneficiary: affected community)
- Series of upland impounding dams should be constructed
- Delineation of catchment with area responsibility of barangays and later on capacitating of barangays program officers on watershed management development and protection.
- Upland river water diversion for upland agriculture.
- Construction of bank protection along eroded banks
- SB (local council) resolution authorizing Local Chief Executive (LCE) or Memorandum of Agreement (MOA) for release of funds and in support of the construction of the projects

Group 4 (Nueva Vizcaya and Ifugao Provinces)

- Adoption of functional watershed and development and management program. (Beneficiaries: lowland and upland farmers)
- Project implementation as to plan and specification (the rest of Cagayan Valley)
- Intensity tree for legacy program
- Replicate co-management of lower Magat reforestation program
- Sustain participatory local governance
- Readily access to funding agencies

After the presentation of group ideas, consolidation of these ideas was conducted, which was lead by the Moderator. Tag names were defined as follows:

1. Administrative Support

- Admin support
- SB authorization
- Technical and admin support
- Implementation of the projects
- Technical and admin support during construction
- Administrative support on the preparation of program of works

2. Sharing of Resources

- Provide counterpart financial/human resources
- Ready access to funding agencies
- Cost sharing

3. Good Governance

- Dileation of catchment with area responsible of sharing and later...
- Sustain participatory local government

4. Transfer of Technology

- Inadequate technology
- Employ services of consultants
- Purchase appropriate construction equipment

5. Formulation of Appropriate Plans

- Preparation of Master Plan
- Calamities
- Prepare a framework plan

6. Advocacy

- Institutional dissemination campaign

7. Institutional Development

- Adoption of functional watershed management
- Local governance watershed management
- Intensify tree for legacy program
- Replicate CO management of lower Magat
- Transparency
- Accountability
- Networking
- Ownership
- Consensus building

8. Infrastructure Support

- More of Small Water Impounding Project

At the end of the Workshop, the beneficiaries of the above measures were identified as follows: Farmers, affected community, rest of Cagayan valley, lowland and upland farmers, fishery people, ethnic groups, and related business sector

3. Closing Remarks

Mr. Sato noted the complaints from Japanese tax payers regarding the grant and loans made to developing countries. Japanese Government is making efforts in convincing the tax payers to continue the Official Development Assistance activities. Mr. Sato also noted that it is important to first express the overall fund required and then consider for the funds. Furthermore, activities already conducted by the Government should be shown.

Questions/Comments were raised during the Workshop and Mr. Sato's reply were as follows:

- "What is the definition of flood control?"
Explanation was made so many times during the previous workshops. Emphasis have been made during previous workshops that river basin development should includes watershed management, flood control, water resources management and river environment management. It is also important to understand that watershed management such as reforestation is contributing in mitigating floods as it reduces flood peak. The person who asked this question left already. Mr. Sato asked attendees to explain to him about this.

- "Lower Cagayan has very serious siltation problem at the river mouth".
According to this JICA Study, there is no serious siltation problem in the Cagayan river mouth. No data has been presented or obtained by the Study Team. Most important matter is that for the future development, data must be gathered. Otherwise, there is no way to convince experts based on the actual data collected and analyzed. Maintenance of database is the priority. Mr. Sato suggested establishment of database for all sectors involved. The Consultants should keep it status with data. Nothing can be done without data. Master Plan cannot be developed without reliable data.

Mr. Sato recalled that conduct of problem and objective analysis was conducted for the 2nd and 3rd workshops. During the 2nd workshop, flood control was selected and was verified again in this workshop, which Mr. Sato agrees. At the second workshop, communication with LGUs and communities was suggested, which will be the basis of the major flood control projects because they are the beneficiaries of the projects and their agreement is a must for the implementation of the project. Mr. Sato requested to each participant to have

communication with LGUs and communities before the next workshop. Their inputs will be an important information for the Study.

- During the workshop, there were several comments from participants implying that JICA's funding availability for the project and for participants are unlimited. To these comments, Mr. Sato clarified that unless there is an indication of willingness to implement by you yourself and an attitude on how much you can share, no funds will be even considered to be allocated, let alone be approved. Comments made by participants, such as "we will enjoy every year study tour to Japan funded by JICA" or "money part JICA will take care of it," would not give impression to the Study Team that the participants are seriously considering the project implementation. JICA's technical cooperation is not a free giveaway. It is a cooperation activity derived from an official request from recipient countries. GOP's central government agencies are having difficulty each year in prioritizing development needs of the entire country and allocating funds including ODA grants and loans. As long as "your willingness to implement Region 2 projects" is not shown, it will not convince anyone to allocate funds for this Region, Mr. Sato concluded.

Before the end of the Workshop, Mr. Sato asked each participant to note activities being carried out or have carried out previously to strengthen your institutions. There are many things you can do by yourself. He requested each participant to bring answers to his question during the next workshop.

The Feasibility Study of the Flood Control Project for the Lower Cagayan River

Programme of 3rd Workshop

Crown Lodge, Tuguegarao City

October 03, 2000

Registration..... 8:30 - 9:00
 Invocation 9:00 - 9:05
 National Anthem..... 9:05 - 9:10

Explanation of the study progress of the "Feasibility Study of the Flood Control Project for the Lower Cagayan River"Mr. Shinsuke Hino
 Co-Team Leader/Flood Control Planner
 10:35 - 10:45

INTRODUCTION

Opening Remarks Rodolfo K. Alday
 Regional Director
 9:10 - 9:15

Introductory Speech by JICA Philippines Office Ms. Noriko Bamba
 Asst. Resident Representative
 JICA Philippines Office
 9:15 - 9:20

Courtesy Mr. Hideki Sato
 Team Leader/Institutional Expert
 9:20 - 9:35

Presentation of the actual situation and problems encountered in the on going Flood Control Project Nationwide Mr. Shinsuke Hino
 Co-Team Leader/Flood Control Planner
 9:35 - 10:05

C O F F E E B R E A K 10:05 - 10:20

Presentation of River Management in Japan..... Mr. Eiji Otsuki
 JICA Expert on River Administration (DPWH)
 10:20 - 10:35

WORKSHOP

Explanation of the result of the 2nd Workshop..... Moderator
 10:45 - 11:00

Detailed discussion on the problems raised during the Second Workshop and possible solutions
 Moderator
 11:00 - 12:00

L U N C H B R E A K..... 12:00 - 13:00

(Continue)..... Moderator
 13:00 - 16:30

Summary of Workshop Moderator
 16:30 - 16:45

Closing Remarks Mr. Hideki Sato
 Team Leader/Institutional Expert
 16:45 - 17:00

MODERATORS: MS. ROSARIO C. URIARTE
 MS. MARIA VICTORIA CADIZ

FACILITATORS: JOJO & CELY

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List of Participants

OFFICE OF THE REGIONAL DIRECTOR
Region II - Cagayan Valley Region
Tuguegarao, Cagayan

NO. : ATTENDANCE SHEET : DATE : 0 AM
: : : OCTOBER 3, 2000 : 0 PM

COURSE TITLE 3rd. S/W FEASIBILITY STUDY OF LOWER CAGAYAN RIVER CONTROL PROJECT

NAME	DESIGNATION/OFFICE	SIGNATURE	TIME
1. JOSE DENIS M. MAUI	PROV' ENGR. / PED IV	<i>[Signature]</i>	7:40
2. FRANCISCO T. TOLENTINO	ENR OFFICER / ENR IV	<i>[Signature]</i>	7:40
3. FELIPE A. PANGANIBAN	PROV' ENGR. / ENR IV	<i>[Signature]</i>	7:40
4. SAMUEL G. SUDARYO	MUN. ENGR. - GATT	<i>[Signature]</i>	8:00
5. EVELYN B. AGGASID	DAR / ARPO I	<i>[Signature]</i>	8:00
6. SANTIAGO L. BULAN	PROV' INTRIG. OFFICER DIA - N. VIZ.	<i>[Signature]</i>	8:00
7. ROBBY B. CALPO	LCM - DAPAC DEC SUR	<i>[Signature]</i>	8:00 w/ Drive
8. FC ANDAYA	PPDE, NV	<i>[Signature]</i>	8:15
9. BENJAMIN EDUARDO L. CALONGE	IPPO, ISABELA	<i>[Signature]</i>	8:15 w/ Drive
10. JOSE A. TONGSON JR.	D.E. DPWH - N. VIZ.	<i>[Signature]</i>	8:16 w/ Drive
11. GARY J. LESTO	ENGR. # LGU - Aritan	<i>[Signature]</i>	8:17
12. JAMES E. BAYANA	MUN. ENGR. - LGU BAGAYAN	<i>[Signature]</i>	8:18 w/ Drive
13. OSCAR M. NAVA	PLANNING OFFICER	<i>[Signature]</i>	8:18
14. ZORILLO, FELIX	DPWH RO2	<i>[Signature]</i>	7:50
15. GEORGE ANDANG	DPWH - RO2	<i>[Signature]</i>	7:30
16. COSME D. R. HUYANGPANI	DPWH - RO2	<i>[Signature]</i>	8:20
17. CARLOS A. DE JESU	DPWH - RO2	<i>[Signature]</i>	8:20
18. DAVID B. WILLANUEVA JR.	DAR PROV' OFFICE - ISABELA	<i>[Signature]</i>	8:26
19. ERNESTO C. DOMINGO	Sr. Engr. A. / NIA CB-PIO	<i>[Signature]</i>	
20. VICTORINO L. JUANIN	ADD / OCO	<i>[Signature]</i>	
21. OSCAR G. GUMIRAN	DPWH ISA-3RD CYP.	<i>[Signature]</i>	8:26 w/ Drive
22. MARIANO B. MALUPPE	DPWH - RO2	<i>[Signature]</i>	8:26
23. NEMAH G. IBANAN	ME - LGU - CASAM	<i>[Signature]</i>	8:31 w/ Drive
24. APOLITO A. ZINGAPAO	MPDC (REP) LGU - CAMAL	<i>[Signature]</i>	10-3/00
25. NARCISO L. BALAN		<i>[Signature]</i>	
26. ROLANDO D. FROGOSO	DENR - PENRO Isabela	<i>[Signature]</i>	8:30 w/ Drive
27. LORENZO R. SANIBADO	LGU - CAMAL	<i>[Signature]</i>	8:30
28. JAMES R. BARRERA	LGU - CAS	<i>[Signature]</i>	8:35
29. RICHARD D. TAGURBA	DPWH DMW - FEDEC	<i>[Signature]</i>	8:35
30. GIL I. ITUANALDO	-DO-	<i>[Signature]</i>	8:35
31. MYRNA S. BATTUNG	DPWH - CFED	<i>[Signature]</i>	8:36
32. ROGELIO A. AGUIRRE	DPWH - CFED	<i>[Signature]</i>	8:36 w/ Drive
33. SALOME G. BONNIT	DENR - RO2	<i>[Signature]</i>	8:37
34. NIXON G. MOSQUERA	DENR - RO2	<i>[Signature]</i>	8:40
35. Bing Cadiz	co-moderator	<i>[Signature]</i>	8:45
36. Sylvia M. Tamayo	HMMO E - DPWH	<i>[Signature]</i>	8:45
37. ANMAMDO II. BUCAD	PELUP DENR	<i>[Signature]</i>	8:45

OFFICE OF THE REGIONAL DIRECTOR
Region II - Cagayan Valley Region
Tuguegarao, Cagayan

NO. : ATTENDANCE SHEET : DATE : 0 AM
: : : OCTOBER 3, 2000 : 0 PM

COURSE TITLE 3rd. s/w FEASIBILITY STUDY OF LOWER CAGAYAN RIVER CONTROL PROJECT

NAME (pls. print legibly)	DESIGNATION/OFFICE	SIGNATURE	TIME
38 1. WILFREDO B. DILLOD	: ISF - DRIS / CRIS	<i>[Signature]</i>	: w/ Driver
39 2. PULIENTE T. ANTONIN	: M.E. AECAL	<i>[Signature]</i>	: w/ Driver
40 3. RADDOLPH R. MAGUIGAD	: MPDC - PIXT	<i>[Signature]</i>	: w/ Driver
41 4. TERESITA M. BARICUA	: BARANGAY Cataganoni / KAGAWAD	<i>[Signature]</i>	:
42 5. MILCOS B. BUCCAY	: BPGY. CONT. CENTROS	<i>[Signature]</i>	:
43 6. Romulo B. Duranay	: BPGY. Kag. Marikolay Sar	<i>[Signature]</i>	:
44 7. MILDRED G. AUSTRIA	: PEO II / MPO - QUIRINO	<i>[Signature]</i>	:
45 8. FELICIANO J. ANTONIO FELIX Sr Engr. B. NIA	: ENGR. II / MPOH - PABULAN	<i>[Signature]</i>	: w/ Driver
46 9. JESSELITO D. BASSIC	: ENGR. IV / DPWH - PABULAN	<i>[Signature]</i>	:
47 10. ERICSON T. DEGENA	: ENGR. IV / DPWH - PABULAN	<i>[Signature]</i>	:
48 11. GREGORIO M. BUNAGAN	: PDD / LGU - TURMANI	<i>[Signature]</i>	:
49 12. Marina D. Tagacan	: Engr. III / DPWH - ROY	<i>[Signature]</i>	:
50 13. CECIL M. SANTOS	: Engr. II / DPWH - ROY	<i>[Signature]</i>	:
51 14. Susan V. Sarao	: Economist	<i>[Signature]</i>	:
52 15. Eiji Otsuka	: JICA - DPWH	<i>[Signature]</i>	:
53 16. NORIKO BAMBA	: JICA - PHIL OFFICE	<i>[Signature]</i>	:
54 17. OSEL ENRIQUEZ	: "	<i>[Signature]</i>	:
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56 19. RESTI E. CAMATRA	: CHIEF MED / DA - PUNA	<i>[Signature]</i>	:
57 20. NELSON B. TAGUFA	: MPDC - DELEN ALAYON	<i>[Signature]</i>	:
58 21. ROLANDO A. LIBERATO	: M.E. / LGU - ALAYON	<i>[Signature]</i>	:
59 22. Manio A. Usal	: Engr. II / LGU - ALAYON	<i>[Signature]</i>	:
60 23. DOMINADOR PENERA	: Engr. III / DENR - NIA	<i>[Signature]</i>	:
61 24. ANTONIO P. SIBAL	: EXEC. ASST. / LGU - ENITE	<i>[Signature]</i>	:
62 25. Juanito S. Uy Jr.	: MPDC - Jansen	<i>[Signature]</i>	: w/ Driver
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66 29. NEPTAL S. DAVID	: AGRICULTURE / SA	<i>[Signature]</i>	:
67 30. Roberto M. Sto. Tomas	: Engr. III / DENR - ROY	<i>[Signature]</i>	:
68 31. ZOILO P. PINERA	: LGU - STO. NIÑO	<i>[Signature]</i>	: w/ Driver
69 32. Domingo M. ARBICA	: Engr. III / DPWH - ROY	<i>[Signature]</i>	:
70 33. ENICO C. MATRAGUANA	: CE - LGU	<i>[Signature]</i>	:
71 34. ALEX MANGU PAG	: CE / CE3	<i>[Signature]</i>	:
72 35. Elma M. URBINA	: LGU V / DILG Region 02	<i>[Signature]</i>	:
73 36. JOSE ARMANDO G. NABERA	: PCDD - ISAGUA	<i>[Signature]</i>	: w/ Driver
74 37. OSCAR P. BUENO	: PPDC - NABELA	<i>[Signature]</i>	: w/ Driver

Region II - Cagayan Valley Region
Tuguegarao, Cagayan

NO.	ATTENDANCE SHEET	DATE	0 AM	0 PM
COURSE TITLE				
NAME (pls. print legibly)	DESIGNATION/OFFICE	SIGNATURE	TIME	
751. Damian J. Amb	PPDIII / PPD6-148	<i>[Signature]</i>		
752. CARLO A. CASTRISON (JOHN)	CATA ENCOVER/OCD	<i>[Signature]</i>		
753. JAIME MANAWAN	BRGAY. CAPT.	<i>[Signature]</i>		
754. ESTERAN A. BACOR	SB MEMBER - KAZMA	<i>[Signature]</i>		
755. PABLO L. DOMINGO	MPPDC (GATARAN)	<i>[Signature]</i>		w/ driver
756. ANTONIO R. ESPINO	ISA-KI ENGE DIST. (PPWH)	<i>[Signature]</i>		
757. DIP. ARMANDO PUGUE	OCD, Poff	<i>[Signature]</i>		
758. EVA LANT KOTUKAT	CGA, No. 002	<i>[Signature]</i>		
759. RAFAEL ALFARO	No. 017	<i>[Signature]</i>		
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761. HILARIO Y. CASIM	DPWH - 10	<i>[Signature]</i>		
762. MARIANO M. MARCEL	DPWH - 10	<i>[Signature]</i>		
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764. ROMEO ALYAN for City Mayor Tuguegarao City	LGU - City	<i>[Signature]</i>		
765. Romeo N. Uy	LGU - City	<i>[Signature]</i>		
766. MARUM C. TAYL	LGU - R. MOTEL	<i>[Signature]</i>		
767. ESTEBAN G. VIVARDO	SB member Sta. Maria	<i>[Signature]</i>		
768. Zoraida G. Juncos	DPWH - 102	<i>[Signature]</i>		
769. MARILES L. TAPPA	do -	<i>[Signature]</i>		
770. RICARDO P. GERANI	DPWH - R.O.	<i>[Signature]</i>		
771. MA. CONCEPCION TONG	MPPDC - Sta. Maria	<i>[Signature]</i>		w/ driver
772. PEDRO CRIVATAN-JR.	ME - Sta. Maria	<i>[Signature]</i>		
773. ED VALUETO	UGU - JONES	<i>[Signature]</i>		w/ driver
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775. Hideki SATO	JICA study Team	<i>[Signature]</i>		
776. Makoto KobAMA	"	<i>[Signature]</i>		
777. Takashi KURAUCHI	"	<i>[Signature]</i>		
778. Tatsuo TASHINO	"	<i>[Signature]</i>		
779. Hitoshi SAKAI	"	<i>[Signature]</i>		
780. JUN MATSUMOTO	"	<i>[Signature]</i>		
781. Shinsuke HINO	"	<i>[Signature]</i>		
782. OSAMU KIRAKA	"	<i>[Signature]</i>		
783. Takayuki NOBE	"	<i>[Signature]</i>		
784. ZENITHA M. ECLAR	DPWH - R.O. 02	<i>[Signature]</i>		
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786. PROSPERO AMARDO JR.	MPPDC - Alampay	<i>[Signature]</i>		
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Fourth Workshop

Japan International Cooperation Agency Study Team
Feasibility Study of the Flood Control Project for the Lower Cagayan River
4th Workshop
May 22, 2001 – Tuguegarao City
RECORDS OF DISCUSSION

The Fourth Workshop for the Feasibility Study of the Flood Control Project for the Lower Cagayan River was held at Crown Lodge in Tuguegarao City on May 22, 2001.

I. INTRODUCTION

1. Welcome Remarks

In absence of Regional Director Alday, DPWH Region 2 Assistant Director Romulo Mabunga welcomed the participants by noting that the Workshop is the fourth one being conducted under this JICA Study. He reconfirmed the full commitment of DPWH Region II staff to this Study which will present scenario of the development of the Cagayan valley.

2. Opening Remarks

Opening remarks was made by Director Philip F. Menez of DPWH MFCP-PMO Cluster II. He noted that Cagayan river being the largest basin in the country, however, to date had inadequate flood control program, despite the fact that there already existed the Master Plan which was conducted in 1987. Inadequate flood control program was re-confirmed during the workshop held under this JICA study as well. Director noted his belief that the Cagayan River basin has the potential for development as much as Agusan River Development project, which he presented during the opening remarks.

3. Courtesy

Mr. Sato, Team Leader of the JICA Study Team extended his welcome to participants. He thanked for everyone's attendance and extended his sincere thanks to Region 2 office of DPWH for their arrangement of this workshop.

The Team Leader then made a brief explanation of the background of the Study, including the Study's objectives, objective area, schedules, and three workshops held previously. He stressed that the main issues of this fourth workshop include community participation, resettlement and relocation of the affected people, cost sharing for project implementation and

implementation structure. As for the community participation, he explained the process and present status in the Philippines. Details of his presentation in this aspect are presented in the attachment. He concluded his presentation by explaining this fourth workshop's process and procedure.

4. Presentation of Candidate Flood Control Projects in the Lower Cagayan River

Mr. Hino, Co-team leader of the Study Team, continued the presentation of candidate flood control projects in the lower Cagayan River. Details of his presentation are attached. Mr. Hino explained the Reviewed Master Plan in draft of the Cagayan River Basin development and socio-economic framework plan for the master plan review. Thereafter, he presented watershed conservation plan, land use plan and flood control plan, environmental assessment and economic evaluation for candidates of reviewed master plan.

Mr. Hino then presented the candidates of the flood control project in detail. These candidates include 1) widening of Magapit narrows; 2) dike/levee with forest along the river; 3) bank protection; and 4) land reclamation by embankment of dredged material. He concluded his presentation by explaining that the total cost for these candidate projects is estimated to be 23 Billion Pesos, according to the preliminary assessment of candidate projects.

5. Explanation of the Previous Workshop

Ms. Rosario Uriarte, the Moderator of the Workshop, explained the previous workshops in details. Brief summary of the workshops were made (1st workshop in Tuguegarao on March 28, 2000; 2nd workshop during September 5-7, 2000 at Tuguegara, San Tiago and Bayombong; and 3rd workshop on October 3, 2000). In 1st Workshop, Problem Analysis identified Flood Control as required project in the area. During the second workshops, all participants identified problems and constraints which hinders them from implementing flood control projects to date. These constraints include, 1) inadequate funding for planning, lack of comprehensive plan, etc. In the 3rd Workshop, based on the outputs of the 2nd workshop, discussion focused on the real needs of each participating community. While real needs were focused during the 3rd workshop, detailed specifications, e.g. how much of counter-funds are required or definition of community participation, were not discussed. The moderator explained that these detailed discussions and definition will be the focus of the 4th workshop. Thereafter, the Moderator explained the general and specific objectives for the 4th workshop as follows:

General objectives

- 1) For participants: to understand project features and benefit
- 2) For the JICA Study Team: to understand the opinions of the community and possibility of community and possibility of community participation with more concrete ideas.

Specific objectives:

- to gauge the acceptability of the Master Plan to the Community
- to establish the acceptability and priority of candidate projects for flood control
- to know the requirements needed to implement the Master Plan/ Flood Control Project
- to know / identify what needs to be done, considered, addressed on the key issues and concerns, i.e.
 - community participation
 - resettlement and relocation
 - cost sharing for project implementation
 - implementation structure.

Several questions and comments were raised as follows:

- a) River dredging is not included in the candidate projects? It was explained that even if dredging work are conducted, sediment transport from upstream Cagayan River is also immense in such way that the dredged area will be silted again. Equilibrium river development should be considered.
- b) Cabagan dike was included in 1987 Master Plan, however, it is no longer included in the present candidate projects? Overall Cagayan dike development was preliminary considered. Selected area will be further examined in the detailed design stage.
- c) Similarly, Sto Nino and Lasaam are not included in the 21 bank protection sites. 21 sites were preliminary selected by DPWH Region II, and were validated. Priority sites were recommended by the district engineers/officers of the responsible sites. Erosion rate of 30-40 meter/year is critical, and such bank area were included the urgent bank protection work. Erosion rate less than that was not selected. It is requested to report bank erosion rate per year in order for DPWH/Study Team to consider under the urgent work.
- d) Area reforestation was estimated based on basin wide, however, no data is available by municipality. San Pablo has 35,000 ha of forest land. Majority of them area already denuded. It is suggested that the San Pablo region to be closely coordinated with the Study Team.

II. WORKSHOP

In the afternoon session, the fourth workshop was conducted with intensive participation.

Workshop commenced by answering questions raised by the Moderator. Questions and group answers were as follows:

Question 1: Do you accept the Master Plan?

Question 2: Do you accept the following prioritized projects?

- 1) widening of Magapit narrows;
- 2) dike/levee with forest along the river;
- 3) bank protection; and
- 4) land reclamation by embankment of dredged material.

		Group 1	Group 2	Group 3	Total Rank
Q1	Yes	11	10	8	
Q1	No	0	0	0	
Q1	Do not know	0	0	0	
Q2 P1	Yes	11	10	8	
	No	0	0	0	
	Do not know	0	0	0	
Q2 P2	Yes	11	10	8	
	No	0	0	0	
	Do not know	0	0	0	
Q2 P3	Yes	11	10	8	
	No	0	0	0	
	Do not know	0	0	0	
Q2 P4	Yes	11	10	8	
	No	0	0	0	
	Do not know	0	0	0	

As above, both master plan and all prioritized projects have been accepted by the participants.

Question 3: What are needed to implement the Master Plan and Flood Control Project?

Group discussion continued to focus on identifying the real needs to implement the Master Plan and flood control projects. Identified needs by the participants are listed below:

Flood Control Project	Master Plan
- Identification of affected families/relocation sites	- Project Management Office
- Manpower	- Technical Assistance / Manpower (technical support)
- Social preparation and acceptability	- Identification of the recommendations of the plans as agency priorities
- Counterpart funds	- Acceptability of the MP as the framework for water resources development
- Advocacy for project	- political will
- Consultation and approval of Stakeholders	- social acceptability/ Social preparation.

- Public hearing	- Coordination among concerned agencies
- Community Participation	- Thorough discussion and presentation
- Economically viable	- Funding
- Environmentally sound projects	- Sectoral Planning
- Political will (e.g. to resolve ROW problem)	
- political support (e.g. funding support)	
- Equipment and Materials	
- Manpower (Skilled/specialized training)	

Mr. Sato stressed during the above discussion that among others, community participation is the most important aspect for the project planning and implementation.

Question 4: What issues and concerns need to be addressed/considered on the following?

- 1) **Community participation on the Flood Control Project;**
- 2) **Resettlement and relocation of the affected people;**
- 3) **Cost sharing for project implementation;**
- 4) **Implementation structure; and**
- 5) **Others (if any).**

Above issues are presented by the Study Team as critical issues in pursuing the flood control project, noted by the Moderator. Above question No. 4 was formulated in order for the participants to familiarize themselves with these key issues by bringing the issues into their community level requirements. Discussion results on question no. 4 are as follows:

Community Participation on the Flood Control Project
Group 3: Sustainability and continuity of the project.
Group 3: Liability/Answerable responsibilities as to what will happen to project.
Group 2: Customs/Tradition integration
Group 2: Community awareness
Group 2: Willingness to provide ROW/Settlement Area (Who is willing?)
Group 2: Community willingness to sustain some project component, e.g. relocations of area. (Which project component?)
Group 2: Local employment
Group 1: Willingness to determine brgy level LGUs to cooperate and support project implementation. (What kind of support?)
Group 1: Willingness of residents to sacrifice comforts and conveniences now enjoying.
Group 1: Cost sharing on right of way (willingness to donate resettlement Area).
Group 1: LGUs should be given priority for employment if project is implemented

- Tuguegarao participants stressed the importance of community participation prior to the project implementation. He stressed the importance of having consensus of the community prior to the commencement of project implementation.

Resettlement and Relocation of the Affected People
Group 3: Is the new site livable?
Group 3: Their readiness and willing to leave and settle to the new site.
Group 2&1: Clear guidelines relative to the relocations to the affected area so that Legal processes to affected relocating families are clearly address.
Group 2: Employment and livelihood ate relocated area
Group 2: Information campaign and advocacy to programs
Group 2: Identification of the relocation site
Group 2: Provision of school and housing at relocated site
Group 2: Peace and order
Group 1: Availability of acceptable relocation site by affected family
Group 1: LGUs capabity to acquire ad to maintain relocation sites
Group 1: Lack of hospitals, health centers, schools, transportation systems within the access of relocating families.

- Mr. Menez, Director of DPWH, shared his experience, which he obtained in Pampanga Delta Development project. Immediate consultations with barangay residents were held several times prior to implementation of the projects.
- Similarly, Director Menez stated the Agusan Delta development project in Mindanao. Aerial survey and resettlement study and discussions were thoroughly conducted in the project, which led successful implementation of Agusan delta development.

Cost Sharing for Project Implementation
Group 3: Local Government Counterpart's financial capability.
Group 3: Degree of convergence among concerned stakeholders.
Group 2: Inclusion of cost of ROW in national budget.
Group 2: Limited LGU Budget
Group 2: Readiness of LGU to share cost

- Director Menez, sited a project in Mindanao, which had required resettlement area of 100 ha and 2.6 million families to be resettled. Agreement was made with LGUs that DPWH will provide 70ha and the remaining to be provide by the LGUs. Furthermore, subsidies from NHA were made available which helped push through the ROW problem.
- Mr. Sato asked annual budget of LGU, allocation to infrastructure, and how much from infrastructure budget can be allocated to flood control. He requested that confirmation on the willingness to implement the project is required.
- Participant noted that, unless the details of river improvement project is clarified, municipality level is not in a position to note nor commit amount which they can share to the project, despite the fact of their willingness to pay.
- Taking note of the participant's explanation, Mr. Sato mentioned that, during this Feasibility Study stage, he wishes to note the willingness of community to share the cost of the project. He also requested participants to consider the future prospects of the area, since the proposed projects are validated as high return.

- In response to Mr. Sato’s statement, participants agreed in principle that LGUs are willing to share the cost within their capability. Cost sharing may be to allocate a certain percentage of budget.

Implementation Structure
Group 3: Organizational Set-up.
Group 3: Manpower and logistics.
Group 2: decentralize of project implementation
Group 2: Creation of coordinating council from central to local governments.
Group 1: LGUs shall implement the project, while led by a national agency.
All Group: Sometimes LGUs are pressured to select a certain contractor.

III Conclusions of the Fourth Workshop

The moderator restated the general objectives of this workshop again. Participants confirmed that the general objectives of the workshop have been achieved. It was also confirmed that the project features and benefits understood in today’s workshop would be shared among other stake- holders in each participant’s community.

The moderator recalled that the Master Plan and candidate projects were accepted by all participants. Furthermore, the moderator reiterated that issues and concerns needed to be addressed and considered have been discussed in detail during the workshop today. She confirmed that the resolutions from LGUs for their support of the project will be submitted to the Study Team, after holding forum within each LGU on the cost-sharing issues.

IV Closing Remarks

Director Menez made a short speech at the end of the workshop. He pointed out that Cagayan project implementation is long over due, considering the commencement of project implementation of other major river basins in the Philippines. He noted that the stronger the willingness to promote and implement by the community, the earlier the commencement of the project would be.

Mr. Sato stressed participants to image 5 or 10 year future prospects of the community, i.e. after the flood control project is implemented. He thanked the participants for the enthusiastic discussion and participation during today’s workshop.

Following closing remarks were made by Mr. Sato:

- 1) Cabagan Dike and Lassam Bank Protection: Identification and clarification on the project details should be submitted to the Study Team through DPWH Region II. Detail discussion

and site inspection will be made. Erosion rate per year should be reported in the documents to be submitted.

- 2) Necessity of Regional Development Program: Region II's macro-level social development's basic strategy should be submitted by NEDA Region II office to the Study Team through DPWH Region II.
- 3) Consideration to promote community participation for flood control project was requested. He stressed that, as much as possible, infrastructure development projects should be implemented by LGUs.
- 4) As for community participation, LGUs are willing to implement the flood control project, realizing the real necessity of the project. No municipality had objection to implement the proposed project.
- 5) LGUs are also willing to share the cost within their capability. Cost sharing may be to allocate a certain percentage of their budget. LGUs should consider additional cost sharing equivalent to the future income increase.
- 6) JICA study team believes that LGUs would be possible to settle relocation and resettlement matters, which should be solved by resolutions.
- 7) Regarding the implementation structure, participants agreed that the project will be implemented in cooperation among all government agencies concerned, i.e. national, local and community (barangay) level.

Mr. Sato closed his remarks by extending all participant's appreciation to the Moderator.

The Feasibility Study of the Flood Control Project
for the Lower Cagayan River in the Republic of the Philippines

Program of 4th Workshop
on May 22, 2001 at 8:30am
at Crown Lodge, Tuguegarao

Registration (8:30-9:00)

Invocation (9:00-9:05)

National Anthem (9:05-9:10)

1. Welcome Remarks by Asst. Director Romulo Mabunga, DPWH Region 2 (9:10-9:20)
2. Opening Remarks by Director Philip F. Meñez, DPWH PMO-MFCDP C-II (9:20-9:30)
3. Courtesy by Mr. Hideki Sato, Team Leader of the JICA Study Team (9:30-10:00)
4. Presentation of Candidate Flood Control Projects in the Lower Cagayan River by Mr. Shinsuke Hino, the JICA Study Team (10:00-11:00)
5. Explanation of the Previous workshop by Ms. Rosario Uriarte, Moderator (11:00-11:30)
6. Lunch Break (11:30-12:30)
7. 4th Workshop moderated by Ms. Rosario Uriarte (12:30-16:30)
 - Requirements on the implementation of the Master Plan and Flood Control Project
 - Community Participation on the Flood Control Project
 - Resettlement and Relocation of the affected people
 - Cost sharing for project implementation
 - Implementation Structure
8. Conclusions by Ms. Rosario Uriarte (16:30-16:45)
9. Closing Remarks by Team Leader Mr. Hideki Sato and Asst Regional Director Romulo Mabunga (16:45-17:00)

List of Participants

Republic of the Philippines
 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
 OFFICE OF THE REGIONAL DIRECTOR
 Region II - Cagayan Valley Region
 Tuguegarao, Cagayan

NO.	ATTENDANCE SHEET	DATE	AM	PM
COURSE TITLE		4th SIW or Feasibility Study of Lower Cagayan River		
NAME	DESIGNATION/OFFICE	SIGNATURE	TIME	
(pls. print legibly)				
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2.	Shinroku HINO : "	[Signature]		
3.	Jun MATSUMOTO : "	[Signature]		
4.	Takashi KURAUCHI : "	[Signature]		
5.	Rosario C. Uriarte : Moderator	[Signature]		
6.	Ma. Lina Victoria Catiz : Co-moderator	[Signature]		
7.	GEORGE R. ANANES : FACILITATOR	[Signature]	7:15	
8.	Sylvia M. Tamayo : - or -	[Signature]		
9.	JAMES P. FETTER : ENGR. II - CTED	[Signature]		
10.	T. NOBE : JICA	[Signature]		
11.	H. SATO : JICA	[Signature]		
12.	OSAMU KIRAOKA : JICA	[Signature]		
13.	TAKAMI MAEKAWA : JICA	[Signature]		
14.	Hitoshi Sakai : JICA	[Signature]		
15.	Mitsuru Aoyama : JICA	[Signature]		
16.	EUNOMIO P. ISRAEL, JR : CARPO - DAR	[Signature]		
17.	Kensuke Sakai : JICA	[Signature]		
18.	KAY S. OLIVAS : DA - RFUO2	[Signature]		
19.	ZOISIMO L. BALISI : DPWH - RO2	[Signature]		
20.	ROMULO H. MABUNGA : DIC - DIRECTOR III	[Signature]		
21.	Maximo F. Bulanadi : MFCOP - Cluster II	[Signature]		
22.	PHILIP F. MATEZ : PROS. DIR. MFCOP II	[Signature]		
23.	PABLO L. DIMINGO : LGU - GATTARAN	[Signature]	w/ Driver	
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26.	Amel Benitez : PAGASA	[Signature]		
27.	MELECIO C. LIMQUIN : DPWH - RO2	[Signature]		
28.	ROSMERIN MUYAJARIL : DPWH - RO2	[Signature]		
29.	SPENJANO TABUAN : DPWH - RO2	[Signature]		
30.	ELISA CARODAN : PP00 JACT	[Signature]		
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33.	JAIMF S. DU : MPDC - LASAM	[Signature]	w/ Driver	
34.	Yung I. Mague : EN - DSUO	[Signature]		
35.	Felix Lalenquis : DPWH	[Signature]		

Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE REGIONAL DIRECTOR
Region II - Cagayan Valley Region
Tuguegarao, Cagayan

NO.	ATTENDANCE SHEET	DATE	8 AM	PM
COURSE TITLE		4th S/N or Feasibility Study of Lower Cagayan River Control Project		
NAME	DESIGNATION/OFFICE	SIGNATURE	TIME	
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38.	ROBERTO B. BALGUA : DPWH - RO2	[Signature]		
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40.	Juan P. Dano : Economist II	[Signature]		
41.	XANTHO R. ESTEJO : ENGR III	[Signature]		
42.	GREGORIO A SY : ENGR II	[Signature]		
43.	RONALD P TAGUBA : ENGR II	[Signature]		
44.	PERLITA B. CALIBAGUIS : ZA	[Signature]		
45.	Valentin L. Anubi : PDD III PPDO ICA	[Signature]		wt Driver
46.	LEO BASSIG : LGU BALE	[Signature]		wt Driver
47.	JESS BASSIG : DPWH - C/O. 2ND	[Signature]		
48.	EDWARD DE LUNA : DPWH - RO2	[Signature]		
49.	ISIDORO T. CHERAN : Mayor - LGU CAMALIG	[Signature]		wt Driver
50.	BOLENZO SANJOS : MUNIC. - do	[Signature]		
51.	REYNALDO MOCOTE : MADC - do	[Signature]		
52.	Tap Baligod : CSDS/NRO2	[Signature]		
53.	Dennis S Flores : C. EDS/NRO2	[Signature]		
54.	Marina D. Teyuan : DPWH, RO#4	[Signature]		
55.	GOLLEPINO Q. PUZON : LGU - CABAGUAN	[Signature]		wt Driver
56.	Reddie B. Balaguer : LGU - San Pablo	[Signature]		
57.	ABRAHAM D. LAUREN : LGU, San Pablo	[Signature]		wt Driver
58.	RESURTO JUAN R. URANI, JR : CHIEF, POPD (R3), PRO2	[Signature]		
59.	PASCALITA T. MOUNA : MIDC - ICA	[Signature]		wt Driver
60.	Calvin S. Sta. Tomas : OFID - RO-2	[Signature]		
61.	Francina P. Conday : SWOIV - P3WD	[Signature]		
62.	ROBERTO S. PAGO-LYUAN : PRO2 - PUP	[Signature]		
63.	ABENARDO CROZ : RMC COORDINATOR	[Signature]		
64.	PEDRO CALAQUATAN JR. : ME STA-MATUA	[Signature]		wt Driver
65.	Esteban V. Dexasas : SB member	[Signature]		10.10.4
66.	Honorable Cudal : IUA	[Signature]		
67.	Desiree Riberto : IUA	[Signature]		
68.	Alpaga, Hazel Ann : RA - RHR	[Signature]		
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ANNEX XII
APPENDIX 3
Technology Transfer Seminars

First Technology Transfer Seminar

Japan International Cooperation Agency Study Team
Feasibility Study of the Flood Control Project for the Lower Cagayan River
1st Technology Transfer Seminar
May 25, 2001 – Tuguegarao City
RECORDS OF DISCUSSION

The First Technology Transfer Seminar for the Feasibility Study of the Flood Control Project for the Lower Cagayan River was conducted at Crown Lodge in Tuguegarao City on May 25, 2001. Discussion Material and the list of participants are attached in the Annex.

1. Opening Remarks

DPWH Region 2 Assistant Director Romulo Mabunga opened the seminar by noting that the Seminar is the first one being conducted under this JICA Study. He stressed the importance of active participation by the participants in the Seminar today. While regretting that Regional Director Alday had to be in Manila for a sudden meeting called, Mr. Mabunga assured that the findings and recommendations presented today will be conveyed to Director Alday.

2. Courtesy

Mr. Sato, Team Leader of the JICA Study Team extended his welcome to participants. He thanked for everyone's attendance and extended his sincere thanks to Region 2 office of DPWH for their arrangement of this workshop. Mr. Sato explained that objectives of the workshop for the attendees is to know how to formulate the master Plan and projects, while that for the JICA Study Team is to know what is the special technology to fit into local condition existing.

3. Presentation of Interim Report (Summary)

Presentation of Interim Report was made briefly by Mr. Shinsuke Hino, Co-Team Leader of the Study Team. The Co-Team Leader explained the Reviewed Master Plan in draft of the Cagayan River Basin development and socio-economic framework plan for the master plan review. Thereafter, he presented watershed conservation plan, land use plan and flood control plan, environmental assessment and economic evaluation for candidates of reviewed master plan.

4. Presentation by the Cagayan Provincial Government

In response to Mr. Sato's request of having presentation made by local counterparts and /or government officials, Ms. Elisa Carodan, Provincial Planning and Development Coordinator of Cagayan Provincial Government briefly presented the history of Cagayan Province and

surrounding area, as well as administrative background and Provincial Plans to participants. Cagayan Province, possessing the largest area and longest shore-lines within Region II, possesses high potential of agricultural and fishery business development. Noting the aerial potential of the province, Province of Cagayan plans to further develop and strengthen the agricultural sector as main source of income of the residents.

5. Master Plan formulation for the Cagayan River Basin

Mr. Sato then made the first Technology Transfer Presentation Item, “Master Plan Formulation for the Cagayan River Basin.” Overall work flow, river basin development plan, socio-economic development framework plan, work flow for formulation of socio-economic framework plan and other pertinent factors such as environmental protection and institutional arrangements were presented. Details are discussed in the Annex.

In order for the Cagayan River Basin to implement the 1987 Master Plan which was reviewed under this Feasibility Study, Mr. Sato recommended the establishment of database, setting up a comprehensive river administration system, empowerment of LGU’s and community and “inverted T-type engineer for multi-sectoral planning.

6. Purpose of Watershed Conservation

Mr. Hino, Co-team leader of the Study Team, presented the second topic of today’s Seminar, “Purpose of watershed Conservation.” Definition and purposes of watershed and its conservation was explained in Part I. In Part II of his presentation, functions of forests within a watershed was resented. Mr. Hino then presented his watershed conservation plan of Cagayan River Basin in Part III. He concluded his presentation by providing the three key issues in the watershed conservation field as follows:

- 1) Recognize functions of Forests for watershed conservation;
- 2) Let us begin what we can begin immediately for our children and generations to follow;
- 3) Bring back the Forest to Cagayan Valley.

7. Land Use Planning

Beginning of the afternoon session commenced with the presentation on Land Use by Mr. Takashi Kurauchi, Land Use Planner of the JICA Study Team. As written in his first handout, Mr. Kurauchi explained the planning methods of land use consists of analysis of present condition, policy and potentials. Needs assessment based on these three analysis will result in

a suitable and optimal land use plan of a area. Mr. Kurauchi's presentation therefore focused on his analysis on present condition, policy and potentials of Cagayan River Basin. Constraints in land use in the Basin were identified as sediment increase, forest denudation, low grassland utilization, low agricultural productivity and natural calamities including flood. All these constraints in land use contribute negatively to existence of poverty in the region, he noted.

While high land use development potential and abundant water resources available in the area, Mr. Kurauchi concluded his presentation by recommending improvement of marketing system. He explained that large portion of agricultural-product-related profit which should be retained in the area is taken out of the region, mainly due to a weak marketing system available in the area.

8. River Morphology and River Planning

In the second half of the afternoon session, "River Morphology and River Planning" was presented by Mr. Takayuki Nobe, River Engineer of the JICA Study Team. A clear explanation on the present river condition was explained with utilization of photographs extensively taken during his helicopter trip. River morphology of Cagayan was then explained, while explaining the definition of meandering rate, historical river course shifting facts, hydraulic mechanism of river meandering. Examples of Japanese experience to control floods in meandering rivers were presented as well.

Mr. Nobe identified the flood control problems in the Cagayan river are 1) casualty and damage to assets due to river course shifting, bank erosion, inundation and 2) low agricultural products due to inundation. He stressed that the stagnation of regional economy and relatively low level of social welfare are due to the above flood control problems in the basin. To mitigate the present condition in the region, Mr. Nobe presented flood control mitigation measures for Cagayan River, i.e. 1) widening of Magapit narrows; 2) dike/levee with forest along the river; 3) bank protection; and 4) land reclamation by embankment of dredged material.

9. Questions and Discussions

After the presentation, discussions were made on the topics covered.

- 1) A participant noted that he was glad to listen to the topic on watershed preservation and reforestation, as these topics were not included in the 1987 Master Plan.
- 2) A question was raised regarding the method of integrating various sectoral plans into our Master Plan Study. Mr. Sato clarified that the sectoral studies on watershed management,

irrigation and flood controls are integrated into one comprehensive plan (MP) through alternative studies on combination of sectoral plans.

- 3) Another participant raised a question whether it is necessarily to conduct a feasibility study, despite the fact that projects are already considered as prioritized project in 1987 Master Plan. The Study Team explained that economic and financial evaluations on prioritized projects are only preliminary studied during Master Plan stage and in order to confirm the feasibility of the projects, the feasibility study should be conducted. NEDA Region II staff also further explained to the participants that feasibility study is mandatory in requesting overseas funding for a project.
- 4) Regarding watershed management, a participant raised a question on comparative advantage of sabo dam construction and reforestation. Mr. Hino pointed out the fact that reforestation will take time to mitigate sedimentation, as trees would require years to grow before their effect become visible. Immediate measures can be made by sabo dam construction. Moreover, Mr. Hino explained that there exist many sabo dams within Magat river basin, as Magat river basin is one of the most important tributary of Cagayan river with heavy sedimentation problem.
- 5) Regarding cost sharing of local government, a question was raised whether cost sharing alternatives would also be recommended once this study is completed. Mr. Sato explained that government cost sharing includes land acquisition costs for right-of-way and resettlement areas, which normally includes LGU funds as well. Alternative measures of cost sharing will not be recommended by the Study Team, he noted.
- 6) Mr. Sato then asked participant from Tuguegarao whether they would prefer force account system or contract system for implementing the proposed project. The participant answered that he prefers contract system, since there is a security measure, i.e. contractor, if anything goes wrong during and after the Construction.
- 7) A participant requested that next technology transfer seminar should compare technology of Japan and the Philippines. In response to the request, Mr. Sato agreed on the point raised and consider to have the seminar as “technology exchange seminar.”

At the end of the First Technology Seminar, Mr. Sato thanked all participants for their time today. He conveyed his special thanks to Ms. Carodan of Cagayan Provincial Government, who has made presentation on the Province of Cagayan.

The Feasibility Study of the Flood Control Project
for the Lower Cagayan River in the Republic of the Philippines

Program of 1st Technology Transfer Seminar
on May 25, 2001 at 9:00am
at Crown Lodge, Tuguegarao

Registration (9:00-9:30)

Invocation (9:30-9:35)

National Anthem (9:35-9:40)

1. Opening Remarks by Director Rodolfo K. Alday, DPWH Region 2 (9:40-9:50)
2. Courtesy by Mr. Hideki Sato, Team Leader of the JICA Study Team (9:50-10:00)
3. “Master Plan Formulation for the Cagayan River basin” by Mr. Hideki Sato, Team Leader (10:00-10:20)
Coffee Break (10:20-10:30)
4. “Purpose of Watershed Conservation” by Mr. Shinsuke Hino, Co-Team leader of the JICA Study Team (10:30-11:30)
Lunch Break (11:30-12:30)
5. “Land Use Planning” by Mr. Takashi Kurauchi, Land Use Planner of the JICA Study Team (12:30-14:00)
Coffee Break (14:00-14:15)
6. “River Morphology and River Planning” by Mr. Takayuki Nobe, River Engineer of the JICA Study Team (14:15-15:45)
7. Closing Remarks by Team Leader Mr. Hideki Sato and Regional Director Rodolfo K. Alday (15:45-16:00)

List of Participants

Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE REGIONAL DIRECTOR
Region II - Cagayan Valley Region
Tuguegarao, Cagayan

NO.	ATTENDANCE SHEET	DATE	AM	PM
		May 25, 201	8	0
COURSE TITLE <i>1st Transfer of Tech. on the Feasibility Study of Lower Cagayan River Control Project</i>				
NAME	DESIGNATION/OFFICE	SIGNATURE	TIME	
(pls. print legibly)				
1. ROYALDO O. MACATE	MPDC LGU-CANUM	<i>[Signature]</i>	7:55	w/ Drive
2. UMBERTO R. CADILAG	MUN. ENGR. - do	<i>[Signature]</i>		
3. Hideki SATO	JICA Study Team	<i>[Signature]</i>	8:03	
4. Takayuki NOBE	"	<i>[Signature]</i>	8:06	
5. SYLVIA TAMAYO	FACILITATOR	<i>[Signature]</i>		
6. GEORGE ANNANG	FACILITATOR	<i>[Signature]</i>	7:30	
7. TORIBIA B. MACABABAD	Planning officer - DSWD	<i>[Signature]</i>	8:10	
8. TAKASHI KURAUCHI	JICA STUDY TEAM	<i>[Signature]</i>	8:10	
9. ZDISIMO L. BALISI	DPWH - RD 2	<i>[Signature]</i>	8:10	
10. ISABEL M. CADAUATAN	CHHS-CaJag Armp TIC	<i>[Signature]</i>	8:15	
11. RONULO L. PIPD	DPWH, SPARRI	<i>[Signature]</i>	8:15	w/ Drive
12. LENSIE M. CANCERAN	LGU-Str. Manag	<i>[Signature]</i>	8:20	w/ Drive
13. Mitsuru Aotsu	JICA study Team	<i>[Signature]</i>	8:20	
14. Kensuke Sakai	"	<i>[Signature]</i>	8:20	
15. RONULO H. HABUNCA	DPWH	<i>[Signature]</i>		w/ Drive
16. PABLO L. DOMINGO	LGU-CANTARAN	<i>[Signature]</i>	8:30	w/ Drive
17. MARLOWE M. BARIQUAN	LGUOV-DILG 02	<i>[Signature]</i>	8:30	
18. FULIENTE T. ANTOLIN	MUN. ENGR.	<i>[Signature]</i>	8:30	
19. K. YAMAZAKI	JICA Study Team	<i>[Signature]</i>	8:30	
20. J. MATSUMOTO	"	<i>[Signature]</i>		
21. OSAMU HIRAOKA	"	<i>[Signature]</i>		
22. TAKAMI MAEKAWA	"	<i>[Signature]</i>		
23. Rolando A. Liberato	Mun. Engr. - APDRO	<i>[Signature]</i>	8:40	w/ Drive
24. BERNARDINO T. ULEY	EDGR II / DENR	<i>[Signature]</i>	8:45	
25. SHINSUKE HINO	JICA Study Team	<i>[Signature]</i>		
26. PERLITA B. CABAQUIB	Zo - Luu - Ing. City	<i>[Signature]</i>		
27. MARCELO GUNDA	POO - LGU Ing. City	<i>[Signature]</i>	8:45	
28. RANDOLPH R. MAGUIGAD	MPDC / LGU PRR	<i>[Signature]</i>		w/ Drive
29. GREGORIO A. SY	DPWH - ILAGAN, ZOO	<i>[Signature]</i>	8:45	
30. FAUSTINO A. BUNMO	ME & MULUNG CRG	<i>[Signature]</i>	8:45	w/ Drive
31. PRISCILLA J. MOLINA	MPDC - ILAGAN	<i>[Signature]</i>	8:45	w/ Drive
32. SAMUEL S. SINDRAN	ME - CGG	<i>[Signature]</i>	8:45	
33. LEO C. BASSIG	CGU - ENRILE	<i>[Signature]</i>	8:45	w/ Drive
34. ZENYON P. TABERN	DPWH	<i>[Signature]</i>		
35. CHARITO G. MORENO	MPDC - LGU - Arw. City	<i>[Signature]</i>	8:30	w/ Drive
36. GEORGIE R. REMUDAN	DAR -	<i>[Signature]</i>	8:40	
37. EMILIO MATANGUN	CGU - TOL	<i>[Signature]</i>		

Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE REGIONAL DIRECTOR
Region II - Cagayan Valley Region
Tuguegarao, Cagayan

NO.	ATTENDANCE SHEET	DATE	AM	PM
		May 15, 2001	<input checked="" type="checkbox"/>	<input type="checkbox"/>
COURSE TITLE <i>1st Transfer of Technology on the Feasibility Study of Lower Cagayan</i>				
NAME	DESIGNATION/OFFICE	SIGNATURE	TIME	
(pls. print legibly)				
38. <i>WELLESSE M. XAX JR</i>	<i>GEO</i>	<i>[Signature]</i>		
39. <i>ABRAHAM D. LAUAN</i>	<i>MPOC / LGU Sec</i>	<i>[Signature]</i>		
40. <i>JOE ALMADO G. ALMADO JR</i>	<i>PROO / DCOR 2</i>	<i>[Signature]</i>		
41. <i>Maximo F Bulanaga</i>	<i>Engineer IV / MPOC</i>	<i>[Signature]</i>		
42. <i>ROBERTO B. BALGUA</i>	<i>DPWH - RO2</i>	<i>[Signature]</i>		<i>w/ Driver</i>
43. <i>HILARIO Y. CASEM</i>	<i>ENGR. II - DPWH RO2</i>	<i>[Signature]</i>		
44. <i>RHETT WILLEM P. VARILLA</i>	<i>ENGR II / DPWH - RO2</i>	<i>[Signature]</i>		
45. <i>Marina D. Tagacay</i>	<i>Engr. III / DPWH - RO2</i>	<i>[Signature]</i>		
46. <i>CANSANTOS</i>	<i>Engr II - DPWH - RO2</i>	<i>[Signature]</i>		
47. <i>Juan S. Daza</i>	<i>ECO. II</i>	<i>[Signature]</i>		
48. <i>COSMEDIL R. KUTSANGPILI</i>	<i>DPWH - RO2</i>	<i>[Signature]</i>		
49. <i>CARMELITA BACORAN</i>	<i>NEPA</i>	<i>[Signature]</i>		
50. <i>EDUARDO B. DEUMA</i>	<i>DPWH - RO2</i>	<i>[Signature]</i>		
51. <i>KAY S. OLIVAS</i>	<i>PA - RO2</i>	<i>[Signature]</i>		
52. <i>GUILLELMO Q. TAZON</i>	<i>LGU - MF - CAB</i>	<i>[Signature]</i>		<i>w/ Driver</i>
53. <i>ORAZON B. ADDATA</i>	<i>CNHS Categ. Amer</i>	<i>[Signature]</i>		
54. <i>Ismael R. Mendez Jr</i>	<i>RPCRD, PRO-2</i>	<i>[Signature]</i>		
55. <i>Ismael R. Mendez Jr</i>	<i>CRORO, PRO-2</i>	<i>[Signature]</i>		
56. <i>JALME S. OY</i>	<i>MPOC - LASAM</i>	<i>[Signature]</i>		<i>w/ Driver</i>
57. <i>RICHELDO V. BACIG</i>	<i>ENGR. II - DPWH - CAG. ZND</i>	<i>[Signature]</i>		
58. <i>Dennis S. Flores</i>	<i>NEPA</i>	<i>[Signature]</i>		
59. <i>DANTE T. COMASO</i>	<i>LGU - COBAN</i>	<i>[Signature]</i>		
60. <i>ELISA CARODAN</i>	<i>PPDO</i>	<i>[Signature]</i>		
61. <i>FELIPE P. S. HERNANDEZ JR</i>	<i>PPDO</i>	<i>[Signature]</i>		
62. <i>ORLANDO G. TAVON</i>	<i>MPOC - LGU, PIZAL</i>	<i>[Signature]</i>		<i>w/ Driver</i>
63. <i>Hitoshi Sakai</i>	<i>JICA</i>	<i>[Signature]</i>		
64. <i>BERNARD V. ENR</i>	<i>DPWH DRIVER</i>	<i>[Signature]</i>		
65. <i>Ferdinand P. Tumaran</i>	<i>NEPA OR</i>	<i>[Signature]</i>		
66. <i>FREDIE B. BULANAGA</i>	<i>MPOC LGU - STD. TONS</i>	<i>[Signature]</i>		<i>w/ Driver</i>
67. <i>MANO C. SOLVEDAD</i>	<i>ENGR III (SA 4th ED)</i>	<i>[Signature]</i>		
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Second Technology Transfer Seminar

Japan International Cooperation Agency Study Team
Feasibility Study of the Flood Control Project for the Lower Cagayan River
2nd Technology Transfer Seminar
December 11, 2001 – Tuguegarao City
RECORDS OF DISCUSSION

The Second Technology Transfer Seminar for the Feasibility Study of the Flood Control Project for the Lower Cagayan River was conducted at Hotel Crown Lodge in Tuguegarao City on December 11, 2001.

1. Opening Remarks

DPWH Region 2 Planning and Design Department Chief Engr. Roberto B. Balgua opened the Seminar. He stated that today's one-day Seminar is a good chance to understand new technology for planning and designing of the flood control and irrigation schemes, and the active participation by the participants is important.

2. Courtesy

Mr. Sato, Team Leader of the JICA Study Team showed his thanks for the attendance of the participants. Mr. Sato explained the objectives of the seminar, especially to exchange technology each other. Mr. Sato also stressed necessity of LGU's participation in implementing the flood control projects proposed by the Study Team in the Lower Cagayan River.

3. Presentation of Contents of Draft Final Report

Mr. Hino, Co-Team Leader of the Study Team presented the contents of the Draft Final Report including Reviewed Master Plan for the entire Cagayan River basin and feasibility study results for the flood control projects and irrigation project in the Lower Cagayan River.

4. Presentation on Difference between Philippines and Japan

Mr. Max Bulanadi, PMO MFCDP Cluster II, DPWH presented the topics, the difference between the Philippines and Japan in terms of land, people, history, cultures, life, etc. He also showed difference in rivers and infrastructures between the Philippines and Japan.

5. Presentation on Planning of Irrigation and Drainage Projects

Mr. Kurauchi, Land Use Planner of the Study Team presented project planning for irrigation and drainage focusing on low yield of paddy and rice in the Philippines. He explained present condition and reasons of the low yield, which are natural environment, farming conditions and social matters.

6. Presentation on Culture in the Cagayan River Basin

Mrs. Elisa Carodan, PPDC Cagayan Province presented culture in the Cagayan River basin. Her presentation included socio-cultural and political history of Cagayan Province, Japanese Regime, Regional and Provincial prospects, and cultural differences between Cagayan and Japan.

7. Presentation on Lessons Learned by Cagayanos and Local Counterparts

Mr. Chris Decena presented lessons learned by Cagayan people and Study Team's counterparts from the JICA Study Team members. He explained people's reaction for presence of the Study Team members, Team's work attitude, technology and joint study for the projects proposed for the Cagayan River basin.

8. Presentation on River Characteristics

Mr. Nobe, River Engineer of the JICA Study Team presented characteristics of rivers and flood control measures in Japan and the Cagayan River. His presentation included river bank tree zone, river bank erosion and countermeasures as well as flood control problems and measures in the Cagayan River

9. Open Forum

After the presentations, discussion was made on the topics of necessity of flood control projects in the Lower Cagayan River, cost and work sharing for implementation of the proposed flood control projects, suitable bank protection methods, implementation organization, etc.

10. Comments by Team Leader

Mr. Sato stressed the importance of formulation of the resettlement area development plan in implementing the proposed flood control projects. He requested the participants to submit their comments on the Draft Final Report by the end of December 2001.

11. Closing Remarks

DPWH Assistant Regional Director Romulo H. Mabunga closed the Seminar with appreciating the active participation of the participants.

The Feasibility Study of the Flood Control Project
For the Lower Cagayan River in the Republic of the Philippines

2nd Technology Transfer Seminar

PROGRAMME

Date: December 11, 2001, Tuesday
Time: 8:30 A.M. – 17:40 P.M
Venue: Crown Lodge, Tuguegarao City, Cagayan

Registration 8:30 - 9:00 a.m.
Invocation 9:00 - 9:05 a.m.
National Anthem 9:05 - 9:10 a.m.

Opening Remarks Engr. Roberto B. Balgua
(9:10 - 9:20 a.m.) DPWH Region 02
Courtesy Mr. Hideki Sato
(9:20 - 9:30 a.m.) (Team Leader, JICA Study)
Presentation of Contents of Draft Final Report.... Mr. Shinsuke Hino
(9:30 - 10:30 a.m.) (Co-Team Leader, JICA Study)

----- COFFEE BREAK (10:30 - 10:45) -----

Presentation on Difference between Phils. & Japan Mr. Max Bulanadi
(10:45 - 11:30 a.m.) (PMO, MFCDP Cluster II, DPWH)

----- LUNCH BREAK (11:30 - 12:30) -----

Presentation on Planning of Irrigation and Drainage
Projects Mr. Takashi Kurauchi
(12:30 - 13:30 p.m.) (JICA Study Team)

Presentation on Culture in the Cagayan River Basin Mrs. Elisa Carodan
(13:30 - 14:30 p.m.) (PPDC, Cagayan Province)

Presentation on Lessons Learned by Cagayanos
and Local Counterparts... Mr. Chris Decena
(14:30 - 15:00 p.m.) (DPWH Region 2)

----- COFFEE BREAK (15:00 - 15:15) -----

Presentation on River Characteristics Mr. Takayuki Nobe
(15:15 - 16:15 p.m.) (JICA Study Team)

Open Forum Facilitated by Sylvia M. Tamayao
(16:15 - 17:15 p.m.)

Comments by Team Leader Mr. Hideki Sato
(17:15 - 17:30 p.m.) (Team Leader, JICA Study)

Closing Remarks Asst. Regional Director Romulo H. Mabunga
(17:30 - 17:40 p.m.) (DPWH Region 02)

----- DINNER -----

SYLVIA M. TAMAYAO

Emcee

List of Participants

Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE REGIONAL DIRECTOR
Region II - Cagayan Valley Region
Tuguegarao, Cagayan

NO.	ATTENDANCE SHEET	DATE	AM PM
COURSE TITLE		2 nd Technology Transfer Seminar	
NAME	DESIGNATION/OFFICE	SIGNATURE	TIME
(Please print legibly)			
1. Maximo F. Bulanao	MPCP - Chief II	[Signature]	8:00
2. CRISTOBON T. OCEÑA	ENGR. III DPWH	[Signature]	8:00
3. Takayuki NOBE	JICA	[Signature]	8:00
4. Takashi Kurachi	JICA Team	[Signature]	8:00
5. Hideki Sato	JICA Team	[Signature]	8:00
6. RHANDY D. DOMINGO	CLERK I	[Signature]	8:30
7. ELMER S. ABAO	BUILDING INSPECTOR	[Signature]	8:30
8. FELICIANO S. ANTONIO	Sr. Engr. R	[Signature]	8:40
9. Ramonito V. [unclear]	P. EDC	[Signature]	8:45
10. [unclear]	PROJ. MGR	[Signature]	8:50
11. PULLENTE I. ANOLIN	M.E. ALCALA	[Signature]	8:50
12. [unclear]	Asst. Dir. DPWH	[Signature]	8:51
13. FELIPE S. [unclear]	Sr. Asst.	[Signature]	9:05
14. ROBERTO D. BALBUENA	ENGR. V	[Signature]	9:05
15. Marina D. Tugacay	Engr. III	[Signature]	
16. KARL S. OLIVERA	Manng. Officer III	[Signature]	9:00
17. HAROLD B. MORGAN	ENGR. TEST	[Signature]	9:15
18. ISIDRO T. CABRERA	MUN. MAYOR	[Signature]	9:15
19. HILARIO Y. CASIM	ENGR. II	[Signature]	9:15
20. JOCELYN P. PALAC	ENGR. III	[Signature]	9:15
21. CECIL M. SANTOS	Engr. II	[Signature]	9:15
22. SUSAN P. DANAO	ECONOMIST II	[Signature]	
23. NATALIO G. REYNOLDO	MPDC - Staff - Iguig	[Signature]	9:20
24. ARMANDO R. DUQUE	RD, DCD	[Signature]	
25. CHARLES G. HERRERA	MPDC - ANTI-CORRUPT	[Signature]	
26. GLEN KRISTIAN L.	RDCC - 2	[Signature]	
27. PRISCILLA I. MOUNA	MPDC	[Signature]	9:20
28. MARCO B. MALUPET	DPWH - RD	[Signature]	9:20
29. MARY ANNE E.R. DARTAGAY	ASST. - NEGOTIATION	[Signature]	
30. BENJAMIN O. MERSTE	MPDC - LGU CHAIR	[Signature]	9:20
31. LEO L. BUNACR	CIAO - YAGAJA	[Signature]	
32. Eliza [unclear]	PROJ. -	[Signature]	
33. Maribeth Canillan	-	[Signature]	
34. EDUARDO DE LUNA	DPWH -	[Signature]	
35. JOJO P. [unclear]	ISS - PROJ	[Signature]	

Republic of the Philippines
 DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
 OFFICE OF THE REGIONAL DIRECTOR
 Region II - Cagayan Valley Region
 Tuguegarao, Cagayan

NO. : ATTENDANCE SHEET : DATE : 12-11-01 : 0 AM
 : : : : 0 PM

COURSE TITLE

NO.	NAME (Please print legibly)	DESIGNATION/OFFICE	SIGNATURE	TIME
36	PAUL M. RESTRAN	COMPUTER OPTR.	<i>[Signature]</i>	
37	ENGR. MARYANN PULIDA	DILE R-2 / LGU-ROD	<i>[Signature]</i>	
38	FELIX M. BUNDA	LGU-AMULUNG	<i>[Signature]</i>	
39	DANTE SOLIANO	LGU-AMULUNG	<i>[Signature]</i>	
40	COSMEDIN R. MUTSANGPILI	DPWH - RO2	<i>[Signature]</i>	
41	EMILIO ALTAVERA	CE	<i>[Signature]</i>	THU
42	FELIX M. PADILLA	CE	<i>[Signature]</i>	
43	SONNY M. LITA	JICA	<i>[Signature]</i>	
44	RIG M. GALIMA	JICA	<i>[Signature]</i>	
45	VICTOR S. CALIN RAQUIB	DPWH-RO2	<i>[Signature]</i>	
46	HEMAH A. BANAN	Mun. Engr / LGU-LASA M	<i>[Signature]</i>	
47	LVH C		<i>[Signature]</i>	
48	Sylvia M. Tarnayan	Facilitator - DPWH	<i>[Signature]</i>	
49	George R. ANNANG	DPWH - RO2	<i>[Signature]</i>	
50	SHINAWA HING	JICA	<i>[Signature]</i>	
51	JOHN M. CASTRINEDO	ARD, DILE R12	<i>[Signature]</i>	
52	VOLSON A. MAAGAD	MPDC, LAL-LO	<i>[Signature]</i>	
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