

JAPAN INTERNATIONAL COOPERATION AGENCY

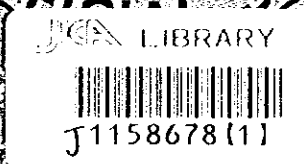
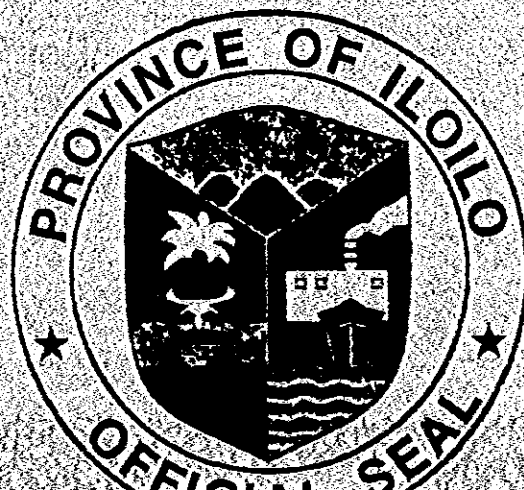
THE STUDY ON THE
PROVINCIAL WATER SUPPLY, SEWERAGE AND
SANITATION SECTOR PLAN
IN
THE REPUBLIC OF THE PHILIPPINES

VOLUME II - [4]

SUPPORTING REPORT

PROVINCIAL WATER SUPPLY, SEWERAGE AND
SANITATION SECTOR PLAN
FOR THE PROVINCE OF

ILOILO



AUGUST 2000

NJS CONSULTANTS CO., LTD.

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**PROVINCIAL WATER SUPPLY, SEWERAGE AND
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VOLUME II SUPPORTING REPORT

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SANITATION SECTOR PLAN**

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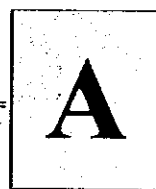
**PROVINCIAL WATER SUPPLY, SEWERAGE AND
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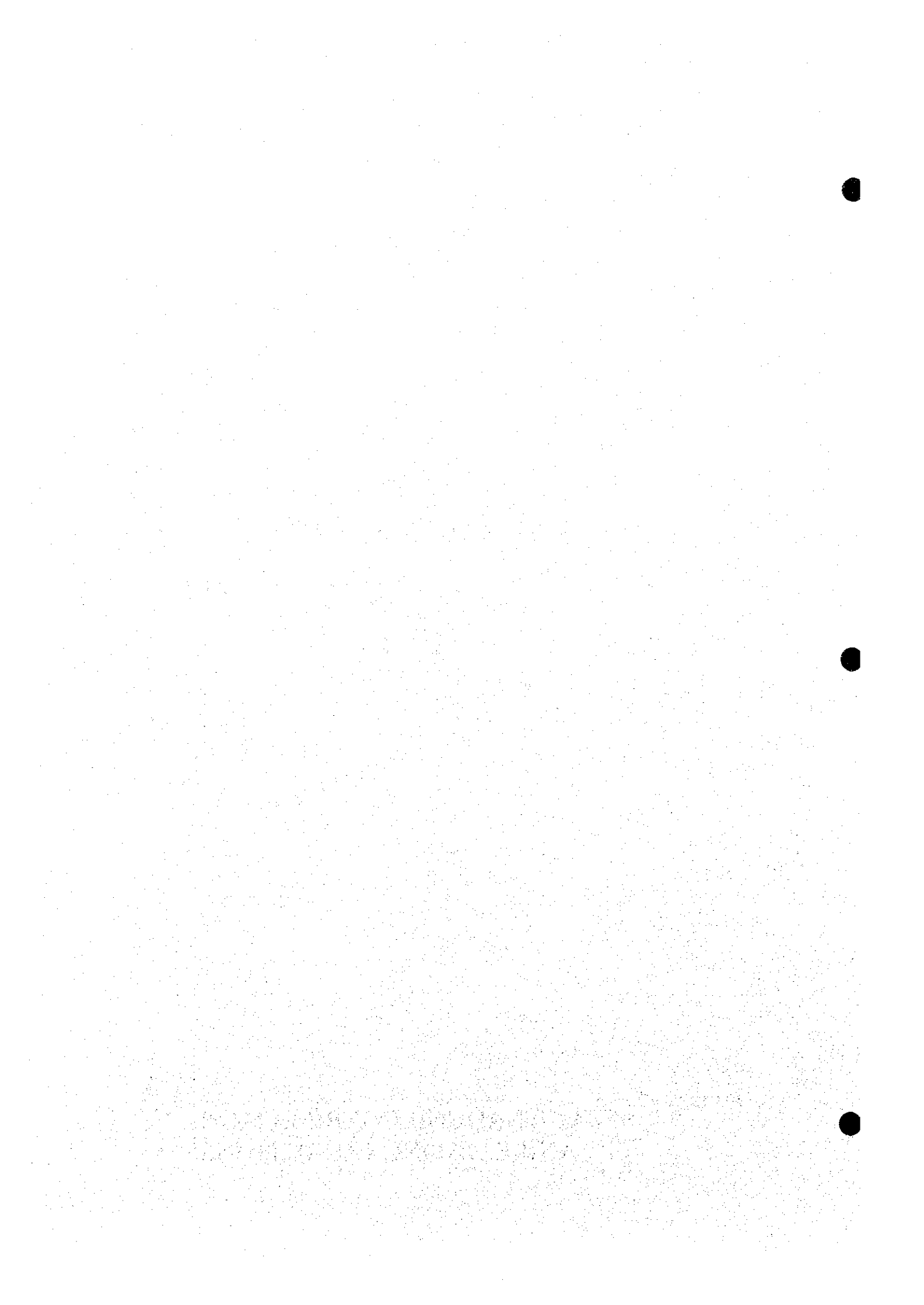
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**BACKGROUND INFORMATION
AND EXISTING CONDITIONS**



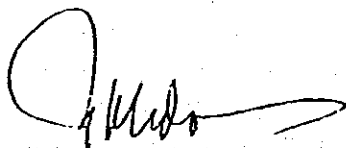


- 1. INTRODUCTION
- 1.3 The Provincial Plan for the Province of Iloilo
- 1.3.1 Preparation of the Plan

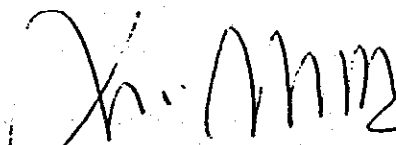
MINUTES OF DISCUSSIONS
ON
THE INCEPTION REPORT
FOR
THE STUDY ON PROVINCIAL WATER SUPPLY, SEWERAGE AND
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FOR
VISAYAS AND MINDANAO
IN
THE REPUBLIC OF THE PHILIPPINES

AGREED UPON BETWEEN
THE DEPARTMENT OF THE INTERIOR AND
LOCAL GOVERNMENT
AND
THE STUDY TEAM OF
JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, JANUARY 26, 1998



MR. NORMANDO J. TOLEDO
Director
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MR. MASATOSHI MOMOSE
Team Leader, Study Team
Japan International Cooperation
Agency

Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, dispatched the Study Team to the Republic of the Philippines on January 13, 1998 to conduct "The Study on Provincial Water Supply, Sewerage and Sanitation Sector Plans for Visayas and Mindanao" (hereinafter referred to as "the Study") in accordance with the Implementing Arrangement for the Study executed between the JICA and the Department of the Interior and Local Government (hereinafter referred to as "DILG") on August 27, 1997.

A series of discussions were made on the Inception Report for the Study between the Study Team and the officials of DILG and other agencies concerned. In the course of the discussions, both parties have agreed with the general approach and methodology, and implementation arrangements detailed in the Inception Report. Also agreed upon were the changes made as to which provinces are to be covered in 1st batch and 2nd batch (refer to 1. Study Area). The list of attendees in the series of discussions is presented in Appendix A.

1. Study Area

The subject twenty-one (21) provinces were grouped into four batches in the "Implementing Arrangement on the Study". However, a delay in the organization of the Provincial Sector Planning Team (PSPT) in the 1st batch provinces of Misamis Oriental and Surigao del Sur prompted their transfer to the 2nd batch. Instead, Davao del Sur and Davao Oriental from the 2nd batch whose PSPTs were already formed were moved up in their place. In this connection, the DILG completed to exchange MOA with the provinces on the participation and full support by the provinces.

The present study area covers the following 21 provinces grouped into four batches.

1 st BATCH	2 nd BATCH	3 rd BATCH	4 th BATCH
1. Agusan del Norte	1. Davao	1. Biliran	1. Aklan
2. Agusan del Sur	2. Misamis Oriental	2. Eastern Samar	2. Antique
3. Davao del Sur	3. Sarangani	3. Leyte	3. Capiz
4. Davao Oriental	4. South Cotabato	4. Northern Samar	4. Iloilo
5. Surigao del Norte	5. Surigao del Sur	5. Southern Leyte	5. Negros
		6. Western Samar	Occidental

With regard to Davao province, the separation into two provinces is currently under legislative process. Upon the formalization of an additional province, the total number of the provinces in the study area would be 22. The DILG has requested that the forthcoming province be included in the study area. The JICA Study Team will relay the request to JICA headquarters for consideration. The DILG is expected to complete the execution of the MOAs of the 2nd batch provinces by early July to catch up with the planned schedule. The required arrangements in terms of subject provinces and study period will be discussed between the DILG and JICA.

2. General Approach and Methodology to the Study

The PW4SPs will be prepared with the full participation of the respective PSPTs together with DILG coordinators and the Study team in accordance with the approach and methodology outlined in the Inception Report. The following topics were confirmed during the discussions:

(1) Planning framework for future sector development

- a) Planning base year is 1997 for 1st and 2nd batches and 1998 for 3rd and 4th batches. Medium-term and long-term target years are 2005 (implementation program: year 2001 to year 2005) and 2010, respectively.
- b) Plan will be prepared in compliance with "Implementing Rules and Regulations of NEDA Board Resolution No. 4".

(2) Standard provision of school toilets

Discussions and confirmation on the provision of school toilets will be arranged with DECS.

(3) Options on the sludge removal from septic tank and its disposal will be shown in the plan.

(4) Model province for 1st batch is Agusan del Sur.

3. Sector Information Collection

The DILG and the JICA Study Team will continuously collect information on the projects/programs assisted by various financial sources. The information will be reflected in the plans.

4. Implementation Set-Up for the Study

In accordance with the Implementing Arrangements between the DILG and the JICA, the DILG shall:

- (1) Secure the safety of the JICA Study Team;
- (2) Assign DILG counterpart staff members who will coordinate and assist PSPTs at the provincial level;
- (3) Set-up PSPTs by respective provincial governments in the study area and secure budget to carry out the Study;
- (4) Through PSPT in each study area province; facilitate and coordinate in data gathering with municipal government and other agencies concerned, and participate in workshops and preparation of PW4SP;

- (5) Facilitate coordination with concerned agencies like DPWH, DOH, NEDA, LWUA and with appropriate bodies.

The JICA Study Team shall:

- (1) Pursue technology transfer to the Philippine counterpart personnel in the course of the Study and:
- (2) Assist PSPTs in the preparation of the PW4SP.

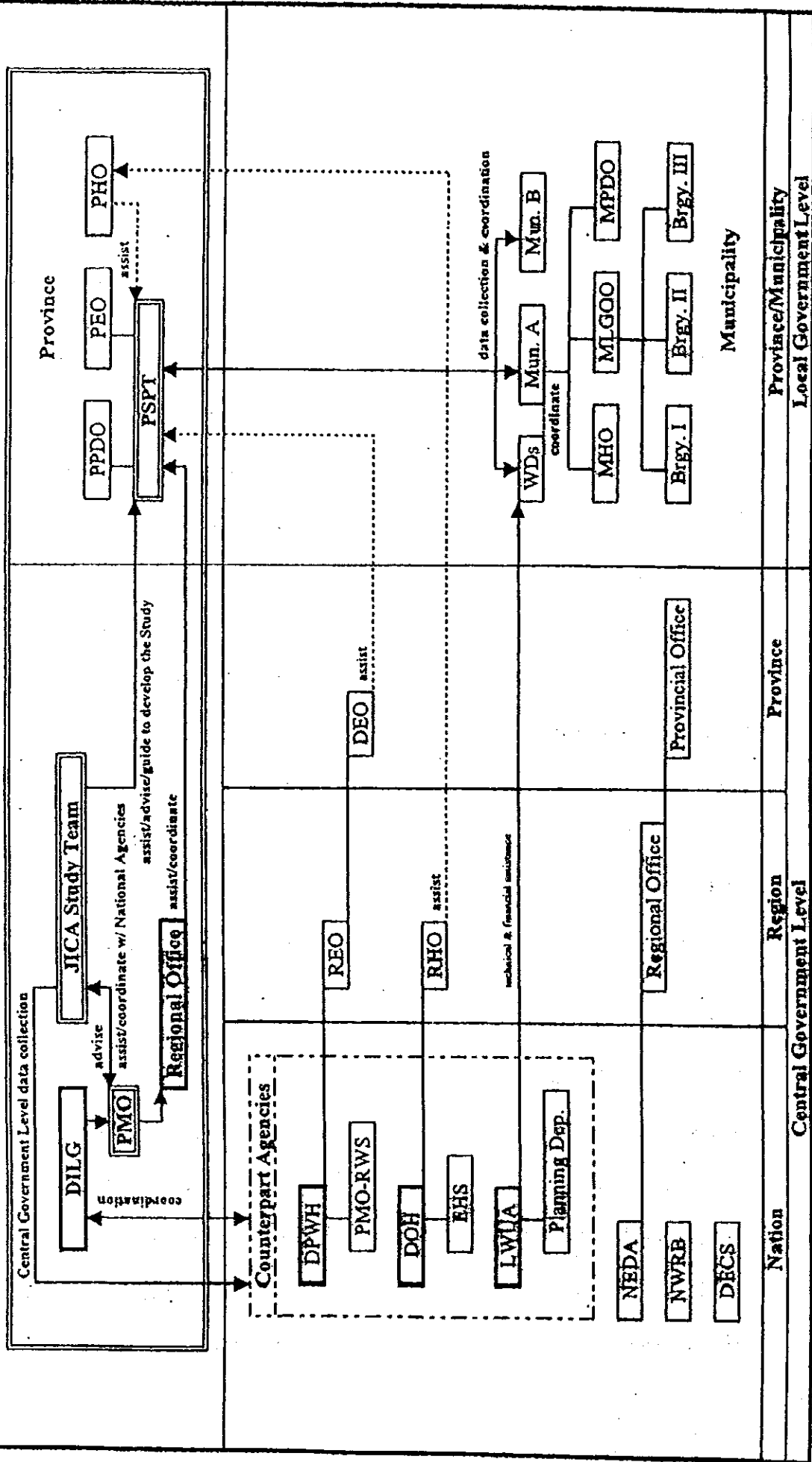




LIST OF ATTENDEES IN THE SERIES OF DISCUSSIONS

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2. Mr. Keiichi Kanaya	Member, Advisory Committee
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2. Mr. Nobuki Abe	Water Supply/Sanitation Engineer
3. Ms. Consuelo B. Estepa	Community Dev't/WID Specialist
4. Ms. Elizabeth L. Verzola	Socio-Economic/Financial Specialist
5. Mr. Kenji Takayanagi	Water Source Development Specialist
6. Mr. Emmanuel L. Patingo	Data Management Specialist

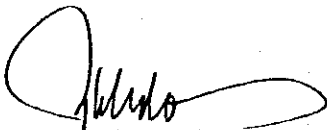
Figure 1.3.1
Organization Chart for Study Implementation



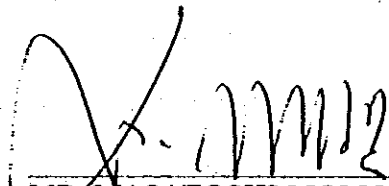
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LOCAL GOVERNMENT
AND
THE STUDY TEAM OF
JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, MARCH 18, 1998



MR. NORMANDO J. TOLEDO
Director
Office of the Project Development
Service
Dept. of the Interior and Local Government



MR. MASATOSHI MOMOSE
Team Leader, Study Team
Japan International Cooperation
Agency

The Stage I fieldwork for "the Study on Provincial Water Supply, Sewerage and Sanitation Sector Plan" started on January 13, 1998 and completed on March 23, 1998.

A series of discussions were held throughout the course of the Study, between JICA Study Team and officials concerned including DILG, NEDA, DOH, DPWH and other central government agencies and provinces. The general approach and methodologies, as presented in the Inception Report, have been employed for the fieldwork.

A Progress Report, which covers all outputs during the work period, was prepared entailing part of PW4SP for the respective provinces. The contents of the report were basically agreed upon on March 18, 1998 between JICA Study Team and officials of the DILG. The list of attendees to the meeting is presented in Appendix A. The following issues/problems on the arrangements required for the implementation of the Study were discussed, and the Study Team will relay the modified arrangements required to JICA headquarters.

(1) Modified Arrangements Required for 1st batch Study

1) Due to the presidential election scheduled on May 11, 1998, the second workshop may be held from May 18 to May 22, 1998 after the election, and tentatively starting the 2nd field work on May 13, 1998.

2) The venue for the final workshop was requested by concerned PPDCs to be held in Mindanao rather than in Manila as originally planned. This is because of the financial constraint on the travel expenses required for 7 members of respective PSPTs under the current GOP instruction to LGUs to reduce its planned annual expenditures of up to 25%.

(2) Provinces to be Covered by the 2nd Batch

The total number of provinces for the 2nd batch (5 provinces) will be kept as previously agreed between the two parties. However, Surigao del Sur will be omitted from the Study, since timely establishment of the PSPT by the province seems to be difficult. Instead of the said province, either the newly created Compostela Valley or Bukidnon (Region X) would be included.

The DILG will inform the Study Team of the possibility in the setting up of PSPT by the administration of Compostela Valley by the middle of June 1998. If not, DILG will make an advanced arrangement with Bukidnon.

(3) Electric Resistivity Prospecting and Test Boring

Comparatively reliable data to evaluate the development potential of water source were collected for 1st batch provinces during the fieldwork. It is assumed that the conduct of the field test for groundwater analysis, given a limited period, cannot be able to contribute significantly to the level of accuracy in the preparation of M/P and F/S. The situation will remain the same for 2nd batch provinces. Accordingly, it is not recommended to conduct field test for this study.

The required areas and the scope of work/surveys, such as field tests, will be recommended in the PW4SP and will be considered during detailed design and construction stages.

(4) Time Constraint in Data Collection/Validation/Follow-up

It was found, both by the Study Team and the DILG through the fieldwork, the following problems on data collection/validation/follow-up:

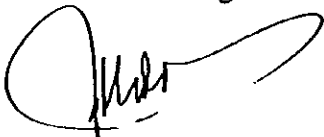
- 1) The summary reports on the sector status prepared by NEDA Regional Office through UNICEF fund were field confirmed as the materials to provide approximate sector situations in the fact of no existence of sector related information at present.
- 2) Data collection by PSPTs had sometimes to be done at the barangay level, due to limited data available in the municipal level. Thus, additional time was required for PSPTs to access to remote rural barangays.
- 3) Comprehensive planning work by the province in Mindanao area is still initial stage. It is necessary for the activities to ensure much more time through intensive technology transfer to DILG coordinators and PSPTs.

Based on the lessons learned, the Study Team and the DILG recognized the need of the review on the allotted period for the activities. The Study Team will relay this matter to JICA headquarters.

(5) Cities to be Covered in the Preparation of PW4SP

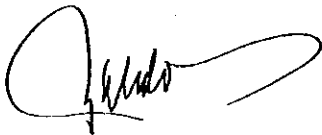
Of the three classes of cities in the Local Government Code, only component cities, which are under the jurisdiction of the provincial government will be considered. The subject cities are as follows:

<u>Province</u>	<u>Component City</u>
Surigao del Norte	Surigao City
Davao	Tagum City and Island Garden City
Leyte	Tacloban City
Western Samar	Calbayog City
Capiz	Roxas City
Iloilo	Passi City
Negros Occidental	Bago City, Cadiz City, La Carlota City, San Carlos City and Silay City



LIST OF ATTENDEES IN THE SERIES OF DISCUSSION

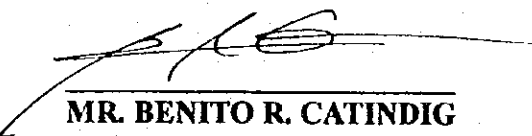
<u>ATTENDEES</u>	<u>DESIGNATION</u>
A. DILG	
1. Mr. Orville M. Roque	Program Manager, WSS-PMO
2. Ms. Ellen I. Pascua	Asst. Program Manager, WSS-PMO
3. Mr. Rogelio B. Ocampo	Chief, Planning Division, WSS-PMO
4. Ms. Fe Crisilla M. Banluta	PW4SP Project Officer, WSS-PMO
5. Ms. Charito Araza	Area Coordinator, WSS-PMO
6. Ms. Maria Contessa Navarro	Area Coordinator, WSS-PMO
7. Ms. Josephine Ramos	Area Coordinator, WSS-PMO
8. Ms. Susan Mangoda	Area Coordinator, WSS-PMO
9. Ms. Crisanta Rapirap	Area Coordinator, WSS-PMO
B. JICA Study Team	
1. Mr. Masatoshi Momose	Team Leader/Water Supply Planning
2. Mr. Nobuki Abe	Water Supply/Sanitation Engineer
3. Mr. Kenji Takayanagi	Water Source Development Specialist
4. Ms. Consuelo B. Estepa	Community Dev't./WID Specialist
5. Ms. Elizabeth L. Verzola	Socio-economic/Financial Specialist



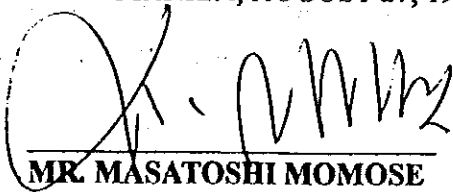
MINUTES OF DISCUSSIONS
ON
THE DRAFT FINAL REPORT
FOR
THE STUDY ON PROVINCIAL WATER SUPPLY, SEWERAGE AND
SANITATION SECTOR PLANS
FOR
VISAYAS AND MINDANAO
IN
THE REPUBLIC OF THE PHILIPPINES

AGREED UPON BETWEEN
THE DEPARTMENT OF THE INTERIOR AND
LOCAL GOVERNMENT
AND
THE STUDY TEAM OF
JAPAN INTERNATIONAL COOPERATION AGENCY

MANILA, AUGUST 27, 1998



MR. BENITO R. CATINDIG
Assistant Secretary for Support
Services and Regional Offices
Dept. of the Interior and Local Government



MR. MASATOSHI MOMOSE
Team Leader, Study Team
Japan International Cooperation
Agency

The Stage II fieldwork for "the Study on Provincial Water Supply, Sewerage and Sanitation Sector Plan" (hereinafter referred to as "the Study") resumed on May 20, 1998 and will be completed on March 30, 1999. Upon completion of the 1st batch study, the study for the 2nd batch will start on August 30 with an "Orientation Workshop". It is further scheduled that the 2nd batch study will be finalized by February 1999 and 3rd batch work will be commenced before the completion of this fieldwork.

Major conditions and assumptions for the development of Medium-Term and Long-Term sector plans for the subject provinces under the 1st batch were discussed and finalized between respective PSPTs and the JICA Study Team (hereinafter referred to as "the Team") through Workshop No. 2 (held between May 26 and 28, 1998) and during planning work thereafter. In this connection, the target year for the Medium-Term development plan was revised from 2005 to 2003 in order to realize the plan earlier.

The Draft Final Reports for the five (5) provinces of the 1st batch were prepared and the final workshop was conducted between August 24 and 26, 1998 to present and discuss the contents of the reports. The contents of the reports were basically agreed upon on August 27, 1998 by the Team and officials concerned on the Philippine side. The list of attendees to the meeting is presented in Appendix A. The following were confirmed and agreed upon by both parties.

1. Correction of typographical errors of the Draft Final Report will be undertaken by the Team prior to printing of the Final Report. The Final Report will be submitted by October 1998.
2. Adoption of the Plans by the Provincial Council (Sangguniang Panlalawigan) shall be facilitated by the DILG.
3. Inclusion of the Message of the Governor in the Main Report of respective PW4SPs.

With regard to the 2nd batch study, both parties have agreed on the general approach and methodology, and implementation arrangements adopted for the 1st batch study. Among them, the following are the basic conditions to be applied for the planning.

(1) Study Area

The DILG completed the exchange of MOA with the 2nd batch provinces on the participation and full support by the concerned provinces. The subject provinces are Misamis Oriental, Bukidnon, Davao del Norte, South Cotabato and Sarangani. The province of Bukidnon was selected for model province study.

(2) Planning Framework for Future Sector Development

- a) Planning base year is 1997 and Medium-Term and Long-Term target years are 2003 (implementation program: year 1999 to year 2003) and 2010, respectively.
- b) Plans will be prepared in compliance with the "Implementing Rules and Regulations of NEDA Board Resolution No. 4".

(3) Implementation Set-Up/Arrangements for the Study

The study will be conducted in accordance with the Implementing Arrangements between the DILG and the JICA, as done with the 1st batch study.

Both parties will make timely and effective arrangements through the study period to achieve the purpose of the Study within the set time-table based on the lessons learned from the 1st batch study. In this regard, the following are put into practice.

- a) Data collection by the PSPTs will be commenced in advance (overlapped activity with the preceding batch study) to ensure longer period for this activity as compared with the original time allotted.
- b) Planning period by the PSPTs will be extended by adjusting the timing for the conduct of 2nd workshop for data encoding and discussions to set-up planning fundamentals.
- c) Practical arrangements will be made to increase the opportunities for further collaboration in the planning work among PSPTs, DILG coordinators and the Team.

For the arrangement of the 3rd batch study, the DILG will confirm the subject provinces including the model province through the MOA by December 1998.


LIST OF ATTENDEES IN THE SERIES OF DISCUSSIONS

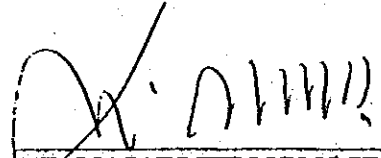
<u>ATTENDEES</u>	<u>DESIGNATION</u>
<i>A. DILG</i>	
1. Mr. Normando J. Toledo	Director, Office of Project Development Services
2. Ms. Ellen I. Pascua	Acting Program Manager, WSS-PMO
3. Mr. Rogelio B. Ocampo	Chief, Planning Division, WSS-PMO
4. Ms. Fe Crisilla M. Banluta	PW4SP Project Officer, WSS-PMO
<i>B. Other Agencies</i>	
1. Ms. Cristina Santiago	PIS, NEDA
<i>C. JICA Advisory Committee</i>	
1. Ms. Keiko Yamamoto	Chairman, Advisory Committee
2. Mr. Keiichi Kanaya	Member, Advisory Committee
<i>D. JICA Headquarters</i>	
1. Ms. Akiko Hayashi	Second Development Study Division, Social Development Study Depart.
<i>E. JICA Study Team</i>	
1. Mr. Masatoshi Momose	Team Leader/Water Supply Planning
2. Mr. Nobuki Abe	Water Supply/Sanitation Engineer
3. Mr. Kenji Hiramatsu	Institutional Specialist
4. Ms. Consuelo B. Estepa	Community Dev't./Gender Specialist
5. Ms. Elizabeth L. Versola	Socio-Economic/Financial Specialist
6. Mr. Emmanuel L. Patingo	Data Management Specialist

MINUTES OF DISCUSSIONS
ON
THE DRAFT FINAL REPORT (2nd BATCH)
FOR
THE STUDY ON PROVINCIAL WATER SUPPLY, SEWERAGE AND
SANITATION SECTOR PLANS
FOR
VISAYAS AND MINDANAO
IN
THE REPUBLIC OF THE PHILIPPINES

AGREED UPON BETWEEN
THE DEPARTMENT OF THE INTERIOR AND
LOCAL GOVERNMENT
AND
THE STUDY TEAM OF
JAPAN INTERNATIONAL COOPERATION AGENCY

QUEZON CITY, FEBRUARY 22, 1999


MR. BENITO R. CATINDIG
Assistant Secretary
Dept. of the Interior and Local Government


MR. MASATOSHI MOMOSE
Team Leader, Study Team
Japan International Cooperation Agency

The Stage II fieldwork for "the Study on Provincial Water Supply, Sewerage and Sanitation Sector Plan" (hereinafter referred to as "the Study") resumed on May 20, 1998 and will be completed on March 30, 1999.

The study for the 2nd batch started on August 30, 1998 and will be completed with the final workshop scheduled between February 24 and 26, 1999. During the finalization stage of the 2nd batch study, the study for the 3rd batch was started with an "Orientation Workshop" on February 8 to 10, 1999. It is further scheduled that the 3rd batch study will be finalized by the end of this year.

With regard to the 2nd batch study, major conditions and assumptions for the development of Medium-Term and Long-Term sector plans for the subject provinces were discussed and finalized between the respective PSPTs and the JICA Study Team (hereinafter referred to as "the Team") during Workshop No. 2 between November 4 to 6, 1998 and also at the time of the planning work thereafter. For the entire duration of the planning work, the Team stayed intermittently in Davao City, Cagayan de Oro City and Malaybalay City for better collaboration with the PSPTs.

The Draft Final Reports for the five (5) provinces of the 2nd batch were prepared and discussed on the contents of the reports between the respective PSPTs and the Team during February 15 and 19, 1999. The contents of the reports were basically agreed upon on February 22, 1999 by the Team and the officials concerned in the Philippine side in consideration of the discussion results with PSPTs.

The list of attendees to the meeting on February 22, 1999 is presented in Appendix A. The followings were confirmed and agreed upon by both parties.

1. Further modification/correction on the Draft Final Report will be undertaken by the Team prior to printing of the Final Report based on the discussions with PSPTs. The Final Report will be sent by May, 1999.
2. Adoption of the Plans by the Provincial Council (Sanggunian Panlalawigan) will be pursued and facilitated by the DILG.
3. Inclusion of the Message of the Governor in the Main Report of respective PW4SPs.

Concerning the 3rd batch study, both parties have agreed on the general approach and methodology, and implementation arrangements adopted for the previous batch studies. Among others, the followings are the basic conditions to be applied for the planning.

(1) Study Area

The DILG completed the exchange of MOAs with the 3rd batch provinces regarding the participation and full support by the concerned provinces. The subject provinces are Northern Samar, Eastern Samar, Samar, Biliran, Leyte and Southern Leyte. The province of Leyte was selected for model province study.

(2) Planning Framework for Future Sector Development

- a) Planning base year is 1998 and Medium-Term and Long-Term target years are 2004 (implementation program: year 2000 to year 2004) and 2010, respectively.
- b) Plans will be prepared in compliance with the "Implementing Rules and Regulations of NEDA Board Resolution No. 4", Series of 1994.

(3) Implementation Set-Up/Arrangements for the Study

The study will be conducted in accordance with the Implementing Arrangements between the DILG and the JICA, as done with the 1st and 2nd batch studies.

Both parties will make timely and effective arrangements throughout the study period to achieve the purpose of the Study within the set time-table based on the lessons learned from previous batch studies. In this regard, the following will be put into practice.

- a) Data collection by the PSPTs will start in advance (overlapped activity with the preceding batch study) to ensure longer period for this activity as compared with the original time allotted.
- b) Planning period by the PSPTs will be extended by adjusting the timing for the conduct of the 2nd workshop for data encoding and discussions to set-up planning fundamentals.
- c) Practical arrangements will be made to increase the opportunities for further collaboration in the planning work among PSPTs, DILG coordinators and the Team.

For the arrangement of the 4th batch study, the DILG will confirm the subject provinces including the model province through a MOA by May, 1999.

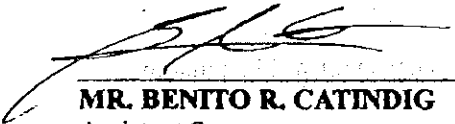
LIST OF ATTENDEES IN THE SERIES OF DISCUSSIONS

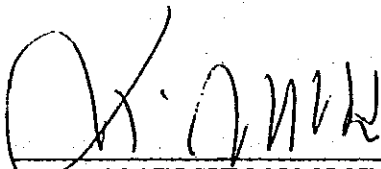
	<u>ATTENDEES</u>	<u>DESIGNATION</u>
<i>A.</i>	<i>DILG</i>	
1.	Mr. Benito R. Catindig	Assistant Secretary
2.	Ms. Ellen I. Pascua	Program Manager, WSS-PMO
3.	Mr. Rogelio B. Ocampo	Chief, Planning Division, WSS-PMO
4.	Ms. Fe Crisilla M. Banluta	PW4SP Project Officer, WSS-PMO
<i>B.</i>	<i>Other Agencies</i>	
1.	Ms. Christina Santiago	PIS, NEDA
<i>C.</i>	<i>JICA Advisory Committee</i>	
1.	Ms. Keiko Yamamoto	Chairman, Advisory Committee
2.	Mr. Keiichi Kanaya	Member, Advisory Committee
<i>D.</i>	<i>JICA Study Team</i>	
1.	Mr. Masatoshi Momose	Team Leader/Water Supply Planning
2.	Mr. Nobuki Abe	Water Supply/Sanitation Engineer
3.	Mr. Kenji Hiramatsu	Institutional Specialist
4.	Mr. Nobukafu Sakiyama	Water Source Specialist
5.	Ms. Consuelo B. Estepa	Community Dev't./Gender Specialist
6.	Ms. Elizabeth L. Versola	Socio-Economic/financial Specialist
7.	Mr. Emmanuel Patingo	Data Management Specialist

MINUTES OF DISCUSSIONS
ON
THE DRAFT FINAL REPORT (3rd BATCH)
FOR
THE STUDY ON PROVINCIAL WATER SUPPLY, SEWERAGE AND
SANITATION SECTOR PLANS
FOR
VISAYAS AND MINDANAO
IN
THE REPUBLIC OF THE PHILIPPINES

AGREED UPON BETWEEN
THE DEPARTMENT OF THE INTERIOR AND
LOCAL GOVERNMENT
AND
THE STUDY TEAM OF
JAPAN INTERNATIONAL COOPERATION AGENCY

QUEZON CITY, October 18, 1999


MR. BENITO R. CATINDIG
Assistant Secretary
Dept. of the Interior and Local Government


MR. MASATOSHI MOMOSE
Team Leader, Study Team
Japan International Cooperation Agency

The Stage III fieldwork for "the Study on Provincial Water Supply, Sewerage and Sanitation Sector Plan" (hereinafter referred to as "the Study") resumed on May 19, 1999 and will be completed on March 25, 2000.

The study for the 3rd batch started on January 12, 1999 and will be completed with the final workshop scheduled between October 20 and 22, 1999. During the conduct of the 3rd batch study, the study for the 4th batch was started with an "Orientation Workshop" on July 19 to 21, 1999. It is further scheduled that the 4th batch study will be finalized by May, 2000.

With regard to the 3rd batch study, major conditions and assumptions for the development of Medium-Term and Long-Term sector plans for the subject provinces were discussed and finalized between the respective Provincial Sector Planning Teams (hereinafter referred to as "PSPTs") and the JICA Study Team (hereinafter referred to as "the Team") during Workshop No. 2 between June 16 to 18, 1999 and also at the time of the planning work thereafter. For the entire duration of the planning work, the Team stayed intermittently in Tacloban City, Catbalogan Municipality and Ormoc City for better collaboration with the PSPTs.

The Draft Final Reports for the six (6) provinces of the 3rd batch were prepared and discussed on the contents of the reports between the respective PSPTs and the Team on October 14, 1999. The contents of the reports were basically agreed upon on October 18, 1999 by the Team and the officials concerned in the Philippine side in consideration of the discussion results with PSPTs.

The list of attendees to the meeting on October 18, 1999 is presented in Appendix A. The followings were confirmed and agreed upon by both parties.

- (1) Further modification/correction on the Draft Final Report will be undertaken by the Team prior to printing of the Final Report based on the discussions with PSPTs. The Final Report will be sent to the Department of the Interior and Local Government (hereinafter referred to as "DILG") by February, 2000.
- (2) Adoption of the Plans by the Provincial Council (Sanggunian Panlalawigan) will be pursued and facilitated by the DILG.
- (3) Inclusion of the Message of the Governor in the Main Report of respective Provincial Water Supply, Sewerage and Sanitation Sector Plans (hereinafter referred to as "PW4SPs").

Concerning the 4th batch study, both parties have agreed on the general approach and methodology, and implementation arrangements adopted for the previous batch studies. Among others, the followings are the basic conditions to be applied for the planning.

(1) Study Area

The DILG completed the exchange of Memorandum of Agreements (hereinafter referred to as "MOAs") with the 4th batch provinces regarding the participation and full support by the concerned provinces. The subject provinces are Aklan, Antique, Capiz, Iloilo and Negros Occidental. The province of Iloilo was selected for model province study.

(2) Planning Framework for Future Sector Development

Planning base year is 1998 and Medium-Term and Long-Term target years are 2005 (implementation program: year 2001 to year 2005) and 2010, respectively.

Plans will be prepared in compliance with the "Implementing Rules and Regulations of National Economic and Development Authority (hereinafter referred to as "NEDA") Board Resolution No. 4", Series of 1994.

(3) Implementation Set-Up/Arrangements for the Study

The study will be conducted in accordance with the Implementing Arrangements between the DILG and the JICA, as done with previous batch studies.

Both parties will make timely and effective arrangements throughout the study period to achieve the purpose of the Study within the set time-table based on the lessons learned from previous batch studies. In this regard, the following will be put into practice.

- a) Data collection by the PSPTs will start in advance (overlapped activity with the preceding batch study) to ensure longer period for this activity as compared with the original time allotted.
- b) Practical arrangements will be made to increase the opportunities for further collaboration in the planning work among PSPTs, DILG coordinators and the Team.

Appendix A

LIST OF ATTENDEES IN THE SERIES OF DISCUSSIONS

		ATTENDEES	DESIGNATION
A.		DILG	
	1.	Mr. Benito R. Catindig	Assistant Secretary
	2.	Ms. Ellen I. Pascua	Program Manager, WSS-PMO
	3.	Mr. Rogelio B. Ocampo	Chief, Planning Division, WSS-PMO
	4.	Ms. Fe Crisilla M. Banluta	PW4SP Project Officer, WSS-PMO
B.		<i>Other Agencies</i>	
	1.	Ms. Christina Santiago	PIS, NEDA
C.		<i>JICA Advisory Committee</i>	
	1	Mr. Keiichi Kanaya	Member, Advisory Committee
D		JICA Headquarters	
	1	Ms. Kayo Minagawa	Second Development Study Division, Social Development Study Depart.
E		<i>JICA Study Team</i>	
	1.	Mr. Masatoshi Momose	Team Leader/Water Supply Planning
	2.	Mr. Nobuki Abe	Water Supply/Sanitation Engineer
	3.	Mr. Kenji Hiramatsu	Institutional Specialist
	4.	Mr. Nobukatu Sakiyama	Water Source Specialist
	5.	Ms. Consuelo B. Estepa	Community Dev'L/Gender Specialist
	6	Ms. Elizabeth L. Versola	Socio-Economic/financial Specialist
7	Mr. Emmanuel Patingo	Data Management Specialist	

2. PLANNING APPROACH FOR FUTURE SECTOR DEVELOPMENT

2.6 Planning Principles and Data Management

2.6.2 Data Management

(1) Computer-based System

The data management system was established to support the Provincial Sector Planning Team (PSPT) in the preparation of the Provincial Water Supply, Sewerage and Sanitation Sector Plan (PW4SP). An essential task of data management is to organize various kind of data into an effective and efficient information base.

A computer-based system was applied as a viable solution to process large amount of data and to minimize the human-error in calculation. For this particular project, a dynamic system is designed to allow the planner to adjust planning factors and update the information when further data becomes available.

It is viable and economical to choose the microcomputer with software suitable for the average skills of the common user. In this connection, of the two types of software package available, database and spreadsheet, the latter method was selected. Among the available spreadsheet-type software, EXCEL was used. Excel support file conversion (opening and saving), multiple file opening, graphic presentation of data, What-You-See-Is-What-You-Get (WYSIWYG) formatting, scaleable font and view, etc. The following are the advantage and disadvantages of the spreadsheet method with reference to database method.

Advantage	Disadvantage
1. Minimum programming skills	1. Repeated entry of same formula
2. Friendly environment to users	2. Sorting or indexing is done manually
3. Graphics presentation of data at user's option.	3. All data are loaded in memory, which require huge amount of memory.
4. Execution of data linkages at formula level entry	4. Limited to static data linkages
5. Guided formula creation using function wizard	

Data management task starts from the collection of data using the questionnaire forms. The existence and accuracy of data are major concern at this stage to prepare main information bases. Using the microcomputer provided with EXCEL spreadsheet, data in the questionnaire forms are transferred into the forms constructed in EXCEL. Applicable policy, criteria and assumption are entered into key parameter tables. These data are then processed and finally consolidated into target forms. These final provide a map of provincial profile, service coverage, future requirements, cost estimates for future sector development, and funding requirements.

Table 2.6.1 Key Parameter

No.	Description of Key Parameter		Unit	Values
1.	Service Level	Water Supply		
		Number of household to be served by Level I Facility	HHH/Source	
		Number of household to be served by Level II System	HHH/Public Faucet	
		Water Consumption Rate for Level III System	Liter/capita/day	
2.	Provincial Sector Target	Sanitation		
		Std. number of student to be served by a unit of Sanitary toilet	Student/Toilet	
		Standard number of toilets for a public utility	Toilet/Public Facility	
2.	Medium Term Plan	Water Supply		
		Urban Water Supply	% of Population	
		Rural Water Supply	% of Population	
		Sanitation		
		Household Toilet		
		Urban Household Toilet	% of Household	
		Flush	% of Household	
		Pour Flush	% of Household	
		VIP Latrine	% of Household	
		Rural Household Toilet	% of Household	
		Flush	% of Household	
		Pour Flush	% of Household	
	VIP Latrine	% of Household		
	School Toilet	% of Public Student		
	Public Toilet	% of Public Utility		
	Solid Waste	% of Population		
	Long Term Plan	Water Supply		
		Urban Water Supply	% of Population	
		Rural Water Supply	% of Population	
		Sanitation		
		Household Toilet		
		Urban Household Toilet	% of Household	
		Flush	% of Household	
		Pour Flush	% of Household	
VIP Latrine		% of Household		
Rural Household Toilet		% of Household		
Flush		% of Household		
Pour Flush		% of Household		
VIP Latrine	% of Household			
School Toilet	% of Public Student			
Public Toilet	% of Public Utility			
Urban Sewerage	% of Urban Population			
3.	Percentage of Level I Deep Wells to be Rehabilitated		%	
4.	Percentage of Sector Management Cost to Construction Cost			
	Feasibility and Detail Design	% of Construction Cost		
5.	Construction Supervision		% of Construction Cost	
	Community Development and Training Cost			
6.	Recurrent Cost	Level III	% of Construction Cost	
		Level I, II and Public Toilet	% of Construction Cost	
		Level III System (Operating Cost)	Pesos/HH/year	
		Level III System (Spare Parts/Equipment)	% of Construction Cost	
		Level II System (Spare Parts/Equipment)	Pesos/HH/year	
		Level I System (Spare Parts/Equipment)	Pesos/HH/year	
7.	Public School Toilet Maintenance Cost		Pesos/Toilet/year	
	Public Utility Toilet Maintenance Cost		Pesos/Toilet/year	
7.	Allocation factors/Percentages of IRA			
	From Provincial	%		
8.	From Municipality and Bigy.		%	
	Funding Levels/Percentages for Different Financing Scenarios			
	1st Scenario	% Funding Available		
	2nd Scenario	% Funding Available		
	3rd Scenario	% Funding Available		
	4th Scenario	% Funding Available		
5th Scenario	% Funding Available			

Table 2.6.2 Composition of Well Sources and Specific Capacity

Name of Municipality	Type	Type Water Source	Proportion (%)	Standard Specification			
				Depth (m)	SWL (m)	Specific Capacity (liter/sec/m)	
	Urban	Shallow Well					
		Deep Well					
		Spring					
	Rural	Shallow Well					
		Deep Well					
		Spring					
		Urban	Shallow Well				
			Deep Well				
			Spring				
Rural		Shallow Well					
		Deep Well					
		Spring					
		Urban	Shallow Well				
			Deep Well				
			Spring				
	Rural	Shallow Well					
		Deep Well					
		Spring					
		Urban	Shallow Well				
			Deep Well				
			Spring				
Rural		Shallow Well					
		Deep Well					
		Spring					
		Urban	Shallow Well				
			Deep Well				
			Spring				
	Rural	Shallow Well					
		Deep Well					
		Spring					
		Urban	Shallow Well				
			Deep Well				
			Spring				
Rural		Shallow Well					
		Deep Well					
		Spring					
		Urban	Shallow Well				
			Deep Well				
			Spring				
	Rural	Shallow Well					
		Deep Well					
		Spring					

Table 2.6.5 Unit Construction Cost of Different Facilities

Description	Unit Construction Cost (Pesos)	Service Coverage		Unit Cost	
		Served Population	Served Household	Pesos/ Person	Pesos/ Household
Water Supply					
<i>Level III - New System</i>					
For 5000 Population					
For 10000 Population					
For 15000 Population					
<i>Level III - Expansion</i>					
For 5000 Population					
For 10000 Population					
For 15000 Population					
<i>Level II</i>					
<i>Level I</i>					
Deep Well - 40 meter depth					
Deep Well - 80 meter depth					
Deep Well - 120 meter depth					
Shallow Well - 18 meter depth					
Spring Development					
<i>Rehabilitation Cost for Level I Deep Well</i>					
<i>Disinfection of Level I Wells</i>					
Sanitation					
Flush					
Pour Flush					
VIP / Dry					
School Toilet					
Public Toilet					
Urban Sewerage					

Table 2.6.6 Scoring Factor for Municipal Investment Ranking for Urban Water Supply

Score	Underserved and Underserved Population in Base Year	Underserved and Underserved Population in Phase I	Population Underserved by Level III Systems in Base Year
1.0	< %	< %	< %
0.8	< % < 40	< % <	< % <
0.6	< % < 30	< % <	< % <
0.4	< % < 20	< % <	< % <
0.2	% < 10	% <	% <
Weight Allocation Score (%)			

Table 2.6.7 Scoring Factor for Municipal Comprehensive Investment Ranking

Score	Urban Water Supply	Rural Water Supply	Urban Sanitation	Rural Sanitation
1.0	N.A.	< %	< %	< %
0.8	N.A.	< % <	< % <	< % <
0.6	N.A.	< % <	< % <	< % <
0.4	N.A.	< % <	< % <	< % <
0.2	N.A.	% <	% <	% <
Weight Allocation Score (%)				

3. PROVINCIAL PROFILE

3.3 Socio-economic Conditions

3.3.1 Economic Activities and Family Income

Table 3.3.1 Distribution of Families by Income Class

Income Class	Iloilo				Region VI	
	Total Number of Families		Annual Income		Total Number of Families	Annual Income Average (Pesos)
	Number	Share	Total (P '000.00)	Average (Pesos)		
Under 15,000	11,901	4	134,598	11,310	38,620	12,865
15,000 - 19,999	17,752	6	312,944	17,629	50,543	19,828
20,000 - 29,999	49,533	17	1,269,292	25,625	209,138	27,662
30,000 - 39,999	55,384	19	1,914,370	34,566	224,397	37,336
40,000 - 59,999	73,472	25	3,667,111	49,912	280,436	51,099
60,000 - 99,999	45,612	16	3,425,746	75,107	199,449	86,842
100,000 - 249,999	31,665	11	4,656,453	147,054	112,990	161,051
250,000 and over	4,004	1	1,655,599	413,517	17,827	399,169

Source: 1994 Family Income and Expenditures Survey by NSO

Notes:

- (1) Derived from Region VI FIES
- (2) Based on NEDA and other agencies, poverty threshold in Region VI was estimated at P 47,133 (P 8,197 annual per capita poverty threshold).
- (3) For purposes of the survey, a family is defined as a group of persons usually living together and composed of the head and other persons related by blood, marriage and adoption. A single person living alone is considered as a separate family. A household is composed of 1 or more families in the same housing unit and has a common arrangement of food preparation and consumption.

Table 3.3.2 Employment by Major Industry Group and Class of Worker, 1994

Major Industry Group	Household Population 15 years and Over Who Worked	Class of Worker							Not Reported
		Worked for Private Household (Domestic Services)	Worked for Private Business/ Enterprise/ Farm	Worked for Government/ Government Corporation	Self-employed Without Any Paid Employee	Employer In Own Farm or Business	Work With Pay in Own Family Operated Farm or Business	Work Without Pay in Own Family Operated Farm or Business	
Agriculture, Hunting and Forestry	364,376	255	106,944	182	140,504	4,919	73	111,353	146
Fishing	29,559	18	12,405	9	11,815	597	80	4,620	15
Mining and Quarrying	391	4	218	1	125	3	0	39	1
Manufacturing	18,292	93	10,564	40	5,863	232	22	1,458	20
Electricity, Gas and Water	1,520	13	1,307	62	116	6	2	13	1
Construction	15,803	149	13,857	108	1,584	8	0	76	21
Trade	44,606	67	10,871	40	25,987	874	85	6,646	36
Services	123,524	24,890	45,320	38,218	12,995	519	62	1,458	62
Not Stated	429	7	174	3	24	2	0	4	215
Provincial Total	598,500	25,496	201,660	38,663	199,013	7,160	324	125,667	517

Source: 1995 NSO Socioeconomic and Demographic Characteristics

3.3.3 Education

Table 3.3.3 Household Population by Highest Educational Attainment

Highest Educational Attainment	Household Population 5 years Old and Over	Age Group				
		Below 20	20 - 24	25 - 29	30 - 34	35 and Over
No Grade Completed	91,095	65,324	1,385	1,366	1,348	21,672
Pre-school	48,425	46,595	116	131	116	1,467
Elementary						
1st - 4th Grade	279,855	249,883	7,472	7,108	7,696	7,696
5th - 7th Grade	290,207	84,508	16,571	19,096	20,053	149,979
High School						
Undergraduate	172,789	94,187	17,901	14,048	11,041	35,612
Graduate	149,690	27,109	27,693	25,417	21,211	48,260
Post Secondary						
Undergraduate	13,920	2,577	3,927	2,476	1,817	3,123
Graduate	52,289	2,552	13,553	12,121	8,941	15,122
College Undergraduate	57,163	14,851	14,662	7,163	6,048	14,439
Academic Degree Holder	69,905	468	10,563	12,793	11,905	34,176
Post-Baccalaureate	3,213	12	228	431	479	2,063
Not Stated	6,826	4,194	362	305	267	1,698
Total	1,235,377	592,260	114,433	102,455	90,922	335,307

Source: 1995 NSO Socioeconomic and Demographic Characteristics

3.5 Health Status

Table 3.5.1 Number and Ratio of Population to Health Facilities and/or Medical Practitioners

Health Facilities and Practitioners	Iloilo		Philippines	
	Number	Ratio	Number	Ratio
Health Facilities				
Hospital	13	1/114,581	1,700	1/40,206
Rural Health Units	43	1/34,641	2,335	1/29,272
Barangay Health Station	363	1/4,103	11,646	1/5,869
Practitioners				
Doctors	170	1/8,762	6,913	1/9,887
Nurses	344	1/4,330	8,849	1/7,724
Midwives	421	1/3,538	10,831	1/6,311
Dentists	44	1/33,854	1,895	1/36,068

Source: PSPT and 1997 Philippine Statistical Yearbook.

3.6 Environmental Conditions

3.6.2 Water Pollution

Table 3.6.1 Types of Drainage Facilities

Type	Length (km)
Drainage Main	197
Open Channel (with Concrete & rubble masonry)	9
Open Ditches & Unlined Laterals	569
Reinforced Concrete Circular Pipes	127
Street Gutters	15
Outfalls to rivers from drainage mains (number)	160

Source: PSPT

Table 3.6.2 DENR Water Quality Criteria/Water Usage and Classification for Fresh Water

Parameter	Unit	Class AA	Class A	Class B	Class C	Class D
Color	PCU	15	50	(C)	(C)	(C)
Temperature (max. rise in deg. Celsius)	°C rise	--	3	3	3	3
pH (range)		6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.0-9.0
Dissolve Oxygen (Minimum)	%satn	70	70	70	60	40
	mg/L	5.0	5.0	5.0	5.0	3.0
5-Day 20°C BOD	mg/L	1	5	5	7(10)	10(15)
Total Suspended Solids	mg/L	25	50			
Total Dissolved Solids	mg/L	500	1,000	--	--	1,000
Surfactants (MBAS)	mg/L	nil	0.2(0.5)	0.3(0.5)	0.5	--
Oil/Grease (Petroleum Ether Extract)	mg/L	nil	1	1	2	5
Nitrate as Nitrogen	mg/L	1	10	NR	10	--
Phosphate as Phosphorous	mg/L	nil	0.1	0.2	0.4	--
Phenolic Substances as Phenols	mg/L	nil	0.002	0.005	0.02	--
Total Coliforms	MPN/100mL	50	1,000	1,000	5,000	--
or Fecal Coliforms	MPN/100mL	20	100	200	--	--
Chloride as Cl	mg/l	250	250	--	350	--
Copper	mg/L	1	1	--	0.05	--

Notes:

Class AA - Public Water Supply Class I. Intended for waters having watersheds that are uninhabited and otherwise protected and which require only approved disinfection in order to meet the national standards for drinking water.

Class A - Public Water Supply Class II. Sources of water supply that will require complete treatment (coagulation, sedimentation, filtration and disinfection) in order to meet drinking water standards.

Class B - Recreational Water Class I. For primary contact recreation such as bathing, swimming skin diving, etc. (particularly for tourism purposes).

Class C - Fishery Water for the propagation and growth of fish and other aquatic resources; recreational (for boating, etc.); industrial water supply class I for manufacturing processes after treatment.

Class D - For agriculture, irrigation, livestock watering, etc.; for industrial water supply class II (cooling, etc.); other inland waters by their quality, belong to this specification.

