

2. 詳細協議議事録

(1) DNSAS

1月24日、30日、2月3日の3回にわたって、DNSAS 計画設計課の Mr. Rui de Sousa 課長ならびに Mr. Mario A. Sequeira 課長補佐と協議した。

1月24日は主に導水システムの建設経過について情報収集を行い、1月30日は、現地調査に基づいてまとめた導水管敷設状況ならびに被害状況一覧表を担当者に提示し DNSAS が実施した緊急対策、補修部分等について確認した。さらに2月3日は、作成した導水管敷設図上で補修の必要な区間等について両技術者に説明し、具体的補修法について意見交換を行った。主要な打ち合わせ結果をテクニカルメモとして取りまとめている。

(2) 環境社会配慮関係議事録

環境局 (NDES) 局長および環境影響評価部 (Department of Environmental Impact Assessment (EIA)) コーディネータとの協議および森林局 (Directorate of Forestry)、保護区自然公園部 (Department of Protected Areas & National Parks) での協議の議事録を以下に示す。英文で執筆し水道衛生局 (DNAS) へ提出し、協議内容の説明を実施した。

TECHNICAL MEMO

National Directorate of Water and Sanitation Services (DNSAS) and the JICA Preliminary Study Team have carried out a series of field surveys at the Bemos and Comoro Rivers watershed area in close cooperation in the period from 16 January and 6 February, 2008. Discussions on technical and operational aspects of the Bemos raw water main among the respective engineers were also made on 24 January, 30 January and 3 February to seek most optimal and practical solutions and minimize further damage by floods. Both sides have confirmed that urgent rehabilitation/reinforcement of the raw water main is of vital importance to ensure continuity of water supply in whole area of Dili. DNSAS is of opinion that:

- 1) Approximately 800m length of the raw water main laid on the river-bed of the Bemos River, located between 100m and 900m downstream from the Break Pressure Tank, is vulnerable and likely to be damaged. One option is that the existing pipeline route (800m) be shifted from the left bank to the right bank of the River.
- 2) Because of insufficiency in wash-out function, much sand and silt are deposited inside pipes, which may cause a substantial decrease in flow rate and a blockage of the main. Therefore, the existing wash-outs shall be replaced by new ones (two spots at least) and additional wash-outs shall be installed where deemed necessary (two at least).
- 3) The existing intake facilities do not have proper function of grit removal. The inlet screen installed at the intake chamber is not necessarily adequate to avoid entrance of foreign matters. It is therefore recommended that the intake structure shall be redesigned to divert raw water safely in terms of quantity and quality. Construction/rehabilitation shall be carefully carried out in order to minimize adverse effects on overall system operation such as raw water contamination, water supply suspension, etc.
- 4) To minimize entrance of sand and silt into the main, a grit removal basin is needed preferably on the left bank around 100m downstream from the intake.
- 5) No.1 River Crossing, due to a crucial damage on the pipe by the 2005 flood, was relocated to several meters downstream of the Bemos River. The newly installed pipes do not have sufficient depth, considered vulnerable to further erosion. Therefore, the existing structure for the No.1 River Crossing shall be reinforced


テクニカルメモ (2 ページ目)

- with proper protection, and the pipes shall be reinstalled with a sufficient earth covering.
- 6) There are several spots observed in the upstream of the Bemos River, where pipes are exposed on/above the river-bed. They may be easily damaged by a strike of rocks flushed out by torrential flow or an impact by large mass of rocks falling from steep river banks. They shall be protected by concrete blocks and gabion.
 - 7) In the downstream of the Comoro River, several hundred meters of the raw water main, installed closely to the bank, is exposed on the river-bed, which also requires gabion installation and/or concrete protection.

Dili, 7 February 2008



Mr. Rui de Sousa
Head,
Division of Planning and Development
DNSAS



Mr. Hiroyasu Yoda
Water Supply Engineer
JICA Preliminary Study Team

Hearing on Legal Framework of Environmental and Social Consideration in Timor Leste

1. 1st Meeting with National Directorate for Environmental Services (DNSMA) on 23rd January 2008

A. Attendance List

DNSMA

1. Mr. Carlos Lopes Ximenes

Director of Environment Service

National Directorate for Environmental Services (DNSMA),

Ministry of Economic & Development

Phone: +670 7230165

Email: ximenescarlos63@yahoo.com.au

2 Mr. Antonio Lelo Taci

Coordinator, Dept. of Environmental Impact Assessment (EIA), DNSMA

Phone: +670 7254802

3. Mr. Carlos Conceicao

Environmental Pollution Control Coordinator, DNSMA

DNAS

4. Mr. Celso A.S. Pereira

Chief of Dili Water Supply Dept. DNAS

JICA Study Team

5. Mr. TOMITA Shimpei

Environmental Expert, JICA Study Team

6. Robin Jong

Assistant of Survey, JICA Study Team

B. Meeting Notes

1. Purpose of meeting

On Wednesday, 23rd January 2008, JICA and DNAS Team visited the National Directorate of Environmental Services to get information on the

legal framework of Environmental and Social Consideration in Timor Leste and conform necessity procedures for the Project for Urgent Improvement of Raw Water Main in Dili (hereinafter referred to as “the Project”).

2. Explanation of the Project

JICA study team explained the purpose of the JICA preliminary study, the background/ outline of the Project and the concept of the JICA Environmental and Social Guideline, which copy was handed over to the Director of Environment Services, Mr. Carlos. The Director understood the outline of the Project and JICA’s Guideline.

3. Submission of proposal for a new project

The Director explained following procedure. Proposals for description of the project should be submitted to the National Directorate for Environmental Services (DNSMA) for judgement of the categorization. Submits are carried out by the projects implementation ministries and developer through line ministry. The categorization is carried out according to mainly project size and then necessary procedure should be taken according the category.

4. Document of the Project

The Director judged following points. The proposal for description of the Project is not necessary because he understand the Project. The Project goes to Category B as it is a small project and not a new project just rehabilitation. A project of Category B doesn't required EIA (Environmental Impact Assessment), but EMP (Environmental Management Plan). DNAS should submit an EMP before implementation of the Project.

2. 2nd Meeting with DNSMA on 25th January 2008

A. Attendance List

DNSMA

1.Mr. Antonio Lelo Taci

Coordinator, Dept. of Environmental Impact Assessment (EIA)

National Directorate of Environmental Services (DNSMA)

Phone: +670 7254802

JICA Study Team

2. Mr. TOMITA Shimpei

Environmental Expert, JICA Study Team

3. Robin Jong

Assistant of Survey, JICA Study Team

B. Meeting Notes

1. Purpose of meeting

JICA Study Team carried out additional hearing from the Coordinator of EIA, Mr. Antonio, to verify the “proponent”, “public meeting”, “disclosure”, and some other points regarding the Environmental Management Plan (EMP) in the Guideline #7 and clarify the matter for Urgent Improvement of Raw Water Main in Dili (hereinafter referred to as “the Project”).

2. Submission of document for EMP

The 'proponent' mentioned in the Guideline#7 means the related ministry which submit document of EMP. In case of the Project, the National Directorate of Water and Sanitation Services (DNAS) would be the proponent. The DNAS can submit the document of EMP to the National Directorate of Environment Services during/after the Basic Design Study. The answer of approval shall be responded within 30 days after receiving the EMP.

The Coordinator told that the EMP would be approved soon after the submission as the Project is only the rehabilitation and small project.

3. Public Meeting

Regarding the public consultation mentioned in the Guideline#7, in case of “Category A”, a large project, it is necessary to implement “the Public Meeting” with the local community where the impact would be anticipated. The proponent and the representative from the DNSMA and other related

ministry should hold a public consultation and socialize the project to the community. Any inputs or suggestions from community should be taken account into considerations for EIAs. The draft final EIA is disclosed to the public.

In a new project screened as “Category B”, the Public Meeting should be held in order to avoid conflict between the project and the community. However, the Public Meeting are not required in rehabilitation/ repair projects. The Coordinator of EIA, Mr. Antonio judged that the Public Meeting is not required for the Project.

4. Disclosure of EMP

EMPs are not disclosed to the public because those are so many and only for small projects. EMPs are disclosed to the chief of Suco and Aldeia who are represented the whole community.

5. Preparation of the Guideline

Regarding the 'scheduled premises' mentioned in the Guidelines #7 in the EMP, it is referring to the location of the project. However, the Coordinator is not able to give a clear definition of references in the Guidelines #7, because references such as the Guidelines #5 (new number) and #10 are still under preparation. Current Guidelines of #1 to #7 are prepared based on the UNTAET Environmental Guidelines in the year 2000.

6. Enactment of the Environmental Low

The draft of the Environmental Low was formulated and now under deliberation in the Council for enactment. Indonesian environmental low has been adopted until now.

7. Others

The Department of EIA in DNSMA was established in 2006. Staff of the department is only the Coordinator, Mr. Antonio

3. Meeting with National Directorate of Forests, Ministry of Agriculture & Fisheries (MAF) on 25th January and 8th February of 2008

A. Attendance List

1. Ms. Cathy Molnar

Advisor for Protected Areas & National Parks Department
National Directorate of Forests, MAF

JICA Study Team

2. Mr. TOMITA Shimpei

Environmental Expert, JICA Study Team

3. Robin Jong

Assistant of Survey, JICA Study Team

B. Meeting Notes

1. Purpose of meeting

JICA Study Team carried out hearing from the Advisor of the National Directorate of Forests in the MAF (formerly known as the Ministry of Agriculture, Forestry and Fisheries), to get the general information on protected areas in Timor-Leste and any designation of these legal framework for the Project areas

2. Legal Framework of protected areas in Timor-Leste

Currently there are in total of 15 designated protected areas in Timor-Leste. These protected areas are conservation for wildlife, forestry and other natural resources, historical and cultural heritage, marine resources, biodiversity, etc. These 15 protected areas were announced officially in 2000 by the UNTAET administration, however, have not been managed by proper measures.

Some of the 15 protected areas include the Jaco Island in eastern tip of Timor, Com beach, Cristo Rei, Mount Ramelau, Maunt Tatamailau, etc.

In 1999, after the pulling out of the former Indonesian Government, all the Indonesian Laws are adopted by the new transitional government, except the Indonesian Human Rights Laws. The UNTAET and Indonesian Law are roll into the one law and gradually became the new Timorese laws. The laws and regulations on protected areas are in the UNTAET Regulations No.19/2000.

Now the new Regulation for the National Park as No.8/2007 under the Government of Timor-Leste is enacted as mentioned in the next chapter.

3. Establishment of National Park

Under the new regulations 8/2007, the new protected area system was established as National Park. It is the National Park Nino Konis Santana, which is situated in the far eastern region of Timor-Leste, almost the whole Lautem District covering three former protected areas.

Protection in the National Park covers the flora and fauna, biodiversity, historical and cultural resources, remains of World War II relics, the marine shore, etc. Restriction of activities and development differ from the zones in the National Park, which are designated according to the assessment of level of natural resources and current human activities based on the level of restriction of IUCN. The boundary of the National Park is defined along the administrative boundary due to easy understandable for the residence.

Government has been taking steps to collaborate with the local community to properly manage the National Park based on the zoning level.

4. Donors support

The Birdlife International (Australia) has supported the Government of Timor-Leste for the management of the protected areas to send one adviser, Ms. Cathy Molnar by fund from donors such as AusAID and United Kingdom, GIF.

The adviser has carried out definition of zoning in the National Park by the assessment of nature resource and human activity. She thinks collaborations with communities in the National Park are important for maintenance. She is carrying out the assessment of other protected areas where are currently designated by the Law of No.19/2000 to designate next national park. She thinks some of the protected areas do not have rich national resources but some areas having rich national resources might be assessed.

The Birdlife International has carried out the national wide survey of birds since 2002. They think kinds and density of birds is one of the indicators for biodiversity. The result of survey was compiled as the book of "Important Bird Areas in Timor-Leste, key sites for conservation". The 16 sites are identified as the Important Bird Areas and is under process of regal framework of the protected areas.

5. Bemos River (Project area)

The Project areas and surroundings are not designated by any protected areas and national park under the regulations of Timor-Leste and the 16 sites of Important Bird Areas identified by the Birdlife International.

3. 要請書

APPLICATION FOR JAPAN'S GRANT AID
FOR
THE
URGENT IMPROVEMENT
OF
RAW WATER MAIN
IN
DILI, TIMOR-LESTE

配布先	国内部 <input type="checkbox"/>	国際協力人材部 <input type="checkbox"/>
	無償部 <input checked="" type="checkbox"/>	社会開発部 <input type="checkbox"/> JOCV <input type="checkbox"/>
	人間開発部 <input type="checkbox"/>	地球環境部 <input type="checkbox"/>
	農村開発部 <input type="checkbox"/>	経済開発部 <input type="checkbox"/>

コピー 2 / 9

January, 2006

APPLICATION FORM FOR JAPAN'S GRANT AID, GENERAL AND FISHERIES

1. Date of entry: **January 2006**

2. Project title, sector and sub-sector

Project title: **Urgent Improvement of Raw Water Main in Dili**

Sector: **Water and Sanitation**

Sub-sector **Water Supply**

3. Background of request

(1) Relationship of the National Development Plan

The East Timor National Development Plan indicates that the Water and Sanitation Service (WSS) bears responsibility to provide adequate, safe and sustainable water supply for the communities of Dili and major urban centers and districts. (See Attachment 1 for selected portion of The East Timor National Development Plan, related to the Water and Sanitation Service.

(2) Relationship of the Sector Program (Title of the program and the position of the requested project, sector and sub-sector in the program):

Name of the plan: **Sector Improvement Plan for Water and Sanitation (See Attachment 2)**

The Dili Urban Water Supply Distribution is on the current priority list among programs under consideration by the WSS as shown on the SIP list.

(3) Present situation of the sector:

Timor-Leste is recently an independent nation after an interim period as a United Nations (UN) administered region. A period of violence followed the independence vote in 1999, which was caused by military groups opposed to separation from Indonesia. The violence and destruction caused United Nations, led by Australia, to implement the UN intervention.

One of the first tasks of the UNDP administration was to identify certain urgent or emergency sectors in need of capital improvement. The Dili Water

supply network was identified as an urgent project, based on the recognition that a stable water supply was a basic minimum requirement for an emerging nation state. The Dili Water Supply Rehabilitation and Improvement Project was initiated and implemented on a fast track system in 2002, followed by the Urgent Rehabilitation of the Distribution Network for Dili in 2003: The Project for Improvement of Water Supply in Dili is currently in progress. (As of January, 2006, consisting of further upgrades to the distribution network in Dili and the upgrade of three water treatment plants)

4. Object of the project / program (describe how the project is important, necessary and emergency to the presence situation of the sector)

The improvement scheme for Dili Water Supply was based on a comprehensive plan to upgrade or construct all elements of a modern water supply, including collection, treatment, storage, and delivery networks.

The first phase concentrated on the collection and storage component, during which time a new intake structure and raw water main was constructed along with a new water treatment and storage facility (later named Bairopite Water Treatment Plant). See Attachment 3 for a schematic diagram Dili Water Supply.

The town of Dili is located on a large coastal plain of Timor-Leste, on the otherwise mountainous island of Timor. Dili water supply is drawn for various sources, including surface water and deep wells. Approximately 50% of Dili's water supply is collected by a new intake and transmission pipe installed along the major stream bed just outside of the city. Water is conveyed by gravity under pressure to two water treatment plants, one being the new Bairopite water treatment plant, and the other being the Bemos water treatment plant currently being upgraded as part of the Project for Improvement of Water Supply in Dili.

The rainfall pattern in Timor-Leste features a dry season (basically from May through September) with little or no measurable rainfall, and a rainy season from December to April, which includes periods of heavy rainfall which can be unpredictable in terms of intensity. (See Attachment 4 for month by month

Temperature and Rainfall data for year 2004)

Major stream beds in Timor-Leste suffer from the shifting nature of the runoff course which may change year by year. Such was the case in the rainy season of 2005, which caused some sections of raw water main installed during the first phase of the Dili Water Supply project, to become undermined, and some of the supporting concrete supports and gabion netting have become broken and/or damaged. (See Photographs in Attachment 5)

The damaged pipeline causes a great concern to the WSS considering that the exposed pipeline could be further damaged during the next rainy season. If continued erosion results in a blockage or break of the pipeline, 50% of Dili's water supply would be lost and a repair would be delayed until runoff decreased enough to allow emergency work to commence. Clearly work of this sort is better carried out during the dry season.

It is also recognized that a repair in the short term would be far less costly than a repair after a blockage or break in the pipeline, after which additional erosion would have occurred. The social and economic consequences that would accompany any significant water service interruption would be detrimental to the people in Dili and indirectly to all the people in Timor-Leste.

5. Outline of project / program

(1) Outline of the requested facilities and/or equipment:

Facilities to be constructed include the following;

Replacement for the piping between Intake and No.3 river crossing, with an approximate length of 4.4 kilometers, specifically;

- a. The pipe installation on the hillside along Bemos river
- b. 3 places of river crossing including the Aqueduct at No.1 river crossing (length = approximately 80 meters) and embedded pipe inside the river bed at No.2 river crossing (length = 120 meters) and No.3 river crossing (length = 350 meters)
- c. Improvement of water intake facilities at Intake Dam
- d. Other required reinforcement work

Reinforcement for the piping route between Bemós water treatment plant and

No.3 river crossing, with a length of approximately 3.5 kilometers.

- a. The gabion box installations at the required places for reinforcement.
- b. Other required reinforcement work.

No equipment supply will be necessary for this project.

- (2) Request amount for the project

Facilities Construction	US\$ <u>6,000,000.00</u>
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- (3) Benefits and beneficiaries from the project / program:

The town of Dili and surrounding area, (1,238 Km²) would benefit from the project.

- a. *Direct beneficiaries*

62,000 residents of Dili (2004 UNFPA Census)

- b. *Indirect beneficiaries*

924,642 residents of Timor-Leste (2004 UNFPA Census)

- (4) Targeted site (map):

Timor-Leste features mountainous geography. Dili is exceptional because of its large flat coastal plains. The area in which the project would commence is along the stream bed just outside of Dili. (See Attachment 3 for Dili Water Supply network). Timor-Leste is located in a semi tropical area with warm temperatures all year round.

- (5) Project implementation period

Survey: FY 2006

Implementation: FY 2006

6. Project implementation Ministry / agency:

Name of Agency: Ministry for Natural Resources, Minerals, and Energy Policy /
Water and Sanitation Service (WSS)

Person in charge (full name): Eng. Joao Jeronimo

Affiliation: Director

Telephone No.: (670) 723-0105

Water and Sanitation Service (WSS) bears responsibility to provide adequate, safe and sustainable water supply for the communities of Dili and major urban centers and districts. See Attachment 6 for Annual Budget, Staff List, and Organization chart.

7. Development survey and technical co-operation

(1) Development survey:

Extensive survey data is available for this area based on recent project for Dili Water Supply:

Land

The location of this project along the stream bed entails a unique challenge of access as recent rains have destroyed access roads to the site. The stream bed contains rocks and large boulders, with large mountains on both sides.

Site

The location of the proposed repair work is along the stream bed of the Comoro River.

Security situation

The site is safe and secure.

(2) Technical co-operation:

Facilities operation

Water and Sanitation Service (WSS) will operate and maintain proposed facilities.

Financial analysis

Ongoing capacity building that is currently being implemented in Timor-Leste includes cost recovery systems to provide funds to operate and maintain key portions of infrastructure.

Existing facilities

See Attachment 3 for a schematic diagram of existing facilities for the existing raw water intake and distribution network.

Existing equipment

Water and Sanitation Service (WSS) currently operates and maintains the water collection and distribution network with the necessary equipment to carry out its tasks.

8. Evaluation of social impact

Current situation

Timor-Leste has made good progress towards self reliance over the past several years, with the majority of economic activity concentrated in the capital city, Dili. Continued economic development is dependent upon key infrastructure, particularly power and water, to function at acceptable levels.

Expected effect of the project

Timely implementation of this project will ensure that there will be no interruption of vital water supply which would have a detrimental effect on daily life and economic development in Dili, and by extension, the entire country of Timor-Leste.

8. Evaluation of social impact (Continued)

No residents will be forced to move due to this project, nor will the environment be degraded in any way. Gender issues are not a factor.

9. Additional Information

Related grant aid cooperation in the past

Key projects undertaken with Japan in partnership with the UNDP include the following;

- 2002: Dili Water Supply Rehabilitation and Improvement Project
- 2003: Urgent Rehabilitation of the Distribution Network for Dili

Japanese ODA in the water sector include the following project (currently ongoing);

- 2005: The project for Improvement of Water Supply in Dili

Request to other donors for the same project

None

Aid by third countries or international organizations in the same field

Title

Water Supply and Sanitation Rehabilitation Project

Year

2003

Budget

N/A

Donor

Technical Assistance from the Asian Development Bank

Reason why Japan's Grant Aid is requested for this particular project

Japan's previous assistance to the new nation of Timor-Leste, particularly in the water sector, has been very much appreciated by the people. This generous support has been very important in terms of providing a vital need.

It is beyond the capacity of the Government of Timor-Leste at this time, to initiate this project through it's own resources. It is hereby requested, therefore, that the Government of Japan continue it's kind assistance for the people of Timor-Leste in this vital sector.