
添付資料

**Minutes of Discussions
on the Preliminary Study
on the Project for Construction of Bridges
in the Province of Nusa Tenggara Barat, Phase 2
in the Republic of Indonesia**

In response to a request from the Government of the Republic of Indonesia (hereinafter referred to as "Indonesia"), the Government of Japan decided to conduct a Preliminary Study on the Project for Construction of Bridges in the Province of Nusa Tenggara Barat, Phase 2 in the Republic of Indonesia (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Indonesia the Preliminary Study Team (hereinafter referred to as "the Team"), headed by Mr. Hiroyuki Katayama, Deputy Resident Representative, JICA Indonesia Office, and is scheduled to stay in the country from 21st November to 21st December, 2007.

The Team held discussions with the concerned officials of the Government of Indonesia and conducted a field survey at the study area.

In the course of discussions and field survey, both sides confirmed the main items described in the attached sheets.

Jakarta, 19 December, 2007

Hiroyuki Katayama
Mr. Hiroyuki Katayama
Leader
Preliminary Study Team
Japan International Cooperation Agency

Hermanto Dardak
Dr. Hermanto Dardak
Directorate General of Highways
Ministry of Public Works
Republic of Indonesia

ATTACHMENT

1. Objective

The objective of the Project is to construct bridges of from the end point of the Phase I project (Tongoloka River) to Lunyuk section in Sumbawa Island in the West Nusa Tenggara Province (NTB).

2. Project Site

The site of the Project is shown in Annex-1.

3. Responsible and Implementing Organizations

- (1) The Responsible Ministry is the Ministry of Public Works (MPW).
- (2) The Implementing Agency is the Directorate General of Highways (DGH).
- (3) The organization chart of Implementing Agency is shown in Annex-2.

4. Items Requested by the Government of Indonesia

4-1 After discussions with the Team, the Indonesian side finally requested the items described in Annex 3.

4-2 The Team conveyed a finding based on the field survey that box culverts would be an alternative to the proposed bridge construction at the site of Labihe I (BR-10) since the bridge length is shorter than expected. The Indonesian side agreed to this point and requested to include the above-mentioned box culverts into the Project component.

4-3 Regarding the bridge construction at the site of Tartar I (BR-5), the Team proposed that a bridge construction would not be necessary because there is no river and stream found at the site. The Team also mentioned that in order to improve the existing road alignment at the site, the slope cutting with an adequate gradient and expansion of the road width by gabion on the filling side would be technically rational. The Indonesian side agreed to exclude Tatar I bridge from the Project component.

4-4 JICA will assess the appropriateness of the request and will report the findings to the Government of Japan.

5. Japan's Grant Aid Scheme

The Indonesian side understands the Japan's Grant Aid scheme explained by the Team, as described in Annex 4, 5 and 6.

6. Schedule of the Study

6-1 The Team will proceed to further studies in Indonesia until 21st December, 2007.

6-2 The Team continues the study in Japan until February 2008. If the Project is deemed feasible as the Japan's Grant Aid based on the results of this study, JICA will send the Basic Design Study Team to Indonesia subject to the instruction by the Ministry of Foreign Affairs of Japan.

7. The JICA Guidelines for Environmental and Social Considerations

7-1 The Team explained the outline of the JICA Guidelines for Environmental and Social Considerations (hereinafter referred to as "the JICA Guidelines").

7-2 The Indonesian side took the JICA Guidelines into consideration, and agreed to complete the necessary procedures, when deemed necessary.

7-3 The Indonesian side will conduct the IEE (Initial Environmental Examination) based on the JICA Guidelines together with the Team.

7-4 The Indonesian side agreed to conduct the public information campaign and the stakeholder meetings for effective public participation with the Project Affected Persons (PAPs), local communities, related NGOs, etc. before the Basic Design Study to commence, in case serious or some negative impacts such as involuntary resettlement are expected in the components of the

Basic Design Study.

8. Other Relevant Issues

8-1 Both sides confirmed that the scope of the Basic Design Study for the Project would be examined by the Japanese side. The Indonesian side understood that there would be possibilities that some sections and/or items requested by the Indonesian side would not be covered under the Project.

8-2 The Indonesian side shall provide necessary numbers of counterpart personnel to the Team during the period of their studies in Indonesia.

8-3 The Indonesian side shall submit answers in English to the Questionnaire with relevant documents, which the Team handed to the Indonesian side, by 7th December, 2007.

8-4 The Indonesian side agreed to maintain the existing road at Tatar I site as mentioned in section 4-3.

8-5 The Indonesian side has already arranged the budget allocation and started necessary construction work between DGH and NTB and such as survey, construction and maintenance in accordance with the Memorandum of Understanding signed at 11 November 2004.

This work covers the maintenance of roads and construction of culverts or bridges with span less than 15 meters in Sijorong – Tatar – Lunyuk Section as mentioned in ANNEX 7.

Annex-1 Project Site Map

Annex-2 Organization Chart

Annex-3 Requested Items

Annex-4 Japan's Grant Aid Scheme

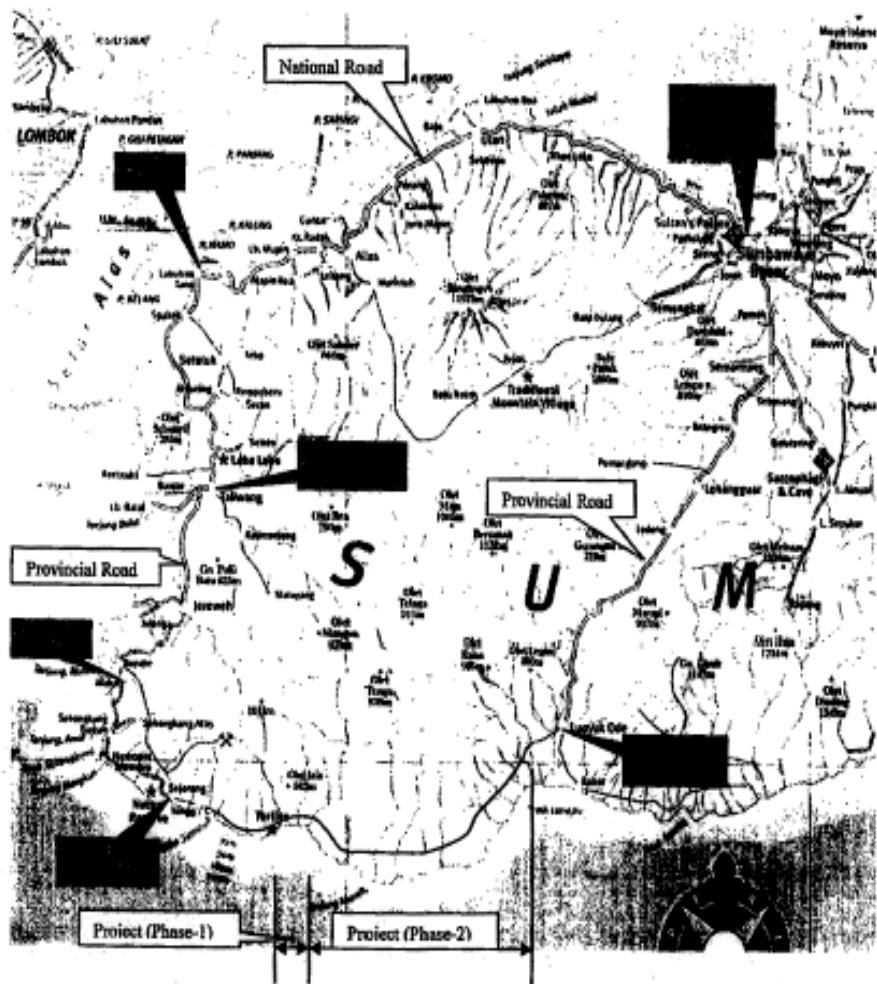
Annex-5 Major Undertakings to be taken by Each Government

Annex-6 Flow Chart of Japan's Grant Aid Procedures

Annex-7 Progress of Improvement the Access Road by Central and Local Budget

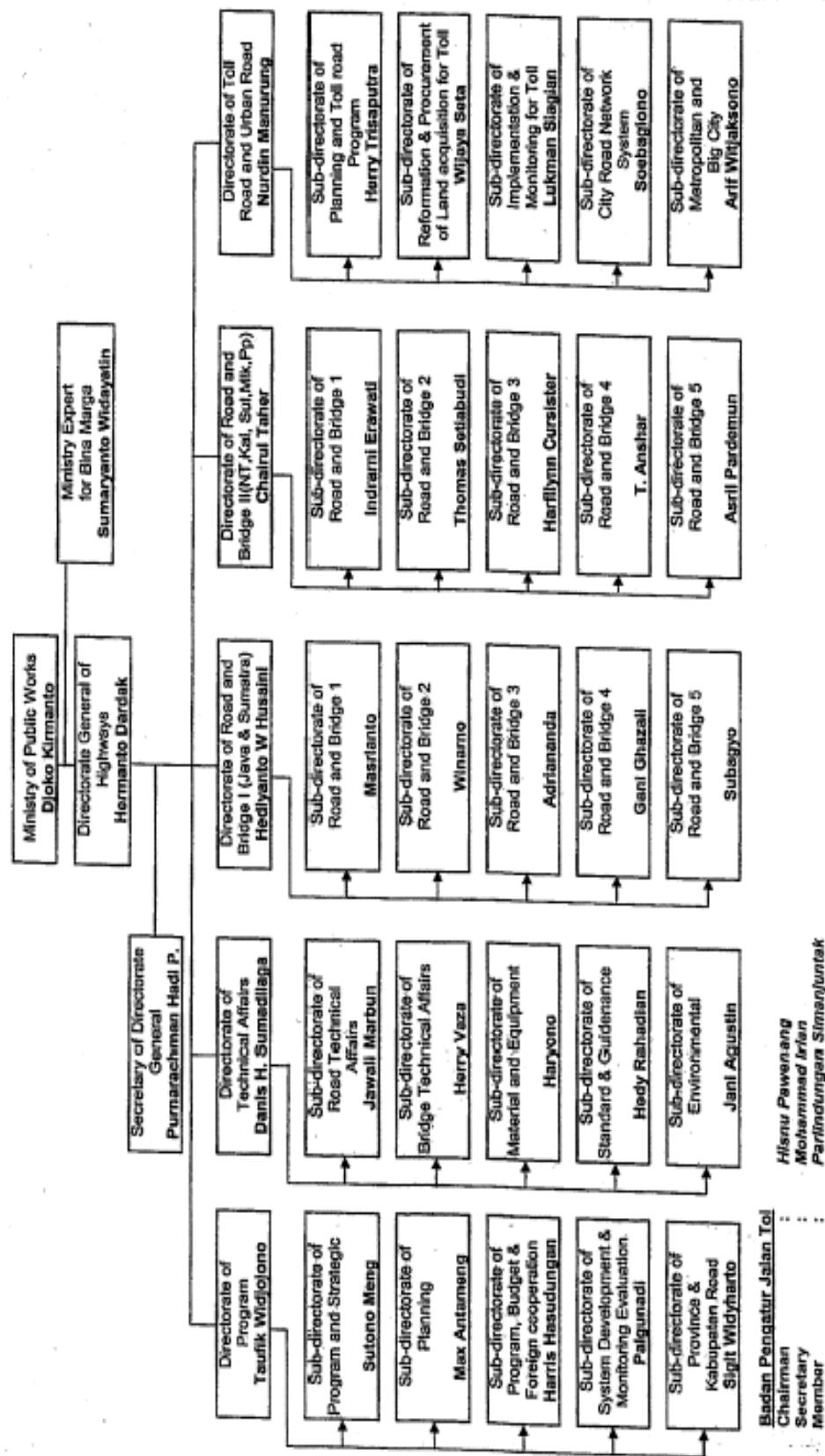
The Project Site

Annex-1



Location of Project Site

ORGANIZATION FOR DIRECTORATE GENERAL OF HIGHWAY (BINA MARGA)



ANNEX - 2

Requested Items

Annex-3

Bridge No.	Bridge Name	Bridge Location (Sub-District)	Estimated Length of Bridge (m)	Existing Structure	Recommendation			Funding Source	Expected *	Remarks
					Type	Structure	Bridge Length (m)			
BR-1	Air Keruh I	Sekongkang	30	Gabion	Bridge	Bridge	30	G	-	
BR-2	Air Keruh II	Sekongkang	30	Gabion	Bridge	Bridge	30	G	Detour at Upstream River Bed	
BR-3	Negene I	Sekongkang	25	Gabion (Damaged)	Bridge	Bridge	30	G	-	
BR-4	Negene II	Sekongkang	10	Gabion	Box Culvert	Box Culvert	-	I		
BR-5	Tatar I	Sekongkang	100	-	-	-	-	I	Alignment Improvement of Cut Stretch (Steep Gradient of Cutting Slope)	
BR-6	Tatar II	Sekongkang	15	-	-	-	0	I		
BR-7	Tatar III	Sekongkang	15	Rock Placing	Box Culvert	Box Culvert	-	I	Missing	
BR-8	Tatar Loka	Sekongkang	60	Gabion	Bridge	Bridge	50	G	-	
BR-9	Tatar Bedo	Sekongkang	25	Gabion	Bridge	Bridge	25	G	-	
BR-10	Labilie I	Sekongkang	20	Gabion	Box Culvert	Box Culvert	-	G	-	
BR-11	Labilie II	Sekongkang	20	Gabion (Damaged)	Bridge	Bridge	20	G	Detour at Upstream River Bed	
BR-12	Labilie III	Sekongkang	20	Gabion	Bridge	Bridge	25	G	-	
BR-13	Mone I	Sekongkang	20	-	-	-	0	-	Missing	
BR-14	Mone II	Sekongkang	15	-	-	-	0	-	Missing	
BR-15	Mone III	Sekongkang	10	-	-	-	0	-	Missing	
BR-16	Telomang I	Sekongkang	30	-	Bridge	Bridge	30	G	Crossing at Shallow Water Stream	
BR-17	Telomang II	Sekongkang	15	Wooden Bridge (Damaged)	Bridge	Bridge	10	I	Bridge Name : Bau Nampar, Remaining of Both Abutments, Detour at Downstream	
BR-18	Telomang III	Sekongkang	10	Wooden Bridge (Damaged)	Bridge	Bridge	10	I	Decay of Wooden Parts, Detour at Downstream River Bed	
BR-19	Sepang	Lanyuk	40	Concrete Cause Way	Bridge	Bridge	35	G	Existing Structure Completion in 2007	
BR-20	Bontong	Lanyuk	20	Wooden Bridge (Damaged)	Bridge	Bridge	20	G	Collaps of Old Bridge, Detour at Upstream River Bed	
BR-21	Bon Jeti	Lanyuk	10	Wooden Bridge (Damaged)	Bridge	Bridge	10	I	Collaps of Old Bridges, Detour at Upstreams River Bed	
BR-22	Berupkon	Lanyuk	20	-	-	-	0	-	Missing	
BR-23	Tebil	Lanyuk	20	-	Bridge	Bridge	20	G	Crossing at Shallow Water Stream	
BR-24	Moenil I	Lanyuk	10	-	-	-	1	I	Bridge Name : Oranta	
BR-25	Moenil II	Lanyuk	30	RC Bridge (New)	-	-	-	I	L=10m, W=7.5m, Superstructure: 6 - I Beams , Abutment: RC	
BR-26	Kikit	Lanyuk	15	Under Construction	-	-	-	I	L=10m, Completion of Abutments, BR-25 located near Lanyuk than BR-26	
BR-27	Lamar	Lanyuk	40	Concrete Cause Way	Bridge	Bridge	40	G	Existing Structure Completion in 2007	
BR-28	Aitmarud	Lanyuk	15	-	Box Culvert	Box Culvert	-	I		
BR-29	Liang Bagik	Lanyuk	20	Concrete Cause Way	Bridge	Bridge	20	G	Existing Structure Completion in 2007	
BR-30	Petain I	Lanyuk	15	Concrete Cause Way	Bridge	Bridge	20	G	Existing Structure Completion in 2007	
BR-31	Petain II	Lanyuk	15	Concrete Cause Way	Bridge	Bridge	15	I	Existing Structure Completion in 2007	
BR-32	Petain III	Lanyuk	20	-	-	-	0	-	Missing	
BR-33	Moldong	Lanyuk	15	-	-	-	0	-	Missing	
BR-34	Emang	Lanyuk	30	Concrete Cause Way	Bridge	Bridge	30	G	Existing Structure Completion in 2007	
BR-35	Kalhir	Lanyuk	20	Concrete Cause Way	Bridge	Bridge	20	G	Existing Structure Completion in 2007	
Nos. of Bridge : 35		Total Bridge Length : 825m		Nos. of Bridge : 20		Total Bridge Length : 490m		Total Bridge Length : 445m		
Nos. of Bridge ($\geq 20m$)		Total Bridge Length : 640m		Nos. of Bridge ($\geq 20m$) : 16						

- "GR": Requested to be covered by Grant Aid.
- "T": To be maintained by Indonesian Side

Japan's Grant Aid Scheme for General Project

The Grant Aid scheme provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

1. Grant Aid Procedures

Japan's Grant Aid Scheme is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of	(The Notes exchanged between the Governments of Japan
Implementation	and the recipient country)

Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Scheme, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes (E/N) signed by the Governments of Japan and the recipient country.

Finally, for the smooth implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project"), is to provide a basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, social and economic point of view;
- Confirmation of items agreed upon by both parties concerning the basic concept of the Project.
- Preparation of a basic design of the Project.
- Estimation of cost of the Project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project.

Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For smooth implementation of the Study, JICA uses registered consulting firms. JICA selects firms based on proposals submitted by interested firms. The firms selected carry out a Basic Design Study and write a report, based upon terms of reference set by JICA.

The consulting firms used for the Study are recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency.

3. Japan's Grant Aid Scheme

1) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

2) "The period of the Grant Aid" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consulting firms and contractors and final payment to them must be completed.

However, in case of delays in delivery, installation or construction due to unforeseen factors such as natural disaster, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

3) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

4) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability of Japanese taxpayers.

5) Undertakings required to the Government of the recipient country

In the implementation of the Grant Aid Project, the recipient country is required to undertake such necessary measures as the following:

- a) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the Project,
- b) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,
- c) To secure buildings prior to the procurement in case the installation of the equipment,



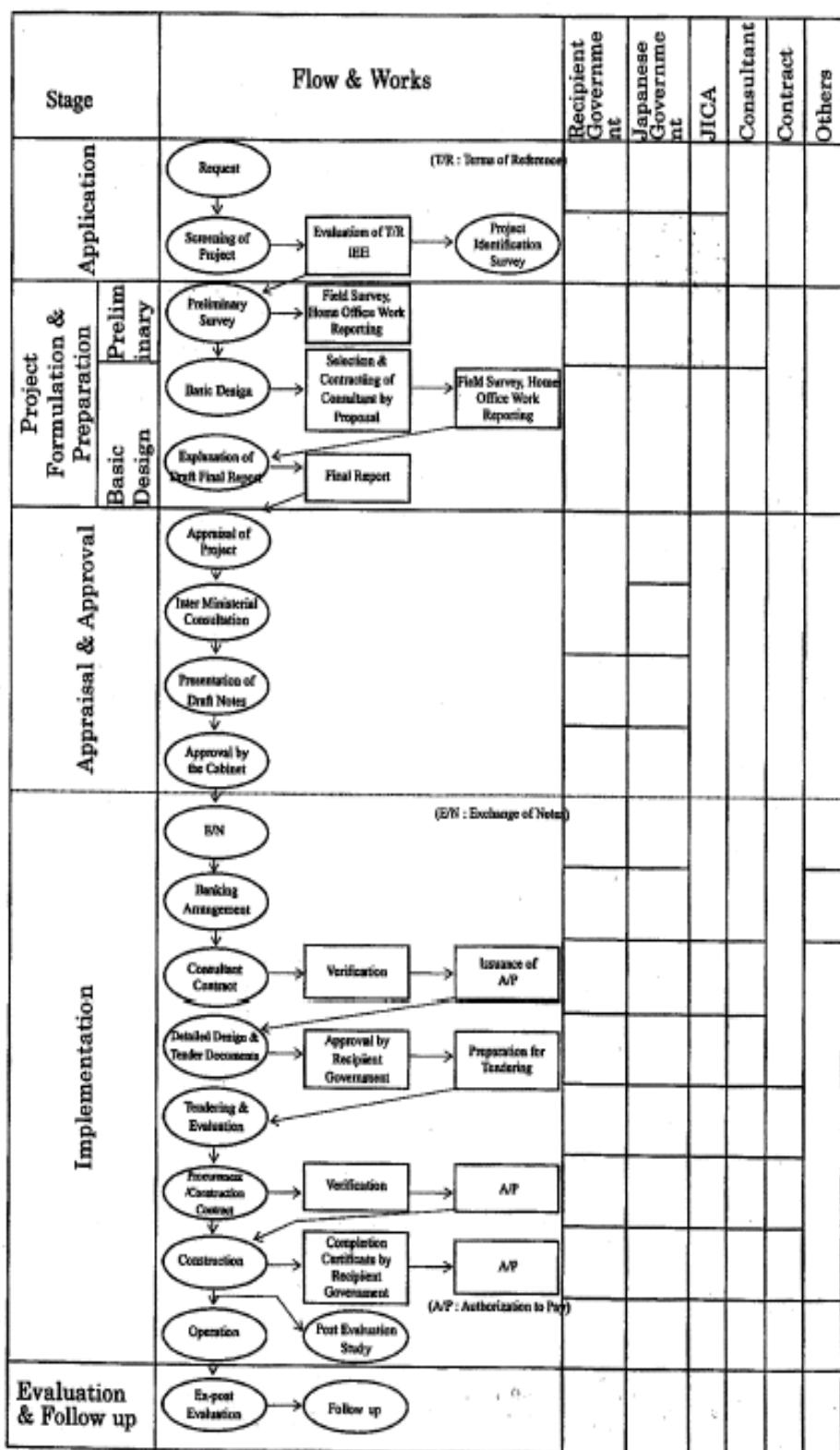
Major Undertakings to be taken by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Party
1	To secure land		•
2	To clear, level and reclaim the site when needed		•
3	To construct gates and fences in and around the site	(•)	(•)
4	To construct roads		
	1) Within the site	•	
	2) Outside the site when needed		•
5	To bear the following commission to the Japanese bank for the banking services based upon the B/A		
	1) Advising commission of A/P		•
	2) Payment commission		•
6	To ensure prompt unloading and customs clearance at port of disembarkation in recipient country		
	1) Marine (Air) transportation of the products from Japan to the recipient country	•	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		•
	3) Internal transportation from the port of disembarkation to the project site	•	
7	To accord Japanese nationals, whose services may be required in connection with the supply of the products and the services under the verified contract, such facilities as may be necessary for their entry into Indonesia and stay therein for the performance of their works		•
8	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in Indonesia with respect to the supply of the products and services under the verified contracts		•
9	To maintain and use properly and effectively the facilities constructed and equipment provided under the Japan's Grant		•
10	To bear all the expenses, other than those to be borne by the Japan's Grant, necessary for construction of the facilities		•

(B/A: Banking Arrangement, A/P: Authorization to Pay)

(1)

Flow Chart of Japan's Grant Aid Procedures



Annex - 17

**PROGRESS OF IMPROVEMENT THE ACCESS ROAD BY CENTRAL & LOCAL GOVERNMENT BUDGET
UNDER BRIDGES CONSTRUCTION JAPAN'S GRANT AID**

No	The Progress of the commitment between centre government and provincial government	Road Rehabilitation - Sejorong - Ternar - Lumyuk (2005 - 2006), Tenter - Lunyuk (2007 - 2012) with Mone III, Teloneng III, Bon Jati, year 2002 until 2005	Bridges construction (Magne II, Puna Bridges construction from and Mamili I) from year 2005 until 2006
1	Bridges construction	Bridges construction with span less than 15 meter (7 bridges) which is built for 2007 budget by local government / kabupaten government.	Bridges construction for Tolonang. The complete of Puna II bridge III and Mamili I is on going (2007) with cost 7.5 Milliar Rupiah and which is built by provincial length 90 m which is built for 2003-2006 budget. The rest of these bridges will be built for 2008 government budget by provincial government also
2	Road Rehabilitation	The rehabilitation for: - Sintu 25,60 km has been carried out for 2006 budget - Sintu 25,60 km has been carried out for 2007 budget by local / provincial government. - Sintu 18,10 km has been carried out for 2005 - 2007 budget by central government. - Sintu 5,00 km will carry out for 2005 budget by local / provincial government. - Sintu 7,00 km will carry out for 2005 budget by central	The rehabilitation for lapen 10,00 km will carry out for 2008 budget

The benefit of the project for bridges construction NTB province under Japan's Grand Aid has been indicated in the 3 aspects for economic development:

1. To provide a job for local people on the construction works.
2. To encourage the national programme of transmigration to this area. The population has increased by this programme from 533 families to 715 families during 2 years.
3. To provide the accessibility of forest production, especially honey, flower and almond peanuts.

添付-2 質問表

Annex-4

We have some practical information at hand through the Basic Design Study Report on "The Project for Bridge Construction in the East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB)" in The Republic of Indonesia (January 2005).

In addition to them, we need further and latest information.

Please provide us information and data (in English if possible) on the items listed below.

Questionnaire and Request for Information / Data

The Preliminary Study on the Project
for
Bridge Construction
in
The West Nusa Tenggara (NTB), Phase-2
in

The Republic of Indonesia

1. Road/Bridge Construction and Maintenance Works
 - 1.1 Administration and Finance
 - (1) Relations of the central government and provincial government
 - (2) National/Provincial budgets and expenditures for the past five years (including the yearly foreign exchange rate of the currency to US dollar)
 - (3) Administration map of NTB (including sub-districts)
 - (4) Latest "Outline of Implementing Agencies"
 - 1) General description
 - 2) Organization chart of the Agencies (including local offices)
 - 3) Authorities and duties of the Agencies
 - 4) Personnel: number of staffs (officers, engineers, technicians, operators, etc.) by sections /local offices related to the Study areas
 - 5) Road construction / maintenance equipment: number of available equipment by section / local office related to the Study areas
 - 6) Budgets of the Agencies and its breakdown for the past three years
 - 7) Past budget and future budgetary plans for Road/Bridge construction and maintenance in NTB
 - 1.2 Social Economy
 - (1) Latest socio-economic indices
 - 1) National statistical year book
 - In particular, indices of population and gross domestic product (GDRP) of every province
 - 2) Provincial statistics of NTB
 - In particular, indices of agricultural, marine and mining products of NTB
 - (2) Latest development plans of the country
 - 1) Summary of National Development Plan (2005-2009)
 - 2) Summary of Road Development Plan (2005-2009)
 - (3) Latest development plans and reports in NTB
 - 1) Transportation Development Plan and its progress
 - 2) Transmigration Development Plan and its progress
 - 3) Agricultural and Fishery Development Plan and its progress
 - 4) Mining Development Plan and its progress
 - 5) Tourism Development Plan and its progress
 - 1.3 Transport and Road Sector in NTB
 - (1) Road condition
 - 1) Road network
 - a) Existing road network map by category (national road, provincial road, district

- road, etc.)
- b) Total length of road by surface condition
 - 2) Traffic data for the past three years
 - a) Location of traffic count
 - b) Traffic volume by types of vehicle
 - c) Registered number of vehicles by district
 - 3) Existing and on-going road development including road project supported by a third country or an international organization
 - (2) Public transportation
 - 1) Bus route map and location of main bus terminals
 - 2) Number of Bus Service Company and number of bus users
 - (3) Water transportation
 - 1) Location and scale of the main port
 - 2) Service route of ships (cargo boat, passenger ship and ferry)
 - 3) Handling freight volume, number of passengers and vehicles at the main port
 - (4) Air transportation
 - 1) Location and scale of the main airport
 - 2) Air route
 - 3) Handling freight volume and number of passengers at the main airport

1.4 Map

- (1) Topographic maps covering basin of rivers in the west of NTB (1/25,000, and others)
- (2) Topographic maps covering South Ring Road from Desa Talonang Baru to Lunyuk (1/25,000, 1/5,000, 1/2,500 and others)
- (3) Geological map along South Ring Road from Desa Talonang Baru to Lunyuk
- (4) Vegetation map
- (5) Other maps available for the Study, if any

1.5 Bench Marks

Bench mark (location, coordinates, elevation and others) and relation with national grid system in The Republic of Indonesia

1.6 Data and information in NTB

- (1) Road and Bridges
 - 1) Road map showing the existing and planned bridges and box culverts
 - 2) Road inventories (length, width, surface type, etc.)
 - 3) Bridge inventories (location, type, length, width, and conditions)
 - 4) Record of past disasters (flood, slope failure, bridge destruction, etc.)
 - 5) Improvement plans for road
 - 6) Maintenance works
- (2) Meteorological data
 - 1) Annual, monthly and daily rainfall
 - 2) Temperature
 - (3) Hydrological data
 - 1) Annual highest and lowest water level at all sites where a bridge is planned to be

1.9 Materials, Labor and Equipment

(1) Unit price of major materials in local market			
Item	Specification	Unit	Average price (in Rp)
Cement	Normal Portland cement	ton	
Coarse Aggregate	Crushed stone	Cubic m	
Fine Aggregate	Sand	Cubic m	
Reinforcing Steel Bar		ton	
Phywood	Thickness 12mm for form work	Square m	
Timber		Cubic m	
Prestressing cable		kg	

(2) Remuneration in NTB			
Qualification	Category	Cost (in Rp/day)	
Engineer	Foreman		
Labor	Skilled labor		
	Unskilled labor		
Driver of vehicle			
Operator	Heavy equipment		
Administration	Administrator		
	Secretary		

(3) Rental Costs in NTB		
Item	Specification	Unit price (in Rp/hour)
Dump truck	10ton	
Dump truck	4 ton	
Bulldozer	15 ton	
Backhoe	0.8 m ³	
Cargo truck	10 ton	
Cargo truck	4 ton	
Macadam roller	10 ton	
Tire roller	8 ton	
Motor grader	3.1 m	
Truck crane	50 ton	
Truck crane	25 ton	

2. Environmental and Social Consideration

CATEGORY	ITEM
Environmental Legislation	Environmental Impact Assessment (EIA) Law (ex. National Environmental Action Plan, Environmental Management Act)
	Environmental guidelines for road sector (including a mandatory list for full EIA / IEE)
EIA Report (sample)	Environmental standards (air, water, emission, noise, etc...)
Other relevant laws	Environmental Impact Assessment Report for bridge construction project, if any
	Land Law (regarding land acquisition, resettlement, compensation and ROW/Right of Way/ Road reserve)
	Resettlement Policy Framework / Guidelines
	Forest Law (Is there any reserve forest around the project area?)
	Fisheries Rights (Is there any area of fisheries rights around the project area?)
	Right of Water (Is there any area with Water Rights around the project area?)
Environmental data	Environmental Status Report in Sumbawa Island, if any
	Endangered and rare species list which is adopted in EIA activities, if any (ex. IUCN CITES)
	Law based natural designated area map (National Park, forest reserve, game reserve area)
	Law based cultural and social designated area map (cultural heritage, protected colony/ethnic minority, traditional protected area map)
	Vegetation map
	Land use map
	Environmental survey report in the project area (fauna, flora, water quality)

1.10 Local Contractors and Consultants

- (1) List of major local contractors and their strong fields with evaluation ranking on road and bridge construction having experiences in NTB.
- (2) List of major local consultants for design and supervision on road and bridge construction having experiences in NTB.

添付-3 NTB 知事スピーチ

2007年11月23日のNTB関係者へのICR説明時

Speech of Governor of NTB 23rd Nov. 2007

First of all he expressed his grateful and high appreciation to JICA / Japanese Government for the support given to the people and government of NTB Province.

Those bridges which are now under construction have been expected for long time.

Southern part of Sumbawa is “empty” area has a great potential as source of agricultural products. The biggest problem or constraint they are facing for long time is not many people live there and almost no sufficient infrastructures are available.

Inversely, in southern part of Lombok is densely populated by people. Most of them are very poor since not many jobs are available. What the government has done so far to solve this difficulty was to transmigrate some of them to southern part of Sumbawa.

In this new place these transmigrant worked hard there. They soon become successful farmers. Unfortunately their good agricultural products could not be sold to the market as there is not appropriate infrastructure (road, bridges) here.

Actually, the main goal of the government of NTB wanted to achieve by transmigrating those people was to improve their live or welfare. However due to shortage of infrastructure this aim is not fully achieved.

Central Lombok (included Southern parts) is designated as one of Tourism Development Center and Southern part of Sumbawa is as center for food and other agricultural products. It is expected in the near future, when all infrastructures in these both areas are fully constructed, we are very certain trading activities can grow well. More and more people will be involved in this business. Farmer in Southern Sumbawa can easily sell their products to Lombok or other places since no constraint in the transportation.

Bridges construction in Phase 1 and Phase 2 granted by Japan Government gives great benefit to the people living in the southern part of Sumbawa. Socio economic development can be accelerated and equally distributed which in turn poverty rate can be reduced.

注) 調査団の通訳によるまとめ

添付-4 統計資料

32 villages out of 37 are classified as "paddy field" villages.

In this chapter, the result of General election of 1999 is included. Total number of voters was 46,762. In 2004, the total number of voters for the general election to elect the Member of Parliament was 60,

0834. This number declined in the election conducted for the Presidency in July 5 2004. i.e. 48,047 voter (first round) and at the second round this number declined as much as 2,381 voters.

統計資料(は国及び州のものは英語訳付であるが、それ以下は「イ」語のみである。したがって、以下の資料は調査団により「イ」語から英語に翻訳した地域の概要である。

1. 西スンバワ県の概要

Chapter 1 Geography

A. Site and Nature Condition

West Sumbawa District (WSD) is one of the districts that belong to NTB Province. Its location is at the west end of Sumbawa Island at the position 116°42'-118°22' of east longitude, and 8°8'-9°7' of south latitude with total area 1,849.02km².

Its topography shows not all regions are plain or even tend to be as hilly one with altitude between 0-1,730m from the sea water level. Most of the area 146,711ha (79.35%) has steep slope. Capital city of sub districts in WSB lies between 10m and 650m from the sea water level.

WSB with its motto "Pariri Lema Bariri" has borders in the west is Alas Strait, in east & north is Sumbawa District and Indonesian Ocean in the south.

Distance from the capital city of WSD to the capital city of subdistrict is about 23km, except to Sekongkang subdistrict which is 52km.

B. Climate

WSB is in the tropical country influenced by 2 main seasons namely Rainy and Dry. Most of the rainfall occurs in December, February and March. The heaviest rainfall of 271.1mm was recorded in February 2006 was, which was followed by March and April rainfall of 226.9mm and 219.2mm respectively. Actually, rainfall depends on evaporation.

Chapter II Government

WSB was established based on the Law No.301, 2003. It consists of 5 sub districts, 37 villages and 131 sub villages.

Condition of villages in WSD is shown in Table 2.2.

- Well developed : 7 villages
- Fair developed : 20 villages
- Less developed : 2 villages

Chapter III Population and Man Power

A. Population

Population is one of the factors determining development. Big number of population followed by good education and skill can be dominant in achieving objectives of development. But inversely large population but low skill and education will become the burden of the government.

In 2006 total population of WSD was 107,402, of which 53,571 were male and 53,831 female. If it is compared with the total area of WSD i.e.1,849.02km², the density of WSD is 58 persons / km². It is a rare district in term of density.

Seteluk sub district's population density is 100 persons / km², which is followed by Taliwang subdistrict with 85 persons / km². Other subdistricts density is less than 60 persons / km². Due to this, WSD since 1997 was designated as the location for transmigration. Transmigrants came from Java, Bali, Lombok and others.

B. Man Power

Man power can be categorized into 2 main groups, namely workers and job seekers. The first group includes those who work abroad such as Saudi Arabia, Malaysia and South Korea.

Utilization of WSD natural resources is not yet in maximum level and the government can not create sufficient job opportunities for its people. This encourages WSD people to go abroad to work. In 2006, around 2,094 persons, all of them women, went abroad to work. Their education level is very low. Only about 51 % of the total has completed junior high school (SMP).

Chapter IV Social

A. Education

Education is being intensively promoted by the government. All school age children are expected to go to school. Compulsory schooling for 9 years program expects to eradicate illiteracy, enhance opportunity to learn and finally increase the quality of human resources.

There are 2 main education; namely formal and non formal educations. In WSD formal education such as from elementary up to the university is available. Non formal education like training or courses for mechanics, electrician, machinery, building, handicraft etc. are also available.

B. Health and Family Planning
To increase the degree of public health, it should be supported by good and enough medical facilities. There is a large gap between the number of people and the availability of medical facilities. For example, not every village has a sub community health center. There is a shortage of medical staffs as well. This condition is shown in Table 4.2.1 – 4.2.3.

C. Religion

Data collected from statistics office staff at sub district level show that Islam is the major religion in WSD, which is then followed by Hindu, Catholics Protestant and Buddhism.

D. Others Social Problem

Disabled people tend to increase in number Those disabled are blindness, dumb, mental disorder etc. The number of people who have framboesia, disease, old men, orphans, homeless, criminals etc is also recorded here.

Chapter V

Agriculture

Agriculture has a strategic role in accelerating the national economic growth. WSD that has a large area of paddy field has a high potency for rice production for national stock.

A. Food Crop

Production of paddy in 2006 in WSD was 65,056.16 ton; production of cassava was 359.96 ton. Total area of harvesting, production and productivity in WSD are shown in Table 5.1.1 -5.1.7.

B. Fishery

WSD has large fishing area. Almost all of sub districts in WSD have potency for producing sea fish or fresh water fish.

Table 5.2.5 shows the potency figures. Production of sea fish in 2006 was 2,165 ton (captured fish).

C. Live stock

WSD is one of the prominent livestock produce in NTB Province. These livestocks were exported to Jawa. Livestocks population fluctuates in WSD. Over shipment is estimated to be its main reason. Population of cattle, pig and native (local) chicken develops better than others. In 2006 population of buffalo: 8,029 heads, cattle: 20,384 heads and local chicken: 104,664 heads.

D. Plantation

Commodities of plantation such as coffee, cashew nut, coconut, tamarind and so on have promising

prospect in the future. Production of these commodities is increasing every year. In 2006 production of coconut was 595.17 ton, cashew nut: 114.71 ton and tamarind: 92.46 ton. See details in Table 5.4.

F. Forestry

For the sake of natural resources, there is a reduction in forest production (timber). Some commodities derives from forest have high economic value such as timber, rattan, honey etc. Government promotes re-forestation by planting some high quality tree, for example teak, mahogany etc.

F. Land Use

Land use data are shown in Table 5.6.1. There are 3 main land status of land, namely personal ownerships, usage right and temporary usage right. Total for each status are 364 ha, 10ha and 1 ha respectively.

Chapter VI

Industry, Trade and Electricity

A. Industry

Industry sector is less developed compared with others. Actually this sector can generate a good source for district income.

In 2006, 509 trade licenses were issued which can employ 1,800 employees with total investment Rp.59.2 billion.

B. Trade

Trade comprises selling and buying. Trade can be categorized as domestic trade and export trade. Table 6.2 show the number of trade facilities which are available in WSD.

C. Electricity

Electricity can endorse the success of development and have a strategic role in improving community welfare. Villagers with electricity live much better than villagers without electricity. In 2006 total production of electricity was 18,795,905 KWH of which 18,237,583 KWH was sold to consumers and the remaining 558,322 consumed by the electricity company.

Chapter VII

Transportation

A. Road

Roads and bridges have a great support to accelerate our economic activities. Easiness or difficulty to transport a cargo / passenger depends on the condition of the road and the bridges. Roads can be classified as national roads, provincial roads and district roads. District roads are under the responsibility of district government. Total length of WSD roads are 146.13 km.

B. Land Transportation

Means of transportation can be classified into some groups based on its destination, namely city transportation, rural transportation, inter city within province and inter city – inter province and traditional transportation. In 2006 total public vehicles in WSD were 484 unit owned by 173 companies.

C. Air Transportation

There are no regular flights to or from WSD. There is only charted or pioneer flight at Secongkang sub district.

D. Post and Telecommunication

Only 3 Post offices are now in WSD, but just as branches because the main office is in Sumbawa District. Besides this Post office people in WSD use telephone (fixed wire) as means of communication. Total subscribers/ clients of Telephone Company in WSD are 811.

Chapter VIII

Hotel

NTB province has been chosen as one of the tourist's destination resort. WSD as part of NTB should endorse this policy by providing some facilities such as hotels, restaurants, means of transportation etc. In 2006, in WSD there were 3 hotels, one in each sub district of Taliwang, Jeregeh and Sekongkang. Other 9 units of accommodation were also available.

Chapter IX

District Budget

Government adopted balance and dynamic budget. Balance means both income and expenditure is expected to be balance and dynamic means government try to use budget as efficiently as possible so that at the end of fiscal year some amount can be saved. This saving will be utilized in the next budget year. In this autonomy era each district is encouraged to improve its budget's management. Since WSD is just separated from Sumbawa District its budget is still a small amount. WSD is now

struggling in seeking some source of income. This chapter only shows data regarding to insurance, taxes and cooperative.

Chapter X

Consumption and Expenditure

More or less development of a society can be seen from their income / capita. Income of a particular family is usually used for consumption and for saving. Consumption increases when income increases and so is its inverse. If the income increases continuously, the pattern of expenditure for food and nonfood items will change. The higher the income, the bigger portion of it goes for the nonfood items. If this condition is maintained, the welfare of such society / community would become better. In this chapter, expenditure is classified as expenditure for food and for nonfood items. The expenditure is also differentiated for those who live in urban area and for those who live in rural area.

2. シンハラ県の概要

Chapter III Population and Man Power

Chapter I Geography

A. Site and Nature Condition

Sumbawa District (SD) belongs to NTB Province along with other 8 districts / cities. It lies between 118°22' east longitude, and 8°38' - 9°7' of south latitude with total area: 6,643.98km². Soil surface in SD is not all flat but tends to be hilly with altitude varying from 0 to 1,730m above the sea level. Most of the area i.e. 355,108 ha (44.81%) are at the altitude of 100-500 m above the sea level. A capital city of sub districts of SD lies at around 10-650 m above the sea. SD with its motto / slogan "Sabalong Samalewa" has borders with West Sumbawa District in the west, with Dompu District in the east, Flores Sea in the north and with Indonesian Ocean in the south. Distance from Capital of SD to the capital cities of sub district around 45km in average except Lunyuk District in the far most (98km).

B. Climate and Rainfall

SD is in the tropical region, so only 2 seasons are here namely dry season and rainy season. Maximum temperature: 37.5 degrees Celsius in 2006 was recorded in November and minimum temperature: 17.6 degree Celsius was recorded in September. Maximum relative humidity: 87% and minimum one: 65%. Air pressure: Maximum: 1,010.7 mb and minimum one: 1,006.0mb. Wind mostly blows to south east: speed 20 k not. El Nino influences climate in Indonesia, including SD. In 2006, total rainfall and rainy day were bigger than before. Total rainfall and rainy day were 117 days and March saw the largest number of rainy days i.e. 14 days. The biggest amount of rainfall was in February (630.4mm) and March (219.4mm). Rain day and rain fall are determined by evaporation. In 2006 evaporation figures was ranging between 127.2mm to 259.0 mm.

A. Population

Population is one of the main factors determining development. Large population with good education, enough skill and at productive age will be the main and basic capital to succeed that development, but inversely if they do not have education and skill, they will be a burden to the Government. Total population of SD in 2006 was 403,500 comprising of 209,513 male and 193, 964 female. The total area of SD is 6,643.98 km² and thus means its density is 61 persons / km². This figure shows that SD is still less in population.

Sumbawa sub district is the densitest in population (1,182 persons / km²) which is then followed by West Alas (254 persons / km²) and Unter Iwes sub direct (233 persons / km²). 4 sub districts namely Alas, Untan, Moyohilir and Lopok have population density above 100 persons / km². Other sub districts have less than 100 persons / km². Orong Telu and Ropang sub districts have only 12 and 13 persons / km² respectively. Due to these conditions, SD has been chosen as transmigration region.³ 3 villages were selected and since 1987 up to 2006 transmigrants came from Jawa, Bali, Lombok and other islands.

B. Manpower

Natural resources of SD are not utilized yet up to the maximum level. Government can not provide enough jobs to its people hence some of them have to seek jobs in another country. Saudi Arab is the main choice (96.84%). In 2006 as much as 8,310 comprising of 47 male and 8,263 female were recorded working abroad. Unfortunately their skills or qualifications are very low, because 80.39% of them have only finished up to the elementary school.

Chapter IV Social

A. Education

Education is now being promoted by the government. School construction, procurement of tools and equipment are conducted with the main target that all of school aged children can go to school. Nine years compulsory school program is expected which can solve these problems (no schooling, illiteracy, low quality of human resources).

Formal educations from elementary school up to university are available in SD whereas non formal education such as training courses for mechanics, automotive, electricity, building, hand craft, book keeping etc are also available here.

B. Health and Family Planning

Chapter II Government

Autonomy era motivates local government to manage itself as efficient as possible. Up to the present time SD has 22 sub districts, 144 villages, 8 "kelurahan" (similar to a village but they are in the capital city of District) and 536 sub village.

In the village government level, there is one institution called LKMD (similar to legislative body). Based on the performance of those LKMD, 67 out of them are good (category I), 81 are fair (category II) and 1 is poor.

In 2006 DPRD (District Level Parliament) produced 25 regulations and 6 decrees. In this book result of 2004 General Election is presented. Total voters at that time were 246,171 persons.

There is poor condition in term of health facilities in SD. For example up to now not every village has sub Community-Health-Center (clinic). Shortage of medical staff (doctors and specialist) is also a big handicap in SD. Current condition of health facilities is shown in Table 4.2.

C. Courts

Welfare and social life at a certain community can be measured from several aspects. One of them is how many cases are brought to court or how many people are put in jail. More and more people are put in jails which mean that the social life has become unsafe. In SD, number of people put in jail is increasing every year.

D. Religion

Data in Table 4.4 shows that in SD majority of its people are Muslim and they followed by Hindu, Catholic, Protestant and Buddhist.

E. Others Social Problem

Number of disable people in SD tends to increases such as blindness, dumb, mental disorder. In this chapter number of homeless, old man, ex-criminal, hose who suffered from framibia decease were also presented.

Chapter V

Agriculture

A. Food Crop
It comprises paddy, second crop (corn, soy bean, peanut, sweet potato etc), vegetables and fruits. Table 5.1 contains total area of harvesting, productivity and production for those commodities in 2006.

B. Fishery

Fish production in SD is supported by large area for fishing. All sub districts in SD, except Batulanah, have fishing ground (costal area). Fish production in 2006 was 31,313.74 tons (all sea fish). Details are shown in Table 5.2.

C. Live stock

SD is one of the main livestock producers in NTB. Lots of livestock are sent to Jawa. Population of cattle, pig and local chicken is increasing every year compared with other species. In 2006 number of cattle were 87,669 heads, buffaloes 64,752 heads and local chickens 547,507

D. Plantation

Some plantation commodities have a good prospect in the future such as coffee, cashew nut, coconut, tamarind etc. Coconut production in 1,209.39 tons, sugar cane: 397.27 tons. Detail is provided in Table

5.4.

E. Forestry

There is limitation in timber production in order to protect the forests from deforestation. Some forest product such as timber, rattan, bird net, honey etc. are expensive but easy to sell. For re-greening and re-forestation purpose some high quality trees like teak, mahogany etc. have been planted.

F. Land Use

Data for land use are presented in table 5.6.1. In 2006, as much as 1,487 land certificates were issued of which 1,442 for personal ownership, 17 for usage right and 28 for temporary usage right.

Chapter VI

Industry, Electricity and Drinking Water

A. Industry

Industry sector is less developed than any other sectors whereas it is expected it will become an important source for this district's income. According to Trade and Industry Office of SD, industry is classified as:

* Chemical, Agro-forestry industry

* Metal, machinery and electronic industry

The first group has 2,076 units business with 5,141 workers and their products worth Rp. 6 billion.

The second group has 257 units business absorbed 1,322 workers and their products worth Rp. 1 billion.

B. Electricity

Electricity has important role in achieving development. It is also very important for house holds. Welfare of villagers with electricity is better than of those without electricity. Number of consumers is increasing every year not only for house hold but also for industry. In 2005 electricity company (PLN: State owned company) produced 63,933,028 KWH, whereas in 2006 became 68,316,677 KWH. Detail data are shown in Table 6.2.4.

C. Drinking Water

Total consumers of drinking water in 2006 were 8,391 households and the amount of water sold was 153,829 m³. The selling of water by Drinking Water Company is very important because water resources are a little difficult to locate in SD.

Chapter VII

Trade

Trade is defined as selling and buying activities. Trade is classified into import and export activities. From SD most of the products exported to other places are usually derived from agricultural goods such as products from food crops, livestock, fishery, plantation and forestry. Products imported by SD are fuel (kerosene, petrol, and diesel), cement, fertilizer, sugar, cooking oil etc. Detail data are shown in Table 7.2.

Chapter VII

Mine and Energy

Mine and energy have great potency in SD. Accordingly we have to pay more attention to this sector. Unfortunately we still can not fully exploit it since we do not have enough expertise in this field. Table 8.1 shows number of mining licenses issued by SD. In 2005 SD issued 93 licenses and the same number of licenses was issued in 2006 also.

Chapter IX

Transportation

A. Road

Roads and bridges have a great importance in carrying goods / cargoes from producers to consumers. A particular area can be categorized as an isolated place if it has no roads and bridges there. Roads are classified as National roads, provincial roads, and district roads. Length of district roads in SD is 914,37 km. Details data are shown in Table 9.1.1.

B. Land Transportation

Land transportation is classified based on its destination such as city transportation, rural transportation, inter city within province, inter-city-inter province and traditional transportation.

C. Air Transportation

Activities of air transportation are shown in Table 9.3.2. From 2001 postal service via air has been terminated.

D. Sea Transportation

SD has one important port: Badas. Actually there is one another port i.e. Alas, but this port is rarely used. From Badas port 3 main commodities are exported, namely rice, soybean and peanut and 9 commodities are imported, namely can sugar, wheat flour, cooking oil, fertilizer, cement, iron, asphalt, timber, fuel etc.

E. Post and Telecommunication

No change in total of post offices. There are 12 offices comprising of 11 main offices and 1 branch

office. Traffic of postal services is still good. Telephone becomes more and more important for communication purpose. In 2006 total customers of Telephone Company were 5,322.

Chapter X

Hotel

To promote tourism a reasonable number of hotels / accommodation should be constructed. In 2006, SD has 26 hotels located in 4 sub districts namely Alas, Sumbawa, Labuhan Badas and Empang. The largest number of hotels (17 hotels) are in Sumbawa sub district, followed by Labuhan Badas (4 hotels), Alas (3 hotels) and Empang (2 hotels). Those hotels employs 295 workers whose qualifications are as follows:

- Elementary / Junior high school : 117 workers
- Senior high school : 116 workers
- University : 55 workers
- Tourism school : 44 workers

Total guests who stayed in those hotels in 2006, based on their origins, are as follows:

- Domestic guests : 20,815 persons
- Foreigners : 1,782 persons

The highest number of foreign tourists was from Europe which was followed by USA and other ASEAN countries. Room occupancy rate and bed occupancy rate in 2006 were 9.82 and 10.04 respectively. Peak tourist season in SD was June and the off-peak season was in March.

Chapter XI

District Budget and Price

A. District Budget

In this autonomy era, district government is strongly encouraged to manage its budget as efficiently as possible. Table 11.1.1 shows the budget balance sheet of SD (income and expenditure). In fiscal year 2006, income was Rp. 360,076,520,906, whereas expenditure was Rp.350, 840,052,278. Most of the money came from Central Government and only Rp. 19,635,941,970 were pure income of SD. SD is expected to contribute a much larger amount in the future.

B. Prices

Prices of goods and services can be used as an indicator of economic stability. Rapid change in price is a signal that high inflation is likely to occur.

Chapter XII

Consumption and Expenditure

Income per capita can be used as an indicator for measuring the community's welfare. There are 3

methods used to calculate income per capita. One of them is by using expenditure's method. Expenditure per capita income of a family will usually be used for consumption and for saving. Consumption will increase if income increases and vice-versa. Consumption increases when income increases and so is its inverse. If the income increases continuously, the pattern of expenditure for food and nonfood items will change. The higher the income, the bigger portion of it goes for the nonfood items. In this book, community's income in the year 2000 are presented and classified as expenditure for food and for nonfood items. The expenditure is also differentiated for those who live in urban area and for those who live in rural area.

Chapter XIII

Regional Product

Regional product is one indicator to measure economic development of a particular region in a particular time.

Regional product usually known as PDRB (Product Domestic Regional Bruto) consists of 3 main categories, namely First, Second and Third categories. First category includes 2 sectors, namely agricultural sector such as agriculture, livestock, forestry and fishery, and the other one is the mining sector such as mines. Second category includes sectors in industry, electricity, gas and drinking water. Third category includes sectors in trade, hotel and services.

From 2003 to 2005 agriculture sector showed dominant contribution in SD, although its percentage declined every year. In 2003 its contribution toward PDRB was 45.33%, which declined to 44.91% in 2004 and 43.97% in 2005

3. Sekongkang 郡の概要

Chapter 1 Geography

Sekongkang is one of the sub districts of West Sumbawa District (WSD) and lies in the southern part of Sumbawa Island. Some years ago Sekongkang was under the administration of Jereweh sub district. Distance from capital city of sub district to the villages is relatively far. The far most village is Talonang which is about 54 km from Sekongkang.

Borders of Sekongkang sub district;

- Jereweh sub district in North
 - Indonesia Ocean in the South
 - Sumbawa District in the West and in the East
- Sekongkang sub district comprises of 6 villages with total area: 305.12km². About 46.76% of the area belongs to Sekongkang Bawah, 21.67% to Sekongkang Alas and Ai Kangkung and Tatar villages are 4% and 8% respectively.
- Dry land is the largest portion in this sub district compared with paddy field. This is due to low rain fall, less rainy days and its topography (hilly area).

Chapter II Government

As part of WSD, Sekongkang sub-district (SSD) lies in the eastern part of WSD with total area 305.13km² and population 8,312 people which means its density is 27 persons /km².

In 2006, SSD has 6 villages comprising of 16 sub villages and 51 households unit. In SSD there are 52 village office staffs and 54 persons as member of civil defense. Most of the village office staffs are graduated from elementary school and only 3 persons are university graduates. Because the geography of SSD is mostly hilly, these positions are dominated by males.

Chapter III Population

SSD's population in 2006 were 8,312 persons that comprised of 4,386 males and 3,926 female. Its density is 27 persons / km². Each family, in average, has 5 members. More people move in rather than move out and birth rate exceeds the death rate. No wonder number of people increases in SSD. Most of people here live in a wooden house. Nature and tradition influence the people here in building their houses. For roof of those houses, people usually use tile and zinc. For cooking they use wood (easy to collect) and kerosene as well.

Chapter IV Social

Human resources building in SSD has a great attention from the Government. Government has implemented an "Open Junior High School" here although it's learning process is still under the supervision of its mother school.

Recently, there are 5 kinder gardens and 7 elementary schools available in SDD.

There are 19 health facilities now available in SSD, which comprises of community health center, sub health center, private clinic and integrated health services. Besides that 22 midwives are also available here (training and un-training). The table also shows some data regarding to facilities supporting the health life, religion, sport, and crimes and other community activities.

Chapter V Agriculture

Agriculture still has dominant role for the people of SSD, especially food crop such as paddy and "palawija" (second crop e.g. corn, peanut, soybean etc.). Most of the people here rely on these crops for their daily life. That is why the government promotes this sector intensively through agricultural extension, training for field extension workers. Training and education are also carried out for farmers to change their traditional way of farming and to become market and business oriented. In other words, it is trying to change them to become modern farmers.

In 2006 in SSD paddy and "palawija" were priority commodities to be produced here. However crop producing soybean, green pea and corn also are attentive to the farmers alternative crops for bad paddy growth.

Utilization of agricultural equipment is growing. 97 tractors, 253 sprayers and 2 hullers (rice mill) were recorded to be available here. Most of these equipments were used in Sekongkang Alas and Sekongkang villages.

Chapter VI Transportation

In 2006 no road was constructed in SSD. Only repairing and maintenance for the existing road was implemented. The main reason for this was due to the Economic crisis that attacked Indonesia. The total length of roads in SSD is 167 km, where 49 km is district roads and 118 km is village roads.

Land transportation is classified as vehicle and traditional transportation vehicle. Vehicles are namely 4 wheeled vehicles and 2 wheeled vehicles. At present, there are 29 four wheeled vehicles (car) and 621 two wheeled vehicles (motor bike) in SSD.

The use of telecommunication such as radio, TV, telephone in SDD is increasing each year.

Chapter VII District Budget

District development is an integral part and can not be separated from national development. Since development itself needs lots of fund, so the fund derived from APBD (District budget) should be managed effectively.

In 2006, SSD got Rp.111 million from Central Government budget. Each village in SSD got Rp. 18.5 million in average.

4. Lunyuk 郡の概要

Chapter 1 Geography

Lunyuk sub-district is one of the 22 sub-districts in Sumbawa district. It extends from north to south and from an altitude of 10 meter to 50 meter above the sea level (DPL). The distance from the center of Lunyuk to the capital city of Sumbawa district is 98 km.

Borders of Lunyuk sub-district are shown below:

1. North: The border of Orong Telu Sub-district
2. South: The border of Indonesia Ocean
3. East: The border of Ropang Sub-district
4. West: The border of West Sumbawa District

Lunyuk regency has an area of 513.74 km². In 2006 Lunyuk sub-district consists of 7 villages. The area of each village is shown below:

1. Lunyuk Rea village: 89.45 km²
2. Lunyuk Ode village: 47.06 km²
3. Jamu village: 160.00 km²
4. Pada Suka village: 30.70 km²
5. Suka Maju village: 25.50 km²
6. Perung village: .88.45 km²
7. Cmang Lestari village: 72.49 km²

In Lunyuk sub-district we can see many rivers such as Brang Ode, Bmang Beh, Emang, Brang Jamu and others.

Chapter II Government

Until 2006 the number of villages in Lunyuk sub-district decreased to 7 villages. It happened due to the formation of new sub-districts. This matter also influenced in reducing the sub-villages. At present, Lunyuk sub-district has 7 villages, 30 sub-villages and 110 neighborhood associations (RT).

From 7 existing villages, only three villages are classified as well developed villages and the remaining are semi developed.

In 2005 there were 6 villages that could be categorized as under developed, but now there is none. Lunyuk sub-district, in 2006, has only 1 market, 15 stores, 205 kiosks, 2 village cooperatives and 4 ordinary cooperatives. No banks and animal markets are available.

Chapter III Population

Lunyuk sub-district has an area of 50.74 km². In 2006, its population was 16,482 people consisting of 8,638 males and 7,844 females. This data shows that sex ratio is 110, which means there are more males than females (110:100).

Total density in Lunyuk sub-district increased in 2006 compared to that in 2005. Density in 2006 was 32 persons / km², which means Lunyuk sub-district is rare in terms of population. Density in each village is between 8 to 124 persons / km². The most densely populated village is Pada Suka Village and the lowest is Jamu village.

In 2006 Lunyuk sub-district had 4,554 families with 4 members in each family (in average).

Chapter IV Social

Social indicators are frequently used by government for planning and implementing of policies. These social indicators are, for example, education, health, religion and others. Among such indicators, education is considered to be most effective than other indicators. No wonder, government pays more attention to this education sector. More school buildings have been constructed even at very remote areas.

In 2006, Lunyuk sub-district had 28 schools comprising of 6 kindergarten, 16 elementary schools, 2 junior high schools, 1 senior high school and 1 Islamic high school. At present, there is 1 community health center in Lunyuk sub-district whereas only 3 villages have sub community health center (clinic). Family planning posts are available in each village.

Besides of health section, the role of religion for character building can not be ruled out. Majority of the people in Lunyuk sub-district are Muslims (17,877 persons) which is followed by Hindus (17,877 persons), Catholics (21 persons) and Protestants (18 persons).

There are 34 mosques and 22 small mosques and 9 temples available in Lunyuk sub-district. Sport facilities are also available here such as soccer, volley ball, badminton and table tennis.

Chapter V Agriculture

Indonesia is renowned as agricultural country. Large areas for cultivation of different variety of agricultural products are the main reason for this matter.

In 2006, Lunyuk sub-district had 2,230 ha of paddy field comprised of 1,568 ha of paddy field where harvest is possible 2 times in a year and a 235 ha rain-fed paddy field. In 2005, total area of harvesting was 3,095 ha with total production of 15,183 tons, whereas the production in dry land with harvesting area of 261 ha was 1,174 tons. Some fruits are also available in Lunyuk sub-district such as mango, banana, orange, jack fruit etc.

Livestocks are classified as follows:

1. Large animal: horse, cattle, and buffalo
2. Small animal: goat, sheep and pig
3. Poultry: chicken

For large animals, cattles are in largest population which is followed by buffaloes and horses. For small animals, pigs are dominant which is followed by goats and sheep. For poultry, only native chicken are available here. Their numbers are 20,563heads in 2006.

Chapter VI

Industry

Industry, trade and services are considered to produce more added values compared to agriculture. Their roles are expected to become more and more important in the future.

Small and home industries in Luyuk sub-district are industries producing bricks, tiles, lime, furniture, handicraft etc. In 2006, the number of furniture industries and rice mills unit (RMV) increased, whereas other industries decreased in number.

Small scale (micro) business has an important role in promoting trade in Lunyuk sub-district. Most of them are vendors and kiosks owner. In 2006 total vendors in Lunyuk sub-district were 320 persons and 43 kiosks owner. These vendors sell many kinds of things such as vegetables, fishes, clothes etc. Transportation service is also available here. In 2006 there were 152 ‘Ojek’ (motorbike taxi) in Lunyuk sub-district.

Chapter VII

Transportation

Development of a certain region is influenced by the means of transportation and communication. Transportation here can be by land, sea or air. In Lunyuk sub-district, only land and sea transportation are available. Means of land transportation in 2006 were as follows:

- Bicycle: 478 units
- Cart: 22 units
- Horse cart: 58 units
- Mortorbike: 396 units
- Car: 37 units

For sea transportation, there were 27 boats with out board engine and 35 boats without engine. In 2006, Lunyuk sub-district had 36 km asphalt road, 19 km hardened road, 10 km gravel road and 14 km earth road.

添付-4 現地コンサルタント

Survey Results of Indonesian Consultants							June 16 2007		
No	Name	Adress	Person to contact	Tel & Fax	E-Mail	No of Employee	No of Equipment	Past major job	Major
Japanese Consultants							w/JICA Study		
1	PT. Pondasi	Graha Sucofindo 7th Fl Ir. Y.P.Chandra M.Eng	021-7986663 (T) 021-7987024 (F)	kissoco@rad.net.id	20 persons	Theodolite Drilling Machine GPS	Theodolite Drilling Machine GPS	Kisso Jiban Consultant	General Consultant
2	PT. Dacrea	Kav.34, Jakarta 12780	Sunrise Garden Blok A Margijanto Djumhari	021 5800919 (T) 021 5803296 (F)	dmitra@indo.net.id	Engineer - 98 Technician - 156	Topo Survey GPS - 3	SITRAMP Jabodetabek Maminasata - JICA	Road Design & Supervisor Traffic Survey & Study
3	PT.Tigenco Grah	Jl. Pahlawan Revolusi	Benny Koloway	021 - 86600710 (T) 021 - 86607709 (F)	tigenco@cbn.net.id	Total Station - 5 EDM - 3 Level - 7	Heavy Loaded Road Topographic Survey	Spatial Planning	Geotechnical Investigation
4	PT.Yodya Karya	Makassar 90222	JL.A.P.Pettarani No.74	0816 276 181	yodya.karya@yahoo.co	Engineer	Concrete Hammer Test Plotter HPC 2859A Technitioans Workers	Design & Planning of Road Flyover, Building, Market, Dam, Irrigation, Drainage	
	Jl. Bintan No. 14	Jl. Yudi Wahyono	Pekanbaru, Riau	0761-47488			Theodolit-010B-EDM 216 Plotter - 5536 AO		
	Jl. D.I.Pranjaitan Kav.8	Bp. Iswahyudi	Jakarta 13340	021-8194038 (T) 021-8193519 (F)	yoka@rad.net.id moh iswahyudi@yahoo.com				

No	Name	Address	Person to contact	Tel & Fax	E-Mail	No of Employee	No of Equipment	Past major job	Major
5	Perendiana Djaya Wisma Pede, 3th Floor	Bp. Effendi Jl. M. T. Haryono Kaw.17 Jakarta 12810		0411- 507916 021-8303408 (T) 021-8297124 (F)	pd01@rad.net.id pedeintl@cbnnet.id	150 persons		w/JICA Study	General Consultant
6	PT Virama Karya	Jl. Seraja No. 66, Kel. Padang Bulan, Kec.Senapalan, Pekanbaru	Ir. Nengah Suraga	0411- 448674					
7	PT Kharisma	Jl. Hang Tuah Raya No.26 Jakarta Selatan	Riesky Rachmatama	021-7397545 (T) 021-7204331 (F)	drvirama@cbn.net.id	123 persons			
8	PT Geopramata	Jl. A.P Pettarani Blok GA 10 No. 10A Makassar	Faisal Suyuti	0811 420 955 0411-458443 (T) 0411-455329 (F)	kharisma_karya@yahoo.com	-			General Consultant
9	PT Dasa Katreo	Jl. Telago Prochuo Bekashi 17144	Risbadiyono	81310202851 021-8844039	rishbadiyono@yahoo.com	Enginner:4 Technician:5 Workers:20	Theodolite, GPS, EDM, PCI Total Station	Topografi Survey & Soil Investigation	
10	PT. Studiotama Maps Konsultan	Jl. Cikuma Baru IV No (Manampilan Silaban Birki Bandung		022-7273132 (T) 022-7273141 (F)		30 persons	Drilling Machine Drilling	Topografi Survey Soil Investigation	General Consultant
		Krangsan Permai Blok Fauzi RT.8 No.9 Cibubur					GPS, Total Station, EDM, Theodolite, Water pass, Laboratory Drilling Machine		

添付-5 参考資料(3/3)
交通量調査結果 (1/15)

調査区間	1
道路区分	国道
道路番号	028-1(一部区間)
区間	Sumbawa Besar (三叉路) - Sp.Negara
区間距離	75.00km
地形	平坦
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	アスコン 幅: 6.0m
道路状況	良好
走行日	11.30(金)
出発時間	9:04
到着時間	10:20
走行時間	1時16分
走行速度	59km/hr
対向車線交通量	
車種	馬車 バイク 乗用車 乗合タクシー ミニバス 小型貨物 中型貨物バス 大型貨物バス 合計
(営業用)	/ピックアップ (小型ボックス)
A: 実測値(1.27hr)	5 301 48 28 8 17 9 7 418 117
B: 予想時間交通量(=A*1/1.27*2)	8 474 76 44 13 27 14 11 658 184
C: 予想日交通量(=B*12)	94 5,688 907 529 151 321 170 132 7,899 2,211

調査区間	1
道路区分	国道
道路番号	028-1(一部区間)
区間	Sp.negara -Sumbawa Besar (三叉路)
区間距離	75.00km
地形	平坦
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	アスコン 幅: 6.0m
道路状況	良好
走行日	11.30(金)
出発時間	11:14
到着時間	12:29
走行時間	1時15分
走行速度	60km/hr
対向車線交通量	
車種	馬車 バイク 乗用車 乗合タクシー ミニバス 小型貨物 中型バス 合計
(営業用)	/ピックアップ (小型ボックス)
A: 実測値(1.25hr)	0 267 57 21 11 31 10 7 404 137
B: 予想時間交通量(=A*1/1.25*2)	0 427 91 34 18 50 16 11 646 219
C: 予想日交通量(=B*12)	0 5,126 1,094 403 211 595 192 134 7,757 2,630

交通量調査結果 (2/15)

調査区間	1
道路区分	国道
道路番号	028-1(一部区間)
区間	Sp.negara -Sumbawa Besar (三叉路)
区間距離	75.00km
地形	平坦
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	アスコン 幅: 6.0m
道路状況	良好
走行日	12.12(水)
出発時間	14:45
到着時間	16:02
走行時間	1時17分
走行速度	58km/hr
対向車線交通量	
車種	馬車 バイク 乗用車 乗合タクシー ミニバス 小型貨物 中型バス 合計
(営業用)	/ピックアップ (小型ボックス)
A: 実測値(1.28hr)	13 309 34 17 1 56 11 4 432 123
B: 予想時間交通量(=A*1/1.28*2)	20 483 53 27 2 88 17 6 675 192
C: 予想日交通量(=B*12)	244 5,794 638 319 19 1,050 206 75 8,100 2,306

調査区間	1
道路区分	国道
道路番号	028-1(一部区間)
区間	Sumbawa Besar (10km)- Sp.negara
区間距離	73.00km
地形	平坦
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	アスコン 幅: 6.0m
道路状況	良好
走行日	12.17(月)
出発時間	9:40
到着時間	11:00
走行時間	1時20分
走行速度	55km/hr
対向車線交通量	
車種	馬車 バイク 乗用車 乗合タクシー ミニバス 小型貨物 中型バス 合計
(営業用)	/ピックアップ (小型ボックス)
A: 実測値(1.33hr)	37 383 42 28 4 35 14 1 507 124
B: 予想時間交通量(=A*1/1.33*2)	56 576 63 42 6 53 21 2 762 186

交通量調査結果 (3/15)

調査区間	2
道路区分	州道
道路番号	038(一部区間)
区間	Sumbawa(Sp.Negara) - Semamung
区間距離	16.00km
地形	平坦
幅員構成	路肩(土) + 車線(片側各1車線) + 路肩(土)
表層	アスコン
道路状況	良好
走行日	11.29(木)
出発時間	8:35
到着時間	8:54
走行時間	0時19分
走行速度	51km/hr

車種	馬車	バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型バス	合計	
	(営業用)	/ピックアップ	(小型ボックス)			(2ton, 4ton)		バイク込み	バイク含まず
A: 実測値 (0.32hr)	0	30	0	4	2	2	0	38	8
B: 予想時間交通量 (=A*1/0.32*2)	0	188	0	25	13	13	0	238	50
C: 予想日交通量 (=B*10)	0	1,875	0	250	125	125	0	2,375	500

調査区間	2
道路区分	州道
道路番号	038(一部区間)
区間	Sumbawa(Sp.Negara) - Semamung
区間距離	16.00km
地形	平坦
幅員構成	路肩(土) + 車線(片側各1車線) + 路肩(土)
表層	アスコン
道路状況	良好
走行日	12.01(土)
出発時間	8:07
到着時間	8:25
走行時間	0時18分
走行速度	53km/hr

車種	馬車	バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型バス	合計	
	(営業用)	/ピックアップ	(小型ボックス)			(2ton, 4ton)		バイク込み	バイク含まず
A: 実測値 (0.30hr)	0	66	3	4	3	2	0	78	12
B: 予想時間交通量 (=A*1/0.30*2)	0	440	20	27	20	13	0	520	80
C: 予想日交通量 (=B*10)	0	4,400	200	267	200	133	0	5,200	800

交通量調査結果 (4/15)

調査区間	3
道路区分	州道
道路番号	038(一部区間)
区間	Semamung - Lenangguar
区間距離	21.00km
地形	平坦
幅員構成	路肩(土) + 車線(片側各1車線) + 路肩(土)
表層	アスコン
道路状況	良好
走行日	11.29(木)
出発時間	8:54
到着時間	9:22
走行時間	0時28分
走行速度	45km/hr

車種	馬車	バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型バス	合計	
	(営業用)	/ピックアップ	(小型ボックス)			(2ton, 4ton)		バイク込み	バイク含まず
A: 実測値 (0.47hr)	0	15	0	0	1	2	2	20	5
B: 予想時間交通量 (=A*1/0.47*2)	0	64	0	0	4	9	9	85	21
C: 予想日交通量 (=B*10)	0	638	0	0	43	85	85	851	213

調査区間	3
道路区分	州道
道路番号	038(一部区間)
区間	Semamung - Lenangguar
区間距離	21.00km
地形	平坦
幅員構成	路肩(土) + 車線(片側各1車線) + 路肩(土)
表層	アスコン
道路状況	良好
走行日	12.01(土)
出発時間	8:25
到着時間	8:50
走行時間	0時25分
走行速度	50km/hr

車種	馬車	バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型バス	合計	
	(営業用)	/ピックアップ	(小型ボックス)			(2ton, 4ton)		バイク込み	バイク含まず
A: 実測値 (0.47hr)	0	22	0	0	0	1	2	25	3
B: 予想時間交通量 (=A*1/0.47*2)	0	94	0	0	0	4	9	106	13
C: 予想日交通量 (=B*10)	0	936	0	0	0	43	85	1,064	128

交通量調査結果 (5/15)

調査区間	4
道路区分	州道
道路番号	047(一部区間)
区間	Lenangguar - Ledang
区間距離	12.00km
地形	平坦
幅員構成	路肩(土) + 車線(片側各1車線) + 路肩(土)
表層	アスコン
道路状況	良好
走行日	11.29(木)
出発時間	9:22
到着時間	9:45
走行時間	0時23分
走行速度	31km/hr

対向車線交通量		馬車	バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型バス	合計
車種	(営業用)			/ピックアップ	(小型ボックス)		(2ton, 4ton)		
A: 実測値(0.38hr)		0	10	0	0	0	0	0	10
B: 予想時間交通量(=A*1/0.38*2)		0	53	0	0	0	0	0	53
C: 予想日交通量(=B*10)		0	526	0	0	0	0	0	526

調査区間	4
道路区分	州道
道路番号	047(一部区間)
区間	Lenangguar - Ledang
区間距離	12.00km
地形	平坦
幅員構成	路肩(土) + 車線(片側各1車線) + 路肩(土)
表層	アスコン
道路状況	良好
走行日	12.01(土)
出発時間	8:50
到着時間	9:12
走行時間	0時22分
走行速度	33km/hr

対向車線交通量		馬車	バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型バス	合計
車種	(営業用)			/ピックアップ	(小型ボックス)		(2ton, 4ton)		
A: 実測値(0.37hr)		0	10	0	0	0	0	3	13
B: 予想時間交通量(=A*1/0.37*2)		0	54	0	0	0	0	16	70
C: 予想日交通量(=B*10)		0	541	0	0	0	0	162	703

交通量調査結果 (6/15)

調査区間	5
道路区分	州道
道路番号	047(一部区間)
区間	Ledang - Lunyuk
区間距離	41.00km
地形	凹凸(20km) + 平坦
幅員構成	路肩(土) + 車線(片側各1車線) + 路肩(土)
表層	アスコン
道路状況	良好
走行日	11.29(木)
出発時間	9:45
到着時間	11:00
走行時間	1時15分
走行速度	33km/hr

対向車線交通量		馬車	バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型バス	合計
車種	(営業用)			/ピックアップ	(小型ボックス)		(2ton, 4ton)		
A: 実測値(1.25hr)		0	12	0	0	0	6	0	18
B: 予想時間交通量(=A/1.25*2)		0	19	0	0	0	10	0	29
C: 予想日交通量(=B*10)		0	192	0	0	0	96	0	288

調査区間	5
道路区分	州道
道路番号	047(一部区間)
区間	Ledang - Lunyuk
区間距離	41.00km
地形	凹凸(20km) + 平坦
幅員構成	路肩(土) + 車線(片側各1車線) + 路肩(土)
表層	アスコン
道路状況	良好
走行日	12.01(土)
出発時間	9:12
到着時間	10:22
走行時間	1時10分
走行速度	33km/hr

対向車線交通量		馬車	バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型バス	合計
車種	(営業用)			/ピックアップ	(小型ボックス)		(2ton, 4ton)		
A: 実測値(1.17hr)		0	29	4	0	0	1	1	35
B: 予想時間交通量(=A/1.17*2)		0	50	7	0	0	2	2	60
C: 予想日交通量(=B*10)		0	496	68	0	0	17	17	598

交通量調査結果 (7/15)

調査区間	6
道路区分	州道
道路番号	069-4(一部区間)
区間	Lunyuk - Sepang Br.
区間距離	30.70km
地形	平坦(10km) + 凹凸
幅員構成	路肩(土) + 車線(片側各1車線) + 路肩(土)
表層	砂利(一部改良中)
道路状況	良好
走行日	11.29(木)
出発時間	11:00
到着時間	12:45
走行時間	1時45分
走行速度	25km/hr

対向車線交通量								
車種	馬車 (営業用)	バイク	乗用車 ／ピックアップ	乗合タクシー (小型ボックス)	ミニバス	小型貨物 (2ton, 4ton)	中型バス	合計 バイク込み バイク含まず
A: 実測値(1.45hr)	0	22	0	0	0	3	0	25
B: 予想時間交通量(=A/1.45*2)	0	30	0	0	0	4	0	34
C: 予想日交通量(=B*8)	0	243	0	0	0	33	0	276
								33

調査区間	6
道路区分	州道
道路番号	069-4(一部区間)
区間	Lunyuk - Sepang Br.
区間距離	30.70km
地形	平坦(10km) + 凹凸
幅員構成	路肩(土) + 車線(片側各1車線) + 路肩(土)
表層	砂利(一部改良中)
道路状況	良好
走行日	12.01(土)
出発時間	10:35
到着時間	12:30
走行時間	1時55分
走行速度	16km/hr

対向車線交通量								
車種	馬車 (営業用)	バイク	乗用車 ／ピックアップ	乗合タクシー (小型ボックス)	ミニバス	小型貨物 (2ton, 4ton)	中型バス	合計 バイク込み バイク含まず
A: 実測値(1.92hr)	0	13	2	0	0	2	0	17
B: 予想時間交通量(=A/1.92*2)	0	14	2	0	0	2	0	18
C: 予想日交通量(=B*8)	0	108	17	0	0	17	0	142
								33

交通量調査結果 (8/15)

調査区間	7
道路区分	州道
道路番号	069-3(一部区間)
区間	Tongro Sejorong - Tanaman I
区間距離	8.00km
地形	平坦
幅員構成	路肩(土) + 車線(片側各1車線) + 路肩(土)
表層	砂利
道路状況	良好
走行日	11.26(月)
出発時間	8:32
到着時間	8:44
走行時間	0時12分
走行速度	40km/hr

対向車線交通量								
車種	馬車 (営業用)	バイク	乗用車 ／ピックアップ	乗合タクシー (小型ボックス)	ミニバス	小型貨物 (2ton, 4ton)	中型貨物 (8ton)	合計 バイク込み バイク含まず
A: 実測値(0.20hr)	0	2	2	0	0	0	0	4
B: 予想時間交通量(=A*1/0.20*2)	0	20	20	0	0	0	0	40
C: 予想日交通量(=B*8)	0	160	160	0	0	0	0	320
								160

調査区間	7
道路区分	州道
道路番号	069-3(一部区間)
区間	Tongro Sejorong - Tanaman I
区間距離	8.00km
地形	平坦
幅員構成	路肩(土) + 車線(片側各1車線) + 路肩(土)
表層	砂利
道路状況	良好
走行日	11.27(火)
出発時間	9:32
到着時間	9:43
走行時間	0時11分
走行速度	44km/hr

対向車線交通量								
車種	馬車 (営業用)	バイク	乗用車 ／ピックアップ	乗合タクシー (小型ボックス)	ミニバス	小型貨物 (2ton, 4ton)	中型貨物 (8ton)	合計 バイク込み バイク含まず
A: 実測値(0.18hr)	1	3	0	0	0	0	0	3
B: 予想時間交通量(=A*1/0.18*2)	11	33	0	0	0	0	0	33
C: 予想日交通量(=B*8)	89	267	0	0	0	0	0	267
								0

交通量調査結果 (9/15)

調査区間	8
道路区分	州道
道路番号	069-2(一部区間)
区間	Airport - Tongro Sejorong
区間距離	13.10km
地形	凹凸 山岳道路
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	砂利
道路状況	良好
走行日	11.26(月)
出発時間	7:54
到着時間	8:32
走行時間	0時38分
走行速度	21km/hr
対向車線交通量	
車種	馬車 バイク 乗用車 乗合タクシー ミニバス 小型貨物 中型貨物 合計
(営業用)	/ピックアップ (小型ボックス) (2ton, 4ton) (8ton) バイク込み バイク含まず
A: 実測値 (0.63hr)	0 2 2 0 0 0 0 4 2
B: 予想時間交通量 (=A*1/0.63*2)	0 6 6 0 0 0 0 13 6
C: 予想日交通量 (=B*8)	0 51 51 0 0 0 0 102 51

調査区間	8
道路区分	州道
道路番号	069-2(一部区間)
区間	Airport - Tongro Sejorong
区間距離	13.10km
地形	凹凸 山岳道路
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	砂利
道路状況	良好
走行日	11.27(火)
出発時間	8:55
到着時間	9:32
走行時間	0時37分
走行速度	21km/hr
対向車線交通量	
車種	馬車 バイク 乗用車 乗合タクシー ミニバス 小型貨物 中型貨物 合計
(営業用)	/ピックアップ (小型ボックス) (2ton, 4ton) (8ton) バイク込み バイク含まず
A: 実測値 (0.62hr)	0 3 1 0 0 0 0 4 1
B: 予想時間交通量 (=A*1/0.62*2)	0 10 3 0 0 0 0 13 3
C: 予想日交通量 (=B*8)	0 77 26 0 0 0 0 103 26

交通量調査結果 (10/15)

調査区間	9
道路区分	州道
道路番号	069-2(一部区間)
区間	Sekongkang - Airport
区間距離	5.90km
地形	凹凸
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	浸透式マカダム
道路状況	良好
走行日	11.26(月)
出発時間	7:46
到着時間	7:54
走行時間	0時08分
走行速度	44km/hr
対向車線交通量	
車種	馬車 バイク 乗用車 乗合タクシー ミニバス 小型貨物 中型貨物 合計
(営業用)	/ピックアップ (小型ボックス) (2ton, 4ton) (8ton) バイク込み バイク含まず
A: 実測値 (0.13hr)	0 25 1 0 2 0 0 28 3
B: 予想時間交通量 (=A*1/0.13*2)	0 385 15 0 31 0 0 431 46
C: 予想日交通量 (=B*10)	0 3,846 154 0 308 0 0 4,308 462

調査区間	9
道路区分	州道
道路番号	069-2(一部区間)
区間	Sekongkang - Airport
区間距離	5.90km
地形	凹凸
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	浸透式マカダム
道路状況	良好
走行日	11.27(火)
出発時間	8:42
到着時間	8:55
走行時間	0時13分
走行速度	27km/hr
対向車線交通量	
車種	馬車 バイク 乗用車 乗合タクシー ミニバス 小型貨物 中型貨物 合計
(営業用)	/ピックアップ (小型ボックス) (2ton, 4ton) (8ton) バイク込み バイク含まず
A: 実測値 (0.21hr)	0 15 3 0 1 1 0 20 5
B: 予想時間交通量 (=A*1/0.21*2)	0 143 29 0 10 10 0 190 48
C: 予想日交通量 (=B*10)	0 1,429 286 0 95 95 0 1,905 476

交通量調査結果 (11/15)

調査区間	10
道路区分	州道
道路番号	069-2(一部区間)
区間	Maluk - Sekongkang
区間距離	5.80km
地形	凹凸
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	浸透式マガム
道路状況	良好
走行日	11.26(月)
出発時間	7:34
到着時間	7:46
走行時間	0時12分
走行速度	29km/hr

対向車線交通量		馬車	バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型貨物	合計	
車種	(営業用)			/ピックアップ	(小型ボックス)		(2ton, 4ton)	(8ton)	バイク込み	バイク含まず
A: 実測値(0.20hr)		1	23	4	0	0	0	0	27	4
B: 予想時間交通量(=A*1/0.20*2)		10	230	40	0	0	0	0	270	40
C: 予想日交通量(=B*10)		100	2,300	400	0	0	0	0	2,700	400

調査区間	10
道路区分	州道
道路番号	069-2(一部区間)
区間	Maluk - Sekongkang
区間距離	5.80km
地形	凹凸
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	浸透式マガム
道路状況	良好
走行日	11.27(火)
出発時間	8:25
到着時間	8:42
走行時間	0時17分
走行速度	20km/hr

対向車線交通量		馬車	バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型貨物	合計	
車種	(営業用)			/ピックアップ	(小型ボックス)		(2ton, 4ton)	(8ton)	バイク込み	バイク含まず
A: 実測値(0.28hr)		0	18	3	0	0	0	0	21	3
B: 予想時間交通量(=A*1/0.28*2)		0	129	21	0	0	0	0	150	21
C: 予想日交通量(=B*10)		0	1,286	214	0	0	0	0	1,500	214

交通量調査結果 (12/15)

調査区間	11
道路区分	国道
道路番号	069
区間	Jereweh - Benete
区間距離	12.30km
地形	凹凸
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	浸透式マガム
道路状況	良好
走行日	11.24(土)
出発時間	14:50
到着時間	15:15
走行時間	0時25分
走行速度	30km/hr

対向車線交通量		馬車	バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型貨物	合計	
車種	(営業用)			/ピックアップ	(小型ボックス)		(2ton, 4ton)	(8ton)	バイク込み	バイク含まず
A: 実測値(0.42hr)		0	28	5	0	2	8	0	43	15
B: 予想時間交通量(=A*1/0.42*2)		0	133	24	0	10	38	0	205	71
C: 予想日交通量(=B*12)		0	1,600	286	0	114	457	0	2,457	857

交通量調査結果 (13/15)

調査区間	12
道路区分	国道
道路番号	044
区間	Taliwang – Jereweh
区間距離	15.50km
地形	平坦
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	アスコン
道路状況	良好
走行日	11.24(土)
出発時間	14:30
到着時間	14:50
走行時間	0時20分
走行速度	47km/hr

車種	馬車		バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型貨物	合計	
	(営業用)		/ピックアップ	(小型ボックス)			(2ton, 4ton)	(8ton)	バイク込み	バイク含まず
A: 実測値(0.33hr)	5	65	4	2	1	17	1	90	25	
B: 予想時間交通量(=A*1/0.33*2)		30	394	24	12	6	103	6	545	152
C: 予想日交通量(=B*12)	364	4,727	291	145	73	1,236	73	6,545	1,818	

調査区間	12
道路区分	国道
道路番号	044, 069-1
区間	Benete- Jereweh - Taliwang
区間距離	27.80km
地形	平坦
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	アスコン
道路状況	良好
走行日	12.03(月)
出発時間	8:09
到着時間	8:50
走行時間	0時41分
走行速度	41km/hr

車種	馬車		バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型貨物	合計	
	(営業用)		/ピックアップ	(小型ボックス)			(2ton, 4ton)	(8ton)	バイク込み	バイク含まず
A: 実測値(0.68hr)	5	146	17	6	1	14	0	184	38	
B: 予想時間交通量(=A*1/0.68*2)		15	429	50	18	3	41	0	541	112
C: 予想日交通量(=B*12)	176	5,153	600	212	35	494	0	6,494	1,341	

交通量調査結果 (14/15)

調査区間	13
道路区分	国道
道路番号	028-2
区間	Simpang Negara – Taliwang
区間距離	33.34km
地形	平坦
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	アスコン
道路状況	良好
走行日	11.24(土)
出発時間	13:05
到着時間	13:35
走行時間	0時30分
走行速度	67km/hr

車種	馬車		バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型貨物	合計	
	(営業用)		/ピックアップ	(小型ボックス)			(2ton, 4ton)	(8ton)	バイク込み	バイク含まず
A: 実測値(0.50hr)	1	101	16	3	4	17	0	141	40	
B: 予想時間交通量(=A*1/0.5*2)		4	404	64	12	16	68	0	564	160
C: 予想日交通量(=B*12)	48	4,848	768	144	192	816	0	6,768	1,920	

調査区間	13
道路区分	国道
道路番号	028-2
区間	Simpang Negara – Taliwang
区間距離	33.34km
地形	平坦
幅員構成	路肩(土)+車線(片側各1車線)+路肩(土)
表層	アスコン
道路状況	良好
走行日	12.03(月)
出発時間	8:50
到着時間	9:30
走行時間	0時40分
走行速度	50km/hr

車種	馬車		バイク	乗用車	乗合タクシー	ミニバス	小型貨物	中型貨物	合計	
	(営業用)		/ピックアップ	(小型ボックス)			(2ton, 4ton)	(8ton)	バイク込み	バイク含まず
A: 実測値(0.67hr)	14	215	26	3	2	12	3	261	46	
B: 予想時間交通量(=A*1/0.67*2)		42	642	78	9	6	36	9	779	137
C: 予想日交通量(=B*12)	501	7,701	931	107	72	430	107	9,349	1,648	

交通量調査結果 (15/15)

調査区間	13 *23km区間のみ
道路区分	国道
道路番号	028-2
区間	Simpang Negara – Taliwang
区間距離	33.34km
地形	平坦
幅員構成	路肩(土) + 車線(片側各1車線) + 路肩(土)
表層	アスコン
道路状況	良好
走行日	12.13(木)
出発時間	14:18
到着時間	14:43
走行時間	0時25分
走行速度	55km/hr

対向車線交通量	馬車 (営業用)	合計							
		バイク	乗用車 ／ピックアップ	乗合タクシー (小型ボックス)	ミニバス	小型貨物 (2ton, 4ton)	中型貨物 (8ton)	バイク込み	バイク含まず
A: 実測値(0.42hr)	0	100	6	2	4	8	0	120	20
B: 予想時間交通量(=A*1/0.5*2)	0	476	29	10	19	38	0	571	95
C: 予想日交通量(=B*12)	0	5,714	343	114	229	457	0	6,857	1,143

添付-6 収集資料

収集資料リスト (1/6)

調査名 西ヌサトゥンガラ州橋梁建設設計画 (その2) 予備調査

【一般(社会経済)】

番号	名称	形態	発行機関
1	Statistical Yearbook of Indonesia 2007	図書 地図・ビデオ 図書・写真等	オジナル オジナル
2	Gross Regional Domestic Product Regencies / Municipalities in Indonesia 2002-2006	図書	オジナル
3	Gross Regional Domestic Product of Provinces in Indonesia by Industrial Origin 2002-2006	図書	オジナル
4	Gross Regional Domestic Product of Provinces in Indonesia by Expenditure 2002-2006	図書	オジナル
5	National Income of Indonesia 2003-2006	図書	オジナル
6	Population of Indonesian 2005	図書	オジナル
7	Population of West Nusa Tenggara Province 2005	図書	オジナル
8	Nusa Tenggara Barat in Figures 2006/2007	図書	オジナル
9	Sumbawa Barat in Figures 2006	図書	オジナル
10	Sumbawa in Figures 2006	図書	オジナル
11	Sekongkang District in Figures 2006	図書	コピー
12	Lunuk District in Figures 2006	図書	オジナル
13	Rong Telu District in Figures 2006	図書	オジナル
14	Gross Regional Domestic Product of Sumbawa Regency 2004-2006	図書	オジナル

収集資料リスト (2/6)

【開発計画】

番号	名 称	形態 図書・ビデオ 地図・写真等	発行機関 オリジナル・複数	発行年
1	インドネシア共和国大統領令 2005年度第7番 2004～2009年度国家中期開発計画について	電子データ 電子データ	コピー	インドネシア政府 2005年
2	同上 第33章「インフラ建設の迅速化」	電子データ	コピー	インドネシア政府 2005年
3	Infrastructure Strategic Plan 2005-2009	図書	オリジナル	インドネシア政府公共事業省 2005年
4	Road Strategic Plan 2005-2009	プリント	コピー	公共事業省道路総局 2005年
5	Road Strategic Plan 2004-2008	プリント	コピー	西ヌサトゥンガラ州公共事業局 2005年
6	Agro-industry Development at Poto-Tano Area, West Sumbawa District 2007-1010	図書	オリジナル	西スンバワ県開発企画庁 一
7	Proposal for Infrastructure Construction Programme in Sumbawa District 2007	プリント	コピー	スンバワ県開発企画庁 2007年
8	西ヌサトゥンガラ州移住計画書	プリント	コピー	インドネシア政府労働移住省 一
9	Community Development Infrastructure Program 2008 in Sumbawa Barat (ドラフト)	プリント	コピー	PT, NEWMINT NUSA TENGGAR 2007年

【実施機関（組織・予算・管轄道路等）】

番号	名 称	形態 図書・ビデオ 地図・写真等	発行機関 オリジナル・複数	発行年
1	西ヌサトゥンガラ州公共事業局組織図・ 職員リスト	プリント	コピー	西ヌサトゥンガラ州公共事業局 2005年
2	スンバワ道路建設事務所組織図	プリント	コピー	スンバワ道路建設事務所 2007年
3	西ヌサトゥンガラ州の道路・橋梁建設における 国家予算 (2005-2008)	プリント	コピー	西ヌサトゥンガラ州公共事業局 一
4	西ヌサトゥンガラ州の道路・橋梁建設における 州予算 (2005-2008)	プリント	コピー	西ヌサトゥンガラ州公共事業局 一

収集資料リスト (3/6)

番号	名 称	形態	図書・ビデオ 地図・写真等	オジジカル・コピーライ	発行機関	発行年
5	Road Network Map and Road Inventory of West Nusa Tenggara	プリント	電子データ	コピー	西ヌサトゥンガラ州公共事業局	2007 年
6	Road Network Map of West Nusa Tenggara (National & Provincial Road)	プリント	電子データ	コピー	西ヌサトゥンガラ州開発企画庁	2005 年
7	Traffic Survey Data of West Sumbawa	プリント	プリント	コピー	公共事業省道路総局	2007 年
8	Traffic Survey Data of West Sumbawa	プリント	プリント	コピー	西ヌサトゥンガラ州公共事業局	2007 年
9	EIRTP-2 Loan IBRD 4744 IND West Nusa Tenggara	プリント	プリント	コピー	西ヌサトゥンガラ州公共事業局	2007 年
10	Sejorong-Lunyuk Road Construction Plan	プリント・写真	プリント	コピー	インドネシア政府公共事業省	2007 年
11	Sejorong-Lunyuk Road Construction Plan	プリント・写真	プリント	コピー	西ヌサトゥンガラ州公共事業局	2007 年
12	Package to be tendered in 2008	プリント	プリント	コピー	スンバワ道路建設事務所	2007 年
13	Tender Schedule in 2008	プリント	プリント	コピー	スンバワ道路建設事務所	2007 年
14	Tender Document Book 1 (Standard Document) For Sejorong-Lunyuk Road Construction (L=17km)	プリント	電子データ	コピー	スンバワ道路建設事務所	2007 年
15	Tender Document Book 2 (Drawings) for Sejorong-Lunyuk Road Construction (L=17km)	プリント	電子データ	コピー	スンバワ道路建設事務所	2007 年

【道路・橋梁計画】

番号	名 称	形態	図書・ビデオ 地図・写真等	オジジカル・コピーライ	発行機関	発行年
1	Regulation on Roads 2006 to accompany 2004 Roads Law HM23May07 PP34-2006 on Road	電子データ	電子データ	コピー	公共事業省道路総局	2006 年
2	Tata Cara Perencanaan Geometrik Jalan Antra Kota, No. 38/TBM/1997	電子データ	電子データ	コピー	公共事業省道路総局	1997 年

収集資料リスト (4/6)

番号	名 称	形態	図書・ビデオ 地図・写真等	オジ'カル・ゴビー	発行機関	発行年
3	Guideline – Structures and Building Construction / Earthquake Design Loading for Bridges	コピー			公共事業省道路総局	2007年
4	Outline Topographical Map of West Nusa Tenggara	コピー	地図	西ヌサトゥンガラ州公共事業局	2007年	
5	Geological and Mineral Potential Map of West Nusa Tenggara	コピー	プリント	西ヌサトゥンガラ州鉱業エネルギー局	1995年	
6	Index Map of Topographical Map S=1/25,000	コピー	地図	National Coordinating Agency for Survey and Mapping (国土地理院)	1997年	
7	Revised Request for Quotation for Boring, Surveying and Soil test for Preliminary study for Project for Bridge Construction in NTB	コピー	プリント	予備調査団	2007年	
8	Cost Proposal for Topographic Survey for Bridges Construction Project in Sumbawa, NTB	コピー	プリント	CV. CITRA ADI DAYA KONSULTAN	2007年	
9	Cost Proposal for Soil Investigation and Topographic Survey for Bridges Construction Project in Sumbawa, NTB	コピー	プリント	P. T. PONDASI KISOCON RAYA	2008年	
10	Classification of Local Contractor in NTB	コピー	プリント	西ヌサトゥンガラ州公共事業局	2007年	
11	List of Major Local Contractor & Consultant in NTB	コピー	プリント	西ヌサトゥンガラ州公共事業局	2007年	
12	Unite Price of Materials, Labour and Equipment in NTB	コピー	プリント	西ヌサトゥンガラ州公共事業局	2007年	

収集資料リスト (5/6)

【環境関連】

番号	名 称	形態	発行機関	発行年
1	公共事業省大臣令 2003 年第 17 号 (UKL+UPL 対象規模)	図書・ビデオ 地図・写真等	コピー	公共事業省
2	環境省大臣令 2006 年第 11 号 (AMDAL 實施令)	プリント	コピー	環境省
3	インドネシア法律 2006 年第 34 号 (道路法-道路用地について)	プリント	コピー	インドネシア政府
4	環境省大臣令 2002 年第 86 号 (UKL+UPL ガイドライン)	プリント	コピー	環境省
5	インドネシア法律 2007 年第 3 号 (公共事業に開する用地取得)	プリント	コピー	インドネシア政府
6	環境省大臣令 2002 年第 86 号 UKL+UPL フォーム	プリント	コピー	環境省
7	環境省大臣令 2002 年第 86 号 UKL+UPL 作成ガイド	プリント	コピー	環境省
8	インドネシア法律 2006 年第 65 号 (用地補償等について)	プリント	コピー	インドネシア政府
9	環境省大臣令 2006 年第 11 号 (AMDAL 要求プロセクトリスト)	プリント	コピー	環境省
10	西ヌサトゥンガラ州環境管理庁組織図 (NTB-BAPEDALDA)	プリント	コピー	西ヌサトゥンガラ州環境管理庁
11	環境省組織図	プリント	コピー	環境省
12	西ヌサトゥンガラ州 NGO リスト	プリント	コピー	西ヌサトゥンガラ州環境管理庁
13	西ヌサトゥンガラ州法律 1995 年第 15 号 (道路用地について)	プリント	コピー	西ヌサトゥンガラ州
14	インドネシア法律 2004 年第 38 号 (道路法)	プリント	コピー	インドネシア政府

収集資料リスト (6/6)

番号	名称	形態	発行機関	発行年
15	インドネシア法律 2005 年第 36 号（公共事業に 係る用地収用）	図書・ビデオ 地図・写真等	オリジナル・コピー	
16	西ヌサトゥンガラ州橋梁建設計画第 1 期 UKL+UPL 報告書	プリント コピー	インドネシア政府	2005 年
			公共事業省（西ヌサトゥンガラ州）	2005 年

