4. 討議議事録（M/D）

4-1　現地調査 I

MINUTES OF DISCUSSIONS
ON
PREPARATORY SURVEY
ON
THE PROJECT FOR THE CONSTRUCTION OF A PRIMARY TEACHER TRAINING INSTITUTE IN NAMPULA PROVINCE
IN
THE REPUBLIC OF MOZAMBIQUE

In response to the request from the Government of the Republic of Mozambique (hereinafter referred to as "Mozambique"), the Government of Japan decided to conduct a Preparatory Survey on the Project for the Construction of a Primary Teacher Training Institute in Nampula Province (hereinafter referred to as "the Project") and entrusted the survey to Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent Mozambique the Preparatory Survey Team (hereinafter referred to as "the Team"), which is headed by Mr. Nobuaki MIYATA, Visiting Senior Advisor, JICA, and is scheduled to stay in the country from April 11th, 2011 to May 11th, 2011.

The Team had a series of discussions with the Mozambican officials concerned and conducted field surveys.

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

Maputo, Mozambique
April 21st, 2011

Ms. Maria de Fatima Zacarias
Permanent Secretary
Ministry of Education,
The Republic of Mozambique

Mr. Nobuaki MIYATA
Leader
Preparatory Survey Team
Japan International Cooperation Agency

ATTACHMENT

1. Objective of the Project

Objective of the Project is to increase the number of skilled and qualified primary school teachers by constructing the new facilities of a Primary Teacher Training Institute in Nampula Province in Mozambique, which leads to the improvement of the quality of primary education.

2. Responsible and Implementing Organization

Responsible and implementing organization of the Project is the Ministry of Education, (hereinafter referred to as "MOE"), of which Organizational Chart is shown in **ANNEX 1.**

3. Project Sites

3-1. Both sides agreed to add another candidate site in Monapo district for construction of a Primary Teacher Training Institute in Nampula Province, in addition to the original candidate site in Moma district. The candidate sites are shown in **ANNEX 2.**

3-2. The Team will decide construction site based on the result of land condition assessment during this survey, referring required land conditions listed in **ANNEX 3.**

4. Major Items requested by Mozambique

The Mozambican side requested to construct buildings of the Primary Teacher Training Institute, according to the standard IMAP (Instituto de Magistério Primário) design, which consists following Facilities and Equipments.

Facilities;

- Administration Block
- Teachers Block
- General Classrooms
- Science Laboratory
- Music Room
- Practical Teaching Room
- Library
- Computer Room
- Toilet Block
- Gymnasium
- Refectory
- Dormitory
- Teachers Houses
- Guard House
- Transformer Room
- Pedagogical Laboratory(Annex School)

Equipments;

- General Furniture
- Classroom Furniture
- Dormitory Furniture
- Furniture for teachers' houses
- Administrative Equipment
- Kitchen Equipment
- Laboratory Equipment
- Equipment for technical workshop
- Vehicles

JICA will assess the adequacy of the above requested items in terms, and will report the result of assessment to the Government of Japan.

5. Japan's Grant Aid Scheme

5-1. The Mozambican side understands the Japan's Grant Aid for Community Empowerment described in **ANNEX 4, ANNEX 5, ANNEX 6,** and **ANNEX 7,** which were explained by the Team.

5-2. The Mozambican side assured to take the necessary measures, as described in **ANNEX 8,** for the smooth implementation of the Project.

6. Framework of Project Implementation and Scope of Works

The Team explained the following framework of implementation.

6-1. Japan's Grant Aid is extended in accordance with the "Exchange Notes" by the two governments concerned and with the "Grant Agreement" between JICA and the Government of Mozambique, in which the objectives of the Project, period of execution, conditions and amount of Grant Aid, etc., are confirmed.

6-2. After concluding the Exchange Notes and Grant Agreement, the Mozambique side shall make the Agent Agreement with Japan International Cooperation System (hereinafter referred to as "JICS"). In accordance with "Procurements Guideline for Grand Aid for Community Empowerment (Type I –C)"of JICA, JICS shall conduct the following works on behalf of the Government of Mozambique:

(1) Administration of the Grant;
(2) Preparation for and evaluation of tender;
(3) Signing contracts with suppliers and service providers;
(4) Procurement of necessary goods;
(5) Payment to suppliers and service providers;
(6) Assisting to organize committee meetings; and
(7) Management of the progress of the project.

6-3. To implement the project smoothly, both sides confirmed to facilitate a committee composed of the Government of Mozambique, the Government of Japan and JICA. The members of the committee shall be as follows:

(1) Representative(s) of MOE;
(2) Representative(s) of JICA Mozambique office;
(3) Representative of Embassy of Japan in Mozambique as an observer when necessary;

Major functions of the committee are examining major changes of the Project, receiving the report of the progress, and examining the utilization plan of additional procurement (if any),etc.

7. Tentative Schedule of the Survey

7-1. The Team will proceed to further studies in Mozambique until May 11th, 2011.

7-2. If the result of the field survey discovers no administrative and technical difficulties in implementing the Project by adopting the Japan's Grant Aid for Community Empowerment, JICA will send another preparatory survey team to show the draft report in October.

7-3. After the contents of the report are accepted in principle by the Government of Mozambique, JICA will recommend to the Government of Japan for the final approval of the Project. Simultaneously, the Team will proceed to prepare the draft tender documents for the Project.

8. Other Relevant Issues

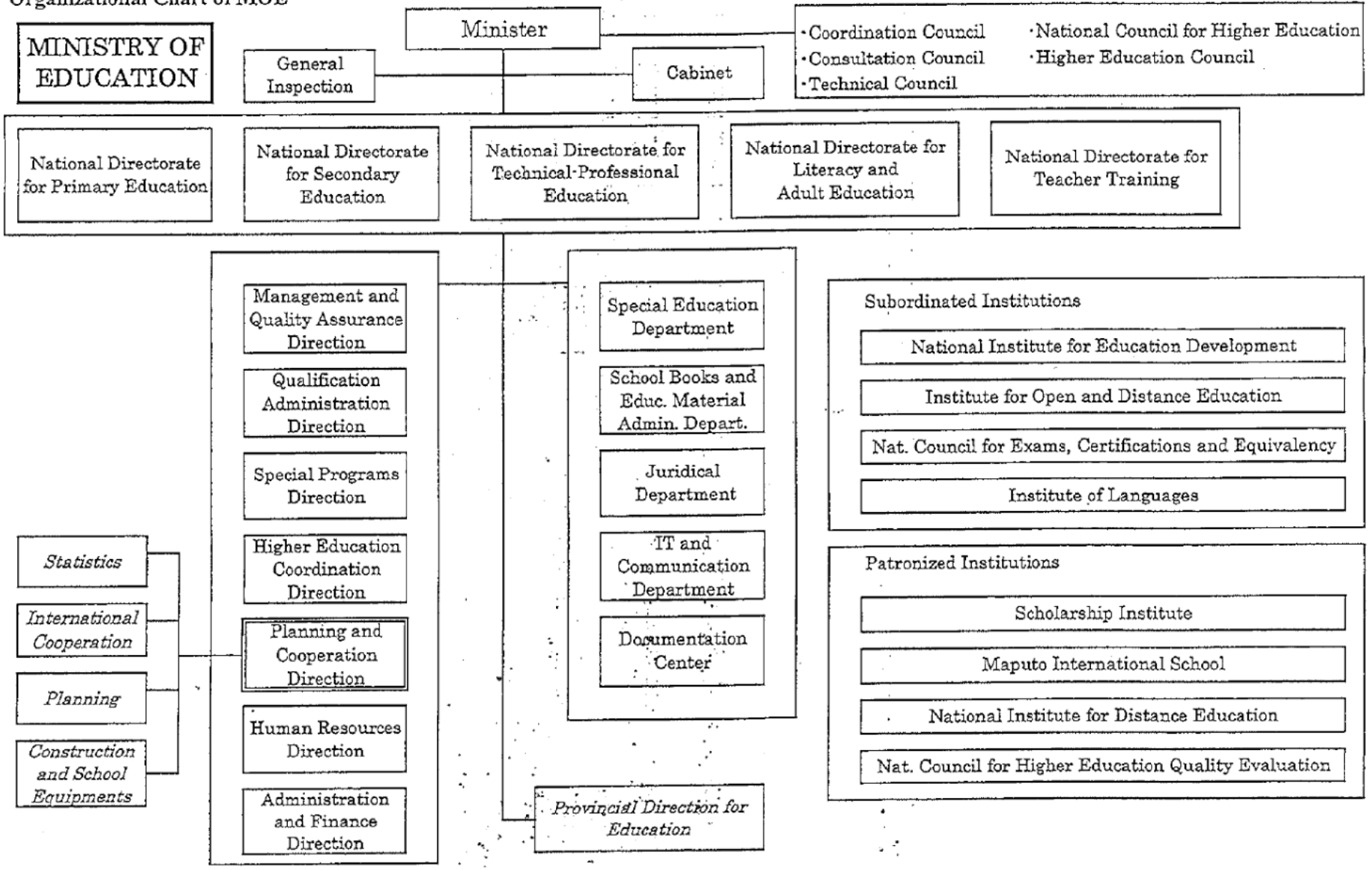
8-1. Government of Mozambique and JICA agreed the possibility to change the Project title from "the Project for the Construction of a Primary Teacher Training Institute in Nampula Province" to "the Project for the Construction of XX Teacher Training Institute in Nampula Province". The name of the site will be inserted to XX, after the final agreement of the construction site between the Government of Japan and the Government of Mozambique.

8-2. The Mozambican side strongly requested to the Team to confirm the potential of ground/underground water on the construction site by the Japanese side, in case there is no city water supply system. The Team will convey the request to Japan and consider the possibility of Test drilling, since water supply is indispensable to run the facility of Primary Teacher Training Institute.

END

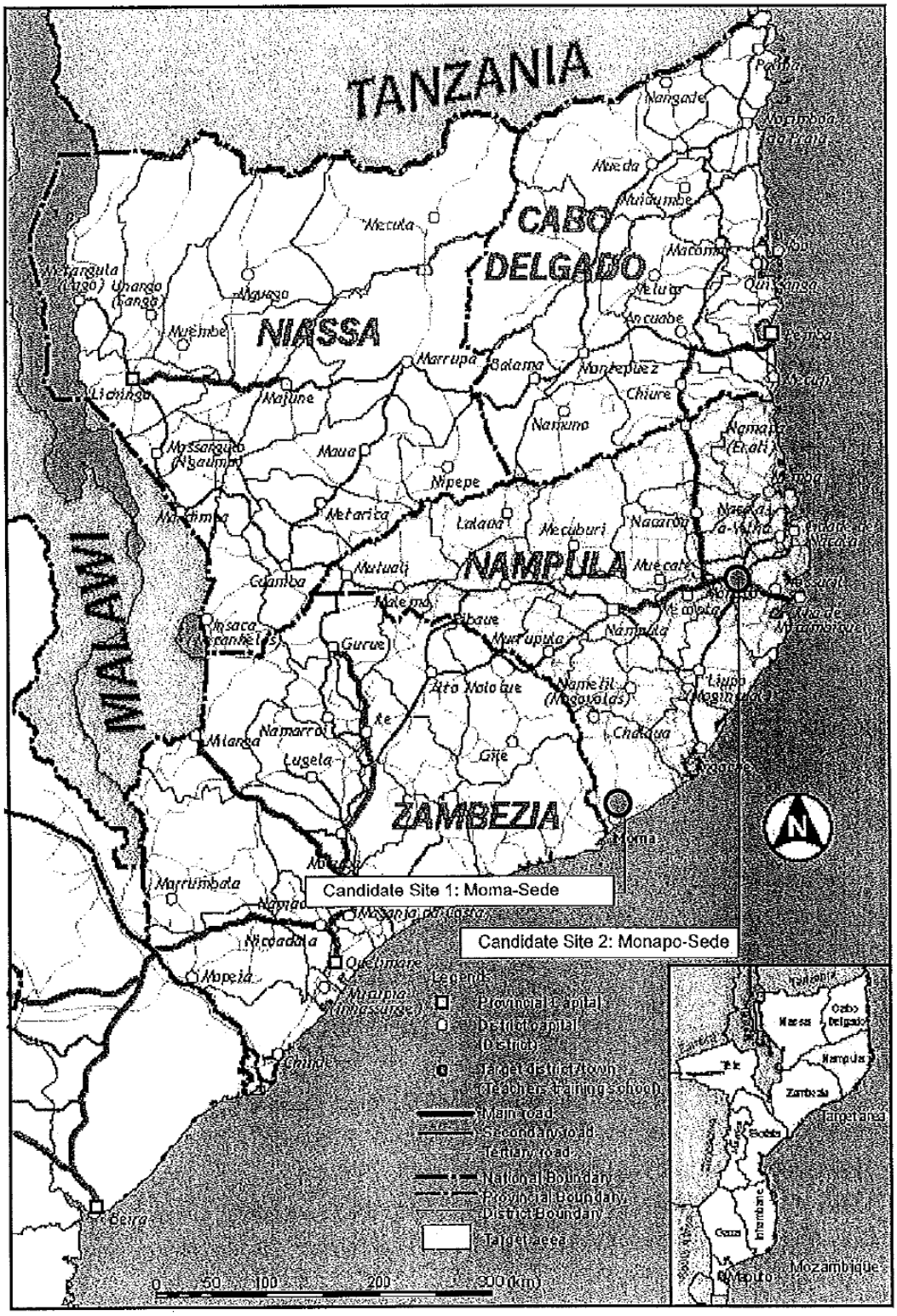
ANNEX 1: Organizational Chart of MOE
ANNEX 2: Site Location Map of the Candidate Sites for the Project
ANNEX 3: Required Land Conditions for the Project
ANNEX 4: Grant Aid for Community Empowerment of the Government of Japan
ANNEX 5: Implementation Flow of Japan's Grant Aid for Community Empowerment after E/N and G/A
ANNEX 6: Flow Chart of Japan's Grant Aid Procedures for Community Empowerment
ANNEX 7: Flow of Funds for Implementation under the Japan's Grant Aid for Community Empowerment
ANNEX 8: Major Undertakings to be Taken by Each Government

Organizational Chart of MOE



ANNEX 1

Site Location Map of the Candidate Sites for the Project



Required Land Conditions for the Project

The following conditions shall be examined to judge whether the site is adequate and feasible for construction of the facilities of a Primary Teacher Training Institute.

1. MOE can present (an) official document(s) that verify its ownership or land-use right over the site.
2. Extent of the site is sufficient to construct the proposed facilities including future expansion.
3. There is no serious risk of being damaged by natural disasters (or no record of such damages).
4. There is no security concern around the site.
5. There is no hindrance for construction and supervision in terms of physical access to the site, working space, geographical conditions, etc.
6. There is sufficient electric power supply.
7. There is existing city water supply, or a high prospect of sufficient ground/underground water supply.
8. There is no duplicated plan of construction by other donors and/or NGOs.
9. The site is appropriate in terms of the institute management, recruiting students, procurement, and securing the sufficient number of professors.
10. MOE can present a certificate or (an) official document(s) that verify the completion of the land mine removal.

Grant Aid for Community Empowerment of the Government of Japan
(Provisional)

The Government of Japan (hereinafter referred to as "the GOJ") is implementing the organizational reforms to improve the quality of ODA operations, and as a part of this realignment, the new JICA law was entered into effect on October 1, 2008. Based on the law and the decision of the Government of Japan (hereinafter referred to as "the GOJ"), JICA has become the executing agency of Grant Aid for Community Empowerment (hereinafter referred to as "GACE").

The Grant Aid provides the government of a recipient country (hereinafter referred to as "the Recipient") 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. Procedures for GACE

GACE is executed through the following procedures.

Application	Request made by a recipient country
Survey	Preparatory Survey conducted by JICA
Appraisal & Approval	Appraisal by the Government of Japan and JICA, and Approval by the Japanese Cabinet
Determination of Implementation	The Notes (hereinafter referred to as "E/N") exchanged between the Governments of Japan and the recipient country
Grant Agreement (hereinafter referred to as "the G/A")	Agreement concluded between JICA and a recipient country
Implementation	Implementation of the Project on the basis of the G/A

Firstly, the application or request for a GACE Project submitted by the Recipient is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for GACE.

Secondly, if the request is deemed appropriate, the Government of Japan entrusts JICA (Japan International Cooperation Agency) to conduct the Preparatory Survey, using a Japanese consulting firm.

Thirdly, the Government of Japan and JICA appraise the Project to see whether or not it is suitable for Japan's GACE, based on the Preparatory Survey report prepared by JICA, and the results are then submitted to the Japanese 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.

Simultaneously, the Grant will be made available by concluding a Grant Agreement (hereinafter referred to as "G/A") between the Government of the Recipient Country or its designated authority and the Japan International Cooperation Agency (JICA). JICA is designated by the Government of Japan as an organization responsible for the proper execution of the Grant.

Procurement Agent ("the Agent") is designated to conduct the procurement services of products and services (including fund management, preparing tenders, contracts and so on) for GACE on behalf of the Recipient. The Agent is an impartial and specialized organization and shall render services according to the Agent Agreement with the Recipient. The Agent is recommended to the Recipient by the Government of Japan and agreed between the two Governments in the Agreed Minutes ("A/M").

2. Preparatory Survey

1) Contents of the Survey

The aim of the Preparatory Survey ("the Survey"), conducted by JICA on a requested Project ("the Project "), is to provide a basic document necessary for the appraisal of the Project by the Government of Japan and JICA. The contents of the Survey are as follows:

(1) Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of agencies and communities concerned of the recipient country necessary for the Project 's implementation;
(2) Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme for Community Empowerment from a technical, social and economic point of view;
(3) Confirmation of items agreed upon by both parties concerning the basic concept of the Project;
(4) Preparation of an outline design of the Project ;
(5) Estimation of cost for the Project ; and
(6) Preparation of reference documents for tender.

The contents of the original request by the Government of the recipient country are not necessarily approved in their initial form as the contents of the Grant Aid project.

The Outline Design of the Project is confirmed considering the guidelines of Japan's Grant Aid scheme.

JICA 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 Survey, JICA uses registered consulting firms. JICA selects firms based on the proposals submitted by interested firms. The firms selected carry out a Preparatory Survey and write a report, based upon terms of reference set by JICA. The consulting firms used for the Survey shall be nominated as a responsible Japanese consultant (hereinafter referred to as "the Japanese Consultant") for proceeding construction supervision for the Project under the Agent in order to maintain technical consistency. The Japanese Consultant shall organize an appropriate construction supervision team utilizing local consultants.

3) Result of the Survey

The Report on the Survey is reviewed by JICA. The appropriateness and feasibility of the Project is confirmed, JICA recommends the GOJ to appraise the implementation of the Project.

3. Implementation of GACE after the E/N and G/A

1) Exchange of Notes (E/N) and Grant Agreement (G/A)

After the project approved by the Cabinet of Japan, the E/N will be signed between the GOJ and the Government of the recipient country to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Government of the recipient country to define the necessary articles to implement the Project, such as payment conditions, responsibilities of the Government of the recipient country, and procurement conditions.

2) Procedural details

Procedural details on the procurement of products and services under GACE will be agreed upon between the Recipient and JICA at the time of the signing of the G/A. Essential points to be agreed upon are outlined as follows:

a) JICA executes the Grant by making payments of the amount agreed upon in the E/N and pays serious attention to ensure the accountability on proper and effective use of the Grant for the Project.
b) The products and services shall be procured and provided in accordance with "Procurement Guidelines of Japan's Grant Aid (Type I – C)".
c) The Government of the recipient country shall conclude an employment contract with the Agent.
d) The Government of the recipient country shall designate the Agent as the representative acting in the name of the Government of the recipient country concerning all transfers of funds to the Agent.

3) Focal Points of JICA's "Procurement Guidelines of Japan's Grant Aid (Type I – C)"

a) The Agent

The Agent is the organization which provides procurement services of products and services on behalf of the Recipient according to the Agent Agreement with the Recipient. The Agent is recommended to the Recipient by the Government of Japan and agreed between the two Governments in the A/M.

b) Agent Agreement

The Recipient shall conclude an Agent Agreement, within two (2) months after the date of entry into force of the G/A, in accordance with the A/M. The scope of the Agent's services shall be clearly specified in the Agent Agreement.

c) Approval of the Agent Agreement

The Agent Agreement, which is prepared as two identical documents, shall be submitted to JICA by the Recipient through the Agent. JICA confirms whether or not the Agent Agreement is concluded in conformity with the E/N, the G/A, and the JICA's Procurement Guidelines of Japan's Grant Aid for Community Empowerment, and approves the Agreement. The Agent Agreement concluded between the Recipient and the Agent shall become effective after the approval by JICA in a written form.

d) Payment Methods

The Agent Agreement shall stipulate that "regarding all transfers of the fund to the Agent, the Recipient shall designate the Agent to act on behalf of the Recipient and issue a Blanket Disbursement Authorization ("the BDA") to conduct the transfer of the fund (Advances) to the Procurement Account from the Recipient Account."

The Agent Agreement shall clearly state that the payment to the Agent shall be made in Japanese yen from the Advances and that the final payment to the Agent shall be made when the total Remaining Amount becomes less than 3 % of the Grant and its accrued interest excluding the Agent's fees.

e) Products and Services Eligible for Procurement

Products and services to be procured shall be selected from those defined in the G/A.

f) Consultant Firms

In principle, the consultants (physical persons or juridical persons including universities, NGOs, and others with expertise and experience) that will be employed to do detail design and supervise the work for the Project / the Programme may be Japanese nationals recommended by JICA, for the purpose of maintaining technical consistency with the preliminary examination and other related studies, conducted prior to the signing of the G/A.

g) Contractor & Supplier Firms

In principle, Firms for construction works of only the recipient country's nationality could be contracted as construction contractors as long as the firm satisfies the conditions specified in the tender documents. Besides, Firms of any nationality could be contracted as suppliers as long as the firm satisfies the conditions specified in the tender documents.

h) Method of Procurement

In implementing procurement, sufficient attention shall be paid so that there is no unfairness among tenderers who are eligible for the procurement of products and services. For this purpose, competitive tendering shall be employed in principle.

i) Tender Documents

The tender documents should contain all information necessary to enable tenderers to prepare valid offers for the products and services to be procured by GACE. The rights and obligations of the Recipient, the Agent and the Suppliers of the products and services should be stipulated in the tender documents to be prepared by the Agent. Besides this, the tender documents shall be prepared in consultation with the Recipient.

j) Pre-qualification Examination of Tenderers

The Agent may conduct a pre-qualification examination of tenderers in advance of the tender so that the invitation to the tender can be extended only to eligible firms. The pre-qualification examination should be performed only with respect to whether or not the prospective tenderers have the capability of accomplishing the contracts concerned without fail. In this case, the following points should be taken into consideration:

(1) Experience and past performance in contracts of a similar kind;
(2) Property foundation or financial credibility; and
(3) Existence of offices, etc. to be specified in the tender documents.

k) Tender Evaluation

The tender evaluation should be implemented on the basis of the conditions specified in the tender documents. Those tenders, which substantially conform to the technical specifications, and are responsive to other stipulations of the tender documents, shall be judged in principle on the basis of the submitted price, and the tenderer who offers the lowest price shall be designated as the successful tenderer.

The Agent shall prepare a detailed tender evaluation report clarifying the reasons for the successful tender and the disqualification and submit it to the Recipient to obtain confirmation before concluding the contract with the successful tenderer. The Agent shall, before a final decision on the awards is made, furnish JICA with a detailed evaluation report of tenders, giving the reasons for the acceptance or rejection of tenders.

l) Additional Procurement

If there is an additional procurement fund after competitive and / or selective tendering and / or direct negotiation for a contract, and the Recipient would like an additional procurement, the Agent is allowed to conduct an additional procurement, following the points mentioned below:

(1) Procurement of the same products and services

When the products and services to be additionally procured are identical with the initial tender and a competitive tendering is judged to be disadvantageous, the additional procurement can be implemented by a direct contract with the successful tenderer of the initial tender.

(2) Other procurements

When products and services other than those mentioned above in (1) are to be procured, the procurement should be implemented through a competitive tendering. In this case, the products and services for additional procurement shall be selected from among those in accordance with the E/N and the G/A.

m) Conclusion of the Contracts

In order to procure products and services in accordance with the G/A, the Agent shall conclude contracts with firms selected by tendering or other methods.

n) Terms of Payment

The contract shall clearly state the terms of payment. The Agent shall make payment from the "Advances", against the submission of the necessary documents from the Firm on the basis of the conditions specified in the contract, after the obligations of the Firm have been fulfilled. When the services are the object of procurement, the Agent may pay certain portion of the contract amount in advance to the firms on the conditions that such firms submit the advance payment guarantee worth the amount of the advance payment to the Agent.

4) Major Undertakings to be taken by the Government of the recipient country

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

(1) to secure lots of land necessary for the implementation of the Project and to clear the sites ;

(2) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the sites referred to in (a) above;

(3) to ensure prompt customs clearance and to assist internal transportation in the recipient country and to assist internal transportation therein of the products;

(4) to ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the Components as well as the employment of the Agent be exempted/be borne by its designated authority without using the Grant and its accrued interest;

(5) to accord Japanese nationals and / or nationals of third countries, including

such nationals employed by the Agent, whose services may be required in connection with the supply of the Components such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work (The term "nationals" whenever used in the G/A means Japanese physical persons or Japanese juridical persons controlled by Japanese physical persons in the case of Japanese nationals, and physical or juridical persons of third countries in the case of nationals of third countries.);

(6) to ensure that the Facilities and the Components be maintained and used properly and effectively for the implementation of the Project;

(7) to bear all the expenses, other than those covered by the Grant and its accrued interest, necessary for the implementation of the Project; and

(8) to give due environmental and social consideration in the implementation of the Project.

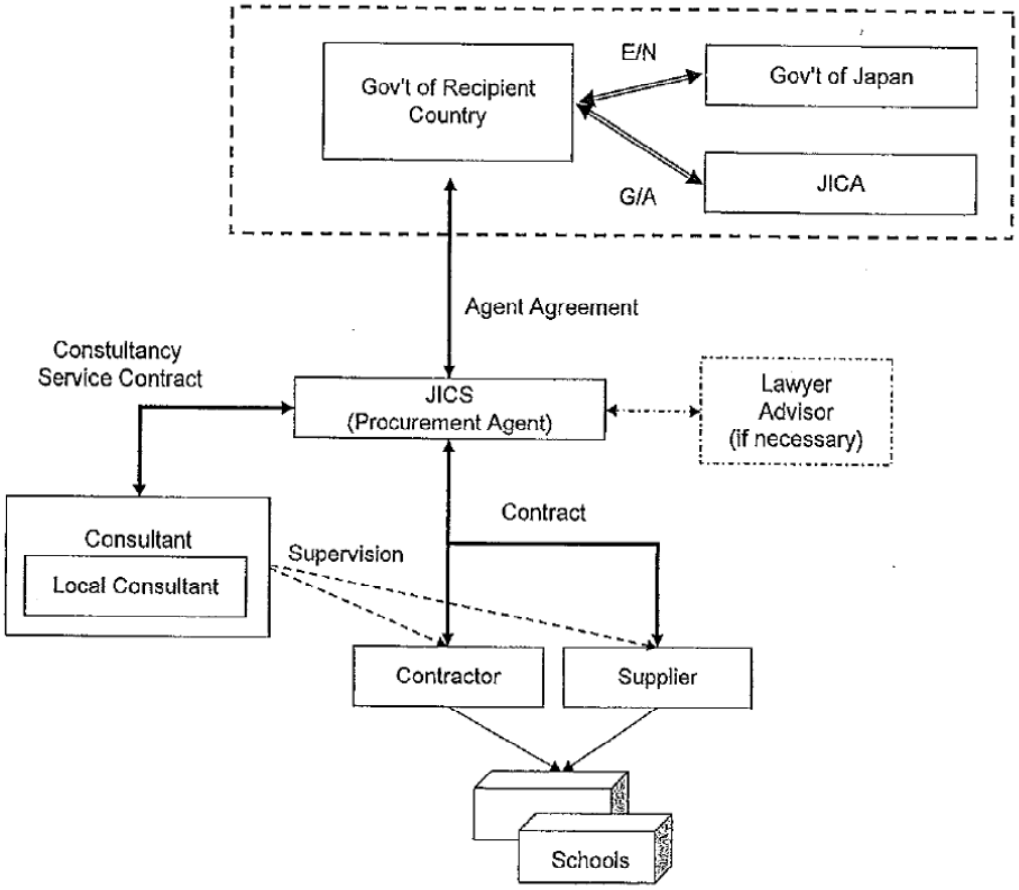
(b) Upon the request of JICA, the Recipient shall provide JICA with necessary information on the Project.

(c) With regard to the shipping and marine insurance of the products procured by the Project, the Recipient shall refrain from imposing any restrictions that may hinder fair and free competition among the shipping and marine insurance companies.

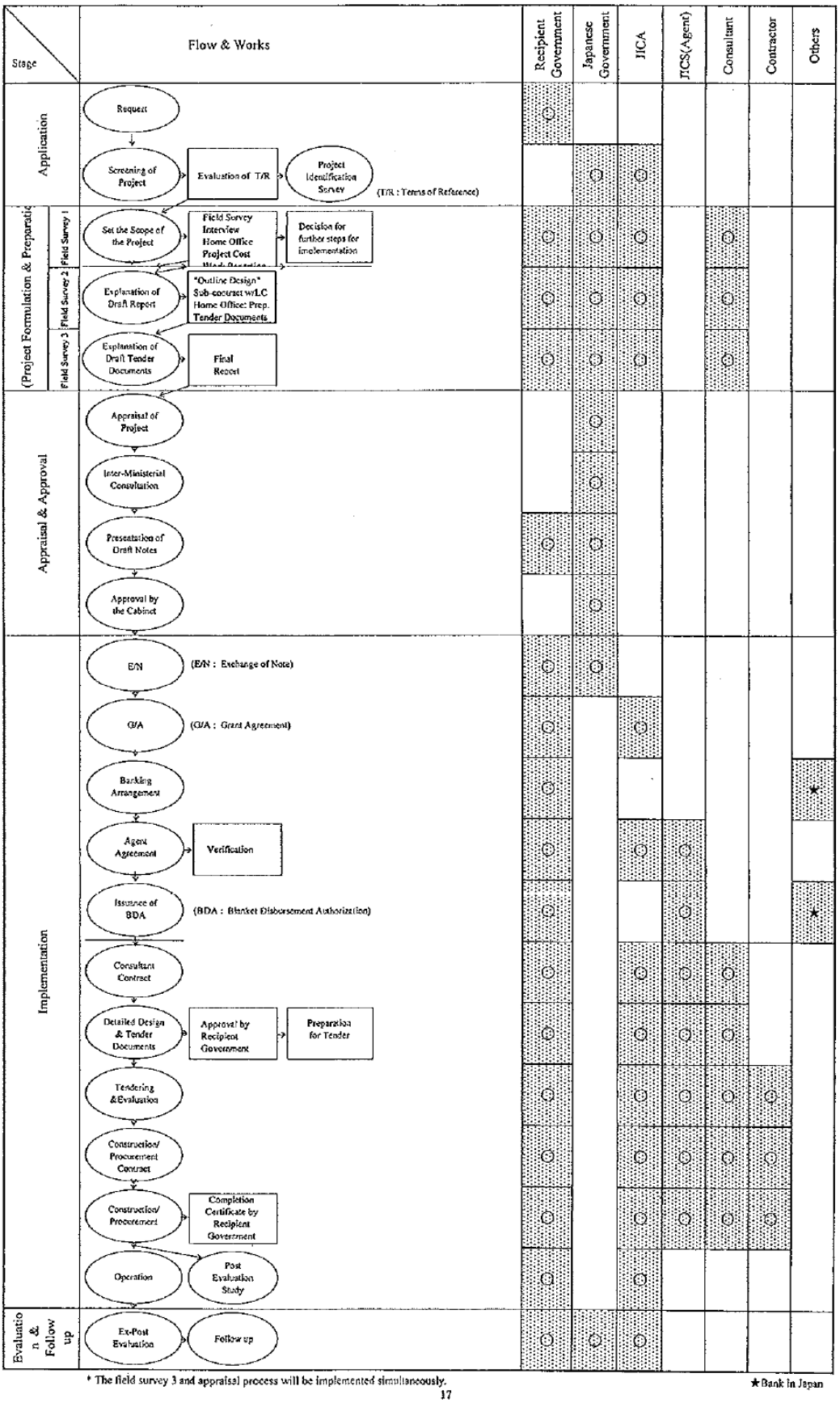
(d) The products procured by the Project shall not be exported or re-exported from the recipient country.

(e) The Recipient shall ensure that any official of its government does not undertake any part of the Japanese nationals' work and / or the work of nationals of third countries on purchase of the Components.

Implementation Flow of Japan's Grant Aid for Community Empowerment after E/N and G/A



Flow Chart of Japan's Grant Aid Procedures for Community Empowerment



* The field survey 3 and appraisal process will be implemented simultaneously.

★Bank in Japan

17

Flow of Funds for Implementation under the Japan's Grant Aid for Community Empowerment

1 Signing of Exchange of Notes (E/N)
2 Signing of Grant Agreement (G/A)
3 Banking Arrangement (B/A)
4 Disbursement of Funds
5 Signing of Agreement for Agent (A/A)
6 Blanket Disbursement Authorization (BDA)
7 Decision of Components of Products and Service
8 Transfer of Funds
9 Payment of the Remuneration for Agent
10 Conclusion of Contract
11 Construction and/or Procurement of Equipment
12 Application for Payment
13 Payment

ANNEX 7

A27

Major Undertakings to be Taken by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
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 the Parking lot		●
5	To construct roads		
	1) Within the site	●	
	2) Outside the site		●
6	To construct the building	●	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1) Electricity		
	a. The distributing line to the site		●
	b. The drop wiring and internal wiring within the site	●	
	c. The main circuit breaker and transformer	●	
	2) Water Supply		
	a. The city water distribution main to the site		●
	b. The supply system within the site (receiving and elevated tanks)	●	
	3) Drainage		
	a. The city drainage main (for storm sewer and others to the site)		●
	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	●	
	4) Gas Supply		
	a. The city gas main to the site		●
	b. The gas supply system within the site	●	
	5) Telephone System		
	a. The telephone trunk line to the main distribution frame/panel (MDF) of the building		●
	b. The MDF and the extension after the frame/panel	●	
	6) Furniture and Equipment		
	a. General furniture		●
	b. Project equipment	●	
8	To bear the commissions to the Japanese bank for banking services based upon B/A		●
9	To ensure prompt customs clearance and to assist internal transportation in the recipient country and to assist internal transportation therein of the products		●
10	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the Components as well as the employment of the Agent be exempted/be borne by its designated authority without using the Grant and its accrued interest.		●
11	To accord Japanese nationals and / or nationals of third countries, including such nationals employed by the Agent, whose services may be required in connection with the supply of the Components such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work (The term "nationals" whenever used in the G/A means Japanese physical persons or Japanese juridical persons controlled by Japanese physical persons in the case of Japanese nationals, and physical or juridical persons of third countries in the case of nationals of third countries.)		●
12	To ensure that the Facilities and the Components be maintained and used properly and effectively for the implementation of the Project		●
13	To bear all the expenses, other than those covered by the Grant and its accrued interest, necessary for the implementation of the Project		●
14	To give due environmental and social consideration in the implementation of the Project		●

(B/A: Banking Arrangement, G/A: Grant Agreement)

4-2　現地調査 II（概略設計概要説明）

MINUTES OF DISCUSSIONS
ON
PREPARATORY SURVEY
(EXPLANATION OF DRAFT REPORT)
ON
THE PROJECT FOR
THE CONSTRUCTION OF PRIMARY TEACHER TRAINING INSTITUTE
IN NAMPULA PROVINCE
IN THE REPUBLIC OF MOZAMBIQUE

Japan International Cooperation Agency (hereinafter referred to as "JICA") had conducted a field survey as a part of the Preparatory Survey on the Project for the Construction of Primary Teacher Training Institute in Nampula Province (hereinafter referred to as "the Project") in the Republic of Mozambique (hereinafter referred to as "Mozambique") from April to May and in October 2011. Based on the results of the field survey and subsequent technical examinations conducted in Japan, JICA prepared the Draft Preparatory Survey Report.

In order to explain the contents of the Report and discuss with the officials concerned of the Government of Mozambique, JICA sent the Survey Team (hereinafter referred to as "the Team"), which was headed by Mr. Ryuichi NASU, Chief Representative, JICA Mozambique Office, and the Team is scheduled to stay in Mozambique from December 13 to 22, 2012.

The Team had a series of discussions with the Mozambican officials concerned and conducted this second field survey.

As a result of discussions, both sides have confirmed the main items described in the attached sheets.

Maputo, Mozambique
December 20, 2012

那須隆一

Mr. Ryuichi NASU
Leader
Preparatory Survey Team
Japan International Cooperation Agency

Ms. Maria de Fatima Zacarias
Permanent Secretary
Ministry of Education,
The Republic of Mozambique

ATTACHMENT

1. **Contents of the Draft Report**

   The Mozambican side agreed and accepted in principle the contents of the Draft Preparatory Survey Report as explained by the Team.

2. **Project Site**

   The Mozambican side agreed that the candidate site to be covered by the Project would be Nacololo site as shown in **ANNEX-1.**

3. **Components and Facilities to be Covered by the Project**

   Both sides agreed on the list of components and facilities for the candidate school to be covered by the Project as shown in **ANNEX-2**. The Mozambican side agreed that the Japanese side would make a final decision on this matter through final adjustment in Japan.

   The Mozambican side understood there is a possibility to adjust the volume of components as a result of the tenders. In case the volume of components should be reduced, the first components to be adjusted are Staff Quarters.

4. **Japan's Grant Aid Scheme and Major Undertakings**

   The Mozambican side understood the Japan's Grant Aid Scheme described in ANNEX 4, ANNEX 5, ANNEX 6, ANNEX 7 and ANNEX 8 of the Minutes of Discussions signed by both parties on April 21, 2011, and the Mozambican side assured that it shall take necessary measures as indicated in **ANNEX-3** of this Minutes of Discussions.

5. **Final Report of the Preparatory Survey**

   JICA will finalize the Report in accordance with the result of discussions and forward it to the Government of Mozambique around June 2013.

6. **Project Cost Estimation**

   The Japanese side showed the Project Cost Estimation to the Mozambican side based on the field surveys as described in **ANNEX-4.** The Mozambican side understood that it was not final at this stage and would be set and approved by the Government of Japan after thorough examinations.

7. Confidentiality of the Information Related to the Project

Both sides confirmed that all information related to the Project including design documents of facilities, furniture and equipment shall not be released to any outside parties before concluding all contracts for the Project. Furthermore, both sides agreed that the estimated cost of the Project as described in **ANNEX-4** shall never be duplicated or released to any outside parties before concluding all contracts for the Project.

8. Other Relevant Issues

8-1. Project Title

Government of Mozambique and JICA agreed to change the Project title from "the Project for the Construction of XX Primary Teacher Training Institute in Nampula Province" to "the Project for the Construction of Monapo Primary Teacher Training Institute in Nampula Province".

8-2. Allocation of Necessary Budget and Personnel

The Mozambican side assured to allocate necessary budget and personnel for the proper operation and maintenance of the facilities to be covered by the Project.

8-3. Way Forward

Japanese side will inform the Mozambican side of the approval by the Cabinet of Japan as immediately as possible through JICA Mozambique Office. The team explained that the implementation schedule of the Project shown in ANNEX 5 was not fixed yet. JICA will inform the Mozambican side once the schedule is confirmed.

ANNEX-1 Location of the Project Site
ANNEX-2 Components and Facilities to be covered by the Project
ANNEX-3 Major Undertakings by Mozambican Side
ANNEX-4 Project Cost Estimation
ANNEX-5 Schedule of the Project (TENTATIVE)

ANNEX-1 Location of the Project Site

(3)

ANNEX-2 Components and Facilities to be covered by the Project

Priority	Project Components			
	Facilities	Descriptions	Furniture	Equipment
A	Administration and Pedagogical Block	Director's/Deputy directors'/Chief secretary's offices, Administration office, Reception, Meeting room, NUFORPE, Teachers' offices (each for 4 disciplines), Infirmary, Teacher's toilet, Kitchenette	Furniture for Administration	
	Classroom Blocks (3 blocks)	2 classrooms/block (6 classrooms in total)	Educational Furniture	
	Computer Room and Library Block	Computer room (20 PCs for students with preparation room), Library (Reading room for 48 persons, Archive, etc.), Stationary shop		
	Laboratory Block	Laboratory (40 students, with preparation room), 2 classrooms (each for 40 students)		
	Workshop Block	Workshop/art studio (40 students, with preparation room), 2 classrooms (each for 40 students)		
	Music Block	Auditorium (40 students), Preparation room, Storage		
	Gymnasium Block	Arena(32m x 21m), Changing rooms with shower/lavatory, storages		
	Toilet Blocks (Female/Male)	For students, including toilet booths for handicapped	-	
	Utility Block	Generator room, Electric room, Workshop, Changing rooms	Furniture for Administration	
	Guard Hut	Guard room, Waiting room		
	Refectory Block	Dining room (200 seats), Kitchen		
	Dormitory Blocks (Female/Male)	100 students/block, 2 blocks for female and 2 blocks for male, Shower/Toilet/Hand-wash/Laundry, Matron's room	Residential Furniture	
	Staff Quarters (Semi-detached type)	2 units for managing staff (3 bedrooms, Living/dining room), 4 units for regular staff (2 bedrooms, Living/dining room)		
B	Pedagogical Laboratory Block (Annex Primary School)	4 classrooms, 2 observation rooms, Office, Toilet for students/teachers	Educational Furniture	
	Staff Quarters (Semi-detached type)	2 units for managing staff (3 bedrooms, Living/dining room), 16 units for regular staff (2 bedrooms, Living/dining room)	Residential Furniture	
	-	-	-	Administration Equipment Educational Equipment

A33

(3)

ANNEX-3 Major Undertakings by Mozambican Side

1. Works to be done by the Mozambican Side

	ITEM	Description
A. Works to be done prior to the tender notice for the first batch of the Project		
1	Acquisition of Environmental License	Application to DPCA (Provincial Directorate of Coordination of Environmental Affairs)
2	Acquisition of the project approval by the local authorities	Notification of outline of the Project to DPOPH (Provincial Directorate of Public Works & Housing)
B. Works to be done by the commencement of the construction work under the Project		
3	Construction of temporary access road for construction vehicles	Gravel paving, approx.160m between the site and the main road
4	Removal and uprooting of existing trees	Only of existing trees in the construction area
5	Removal of vegetation and grading of the construction area	Excluding the eastern part of the land to be conserved
C. Works to be done by the completion of the construction work under the Project		
6	Provision of distribution lines of electricity to the site	Extension of MT (middle tension) power line from the nearest distribution points to the sub-station which will be provided by Japanese side, and make a connection to the transformer.
D. Works to be done after the handover of the facilities under the Project		
7	Construction of perimeter fence and gates	Approx. 1,200m
8	Landscaping (sodding)	Approx. 16,000m2
9	Procurement of laboratory equipment and equipment for workshop	Standard laboratory kits for ESG level and basic equipment for woodwork
10	Procurement of equipment for dormitories and refectory	Utensils, tableware, basic beddings, etc.
11	Preparation of opening the school	Purchase of stationaries, office supplies, consumables, etc.

2. Major undertakings to be done by the Mozambican Side

In addition to the above listed items, the followings are to be taken by the Mozambican side:

1) To prepare an appropriate amount of budget to substitute Value Added Tax with respect to the supply of the products and services for the Project,

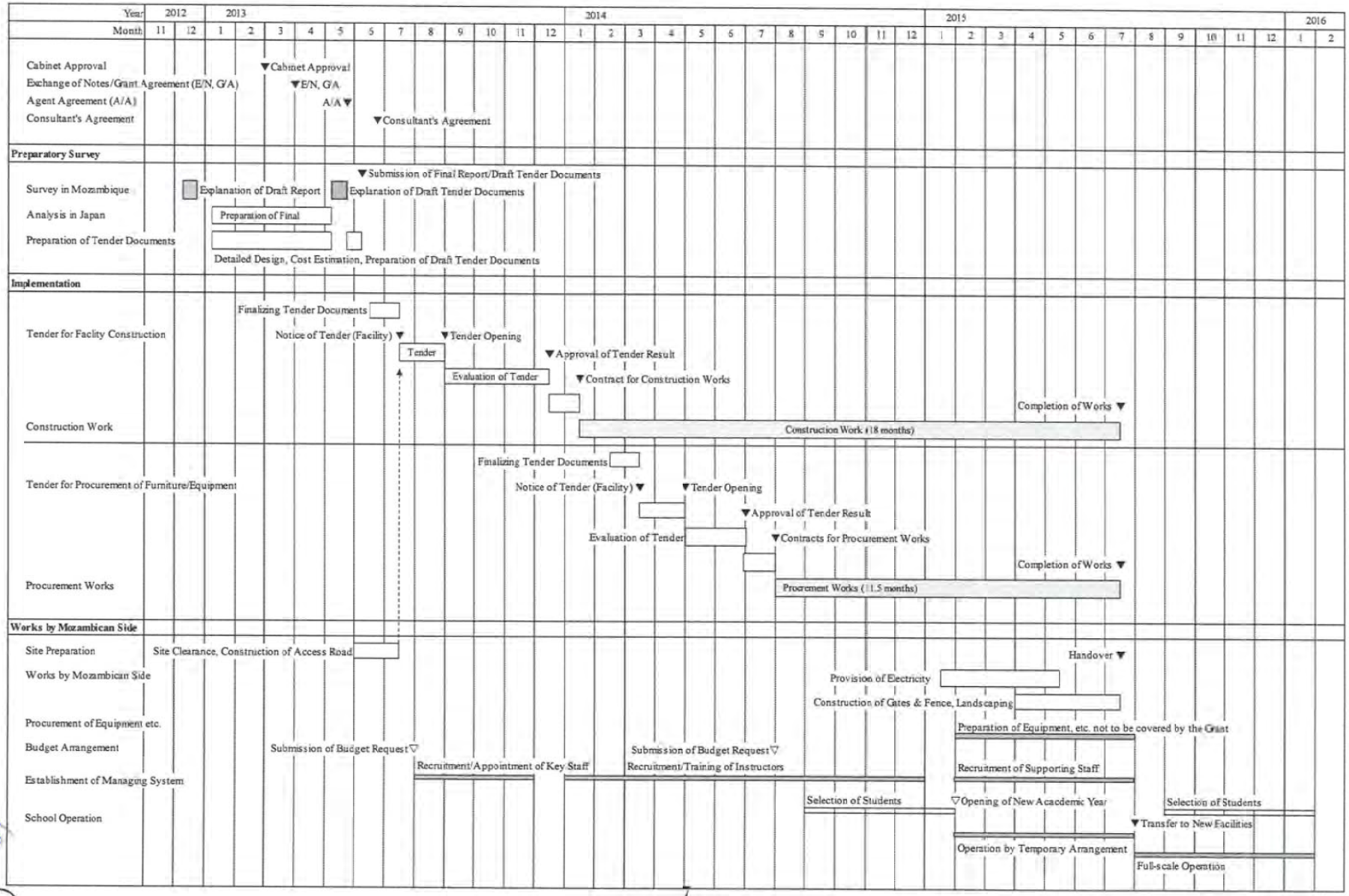
2) To bear the commissions to the Japanese bank for banking services based upon the Banking Arrangement,

3) To construct external facilities which are not included in the scope of Japanese assistance, such as playground, planting, gate and fences, if necessary,

4) To procure equipment, supplies, utensils, furniture and fittings which are not included in the scope of Japanese assistance,

5) To ensure that the Facilities and the Components be maintained and used properly and effectively for the implementation of the Project.

ANNEX-5 Schedule of the Project (TENTATIVE)



5. 参考資料

番号	資料名	形態	発行年	発行機関
1	Agenda 2025　visão e estratégias da nação	電子ｺﾋﾟｰ	Nov. 2003	Comité de Conselheiros
2	Plano de Acção de Redução da Pobreza (PARP)	電子ｺﾋﾟｰ	Mar. 2011	República de Moçambique
3	Programa Quinquenal do Governo para 2010-2014	電子ｺﾋﾟｰ	Apr. 2010	República de Moçambique
4	Plano Económico e Social para 2010	電子ｺﾋﾟｰ	Apr. 2010	República de Moçambique
5	Plano Económico e Social para 2011	電子ｺﾋﾟｰ	Sep. 2010	República de Moçambique
6	Proposta do Plano Económico e Social para 2012	電子ｺﾋﾟｰ	Sep. 2011	República de Moçambique
7	Proposta do Plano Económico e Social para 2013	電子ｺﾋﾟｰ	Sep. 2012	República de Moçambique
8	Plano Estratégico do Sector da Educação 2012-2016 (1st Draft)	電子ｺﾋﾟｰ	Mar. 2011	Ministério da Educação
9	Education Sector Strategic Plan 2012-2016	電子ｺﾋﾟｰ	June 2012	Ministério da Educação
10	Plano Estratégico de Educação e Cultura 2006 – 2010/11	電子ｺﾋﾟｰ	June 2006	Ministério da Educação e Cultura
11	Estratégia para Formação de Professores　2004 – 2015	電子ｺﾋﾟｰ	2004	Ministério da Educação e Cultura
12	Proposta do Orçamento do Estado para 2013	電子ｺﾋﾟｰ	Sep. 2012	Ministério da Educação
13	Orçamento do Estado para 2012	電子ｺﾋﾟｰ	Jan. 2012	República de Moçambique
14	Orçamento do Estado para 2011	電子ｺﾋﾟｰ	Jan. 2011	República de Moçambique
15	Orçamento do Estado para 2010	電子ｺﾋﾟｰ	Jan. 2010	República de Moçambique
16	Orçamento do Estado para 2009	電子ｺﾋﾟｰ	Jan. 2009	República de Moçambique
17	Relatório de Execução do Orçamento do Estado Jan-Dez de 2011	電子ｺﾋﾟｰ	2012	República de Moçambique
18	Relatório de Execução do Orçamento do Estado Jan-Dez de 2010	電子ｺﾋﾟｰ	2011	Ministério das Finanças
19	Relatório de Execução do Orçamento do Estado Jan-Dez de 2009	電子ｺﾋﾟｰ	2010	Ministério das Finanças
20	Relatório de Execução do Orçamento do Estado Jan-Dez de 2008	電子ｺﾋﾟｰ	2009	Ministério das Finanças
21	Cenário Fiscal de Médio Prazo 2012-2014	電子ｺﾋﾟｰ	Jul. 2011	Ministério das Finanças
22	Cenário Fiscal de Médio Prazo 2010-2012	電子ｺﾋﾟｰ	Sep. 2009	Ministério das Finanças
23	Programa de Actividades 2012 (Final Version)	電子ｺﾋﾟｰ	Mar. 2012	Ministério da Educação

番号	資料名	形態	発行年	発行機関
24	Programa de Actividades 2011	電子ｺﾋﾟｰ	Apr. 2011	Ministério da Educação
25	Programa de Actividades 2010	電子ｺﾋﾟｰ	May 2010	Ministério da Educação
26	Education Statistics Data Set 2012	電子ｺﾋﾟｰ		Ministério da Educação
27	Education Statistics Data Set 2011	電子ｺﾋﾟｰ	-	Ministério da Educação
28	Education Statistics Data Set 2010	電子ｺﾋﾟｰ	-	Ministério da Educação
29	Education Statistics - Annual School Survey 2011	ｺﾋﾟｰ	Aug. 2011	Ministério da Educação
30	Education Statistics - Annual School Results 2010	ｺﾋﾟｰ	Aug. 2011	Ministério da Educação
31	Plano Curricular do Curso de Formação de Professores para o Ensino Primário	電子ｺﾋﾟｰ	2011	INDE, Ministério da Educação
32	Regulamento geral dos Institutos de Formação de Professores	電子ｺﾋﾟｰ	2011	Ministério da Educação
33	Mid-Term Evaluation of the EFA Fast Track Initiative -Country Case Study: Mozambique	電子ｺﾋﾟｰ	Feb. 2010	The Evaluation Team
34	Programme Document for the funding request to the Catalytic Fund FTI	電子ｺﾋﾟｰ	Sep. 2010	Ministry of Edcation
35	Estatuto Orgânico do Ministério da Educação	電子ｺﾋﾟｰ	-	República de Moçambique
36	Provincial Strategic Plan- Nampula 2010-2020	電子ｺﾋﾟｰ	-	Provincial Government of Nampula
37	PEEC 12ª Reunião Anual de Revisão: Balanço do PES 2010 (Educação)	電子ｺﾋﾟｰ	Mar. 2011	Ministry of Edcation
38	Poverty and Wellbeing in Mozambique: Third National Poverty Assessment	電子ｺﾋﾟｰ	Oct. 2010	Ministry of Planning and Development
39	Resultados do SACMEQ II e SACMEQ III: Moçambique e Regional	電子ｺﾋﾟｰ	-	SACMEQ/MINED
40	Relatório Financeiro e de Progresso do Fase - Fundo de Apoio ao Sector da Educação 2010	電子ｺﾋﾟｰ	Dec. 2010	Ministério da Educação
41	Project Appraisal Document- for the Mozambique Education Sector Support Project	電子ｺﾋﾟｰ	Apr. 2011	World Bank
42	IFP Montepuez 家具・機材調達入札図書一式	電子ｺﾋﾟｰ	2010	Ministério da Educação
43	IFP Motepuez/Alto Molocue 建設工事 入札図書一式	電子ｺﾋﾟｰ	2009	Ministério da Educação

6. その他

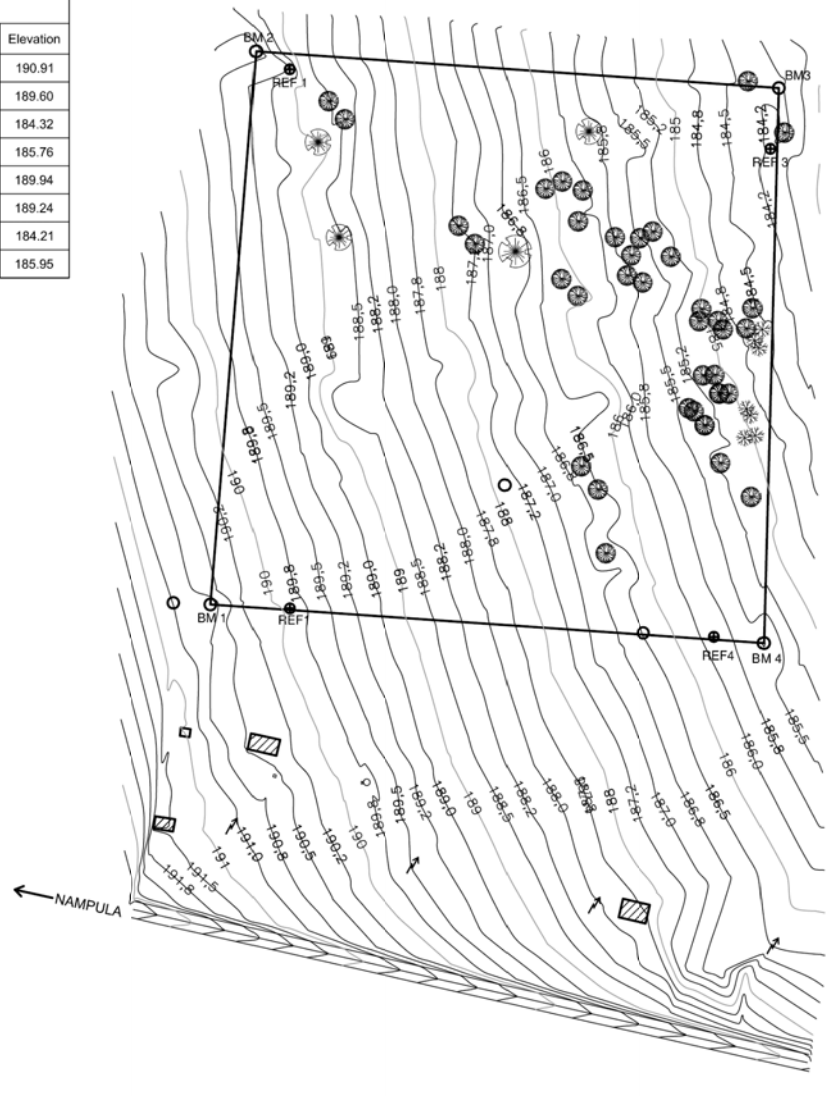
□　敷地測量図（現地再委託）

□　地盤状況調査結果 抜粋（現地再委託）

■ 敷地測量図

Point Table				
Point #	Description	Northing	Easting	Elevation
241	BM 1	8352880.07	620924.02	190.91
7	BM 2	8353178.76	620948.64	189.60
35	BM 3	8353158.96	621231.71	184.32
259	BM 4	8352859.23	621223.70	185.76
244	REF1	8352877.96	620966.76	189.94
51	REF2	8353169.08	620966.67	189.24
37	REF3	8353126.14	621227.10	184.21
257	REF4	8352862.58	621196.68	185.95

COORDINATES
UTM ZONE 37
DATUM WGS84



Point Table				
Point #	Description	Latitude	Longitude	Elevation
241	BM 1	S14° 53' 45.33"	E40° 07' 27.09"	190.91
7	BM 2	S14° 53' 35.61"	E40° 07' 27.86"	189.60
35	BM 3	S14° 53' 36.21"	E40° 07' 37.34"	184.32
259	BM 4	S14° 53' 45.96"	E40° 07' 37.12"	185.76
244	REF1	S14° 53' 45.39"	E40° 07' 28.52"	189.94
51	REF2	S14° 53' 35.92"	E40° 07' 28.47"	189.24
37	REF3	S14° 53' 37.27"	E40° 07' 37.19"	184.21
257	REF4	S14° 53' 45.86"	E40° 07' 36.22"	185.95

COORDINATES
UTM ZONE 37
DATUM WGS84

LEGEND
- Baobab
- Tree
- Banana

Benchmark
BM 1
Control points
REF 1

PLOT AREA=8.7512ha

- Middle Voltage Power Line

House

REV	DATA	DESIGNAÇÃO

DATA Novembro 2011
PROJECTADO
DESENHADO J.Pereira
CALCULADO
APROVADO

CLIENTE MATSUDA CONSULTANTS INTERNATIONAL CO. LDT
PROJECTO THE PREPARATORY SURVEY ON THE PROJECT FOR THE CONSTRUCTION OF NACOLOLO PRIMARY TEACHER TRAINING INSTITUTE

DESENHO N° PTO-CP-TOP-001
PROJECTO N° 469
ASSUNTO GENERAL LAYOUT- NACOLOLO
SCALE 1 : 2500

08

Consultoria em Geologia, Geotecnia e Ambiente,Lda

REPORT ON

GEOTECHNICAL SITE INVESTIGATION

FOR PROPOSED CONSTRUCTION OF THE IFP IN NACOLOLO

Prepared for:
Matsuda Consultants International Co., Ltd

GTC/014/2011

MAPUTO

NOVEMBER, 2011

TABLE OF CONTENTS

1. INTRODUCTION

1.1 General

At the request of Matsuda Consultant International Co., Ltd, *Geotec – Consultoria em Geologia, Geotecnia e Ambiente, Lda*, is undertaking a geotechnical site investigation for the proposed construction of the IFP in Nacololo, Monapo District, North of Mozambique. Following the acceptance of our quotation and signing of the contract on October 14th 2011 between Geotec Lda and Matsuda Consultant International Co., Ltd the fieldwork was started on October 25th 2011.

This investigation is meant to provide the consulting engineers with the necessary geotechnical information to facilitate in finalizing the foundation design and documentations for the project. The site layout plan showing the layout of the site was supplied to us and presented in Appendix B.

1.2 Scope of Work

The main objective of this geotechnical site investigation is to determine the engineering properties of the soils from the sites under investigation and its suitability taking into consideration occurrences of potentially expansive material, low bearing capacity soils on the sites for placement of an infrastructure.

The scope of work for the geotechnical investigation include:

- Establish the nature, distribution and relevant engineering properties of the upper soil and rocks of the sites;
- Provide an indication of suitable excavation procedures associated with the installation of services;
- Present general foundation recommendations for the proposed structures and comment on any other geotechnical aspects that may affect the proposed development.

The list of tasks to be undertaken as part of the survey is as follow:

- Soil bearing capacity test to be executed in accordance with following methods indicated in Mozambican or other countries' authorized industrial norms.
  - Method of Test: Dynamic Penetration Light Test (DPL)
  - Number of Test: 3 places on site
  - Depth of penetration: 5.0m under the actual ground surface.
  - Interval of penetration test: Every 10cm from the actual ground surface to 5.0m below the ground
- Soil sampling collect undisturbed soil samples for laboratory test according to technical task form as following;
  - Number of samples: 3 places on site
  - Depth of sample collection: Actual ground level -0.8m and -1.5m for each place

- Laboratory testing for the following items according to Mozambican or other country's authorized industrial norms.
  - Atterberg limits
  - Sieve analysis (Particle size distribution, Porosity, Specific gravity, Moisture content)
- A Technical report making.

Final documents shall be made using collected survey data. In the final documents, information listed below shall be described.
The Contractor shall make technical report to describe the soil character and technical advice including bearing soil capacity (kN/m^2)
The Contractor shall analyze and evaluate percolation value, taking account of soil characteristics. The technical report shall be made in English.

- Final products be submitted to the Client will be in following formats

Soft data in Microsoft office word and excel in CD-R x 1set
Soft data in PDF in CD-R x 1set
Hard copies of document in A4 size x 2sets

2. SITE DESCRIPTION

2.1 Locality

The investigated area is 8.6 ha and is located in Nacololo, halfway between Namialo and Monapo, just North of the road between Nampula and Nacala (Fig.1 and Appendix A).

Figure 1 – Location map of the site under investigation

A41

2.2 Site geology

The litho-stratigraphic sequence of the region where the site under investigation is located comprises three main units belonging to the Monapo Complex: i) gneissic and granulitic basement, locally cut by pegmatitic veins; ii) carbonatitic and syenitic bodies; iii) phanerozoic unconsolidated cover deposits.
These rocks are the most widespread and form a complex association of hornblend orthogneiss which are cut by pegmatitic veins. These rocks comprise at least four lithotypes, namely biotitic gneiss, banded quartz-feldspatic, migmatite/myllonites and quartzites.
The intrusive rocks include carbonatites and syenites and are found on eastern side of the investigated area. These occur as dykes and mineral such as alvikite, dolomite, calcite and ankerite along with pyroxens (eagerine-augite).
The basement rocks are covered by thick units of unconsolidated sediments. These are red soils of reddish brown color and rich in clay.

3. PROGRESS ON PLANNED TASKS

Fieldwork for the investigation was undertaken on 25 - 26 October 2011 and comprised the excavation of three test pits, logging of the soil profile, sampling of undisturbed soil and evaluation of percolation. A geotechnical engineer supervised the excavation and sampled the soil profile. Visual and tactile techniques were used to assess the soil profile.

3.1 Excavation of Test Pit

Three test pits of about 6 m x 2m were excavated using a wheeler Loader XG915 (Appendix C – Photo 2). A GPS (Garmin GPSmap76CSx) was used to setup the test pit positions. The GPS readings were taken in geographical coordinates using WGS84 as Datum. The test pit was excavated to a depth of 1.5 meter.

Table 1 – Geographical location of the test pit and sampling sites

Sample	Latitude	Longitude
TP-A	14° 53' 38.4" S	40° 07' 29.6" E
TP-B	14° 53' 43.4" S	40° 07' 29,6" E
TP-C	14° 53' 41.6" S	40° 07' 34.4" E

3.2 Sampling

A total of three undisturbed soil samples were taken from the sites indicated by the client, i.e., from the place where the test pit were excavated with the following geographical coordinates.

The depth of sampling was between 0.8m and 1.5m below ground, as stated in the scope of work.
After sampling, the container of each sample was adequately sealed to prevent them from loosing soil moisture and the samples were taken to the ANE laboratory in Nampula to undertaken the required laboratory tests.

3.3 Soil Logging

After excavation of the test pit, the walls of the excavation were examined visually and manually as part of the soil profile geotechnical description procedure. The MCCSSO system was used for soil logging and in the end the typical soil profile of the site was found to be as describe in section 4.1.

3.4 DCP Test

Preliminary assessment of the site lead to a decision to abandon the use of the Hand held penetrometer tests (DCP) because the soil consistency would not allow significant penetration of the equipment.

3.5 Laboratory Testing

In order to get the mechanical properties of the soil material Atterberg Limit tests and Sieve tests were conducted at ANE's (National Authority for Roads) laboratory in Nampula to obtain the liquid limit, plasticity index and the linear shrinkage. These values were used to calculate the potential expansiveness of the soils and soil identification and classification purposes.
Additional two samples were taken from trial pits A and B for laboratory tests aimed at assessing bearing capacity of the soils in replacement of the DCP tests.
The laboratory tests are still being carried out.

4. RESULTS AND SITE EVALUATION

4.1 Typical Soil Profile

The test pit was located at point A, B and C as to reveal in broad terms the underlying geotechnical conditions with focus to the place where significant developments were envisaged to take place in the future. The position of the test pit is shown on the plan attached in the Appendix C.

In summary, the typical soil profile logged at the test pit is:

Top Soil (0 – 0.3 m): SANDY CLAY; slightly moist, redish brown, massive, stiff, sandy clay of residual origin (from gnessic rock). This layer is rich in roots of plants.

Residual Soil (0.3 – 1.5 m): SANDY CLAY; slightly moist, redish brown, massive, stiff, sandy clay of residual origin (from gnessic rock). At places the soil is reworked and termites are quite common in the area.

4.2 Assessment of the expansive potential of the soils

The expansive potential of a soil depends upon its clay content, the type of clay mineral, its chemical composition and mechanical character. A material is potentially expansive if it exhibits the following properties (Kantey and Brink, 1952):

- a clay content greater than 12 percent,
- a plasticity index of more than 12,
- a liquid limit of more than 30 percent, and
- a linear shrinkage of more than 8 percent.

From the results of atterberg limits performed on samples from the site (Appendix D) and summarized on the table 4.1 the following conclusion can be drawn. The high percentage of fine combined with the trending of the grain size graph suggests that the clay content in the soil might be well above 12%; both the plastic index and the liquid limit of all samples are over 12 and 30% respectively; the only parameter that differs for all samples is the linear shrinkage which is over 8% in sample TP-C, about 8 in TP-A and below 8 in TP-B. Based on these results we conclude that the residual soils of the site have are potentially expansive.

Table 2 – Summary of Atterberg limits results

Samples	Clay content (%)	Plasticity Index	Liquid limit (%)	Linear shrinkage (%)	Remarks
TP-A	75.85% fines, mostly medium plasticity silt	15.86	43.32	7.93	potentially expansive soil
TP-B	76.36% fines, mostly medium plasticity silt	12.5	44.00	6.43	potentially expansive soil
TP-C	83.45% fines, mostly medium plasticity silt	14.38	44.01	8.57	potentially expansive soil

4.3 Soil Classification

To classify the soils of the site under investigation the USCS classification system was used. This is based on the grain size distribution drawn from the sieve test results along with the results of the Atterberg limits tests provided in the Appendix D, a summary of the sieve tests is given in table 3 and those of Atterberg Limits in table 2.
As shown in table 3 all the samples have similar results and the soil is classified as Sandy Clay of medium plasticity.

Tabela 3 – summary of sieve test and water content of the soil

Samples	Fines (%)	Fine sand (%)	Medium sand (%)	Coarse sand (%)	Gravel (%)	Water content (%)	Consistency index
TP-A	75.85	7.33	10.76	5.93	0.13	15.75	1.73
TP-B	76.36	6.00	8.38	9.19	0.07	16.51	2.19
TP-C	83.45	6.68	5.92	3.88	0.07	18.00	1.81

The water contents of the soil are 15.75, 16.51 and 18.0 for samples TP-A, TP-B and TP-C respectively (Appendix D). According to IAEG (1979) this soil are considered Naturally Dry because for both samples the water content fall in the range between 0 and 25%. It should be noted that no rain was registered in the days prior to the sampling neither during the sampling.

5. CONCLUSIONS

1. A site of approximately 8.6 hectare located at Nacololo halfway between the villages of Namialo and Monapo just north of the road between Nampula and Nacala was investigated to determine the geotechnical properties that will influence the proposed construction of the of the IFP.

2. The site is underlain by gneissic bedrock of the Monapo Complex. The bedrock is covered by residual soils consisting of Sandy Clay (ML) of medium plasticity.

3. The soil has potential for compressibility and expansion due to its high clay content. Therefore the foundations will require modified normal or special foundation techniques such as proper compaction techniques and lightly reinforced strip footings. Some problems are foreseen regarding the excavatability on certain portions of the site where pneumatic tools, a competent TLB may be required.

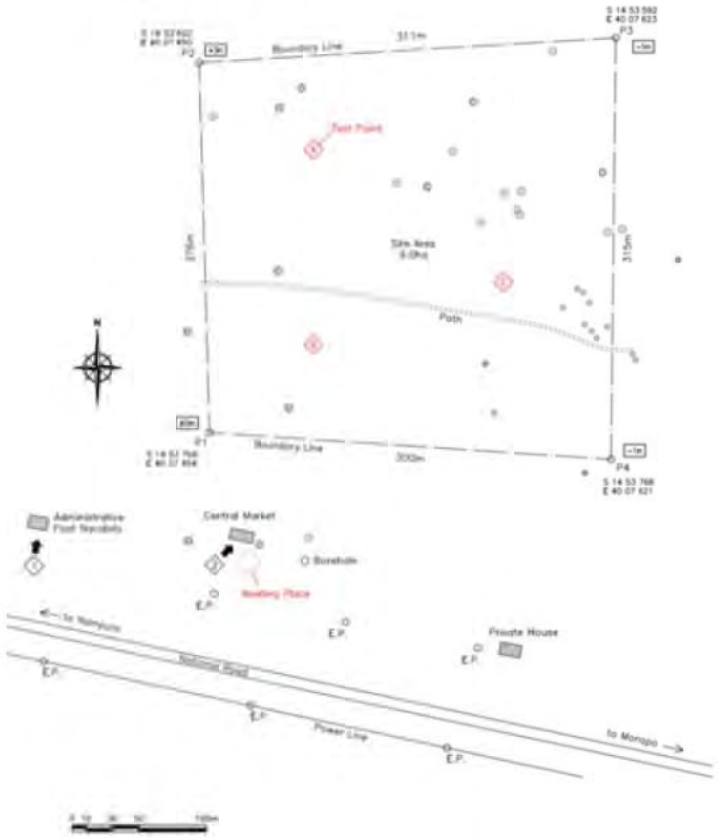
4. Cohesive soils such as this Sandy Clay (ML) the nominal allowable bearing capacity will vary between 150 – 300 kPa. It's expected that the soils of the site will exhibit low drainage characteristics it may require the application of a minor correction to estabilize the soils under the footings.

5. Further tests are required as to determine exact values of bearing capacity as well as settlements.

We trust that the information contained in this report meets your immediate requirements. Should you require any additional information, please do not hesitate to contact us.

7.2 Appendix B: Site Plan

IFP Nacololo Site



Source: Matsuda Consultants International Co., Ltd

7.3 Appendix C: Test Pit Profile

GEOTECHNICAL SOIL PROFILE

		SITE No. TP-A	Sheet No. 1 of 1
Client: MATSUDA CONSULTANTS INTERNATIONAL		Site Location	14° 53' 38.4" S
Project: Nacololo IFP		(Datum: WGS84)	40° 07' 29.6" S
Total Depth: 150 cm	Log Date: 26 / 10 / 2011	Logged By: D.P. De Amurane	Altitude:

Depth (m)	Graphic Log	% of core recovery	Sample No.	Description	Remarks
0				Sandy Clay: Slightly moist, reddish brown, massive, stiff, sandy clay of residual origin (from gneissic rock). This layer is rich in roots of plants	
-1				Sandy Clay: Slightly moist, reddish brown, massive, stiff, sandy clay of residual origin (from gneissic rock). At places the soil is reworked and termites are more common in the area	

ADDRESS:
Av. Maguiguana, Praceta do Diu, Nº 6, 2º Andar,
Maputo – Moçambique
Telefones: +258 823081960, 827919680, 823567880,
Email: geotec@webcom.co.mz

A44

7.4 Appendix D: Laboratory Test Results

- Sieve analysis (Sample: TP-A)

ADMINISTRAÇÃO NACIONAL DE ESTRADAS
DELEGAÇÃO PROVINCIAL DE NAMPULA
DEPARTAMENTO TÉCNICO

ANÁLISE GRANULOMÉTRICA

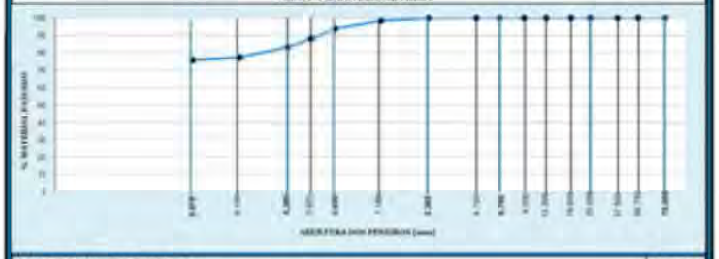
Especificações METHOD A1

ENTIDADE: Direcção Provincial de Transportes — TIPO DE MATERIAL: — PROFUNDIDADE (m):
PROJECTO: — REF. DA AMOSTRA: — RELATÓRIO Nº: 00-13-11
LOCAL: Província de Nampula — REF. DA ESTUFA: TP - TPA — DATA DA REGISTAÇÃO: 00-13-11

PENEIROS (Polegadas)	PENEIROS (milímetros)	MASSA RETIDA (g)	MATERIAL RETIDO (%)	MATERIAL PASSADO (%)
3"	75.000	0.00	0.00	100.00
2"	50.790	0.00	0.00	100.00
1" 1/2	37.500	0.00	0.00	100.00
1"	25.000	0.00	0.00	100.00
3/4"	19.000	0.00	0.00	100.00
1/2"	13.200	0.00	0.00	100.00
3/8"	9.500	0.00	0.00	100.00
1/4"	6.700	0.00	0.00	100.00
Nº4	4.750	0.00	0.00	100.00
Nº8	2.360	1.70	0.11	99.87
Nº16	1.180	14.06	1.40	98.47
Nº30	0.600	83.30	4.51	93.94
Nº40	0.425	75.00	3.96	87.96
Nº50	0.300	47.00	4.78	83.18
Nº100	0.150	58.00	5.89	77.29
Nº200	0.075	14.40	1.44	75.85

Silte / Argila (%)	Areia			Cascalho
	Fina (%)	Média (%)	Grossa (%)	(%)
75.85	7.13	10.76	5.93	0.13

CURVA GRANULOMÉTRICA



MASSA DA AMOSTRA TOTAL (g)	1,000.00
MASSA DA AMOSTRA APÓS A LAVAGEM NO PENEIRO Nº 200 (g)	241.50

OBSERVAÇÃO:

O Técnico	O Coordenador do Laboratorio
Rafael Faife	Elias F. Chamba
O Departamento Técnico	O Delegado
Miguel Mangue	Palmiro Mavila

- Sieve analysis (Sample: TP-B)

ADMINISTRAÇÃO NACIONAL DE ESTRADAS
DELEGAÇÃO PROVINCIAL DE NAMPULA
DEPARTAMENTO TÉCNICO

ANÁLISE GRANULOMÉTRICA

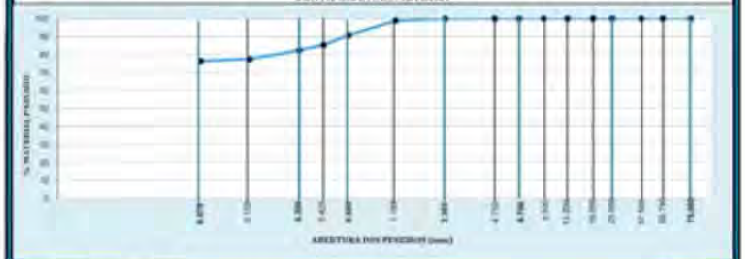
Especificações METHOD A1

ENTIDADE: Direcção Provincial de Transportes — TIPO DE MATERIAL: — PROFUNDIDADE (m):
PROJECTO: — REF. DA AMOSTRA: — RELATÓRIO Nº: 00-13-11
LOCAL: Província de Nampula — REF. DA ESTUFA: TP - TPB — DATA DA REGISTAÇÃO: 00-13-11

PENEIROS (Polegadas)	PENEIROS (milímetros)	MASSA RETIDA (g)	MATERIAL RETIDO (%)	MATERIAL PASSADO (%)
3"	75.000	0.00	0.00	100.00
2"	50.790	0.00	0.00	100.00
1" 1/2	37.500	0.00	0.00	100.00
1"	25.000	0.00	0.00	100.00
3/4"	19.000	0.00	0.00	100.00
1/2"	13.200	0.00	0.00	100.00
3/8"	9.500	0.00	0.00	100.00
1/4"	6.700	0.00	0.00	100.00
Nº4	4.750	0.00	0.00	100.00
Nº8	2.360	0.70	0.07	99.93
Nº16	1.180	10.05	1.01	98.93
Nº30	0.600	83.00	8.18	90.75
Nº40	0.425	53.00	5.38	85.37
Nº50	0.300	10.02	1.00	82.36
Nº100	0.150	50.01	5.00	77.36
Nº200	0.075	10.00	1.00	76.36

Silte / Argila (%)	Areia			Cascalho
	Fina (%)	Média (%)	Grossa (%)	(%)
76.36	6.00	8.38	9.19	0.07

CURVA GRANULOMÉTRICA



MASSA DA AMOSTRA TOTAL (g)	1,000.00
MASSA DA AMOSTRA APÓS A LAVAGEM NO PENEIRO Nº 200 (g)	236.40

OBSERVAÇÃO:

O Técnico	O Coordenador do Laboratorio
Rafael Faife	Elias F. Chamba
O Departamento Técnico	O Delegado
Miguel Mangue	Palmiro Mavila

- Sieve analysis (Sample: TP-C)

ADMINISTRAÇÃO NACIONAL DE ESTRADAS
DELEGAÇÃO PROVINCIAL DE NAMPULA
DEPARTAMENTO TÉCNICO

ANÁLISE GRANULOMÉTRICA

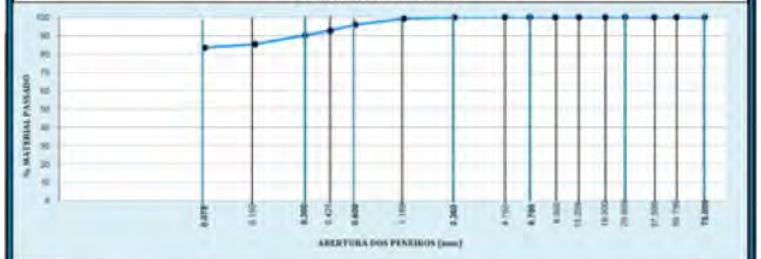
Especificações METHOD A1

ENTIDADE: Diamniss Pedro de Amoriam — TIPO DE MATERIAL: — PROFUNDIDADE (m):
PROJECTO: — REF. DA ANE: — RELATÓRIO Nº: 08-11-11
LOCAL: Província de Namepula — REF. DA ENTIDADE: IFP - TPC — DATA DA REALIZAÇÃO: 03-11-11

PENEIROS (Polegadas)	PENEIROS (milimetros)	MASSA RETIDA (g)	MATERIAL RETIDO (%)	MATERIAL PASSADO (%)
3"	75.000	0.00	0.00	100.00
2"	50.790	0.00	0.00	100.00
1" 1/2	37.500	0.00	0.00	100.00
1"	25.000	0.00	0.00	100.00
3/4"	19.000	0.00	0.00	100.00
1/2"	13.200	0.00	0.00	100.00
3/8"	9.500	0.00	0.00	100.00
1/4"	6.700	0.00	0.00	100.00
Nº4	4.750	0.00	0.00	100.00
Nº8	2.360	0.70	0.07	99.93
Nº16	1.180	6.80	0.68	99.25
Nº30	0.600	32.00	3.20	96.05
Nº40	0.425	33.00	3.30	92.75
Nº50	0.300	26.20	2.62	90.13
Nº150	0.150	48.00	4.80	85.33
Nº200	0.075	10.80	1.08	83.45

Silte/Argila (%)	Areia			Cascalho
	Fina (%)	Média (%)	Grossa (%)	(%)
83.45	6.68	5.92	3.88	0.07

CURVA GRANULOMÉTRICA



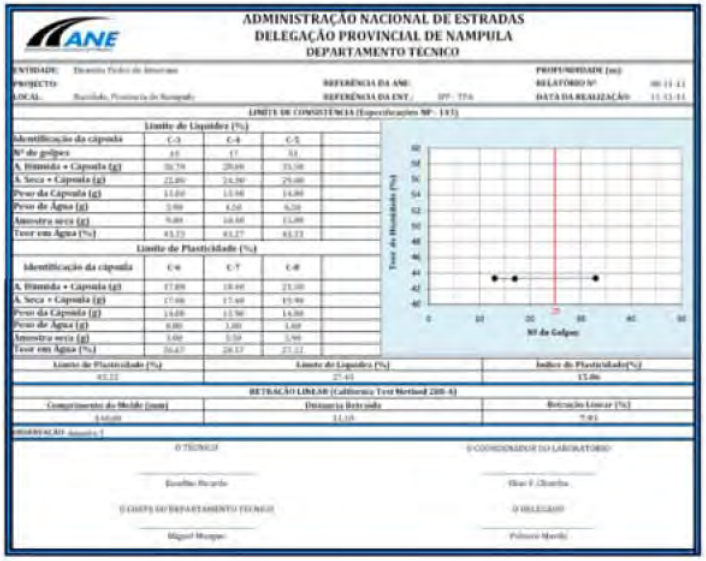
MASSA DA AMOSTRA TOTAL (g)	1,000.00
MASSA DA AMOSTRA APÓS A LAVAGEM NO PENEIRO Nº 200 (g)	165.50

OBSERVAÇÃO:

O Técnico — Rafael Faife
O Coordenador do Laboratorio — Elias F. Chamba
O Departamento Técnico — Miguel Mangue
O Delegado — Palmiro Mavila

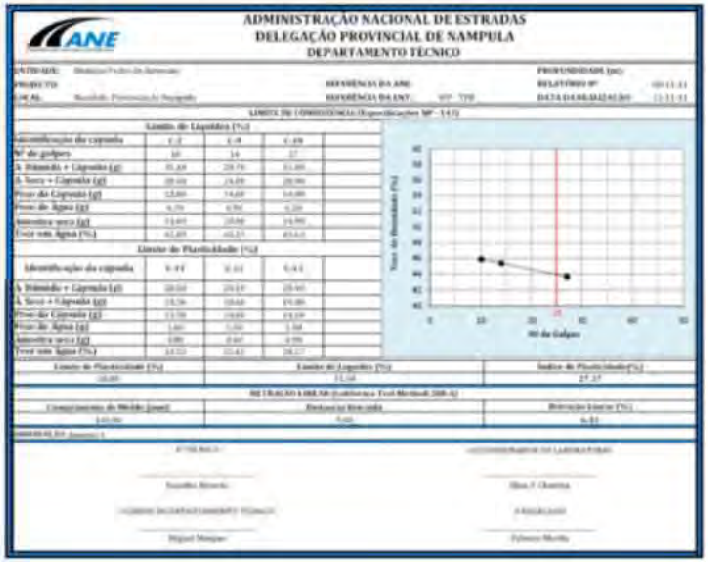
- Atterberg Limits (Sample: TP-A)

ADMINISTRAÇÃO NACIONAL DE ESTRADAS
DELEGAÇÃO PROVINCIAL DE NAMPULA
DEPARTAMENTO TÉCNICO



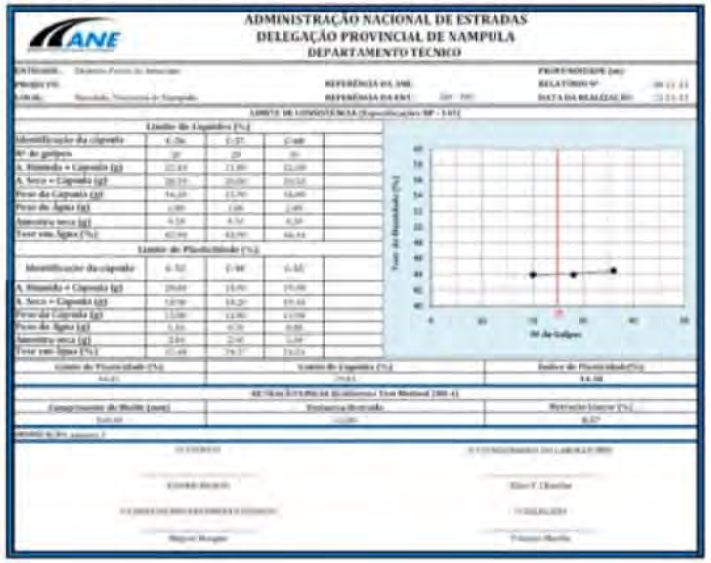
- Atterberg Limits (Sample: TP-B)

A46



ADMINISTRAÇÃO NACIONAL DE ESTRADAS
DELEGAÇÃO PROVINCIAL DE NAMPULA
DEPARTAMENTO TÉCNICO

- Atterberg Limits (Sample: TP-C)



ADMINISTRAÇÃO NACIONAL DE ESTRADAS
DELEGAÇÃO PROVINCIAL DE NAMPULA
DEPARTAMENTO TÉCNICO

- Water content