

2. OBJECTIVES

In accordance with the present political, economic and social transformations in Mozambique, especially those from centrally planned economy towards democratic with solutions of economy of market is characterised by investment in the national mapping organisation, as a public organisation, falling year after year as the Government has increasingly tried to keep its spenditure down. The lack of funding for multilateral agencies to support the overall mapping activities is critical.

11-12/10/82

Despite the crucial role ascribed to Dinageca in providing and maintaining the topographic mapping as support to economic development projects, these have steadily been destroyed as result of scarcity of resources. There has been a need for expertise and adequate funding and well maintained equipment, but because the country is experiencing a period of continuous priorities changes and major reductions in funding which require new austere and competitive environment, these needs have not been fulfilled.

2.1- Long-term Objectives

The first Map (Annex 1) shows the coverage of topographical mapping in Mozambique at main scale of 1:50,000. The provinces of Niassa and part of Cabo Delgado have not been completed since colonial era. The requested Technical Assistance would have as main objective to fund and assist Dinageca in the composition of colour topographic maps covering the northern region of Mozambique at a scale of 1:50,000 with the aim to explore and conserve natural resources, develop uncultivated area intentionally and improve the standard of living in the production area of the Niassa in order to complete the National Topographic Mapping Series. In addition, the Technical Assistance has objectives to transfer modern technologies through on-the-job training and training in Japan to the Mozambican counterpart.

In accordance with the above goals, the project, by assisting the National Directorate of Geography and Cadastre, is expected to:

1. Strengthen the mapping (survey, photogrammetry, cartography) sector as a whole;
2. Facilitate and accelerate, in the Niassa Province, the implementation of Land Law (Lei de Terras) and the attendant executive Regulations both expected to be amended early;
3. Achieve self-reliance in the printing of topographical maps for all sectors of the economy , and thus accomplish an important aspect on core data needs for environmental assessment and sustainable development strategies;

2.2- Immediate Objectives

The goals for the assistance would be to furnish the undergoing development projects in the province with topographical maps as tools in planning, critical analysis, and decision-making for a variety of multi-dimensional measurement, transform surface characteristics in the plane and testing hypothesis on spatial organisation.

The mapping activities to be undertaken under the project will lead to the production of an up-to-date and comprehensive geographical frame for use in the "*Niassa 2000*" activities. It will also serve as the basic area frame for subsequent organization, planning and management of land resources.

In order to contribute to the strengthening of the mapping sector, the project would achieve the following immediate objectives:

1. Undertake technical assistance in setting and producing topographic maps of Niassa;
2. Undertake technical assistance in supporting technically and in material required for field and office work for mapping production of the required area:
 - Prepare a detailed project proposal incorporating different components for completing the National Mapping Series at scale of 1:50,000 for Niassa;

- Prepare and undertake aerial photography for Niassa with posterior aerial triangulation;
 - Prepare and undertake the production of topographic maps for the entire province or some selected areas of the province;
3. Extend the useful life span of existing equipment already in place at Dinageca by the provision of preventive maintenance, repair and calibration;
 4. Upgrading of printing facility at Dinageca which would serve all Government Agencies requiring multi-colour printed topographic maps;
 5. Harmonization of the production capacity of Geodesy, Surveying, Photogrammetry and Cartography attached to Dinageca to ensure a smooth through-flow of production from fieldwork/aerial photography to map reproduction;
 6. Initiate the safeguarding of cadastral survey in order to achieve the objectives of political philosophies under which the Government is signing agreement with South African Farmers' Association so that its members can farm in Niassa in a very big project financially supported world-wide.

3. PROJECT STRATEGY AND ACTIVITIES

3.1- Project Strategy

The Project basically aims to support the completion of the National Topographic Mapping Series of the Niassa Province to achieve countrywide coverage of base map 1:50 000. Thus, the planned strategy envisages to implement the main and inter-related activities during the life of this project such as establishment of provincial field control and aerial survey, preparation and production of base maps (1:50 000). The activities not completed during the project duration will be carried forward to the main activities of the Mozambican National Mapping Agency.

The implementing Mozambican National Mapping Agency and an appointed Japanese Agency will monitor, on a continuous basis, the progress of the implementation of mapping activities to ensure that they are accomplished according to work plan and in compliance with laid down strategy.

The periodic progress of field mapping and processing of data at field and office units will be evaluated on fortnightly/monthly basis or any other established period, by the headquarters supervisors and they will highlight the achievements and constraints in their reports.

3.2- Project Activities

In order to contribute to the strengthening of the economic activities, the project will be the first to map the Niassa Province within a well delineated and mapped scale of 1:50 000 with the following activities:

First Year:

Preparatory work including feasibility study and cost estimation including selection of priorities areas for topographical mapping as well as identification of the potential users and their requirements:

- A ground control survey will be connected with the existing network of national ground stations and will fully cover the mapping area. Concrete monuments with metal marks will be established at required control points;
- Field identification will be concluded together with local counterparts;
- Aerial photography covering approximately 40,000 Km² of the northern part of Mozambique will be carried out at a scale of 1:40,000;
- Contact prints and enlarged photos will be processed in Mozambique at Dinageca Laboratories or otherwise discussed and agreed;
- The necessary materials and instruments for aerial photography and for ground control survey will be brought from Japan to Mozambique and will be left after completion of the work;

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Second Year:

Planning of the plans for the technical assistance project including the acquisition and/or reconstruction of the existing and required equipment, training on specialised technology (if required), and preliminary work:

Aerial triangulation will be conducted to co-ordinate pass points and geodetic control points necessary for plotting with stereoplotters and other related instruments by Mozambican and/or Japanese teams. Geodetic co-ordinates and elevations will be determined being all the models required for aerial triangulation executed in accordance with the Mozambican specifications;

Stereo plotting will be compiled on the basis of the results of the triangulation and field identification. Contour lines will be plotted at 20 metres intervals, and spot heights will be plotted at intervals of 10 cm on the map;

Compilation will be prepared according to the Mozambican map symbols and map specifications all being in Portuguese with field completion in the sites;

Aerial triangulation and stereo-plotting training for the Mozambique counterparts will be held in Mozambique and/or in Japan depending on justified needs;

技術の移転

Third Year:

Production work for topographical mapping production and printing of the required area:

地形図の印刷

- Drafting, scribing, colour separation and colour printing will be carried out through official printing and publishing companies. 2,000 copies of each sheet will be printed in colours all of which being delivered to Dinageca;
- Seminar shall be held to carry out the transfer of technology regarding topographic mapping with officials being trained in Mozambique by Japanese experts in the form of on-the-job training, seminars, and/or short study visits to Japan.

4. INSTITUTIONAL FRAMEWORK

The *Direcção Nacional de Geografia e Cadastro* (Dinageca), will be the principal Mozambican Government Agency responsible for the implementation of the preparations for mapping activities as envisaged under this project. The Photogrammetric and Cartographic departments will play the key role in execution of the relevant activities. Support of other departments of Dinageca and its provincial branch will also be obtained.

Mapping activities will also need technical as well as personnel support from other government departments especially those at provincial level, etc. Technical assistance will be provided by Japanese experts during the period of study.

The mapping project in Niassa will be a development study to complete the National Mapping Completion of the Topographical Map Series at 1:50,000 with the Government of Japan requested to fund the project.

5. ADVANCE PREPARATIONS AND OBLIGATIONS

The National Directorate of Geography and Cadastre, Dinageca, will ensure that Government's commitment to implementation of the project activities, as indicated in the work plan, is met in full and on timely basis. It will also ensure that additional staffs for provincial office are identified and obtained on secondment before the start of field exercise.

The support of provincial administration will be crucial for the successful and timely implementation of the topographic mapping project. Dinageca will ensure necessary arrangements in place towards soliciting co-operation and support of provincial officers through the involvement of relevant administrative channels.

6. GOVERNMENT FOLLOW-UP ACTIONS

The topographic maps produced through the implementation of project activities will mainly be used for the planning and conduct land resource management, i.e., public administration, land planning and development, and private transactions in land to which the Government accords a high priority. These base maps will also serve as the appropriate base for the development of the first stage of management of land resources as set by the property right vested in land owners and/or land managers who manage the property land units.

During the post-project phase of the topographic mapping programme, these updated maps will be used as the basic resource materials for preparation of various area reference maps. These maps will serve as useful reference tools to various Government departments, other organizations and individual map users in planning, monitoring and evaluating development programmes as well as the related studies and research activities.

7. DESCRIPTION AND JUSTIFICATION OF JICA¹ INPUTS

JICA will assign international staff who will teach, advise and work alongside with their national staff counterparts. The terms of reference for the international personnel will be described in the draft job description to be elaborated in the future.

JICA may use an aircraft suitably equipped for taking standard aerial photographs with a pilot experienced in aerial photography, to be used by Dinageca during dry seasons. Technical specifications of the photography, area and extent of flying missions will be determined during the implementation phase of the Project in accordance with priorities set by the Government and Dinageca.

¹ Japanese International Co-operation Agency

JICA will co-operate with the manufacturers or their representatives of the photogrammetric and photographic equipment already in place at Dinageca for service, repair and calibration.

8. DESCRIPTION AND JUSTIFICATION OF GOVERNMENT INPUTS

8.1 Offices

The Government will provide enough rooms at the Headquarters of Dinageca for the Project which are deemed suitable for the installation of a map production facility and which are equipped with the necessary power, water and sewage connections. Subject to further investigations, the commitment of sufficient funds in the national budget for the rehabilitation and preparation of the rooms may be considered a necessary prerequisite for the signing of the project. The Government ensures adequate power and water supply for the facility at all times.

8.2 Personnel

The Government will nominate a National Project Co-ordinator (full time or part time, at least fifty per cent) who will be responsible, in close co-operation with Japanese personnel, for planning and directing the activities of the project toward the achievement of its objectives.

The government will assign sufficient and sufficiently trained personnel for the implementation of all aspects of the Project as described in this document. The Government will nominate suitable candidates for training abroad in a timely fashion. If necessary it will arrange for intensive language courses prior to their taking up training and will provide domestic salaries during the training period.

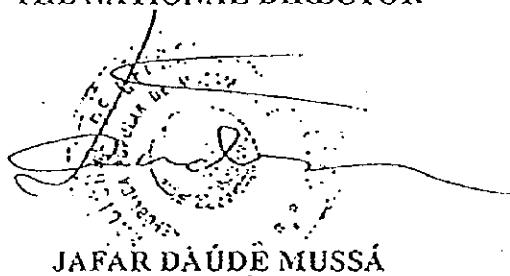
8.3 Administrative Support and Supplies

The Government will provide administrative support consisting of one bilingual secretary (Portuguese/English), one driver, as well as the necessary office space (one Project office and one secretarial room each at Dinageca Headquarters and at the Niassa Province) for the entire duration of the assignment of Japanese personnel.

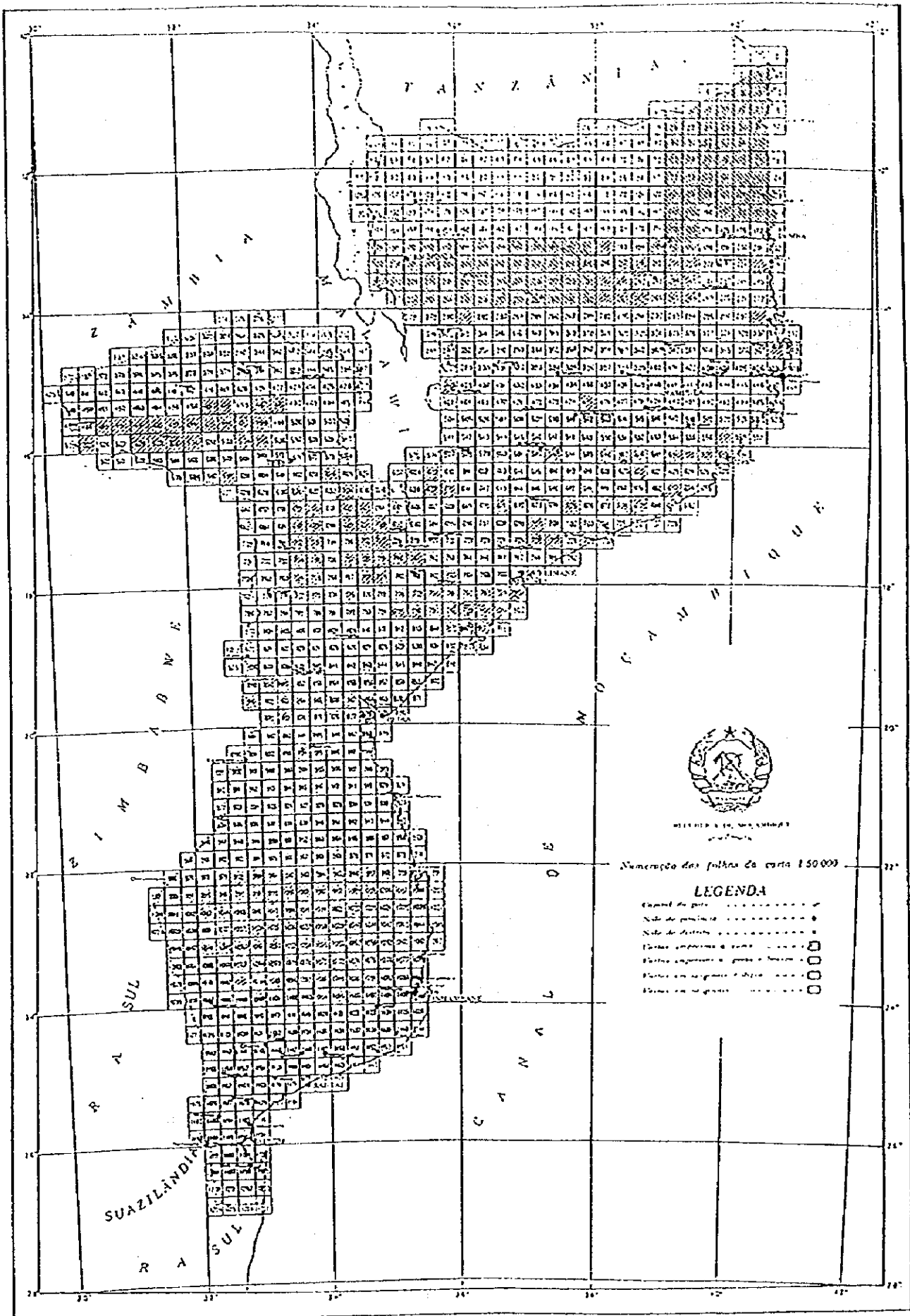
Office furniture, ordinary office supplies including stationery (with the exception of those items specifically listed in this document or annexes thereto) will be provided by the Government in adequate quantities and qualities.

National Directorate of Geography and Cadastre in Maputo, 15th March 1996.

THE NATIONAL DIRECTOR



JAFAR DAÚDE MUSSÁ



REPUBLICA DE MOÇAMBIQUE
Município de Moçimboa do Infante

Numeração das folhas da carta 1:50.000

LEGENDA

- Contorno da propriedade
- Solo de pastagem
- Solo de cultivo
- Áreas arborizadas e bosques
- Áreas arborizadas - pomares e jardins
- Áreas em arborização
- Áreas em arborização

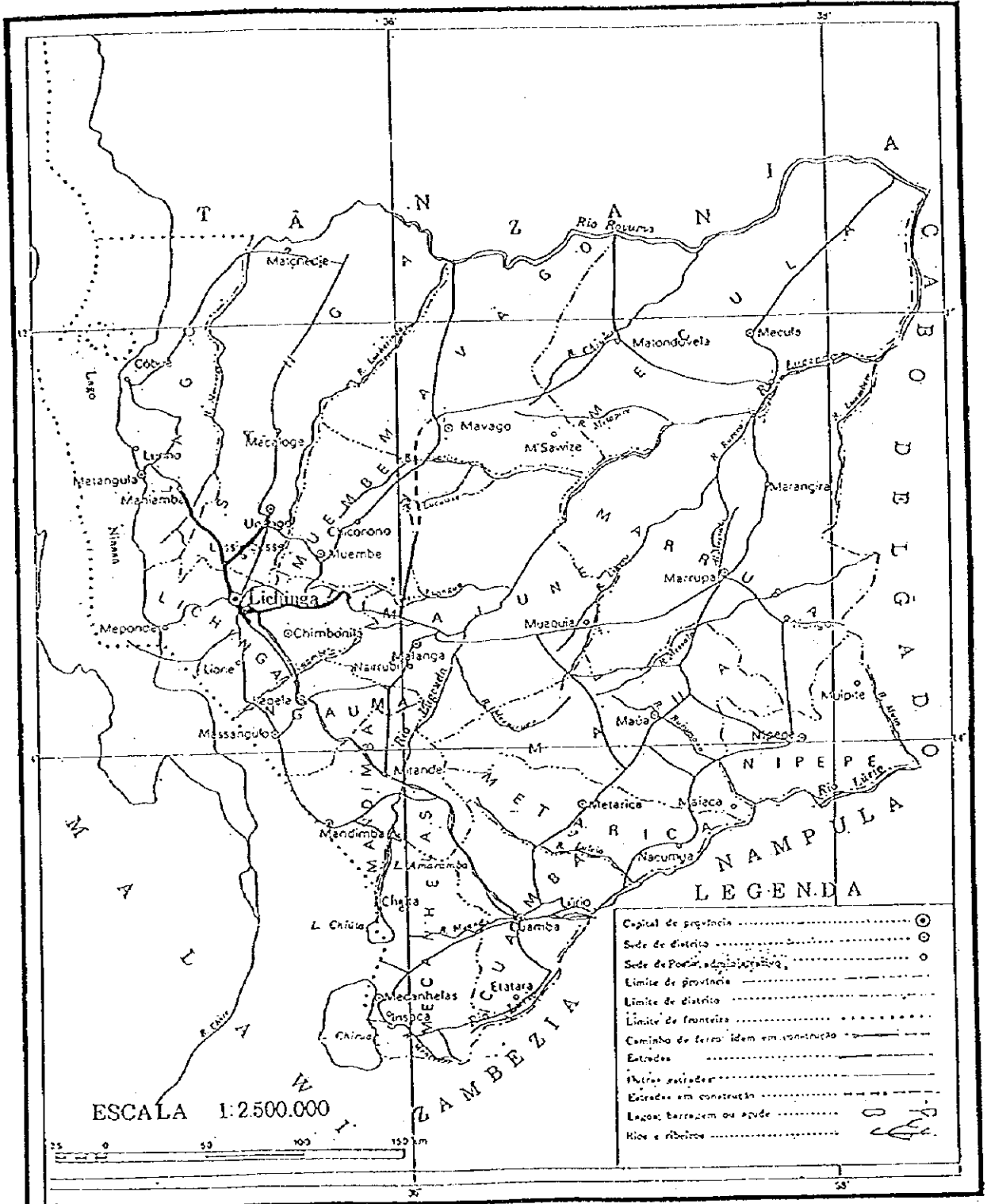
ANNEX I

TOPOGRAPHIC MAPPING COVERAGE AT SCALE 1:50 000



REPÚBLICA PORTUGUESA

Provincia de Niassá



5 ANO INTERNACIONAL DA CARTOGRAFIA EM AFRICA

Direcção Nacional de Geografia e Cadastro

ANNEX II

TABLE I: STATISTIC DATA OF NIASSA PROVINCE

DISTRICT	POPULATION	AREA (Km ²)
Lichinga City	63.291	290
Lichinga District	82.893	4.440
Lago	53.000	6.528
Sanga	35.000	12.185
Mavago	13.000	9.559
Muembe	15.348	5.526
Mnjune	12.590	12.694
Ngaúma	70.707	2.421
Mandimba	75.105	4.385
Mecanhelas	72.226	6.406
Cuamba	82.192	5.121
Metarica	19.560	3.489
Maúá	36.418	9.957
Nipepe	18.725	3.292
Marrupa	42.253	17.730
Mecula	21.858	18.153
Lago Niassa	-	6.880
TOTAL		129.056 Km²

ANNEX III

LIST OF EXPENDABLE MAPPING EQUIPMENT

Depending on the result of feasibility study, the following equipment will be required to be supplied through the technical assistance:

- Four wheel drive vehicles 5 units
- GPS with dual frequencies 3 units
- Total Station 3 units
- Levelling instruments 3 units
- Colour copy machine 2 units
- Personal Computers (including 1 laptop) 4 units
- Laser printer 2 units
- Plotter 1 unit
- Digitiser 2 units
- Flatbed offset press, 70 x 100 cm 1 unit
- Photo composition "Diatype" 1 unit
- Supplies for photography, cartography and photogrammetry (scribing films, drafting films, peelcoats, photographic films, chemicals, etc.) varied
- Supplies for map printing facilities (plates, inks, paper, chemicals, etc.) varied
- Necessary equipment required for the harmonization of production at Dinagcca . varied

添付資料；予備調査時の Minutes of Meeting

MINUTES OF MEETING
UPON
THE PRELIMINARY STUDY
FOR
THE NATIONAL TOPOGRAPHIC MAPPING IN NIASSA PROVINCE
REPUBLIC OF MOZAMBIQUE

AGREED UPON BETWEEN

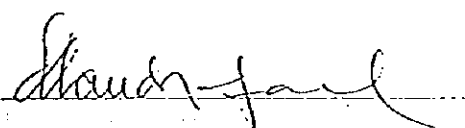
NATIONAL DIRECTORATE OF GEOGRAPHY AND CADASTRE
MINISTRY OF AGRICULTURE AND FISHERIES

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

MAPUTO

10th December, 1997



Orlando RAFAEL
National Director,
National Directorate of
Geography and Cadastre,
Ministry of Agriculture and Fisheries,
Republic of Mozambique



Kiyosumi SUDO
Leader,
The Contact Mission,
Japan International Cooperation Agency

The Japanese Contact Mission (hereinafter referred to as the "Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. Kiyosumi SUDO visited the Republic of Mozambique from 1st of December to 11th of December, 1997 in response to the request of the Government of the Republic of Mozambique to conduct the preliminary study for "The National Topographic Mapping in Niassa Province in the Republic of Mozambique" (hereinafter referred to as "the Study").

The Team exchanged the views and had a series of discussions on the outline of the Study with representatives of the National Directorate of Geography and Cadastre (hereinafter referred to as "DINAGECA"). (See Appendix-1 for the attendants list)

Through the discussions, both sides agreed on the outline of the Study, and confirmed the following points:

1. Counterpart

The Team and DINAGECA confirmed that DINAGECA is the counterpart of the Study.

2. Necessity of the Study

(1) Lack of 1:50,000 scale National Topographic Map in Niassa

The Team confirmed that the Study Area, i.e. the western part of Niassa Province, proposed in the Term of Reference dated on 15th of March, 1996 has not yet been wholly covered with the 1:50,000 scale National Topographic Map.

(2) Necessity of 1:40,000 scale aerial photographs

DINAGECA insisted the necessity of the 1:40,000 scale aerial photographs, explaining firstly that the aerial photographs with this resolution is essential to promote the on-going cadastre management program by DINAGECA and secondly that the aerial photographs will be used to prepare larger scale map in the future. The Team confirmed the necessity of the 1:40,000 scale aerial photographs.

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(3) Necessity of 1:50,000 scale National Topographic Map in Niassa Province

DIAGECA insisted the necessity of 1:50,000 scale National Topographic Map in Niassa Province, explaining firstly that the map will encourage implementation of the on-going "MOSAGRIUS" Project in Niassa Province, secondly that the map will be essential for the Ministry of Mineral Resources and Energy to prepare the up-to-date geological maps, and thirdly that the map will encourage to realize the development plans such as "NIASSA 2000". The Team confirmed the necessity of the 1:50,000 scale National Topographic Map.

3. Study Area

The Team and DINAGECA agreed that the Study Area will cover approximately 32,000 square-kilometers within westward of 36 degrees east longitudes. (See Appendix-2)

4. Method of the Study

(1) Digital Mapping

The Team and DINAGECA agreed that the National topographic map will be prepared by the digital method.

(2) Use of Satellite Image Processing and Photogrammetry

DINAGECA requested the photogrammetry to acquire the new topographic data. To this request, the Team proposed the use of satellite image processing as well as photogrammetry, considering the expected dramatic improvement of satellite images in terms of resolution. Both sides, however, agreed that the concrete area, where to use satellite image processing and photogrammetry, will be specified at the Scope of Work meetings.

(3) Use of existing original maps

The Team identified the existing of the 1:50,000 scale original topographic maps prepared in 1980s covering southern part of proposed Study area. Both sides agreed that these originals will possibly be used after their vertical accuracy is found secured.

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5. Technology Transfer

The Team and DINAGECA agreed that relevant technology will be transferred to DINAGECA in the course of implementing the Study in cooperation.

Besides, DINAGECA requested that personnel training concerning the Study shall be conducted in Japan, and the Team promised to convey the request to the JICA Headquarters.

6. Transfer of the Study equipment

DINAGECA requested the transfer of the relevant study equipment to expand the organization's capacity, and the Team understood the request.

7. Permission of taking the Study related materials out of Mozambique

DINAGECA promised to secure permission for the Study to take all data and documents including maps, aerial photographs, originals and so on, related to the Study.

8. Safety of implementing the Study

DINAGECA promised to secure the safety of the Study Team when conducting field survey by identifying the mine polluted areas.

9. Permission of aerial photographing along the borders

DINAGECA promised to obtain the necessary permission from the Governments of Tanzania and Malawi to secure the safety of aerial photographing along the borders.

10. Information Disclosure

The Team and DINAGECA agreed that the maps and aerial photographs prepared through the Study shall be widely disclosed to the public in accordance with the Mozambican legislation.

11. Undertaking of the Government of Mozambique

The Team explained the outline of Undertaking of the Government of Mozambique for the implementation of the Study.

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DINAGECA promised to secure it through the coordination with other ministries before the Scope of Work meetings.

12. Others

The Minutes of Meeting were written in English and Portuguese, and their validity should be equivalent. In case of any contradiction in writing arises, the English shall be the text.

11/1

LIST OF ATTENDANTS

1. Mozambican side

- Mr. Orlando Rafael National Director.
National Directorate of Geography and Cadastre
(DINAGECA)
- Mr. Jose Elias Mucombo Deputy National Director.
National Directorate of Geography and Cadastre
(DINAGECA)
- Mr. Simeao Velema Cambaco Head, Geodesy and Photogrammetry Dept.,
National Directorate of Geography and Cadastre
(DINAGECA)
- Mr. Samuel Rovicene Acting Head, Survey and Cadastre Dept.,
National Directorate of Geography and Cadastre
(DINAGECA)
- Mr. Alexandre Uisse Head, Aerial Photography and Cartography Dept.,
National Directorate of Geography and Cadastre
(DINAGECA)
- Mr. Francisco Micas Acting Head, Administration and Finance Dept.,
National Directorate of Geography and Cadastre
(DINAGECA)

2. Japanese side

- Mr. Kiyosumi Sudo Leader, JICA Contact Mission
- Mr. Mitsuo Iwase Member, JICA Contact Mission
- Mr. Shiro Nakasone Member, JICA Contact Mission
- Mr. Eisaku Tsurumi Member, JICA Contact Mission
- Mr. Minoru Ikeda Member, JICA Contact Mission
- Mr. Hidenao Takahashi Member, JICA Contact Mission
- Ms. Sacko Hyodo Member, JICA Contact Mission

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添付資料 ; 事前調査時の Scope of Work 及び Minutes of Meeting


SCOPE OF WORK
ON
THE NATIONAL TOPOGRAPHIC MAPPING
IN
NIASSA PROVINCE
IN
THE REPUBLIC OF MOZAMBIQUE

AGREED UPON BETWEEN

NATIONAL DIRECTORATE OF GEOGRAPHY AND CADASTRE,
MINISTRY OF AGRICULTURE AND FISHERIES
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

MAPUTO , March 4 , 1998


Tomas Bernardino
National Director
National Directorate of
Geography and Cadastre,
Ministry of Agriculture and Fisheries


Masatoshi Nagatka
Leader
Preparatory Study Team
Japan International
Cooperation Agency

I. INTRODUCTION

In response to the request of the Government of the Republic of Mozambique (hereinafter referred to as "Mozambique"), the Government of Japan has decided to conduct the National Topographic Mapping in Niassa Province, the Republic of Mozambique (hereinafter referred to as "the Study") in accordance with relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programmes of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of Mozambique.

The present document sets forth the scope of work with regard to the Study.

II. OBJECTIVES OF THE STUDY

The objectives of the Study are to prepare digital topographic maps covering the western part of Niassa Province for the development of agriculture, forests, and mineral resources, and for the promotion of conserving the natural environment, to carry out technology transfer to counterpart personnel concerning the establishment and the usage of geographic information, and to improve data management, operation, and maintenance.

III. STUDY AREA

The digital topographic mapping shall cover the western part of Niassa Province, namely, westward of 36 degrees east longitude. The location of the digital topographic mapping area is shown in APPENDIX-1. The area to be covered by topographic maps shall be as follows:

1:50,000 scale digital topographic mapping Area: 32,000km²

IV. SCOPE OF THE STUDY

In order to achieve the objectives mentioned above, the Study shall cover the following items:

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1. Satellite images

Satellite images covering the northern part of the Study area, namely the northward of 12° 45 'S., shall be taken for digital mapping.

2. Aerial photography

1:40,000 new black and white aerial photos covering the Study area shall be taken.

3. Ground control point survey

A ground control point survey with the use of Global Positioning System (GPS) and a leveling survey to decide horizontal and vertical coordinates of ground control points shall be carried out.

4. Interpretation of aerial photos and satellite images

Interpretation of aerial photos and satellite images shall be carried out.

5. Field identification

Topographic and land use information which are proved difficult to interpret on the aerial photographs shall be identified through the field survey with the help of the aerial photographs.

Administrative boundaries and geographical names shall be determined by counterpart personnel.

6. Digital mapping

Digital mapping shall be carried out by using aerial photographs and satellite images to prepare 1:50,000 scale digital topographic data with 20m contour intervals.

7. Field completion

Topographic features, land use, vegetation, etc., which cannot be properly identified on the aerial photographs shall be identified in the field and plotted on compilation sheets.

Administrative boundaries and geographical names shall also be prepared and verified through the field completion.

8. Structurizing of digital topographic data

Digital topographic data shall be structured into vector framework data.

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9. Printing of maps

Digital topographic data shall be printed at a 1:50,000 scale.

10. Technology transfer

Following courses of the Study shall be carried out with the close cooperation of counterpart personnel.

"3. Ground control point survey" "4. Interpretation of aerial photos and satellite images"
"5. Field identification" "6. Digital mapping (partially)" "7. Field completion"

V. STUDY SCHEDULE

The Study will be carried out in accordance with the attached tentative study schedule shown in APPENDIX-2.

VI. REPORTS AND FINAL PRODUCTS

JICA shall prepare and submit the following reports in English and in Portuguese and final products of topographic mapping works to the Government of Mozambique.

1. PLAN OF OPERATION 1

20 copies At the commencement of the Study

2. PROGRESS REPORT

20 copies In the first fiscal year

3. PLAN OF OPERATION 2

20 copies In the second fiscal year

4. DRAFT FINAL REPORT

20 copies At the commencement of the third fiscal year

5. FINAL REPORT

20 copies At the end of the Study

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6. FINAL PRODUCTS OF TOPOGRAPHIC MAPPING

(1) Negative film of aerial photos	1 set
(2) Contact prints of aerial photos	1 set
(3) Printed satellite images	1 set
(4) Results of ground control point survey in digital form	1 set
(5) Result of aerial triangulation in digital form	1 set
(6) 1:50,000 scale topographic maps	
- Printed topographic maps	1,000 sets
(7) 1:50,000 scale digital cartographic framework data	
- digital cartographic framework data file (eg. CD-ROM)	50 sets

VII. UNDERTAKING OF THE GOVERNMENT OF MOZAMBIQUE

1. To facilitate smooth conduct of the Study, the Government of Mozambique shall take the following necessary measures:

- (1) to secure the safety of the Study Team,
- (2) to permit the members of the Study Team to enter, leave and sojourn in the Republic of Mozambique for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees,
- (3) to exempt the members of the Study Team from taxes, duties and other charges on equipment, machinery and other materials brought into and out of the Republic of Mozambique for the conduct of the Study,
- (4) to exempt the members of the Study Team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Study Team for their services in connection with the implementation of the Study,
- (5) to provide necessary facilities to the Study Team for remittance as well as utilization of the funds introduced into Mozambique from Japan in connection with the implementation of the Study,
- (6) to secure permission for entry into private properties or restricted areas for the implementation of the Study,
- (7) to secure permission to acquire necessary radio frequency for the implementation of the Study,
- (8) to secure permission for the Study Team to take necessary data and documents including topographic maps, original manuscripts, aerial photos related to the Study out of Mozambique to Japan,

- (9) to secure necessary permission for aerial photography by foreign registered aircraft for the implementation of the Study,
- (10) to obtain the necessary permission from the Government of Tanzania and the Government of Malawi for the execution of aerial photography by the Study Team at the area of border line,
- (11) to assist on obtaining medical services as needed, including air transportation for emergency. Its expenses will be chargeable to members of the Study Team.

2. The Government of Mozambique shall take full responsibilities, if any arises, against the members of the Study Team resulting from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Study Team.

3. For the smooth implementation of the Study, National Directorate of Geography and Cadastre (hereinafter referred to as "DINAGECA") shall act as a counterpart agency to the Study Team and also as a coordinating body in relation with other governmental and non-governmental organizations concerned.

4. DINAGECA shall, at its own expense, provide the Study Team with the following, in cooperation with other organizations concerned:

- (1) available data and information related to the Study,
- (2) counterpart personnel,
- (3) suitable office space with necessary equipment both in Maputo and in Niassa,
- (4) credentials or identification cards, and
- (5) appropriate number of vehicles with drivers.

VIII. UNDERTAKING OF JICA

For the implementation of the Study, JICA shall take the following measures:

1. to dispatch, at its own expense, the Study Team to Mozambique.
2. to pursue technology transfer to the Mozambiquan counterpart personnel in the course of the Study.

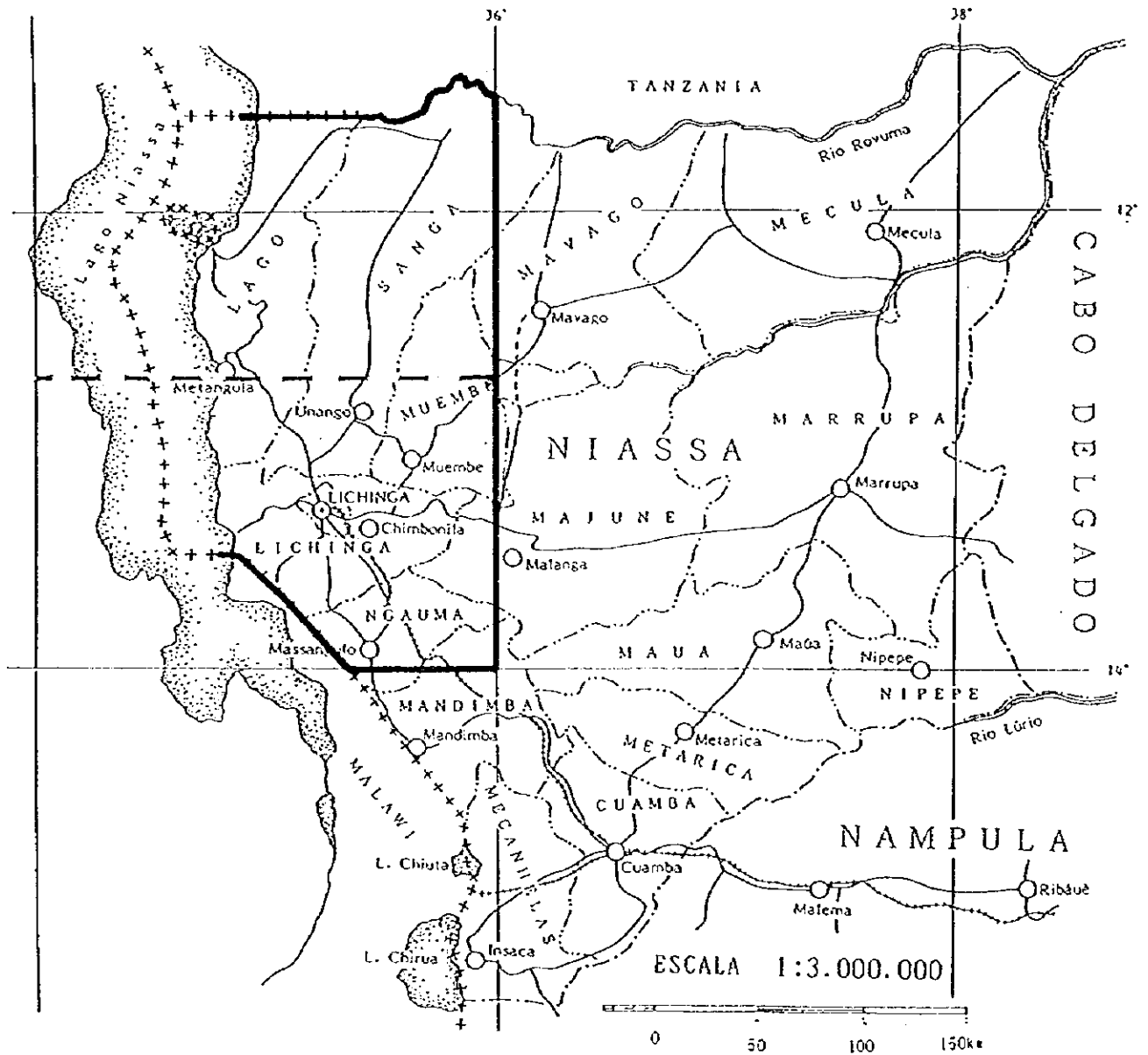
IX. OTHERS

1. JICA and DNAGECA shall consult with each other in respect of any matter that may arise from or in connection with the Study.

2. The Scope of Work of the Study is written both in English and in Portuguese, and their validity shall be equivalent. In case of any contradiction that arises in content, the English shall be the overriding text.

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APPENDIX-1



— — — — — STUDY AREA

- - - - - 12° 45' s

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TENTATIVE STUDY SCHEDULE

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
Work in Mozambique	■														■												
Work in Japan							□									□											
Report and Final Products	△ P/O-1					△ PR/R								△ P/O-2									△ DF/R		△ F/R, F/P		

P/O: Plan of Operation

PR/R: Progress Report

DF/R: Draft Final Report

F/R: Final Report

F/P: Final Products of Topographic Mapping

LP

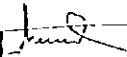
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MINUTES OF MEETING
FOR
SCOPE OF WORK
ON
THE NATIONAL TOPOGRAPHIC MAPPING
IN
NIASSA PROVINCE
IN
THE REPUBLIC OF MOZAMBIQUE

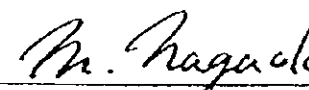
AGREED UPON BETWEEN

NATIONAL DIRECTORATE OF GEOGRAPHY AND CADASTRE,
MINISTRY OF AGRICULTURE AND FISHERIES
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

MAPUTO , March 4 , 1998



Tomas Bernardino
National Director
National Directorate of
Geography and Cadastre,
Ministry of Agriculture and Fisheries



Masatoshi Nagaoka
Leader
Preparatory Study Team
Japan International
Cooperation Agency

Japanese Preparatory Study Team (hereinafter referred to as the "Study Team"), organized by Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. Masatoshi Nagaoka (Director of Topographic Department, Geographical Survey Institute, Ministry of Construction) visited the Republic of Mozambique (hereinafter referred to as the "Mozambique") from 22nd of February to 5th of March in response to the request of the Government of Mozambique to conduct the preparatory study on the National Topographic Mapping in Niassa Province in the Republic of Mozambique (hereinafter referred to as the "Study").

The Study Team exchanged views and had a series of discussions with representatives of National Directorate of Geography and Cadastre, Ministry of Agriculture and Fisheries (hereinafter referred to as "DINAGECA") and other organizations concerned. A list of attendants is attached as Appendix-1.

Through the discussions, both sides have completed the Scope of Work for the full-scale study and agreed upon the following points associated with the implementation of the Scope of Work.

1. Counterpart

DINAGECA is the counterpart agency of the Study.

2. Contents of the Study

Aerial photography and other contents of the Study shall be carried out in accordance with the laws and regulations in Japan and in Mozambique.

(1) Aerial photography

Aerial photography might be postponed up to the duration of one year due to bad weather condition or any unexpected matter, and alternative study plan shall be determined through the course of meetings with the counterpart.

(2) Setting stone-markers

Setting stone-markers for the purpose of clarifying ground control points shall be carried out by counterpart personnel when counterpart affirms that such processes are indispensable.

(3) Data offering

Geographical names, administrative boundaries, and the data of various facilities, which are shown in topographic maps, shall be provided by counterpart personnel.

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3. Technology Transfer

Through the course of technology transfer, careful consideration shall be given in the area of planning, processing, and analyzing.

(1) On-the-job training

On-the-job training shall be carried out through the course of the Study in Mozambique. The amount of work offered by counterpart personnel shall be decided at the implementation of the Study.

(2) Revision of maps and provision of equipment

In order for the counterpart to be able to revise topographic maps, the revision of one or two existing topographic draft maps shall be carried out in Mozambique. Necessary equipment shall be brought into Mozambique.

DINAGECA requested that equipment and materials used in the implementation of the Study in Mozambique shall be provided to Mozambiquan side after the completion of the Study. The Study Team promised to convey the request to JICA Headquarter.

(3) Counterpart personnel training in Japan

DINAGECA requested that the counterpart personnel shall take the opportunity of training in Japan related to the Study. The Study Team promised to convey the request to JICA Headquarter.

4. Vehicles

DINAGECA explained the difficulty of provision of vehicles, and the Study Team promised to convey the condition to JICA Headquarter.

5. Office space

DINAGECA promised to provide office spaces with furniture for the whole scale of the Study Team, except matters beyond the financial capability of DINAGECA. The Study Team promised to convey the difficult financial condition to JICA Headquarter.

6. Information disclosure

Topographic maps, data, and aerial photographs prepared through the course of the Study shall be disclosed to the public in accordance with laws and regulations in force in Japan and in Mozambique.

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7. Safety of the Study Team

Necessary measures shall be taken to secure the safety of the Study Team during the field works in Niassa Province.

8. Others

The Minutes of Meeting were written both in English and in Portuguese, and their validity shall be equivalent. In case of any contradiction that arises in content, the English shall be the overriding text.

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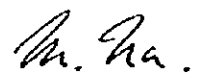
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LIST OF ATTENDANTS1. Mozambiquan side

Mr. Tomas Bernardino	National Director, National Directorate of Geography and Cadastre (DINAGECA)
Mr. Jose Elias Mucombo	Deputy National Director, National Directorate of Geography and Cadastre (DINAGECA)
Mr. Simeao Velema Cambaco	Head, Geodesy and Photogrammetry Department, National Directorate of Geography and Cadastre (DINAGECA)
Mr. Samuel Rovicene	Acting Head, Survey and Cadastre Department, National Directorate of Geography and Cadastre (DINAGECA)
Mr. Alexandre Uisse	Head, Aerial Photography and Cartography Department, National Directorate of Geography and Cadastre (DINAGECA)
Mr. Rafael Jaque	Head, Administration and Finance Department, National Directorate of Geography and Cadastre (DINAGECA)

2. Japanese side

Mr. Masatoshi Nagaoka	Leader, JICA Preparatory Study Team
Mr. Mitsuo Iwase	Member, JICA Preparatory Study Team
Mr. Yutaka Nishida	Member, JICA Preparatory Study Team
Mr. Eisaku Tsurumi	Member, JICA Preparatory Study Team
Ms. Sacko Hyodo	Member, JICA Preparatory Study Team



CONTEÚDO DE TRABALHO
DO
MAPEAMENTO TOPOGRÁFICO NACIONAL
NA
PROVÍNCIA DE NIASSA
REPÚBLICA DE MOÇAMBIQUE

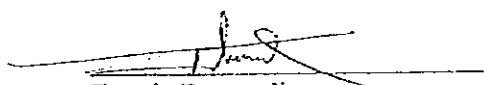
CONTRATADO ENTRE

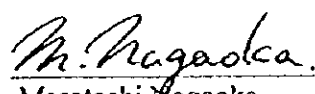
DIRECÇÃO NACIONAL DE GEOGRAFIA E CADASTRO,
MINISTÉRIO DA AGRICULTURA E PESCAS

E A

AGÊNCIA DE COOPERAÇÃO INTERNACIONAL DO JAPÃO

MAPÚTO, 4 de Março de 1998


Tomás Bernardino
Director Nacional
Direcção Nacional de Geografia
Cadastro
Ministério da Agricultura e Pescas


Masatoshi Nagaoka
Líder
Equipe e Estudo Preparatório
Agência de Cooperação
Internacional do Japão

I. INTRODUÇÃO

Em resposta à solicitação do Governo da República de Moçambique (doravante referida como "Moçambique"), o Governo do Japão tem decidido para conduzir o Mapeamento Topográfico Nacional da Província de Niassa, a República de Moçambique (doravante referido como "Estudo") de acordo com as relevantes leis e regulamentos em vigor no Japão.

Assim, a Agência de Cooperação Internacional do Japão (doravante referida como "JICA"), a agência oficial para a implementação dos programas de cooperação técnica do Governo do Japão, empreenderá o Estudo em estreita cooperação com as autoridades relacionadas de Moçambique.

O presente documento explica o conteúdo do trabalho relacionado no Estudo.

II. OBJETIVOS DO ESTUDO

Os objetivos do Estudo são para preparar cobertura de mapas topográficos digitalizados da parte oeste da Província de Niassa para o desenvolvimento da agricultura, florestas e recursos minerais; para promover a conservação do meio ambiente; para exercer a transferência de tecnologia a pessoal da contraparte a respeito do estabelecimento e o uso da informação geográfica; e para melhorar os dados de gestão, operação e manutenção.

III. AREA DE ESTUDO

O mapeamento topográfico deverá cobrir a parte oeste da Província de Niassa, isto é, ocidente do meridiano 36 Km² E. A localização da área do mapeamento topográfico digitalizado é mostrado em APÊNDICE-1. A área para ser coberta por mapas topográficos deverá ser como se segue:

Mapeamento topográfico digitalizado na escala de 1:50 000
Área: 32 000Km²

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IV. CONTEÚDO DO ESTUDO

A fim de atingir os objetivos acima mencionados, o Estudo deverá cobrir os seguintes itens:

1. Imagens de satélite

Deverão ser tomadas as imagens de satélite que cobre a área do Estudo.

2. Fotografia a área

Deverão ser tomadas novas fotos a áreas a preto e branco na escala de 1:40 000 que cobre a área do Estudo.

3. Medição do ponto de controle da terra

Deverá ser exercida a medição do ponto de controle da terra com o uso de Sistema de Posicionamento Global (GPS) e a medição de nivelamento para decidir coordenadas horizontais e verticais do ponto de controle da terra.

4. Interpretação das fotografias aérea e as imagens de satélite

Deverá ser exercida a interpretação da fotografia a aérea.

5. Identificação do campo

As informações topográficas e as informações do uso da terra os quais foram comprovadas a dificuldade da interpretação pela fotografia aérea, deverá ser identificadas através da medição da terra com a ajuda das fotografias áreas.

Os limites administrativos e os nomes geográficos deverão ser determinados pelo pessoal da contraparte.

6. Mapeamento digitalizado

Mapeamento digitalizado deverá ser exercido usando fotografias aéreas e imagens de satélite para preparar dado topográfico digitalizado na escala de 1:50 000 com intervalo de curvas de 20m.

7. Complementação do campo

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A forma topográfica, uso de terras, vegetação, etc., que não podem apropriadamente identificados na fotografia aérea deverá ser identificados no campo e plotado no papel de compilação.

Os limites administrativos e os nomes geográficos deverão também ser preparados e verificados através da complementação do campo.

8. Estrutura de dados topográficos digitalizados.

Dado topográfico digitalizado deverá ser estruturado em base de dados vectorizados.

9. Impressão de mapas.

Dado topográfico digitalizado deverá ser imprimida na escala de 1:50 000.

10. Transferência de tecnologia

Seguintes cursos do Estudo deverão exercidos com estreita cooperação do pessoal da contraparte.

"3. Medição do ponto de controle da terra"

"4. Interpretação das fotografias aéreas e imagens da satélite"

"5. Identificação do campo"

"6. Mapeamento digitalizado (parcialmente)"

"7. Complementação do campo"

V. PROGRAMACÃO DO ESTUDO

O Estudo será realizado de acordo com a proposta de programação tentativa do Estudo apresentada no APÊNDICE-2.

VI. RELATÓRIOS E PRODUTOS FINAIS

JICA deverá preparar e submeter os seguintes relatórios em inglês e em português, e produtos finais dos trabalhos de mapeamento topográfico ao Governo de Moçambique.

1. PLANO DE OPERAÇÃO 1

20 cópias

No início do Estudo

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2.RELATÓRIO PROGRESSIVO

20 cópias No primeiro ano fiscal

3.PLANO DE OPERAÇÃO 2

20 cópias No segundo ano fiscal

4.ESBOÇO DE RELATÓRIO FINAL

20 cópias No início do terceiro ano fiscal

5.RELATÓRIO FINAL

20 cópias No final do Estudo

6.PRODUTOS FINAIS DO MAPEAMENTO TOPOGRÁFICO

- | | |
|--|-------------|
| (1)Negativo dos filmes de fotos aéreas | 1 jogo |
| (2)Impressão a contato de fotos aéreas | 1 jogo |
| (3)Imagens de satélite impressos | 1 jogo |
| (4)Resultados da medição do ponto de controle da terra em forma digitalizada | 1 jogo |
| (5)Resultado da triangulação aérea em forma digitalizada | 1 jogo |
| (6)Mapas topográficos na escala de 1:50 000 | |
| -Mapas topográficos impressos | 1 000 jogos |
| (7)Dado de marco cartográfico na escala de 1:50 000 | 50 jogos |
| -Arquivo de base de dados da cartografia digitalizada. | |

VII.COMPROMISSOS DO GOVERNO DE MOÇAMBIQUE

1.Para facilitar a efetiva execução do Estudo, o Governo da República de Moçambique deverá tomar as seguintes medidas:

- (1)Assegurar a segurança da Equipe,
- (2)Permitir que os membros da Equipe entrem, saiam e permaneçam na República de Moçambique durante o período do seu serviço, e isentá-los de registro de estrangeiro e das taxas consulares,
- (3)Isentar os membros da Equipe das taxas, impostos e outras tarifas nos

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- equipamento, maquinaria e outros materiais trazidos e levados da República de Moçambique para a execução do Estudo.
- (4) Isentar os membros da Equipe de imposto sobre a renda e tarifas impostas ou relacionadas com a renda ou diária pago para os membros da Equipe para seus serviços relacionados com a implementação do Estudo,
 - (5) Providenciar os meios necessários da remessa para o Estudo tal como a utilização de fundos relacionados com a implementação do Estudo introduzidos do Japão para Moçambique,
 - (6) Assegurar permissão da entrada nas áreas de propriedades privadas ou restritas para a implementação do Estudo,
 - (7) Assegurar a permissão de adquirir a frequência de rádio necessária para a implementação do Estudo,
 - (8) Assegurar permissão para Equipe levar fora de Moçambique os dados e os documentos necessários inclusive mapa topográfico, original do manuscrito, fotos aéreas relatados para a implementação do Estudo,
 - (9) Assegurar a permissão necessária para a tomada de fotografias aéreas por aeronaves de registro estrangeiro para a implementação do Estudo,
 - (10) Obter a permissão necessária do Governo de Tanzania e do Governo de Malawi para execução das tomadas de fotografia aérea pela Equipe na área de fronteira,
 - (11) Assistir na obtenção dos serviços médicos quando necessário, inclusive transportes aéreos para emergência. As despesas serão pagas pelos membros da Equipe.

2. O Governo de Moçambique deverá tomar total responsabilidade de solucionar, se algo surgir, contra o membro da Equipe resultando, ocorrendo durante, ou outros relacionados com a isenção de seus impostos na implementação do Estudo, exceto quando tais queixas ocorram de demasiada negligência ou de má conduta intencional por parte dos membros da Equipe.

3. Para efetiva implementação do Estudo, Direcção Nacional de Geografia e Cadastro (doravante referida como "DINAGECA") deverá atuar como agência da contraparte para Equipe e também como o corpo coordenador em relação com outras organizações governamentais e não-governamentais relacionados.

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4. DINAGECA deverá, com suas próprias despesas, providenciar a Equipe o que se segue, em cooperação com outras organizações relacionadas:

- 1) Dados e informações disponíveis relacionados para o Estudo,
- 2) Pessoal da contraparte,
- 3) Espaço adequado para escritório com equipamento necessário em Maputo e em Niassa,
- 4) Carta credencial ou de identificação, e
- 5) Número apropriado de veículos com motoristas.

VIII. COMPROMISSOS DA JICA

Para a implementação do Estudo, JICA deverá tomar as seguintes medidas:

1. Despachar, com suas próprias despesas, a Equipe para Moçambique.
2. Realizar a transferência de tecnologia para pessoal da contraparte moçambicana durante o Estudo.

IX. OUTROS

1. JICA e DINAGECA deverão consultar-se mutuamente respeito de qualquer que surge relacionado com o Estudo.
2. O Conteúdo de Trabalho do Estudo foi escrita em inglês e português, e sua validade é equivalente. Em caso de alguma contradição que surge no conteúdo, a versão inglesa deverá ser o texto prevalecente.

MEMORANDO DE REUNIÕES
SOBRE
CONTEÚDO DE TRABALHO
DO
MAPEAMENTO TOPOGRÁFICO NACIONAL
NA
PROVÍNCIA DE NIASA
REPÚBLICA DE MOÇAMBIQUE

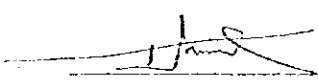
ACORDO ENTRE A


DIRECÇÃO NACIONAL DE GEOGRAFIA E CADASTRO,
MINISTÉRIO DA AGRICULTURA E PESCA

E A

AGÊNCIA DE COOPERAÇÃO INTERNACIONAL DO JAPÃO

MAPUTO, 4 de Março de 1998


Tomás Bernardino
Diretor Nacional
Direcção Nacional de Geografia e
Cadastro
Ministério da Agricultura e Pescas


Masatoshi Nagabka
Líder
Equipe de Estudo Preparatório
Agência de Cooperação
Internacional do Japão

A Equipe do Estudo Preparatório (doravante referido como "Equipe do Estudo") organizada pela Agência de Cooperação Internacional do Japão (doravante referida como "JICA") liderado pelo Sr. Masatoshi Nagaoka (Diretor do Departamento Topográfico, Instituto de Medição Geográfica, Ministério de Construção) visitou República de Moçambique (doravante referido como "Moçambique") desde 23 de Fevereiro até 5 de Março, em resposta à solicitação do governo de Moçambique para realizar o estudo preparatório sobre Mapeamento Topográfico Nacional da Província de Niassa, República de Moçambique (doravante referido como "Estudo")

A Equipe do Estudo trocou impressões e teve uma série de discussões com representantes da Direcção Nacional de Geografia e Cadastro, Ministério de Agricultura e Pescas (doravante referida como "DINAGECA") e outras organizações relacionadas. A lista dos participantes é anexada no APÊNDICE-1.

Durante as discussões, ambas as partes completaram todo estudo para Conteúdo do Trabalho e confirmou os seguintes pontos associados com a implementação do Conteúdo do Trabalho.

1. Contraparte

DINAGECA é a agência de contraparte do Estudo.

2. Conteúdo do Estudo

Fotografia aérea e outros conteúdos do Estudo deverão ser executado de acordo com as leis e regulamentação do Japão e do Moçambique.

(1) Fotografia A área

A fotografia aérea poderá ser adiado na duração máxima de um ano por causa de má condição do tempo ou qualquer acontecimento inesperado, e um plano alternativo do estudo poderá ser determinado ao longo das reuniões em curso com a contraparte.

(2) Colocação dos marcos

A colocação dos marcos com o propósito de identificação do ponto de controle da terra deverá ser executado pelo pessoal da contraparte quando a contraparte afirma que tais processos são indispensáveis.

(3) Oferta de dados

Nomes geográficos limites administrativas, e os dados de várias facilidades, os quais são mostradas em mapas topográficos, deverão ser providenciados pelo pessoal da contraparte.

3. Transferência de tecnologia

Ao longo da transferência da tecnologia, cuidadosa consideração deverá ser dada na área de planeamento, processamento, e análise.

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(1) Treinamento no trabalho

Treinamento no trabalho deverá ser executado ao longo do Estudo em Moçambique. A quantidade do trabalho oferecido pelo pessoal da contraparte deverá ser decidida na implementação do Estudo.

(2) Revisão do mapa e a provisão do equipamento

De modo para que a contraparte seja capaz de atualizar mapas topográficos, a atualização de um ou dois originais do mapa topográfico existente deverá ser executado em Moçambique. Equipamento necessário, deverá trazido em Moçambique.

DINAGECA solicitou que estes equipamentos e materiais usado na implementação do Estudo em Moçambique deverá ser providenciado para parte Moçambicana depois de completar o Estudo. A Equipe do Estudo prometeu para canalizar a solicitação para Sede da JICA.

(3) Treinamento do pessoal da contraparte no Japão

DINAGECA solicitou que o pessoal da contraparte deverá ter a oportunidade de treinamento no Japão relacionado para o Estudo. A Equipe do Estudo prometeu canalizar a solicitação para a Sede da JICA.

4. Veículos

DINAGECA expressou a dificuldade de providenciar os veículos, e a Equipe do Estudo prometeu canalizar esta condição para a Sede da JICA.

5. Espaço para o escritório

DINAGECA prometeu providenciar o espaço para o escritório com mobiliárias para atender a dimensão da Equipe do Estudo, exceto algo que ultrapasse a capacidade financeira da DINAGECA. A Equipe do Estudo prometeu canalizar esta dificuldade da condição financeira para Sede da JICA.

6. Publicação da informação

Mapas topográficos, dados e as fotografias aéreas preparadas ao longo do Estudo deverá ser publicada para o público de acordo com as leis e regulamentos em vigor no Japão e em Moçambique.

7. Segurança da Equipe do Estudo

Deverá ser tomadas medidas necessárias para assegurar a segurança da Equipe do Estudo durante os trabalhos no campo em Província de Niassa.

8. Outros

O Memorando das Reuniões foi escrito em inglês e em português, e suas validades deverão ser equivalente. Em caso de qualquer contradição que surge no conteúdo, a versão inglesa deverá ser o texto prevalecente.

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APÊNDICE-1

LISTA DOS PARTICIPANTES

1. Parte Moçambicana

Sr. Tomás Bernardino	Diretor Nacional Diretor Nacional de Geografia e cadastro (DINAGECA)
Sr. José Elias Mucombo	Diretor Nacional-Adjunto Diretor Nacional de Geografia e cadastro (DINAGECA)
Sr. Simeao Velema Cambaco	Chefe do Departamento de Geodesia e Fotogrametria Diretor Nacional de Geografia e cadastro (DINAGECA)
Sr. Samuel Rovicene	Substituto do Chefe do Departamento de Agrimensura e Cadastro Diretor Nacional de Geografia e cadastro (DINAGECA)
Sr. Alexandre Uisse	Chefe do Departamento de Fotografia e Cartografia Diretor Nacional de Geografia e cadastro (DINAGECA)
Sr. Rafael Jaque	Chefe do Departamento de Administração e Finanças Diretor Nacional de Geografia e cadastro (DINAGECA)

2. Parte Japonesa

Sr. Masatoshi Nagaoka	Lider, Equipe de Estudo Preparatório da JICA
Sr. Mitsuo Iwase	Membro, Equipe de Estudo Preparatório da JICA
Sr. Yutaka Nishida	Membro, Equipe de Estudo Preparatório da JICA
Sr. Eisaku Tsurumi	Membro, Equipe de Estudo Preparatório da JICA
Sr. Saeko Hyodo	Membro, Equipe de Estudo Preparatório da JICA

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添付資料；質問書 Questionnaire (回答内容の要旨を記す)

QUESTIONNAIRE

TOPOGRAPHIC MAPPING
FOR

NIASSA PROVINCE

OF

REPUBLIC OF MOZAMBIQUE

December 1997

Contact Mission

of

Japan International Cooperation Agency

The questionnaire is prepared by the Japanese Contact Mission for

TOPOGRAPHIC MAPPING OF NIASA PROVINCE IN THE REPUBLIC OF MOZAMBIQUE

(hereinafter referred to as "the Study") so as to obtain basic information and data needed for the Study. The purpose of the questionnaire is to assess the situation of the country, the demand of the national base map, and the possibility of the survey, in order to examine the significance of the Study and the method of technology transfer in your country.

Please answer all questions in English. Attach all materials requested in this questionnaire(*mark).

Answer need not be detailed but should be brief and concise.

Thank you for your cooperation.

Note:-Please write Y for the Data/Item in the "Availability" which is available.

-Please write N for the Data/Item in the "Availability" which is not available.

-If attached materials are not written in English, please provide English translations.

1. Government organization and government policy

Item	Description	Availability	Note(response)
<p>1. Central Government</p>	<p>(1) Organization chart* (2) Annual budget with breakdown*</p>		
<p>2. Government policy for development and reconstruction</p>	<p>(1) National development plan and policy* (2) Report concerning development and reconstruction plans* (3) Agricultural development project</p>		<p>資料番号 45, 46, 72</p>

2. Social and economic information

Item	Description	Availability	Note(response)
1 Latest economic index (national/requested local area)and information	(1)GNP and GDP (2)Population (3)Growth rate of population (4)Education (5)Transport&communication (roads,railway,air,) (6)Energy (electricity,oil,etc) (7)Production(mine,food,etc) (8)Other statistical data* (9)Meteorological data*		47 资料番号 58 59 60 63 65 66 67 68 70 71

3. Existing data and information

Item	Description	Availability	Note (response)
1. Geodetic data	(1) Existing horizontal ground control points -Location map of horizontal ground control points* -Description of points* -Date of establishment -Information on damage and/or loss of points * -Executing organization (2) Existing vertical ground control points -Levelling network map* -Location map of vertical ground control points* -Description of points* -Date of establishment -Information on damage and/or loss of points * -Executing organization	} 23, 24, 25, 26, } 南部のみ実施 } }	測地、写真測量部 測地、写真測量部

Item	Description	Avail-ability	Note(response)
2. Aerial photos	(1) Existing aerial photos -Coverage * -Scale of aerial photos -Flight index map * -Date of aerial photography -Executing organization -Reproduction -Storage conditions and availability of photos -Distribution system -Purpose of use		1/4万が主体 北部のみ収集 15,16,17,18,19,20 航空写真・地図部 本局のフォトラボ ネガフィルム保管庫の状態良好 本局で配布
3. Topographic maps	(1) Existing topographic maps* -Coverage * -Index of topographic maps* -Date of preparation -Executing organization -Marginal information and legend in English * -Reproduction -Storage conditions and availability of maps * -Distribution system -Purpose of use	}	資料番号 1, 2 測地写真測量部 および航空写真・地図部 資料番号 38, 39 市内の印刷会社 地図保管庫の状態不良 本局で頒布

Item	Description	Availability	Note(response)
4. Thematic maps(land use, soil, geology e.t.c.)and explanation	<p>(1) Existing thematic map</p> <ul style="list-style-type: none"> - Scale of the map - Coverage * - Date of preparation - Executing organization <p>(2) Explanation *</p> <p>(3) National Atlas</p> <p>(4) School Atlas</p>	<p>} _____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>資料番号 11, 12, 13, 14, 52</p> <p>DINAGECA, 地質図 15カ.</p> <p>41</p> <p>71</p>

4. Future plan

Item	Description	Availability	Note (response)
<p>1. Basic surveying policy</p>	<ul style="list-style-type: none"> -National geodetic network surveying master plan -National base map surveying master plan -national aerial photography master plan -Map and airphoto reproduction program -Map and airphoto distribution system 		<p>資料番号 28, 29, 30, 31 / 5万北部空白域の早期整備</p>
<p>3. Activity by other donor countries for surveying and mapping</p>	<ul style="list-style-type: none"> (1) Past and present activities by other donor countries* (2) Project report* (3) New proposal submitted by other donor countries* (4) Committed project by the Government * 	<p style="text-align: center;">}</p>	<p>48, 49, 50, 51, 52, 53</p> <p>スウェーデン：ニアサ州東部の撮影 / ルウェー：他の都市の迅速地形図作成 フランス：土地利用・被覆図の全国整備</p>

5. Organization concerning topographic mapping

Item	Description	Availability	Note(response)
<p>1. Agency in charge of topographic mapping</p>	<p>(1) Jurisdiction of the agency (2) Organization chart* (3) Number of staff and engineers (with academic background, training and experience levels) * (4) Annual budget with breakdown * (5) Equipment list* (survey and reproduction) (6) Future plan* (7) Relation to military sector</p>	<p>資料番号 27 28 32 35, 36</p>	<p>資料番号 27 28 32 35, 36</p>
<p>2. Private sector organization for survey (if not neighbor country)</p>	<p>(1) Name of the organization * (2) Number of staff & engineers (3) Survey equipment list * (4) Cost of survey, etc.</p>	<p>南アフリカ共和国の3社 AOC 社 Photosurvey 社 DTM 社</p>	<p>特になし</p>
<p>3. Agency in charge</p>	<p>(1) Permission for aerial photography and printing (2) Permission for taking out survey data including aerial photos, fair draft etc. from your country</p>		

6. Other information

Item	Description	Availability	Note(response)
<p>1. Custody of topographic map, aerial photographs, films for reproduction, geodetic data, administrative name and boundary, name list</p> <p>2. Ongoing development survey/project in the proposed survey area</p> <p>3. Law on surveying and mapping</p> <p>4. Training for survey and mapping</p>	<p>1) Name of the responsible persons in charge for the study team to contact *</p> <p>(1) Survey law *</p> <p>(2) Regulation of aerial photography by foreign registered aircraft</p> <p>(3) others</p> <p>1) Formal education and training system for survey*</p>		<p>副局長 ムコンボ氏</p> <p>37</p> <p>マフ^oート市近郊に1校あり。 測地・地図専門学校</p>

Item	Description	Availability	Note(response)
5. Availability of laborer	1) Driver(wages/day) 2) Workers(wages/day) 3) Regulation for employment*	_____ _____	_____ 15ドル
6. Approval of use of radio call equipment			
7. Present safety conditions	(1) Present security conditions	_____	ニアサ州治安部からの聴取によると、最近は事件が少なく
8. Restricted areas			
9. Dangerous areas	(1) Mine contaminated area*	_____	57
10. Harmful animals, insects and diseases			
11. Availability of transport	(1) Government vehicles or rental cars (2) 4WD cars or others	_____	マウント, テンプラ, リロンゲ, フランタイアで確認済み
12. Transportation	1) Road conditions 2) Fuel stations 3) Accommodation	_____ }	ニアサ州で確認済み

13. ←

添付資料；収集資料一覧表

番号	資料の名称	発行年	発行機関	備考
(地図類)				
1	1/50,000地形図一覧図	1994	DINAGECA	
2	1/250,000地形図一覧図		DINAGECA	
3	1/50,000地形図(刊行図) 図番1190「マップト」	1985	DINAGECA	
4	同上 (未刊行図の原図コピー) 図番 179, 180, 181, 203, 204, 206, 297, 227, 254	1980年代	DINAGECA	対象地域内のみ
5	1/250,000地形図(刊行図) 図番 3, 4, 5, 10, 11, 12, 17, 18, 19, 28, 29, 30		DINAGECA	
6	1/2,000,000全国図	1995	CARTOGRAFIA	購入
7	1/5,000,000全国図		DINAGECA	
8	1/8,000,000全国図		DINAGECA	
9	1/2,500,000ニアサ		DINAGECA	
10	1/1,000,000航空図 ONC N-5	1997	DMA	購入
11	1/1,000,000植生図(カボデルガド、ニアサ、ザンベジア、 ナンブラ州を1面に収めたもの)	1995	DINAGECA	購入
12	1/1,000,000金属鉱物地質図(全国4面)	1993	地質局	購入
13	1/1,000,000非金属鉱物地質図(全国4面)	1993	地質局	購入
14	1/2,000,000地形学図(全国1面)	1983	地質局	購入
(写真標定図)				
15	ニアサ州 東経37°45'以西 1963~1968撮影 1/4万		DINAGECA	
16	カボデルガド州 東海岸~東経37° 1965~1967撮影 1/4万		DINAGECA	
17	ニアサ州 東経36以西 1969撮影 1/4万		DINAGECA	
18	カボデルガド・ニアサ州 1971, 1973撮影 1/4万		DINAGECA	
19	リシंगा周辺 1981撮影 1/1万		DINAGECA	
20	カボデルガド州(No. 1, No. 2) 1994撮影 1/4万		DINAGECA	
21	東経37°以西, 南緯14°~16° 1/9万モザイク写真		DINAGECA	
(基準点測量関係資料)				
22	1/2,000,000網図(全国)		DINAGECA	
23	1/2,000,000GPS測量計画網図(全国)		DINAGECA	
24	1/2,000,000網図(ニアサ州のGPS改測点および新点)		DINAGECA	
25	成果表(ニアサ州)	1986	DINAGECA	
(DINAGECA関係資料)				
26	農業漁業省の組織表(ポ語)	1998		
27	DINAGECA本局の組織表(ポ語)	1998	DINAGECA	
28	DINAGECAの1996年報(ポ語) 51ページ			

	(RELATÓRIO DE ACTIVIDADES 1996)	1996	DINAGECA	職員録付き
29	DINAGECAの概要(英語)8ページ (DINAGECA'S BACKGROUND)	1997	DINAGECA	
30	DINAGECAの事業計画(英語)6ページ	1998	DINAGECA	
31	DINAGECAの事業計画(ポ語)5ページ	1998	DINAGECA	
32	DINAGECAの1998年度予算書(ポ語)3ページ	1998	DINAGECA	
33	土地関係業務投資計画(英語)75ページ (LAND COMPONENT INVESTMENT PLAN, PROAGRI, MINISTÉRIO DE AGRICULTURA E PESCAS)	1997	農業漁業省	校正刷り
34	1997年度測量成果品販売実績表(ポ語)	1997/12	DINAGECA	
35	測地関係保有器材リスト(ポ語)	1998	DINAGECA	
36	地図編集・製図器材リスト(ポ語)	1998	DINAGECA	
37	作業規程(ポ語)15ページ (NORMAS INTEGRADAS DE PRODUÇÃO PARA OS TRABALHOS TOPOGEODÉSICOS, DINAGECA 1983)	1983	DINAGECA	
38	図式規程(ポ語) (CONVENÇÕES PARA CARTAS TOPOGRÁFICAS ÀS ESCALAS 1:10000, 1:25000, 1:50000, 1:100000, DINAGECA 1987)	1987	DINAGECA	
39	注記規程(ポ語)		DINAGECA	
(地質局関係資料)				
40	地質局の組織表(ポ語)		地質局	
41	地質局の主要事業概要(英語) (SUMMARY NOTES ON THE MAIN ACTIVITIES OF THE NATIONAL DIRECTORATE OF GEOLOGY)		地質局	
42	地質局出版物リスト(ポ語)8ページ (LISTA DE PUBLICAÇÕES DISPONÍVEIS PARA VENDA)		地質局	
(CENACARTA関係資料)				
43	パンフレット(ポ語) (IMAGENS SATELITE APLICAÇÕES DA TELEDETEÇÃO)		CENACARTA	
44	衛星画像価格表(ポ語) (LISTA DE PRODUTOS, SERVIÇOS E PREÇOS 1996)	1996	CENACARTA	
(世界銀行関係資料)				
45	モザンビークにおける世銀出資プロジェクト概要(英語) 7ページ (A Summary of Projects Financed by the World Bank in Mozambique, BRIEFING BOOK, June 1996)	1996	世界銀行	要約のみ
46	PROJECT NOTES Sept. 1997	1997	世界銀行	PROAGRIの記事あり
47	Vital Statistics Oct. 1997	1997	世界銀行	物価上昇の推移チャート
(スウェーデン協力の関係資料)				

48	STEDSURVEY AB のパンフレット (英語) 5ページ (STEDSURVEY AB : COMPANY PROFILE)		STEDSURVEY AB	
49	モザンビークの土地改革のための地籍業務支援 (英語) (Cadastral support for land reform in Mozambique. SIDA Evaluation Newsletter 4/97)	1997	SIDA	

(ノルウェー協力の関係資料)

50	5都市迅速地図作成の要請書 (英語) 26ページ (Terms of Reference for Sub Project: Rapid Mapping of Five Cities, DINAGECA 1995)	1995	DINAGECA	
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(フランス協力の関係資料)

51	DINAGECAに対し技術援助と訓練を行い、衛星画像を供与 するコンサルタント事業の契約書 (英語) 24ページ (Contract for Consultancy Services to Provide Technical Assistance, Training and Supply of Satellite Images to DINAGECA. DINAGECA AND IGN FRANCE INTERNATIONAL, AND CENACARTA 1995)	1995	INDER	
52	土地利用・土地被覆図の凡例 (英語)	1997	IGNInternational	インクジェット出力
53	土地利用・土地被覆図作成コンピュータシステム図(英語) (INDER PROJECT COMPUTERSYSTEM CHART)	1995	G. I. M. S. Ltd	

(ニアサ2000関係資料)

54	ニアサ2000セミナー (ポ語) 22ページ (SEMINÁRIO "NIASSA 2000")	1995	ニアサ州政府	和訳あり
55	ニアサ2000実行委員会報告 (ポ語) 7ページ (RELATÓRIO DA COMISSÃO EXECUTIVA "NIASSA 2000", GOVERNO DA PROVÍNCIA DO NIASSA)	1997	ニアサ州政府	和訳あり
56	舗装道路一覧図および統計表 (ポ語) 4ページ	1997	ニアサ州政府	

(地雷関係資料)

57	地雷危険地区のリスト (ポ語)	1997/12	HALO TRUST	
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(その他資料)

58	リシंगा、クアンバ、マルバの気象データ (ポ語)	1997	気象局	購入
59	1997年人口調査中間結果(ポ語) 26ページ (RESULTADOS PRELIMINARES DO II RECENSEAMENTO GERAL DA POPULAÇÃO E HABITAÇÃO 1997)	1998	統計局	
60	1996統計年鑑 (ポ語・英語) 155ページ (ANUÁRIO ESTATÍSTICO 1996)	1996	統計局	購入
61	MOSAGRIUSの合意書 (ポ語) (ADENDA 2 do Acordo de Princípios Básicos de Enten- dimento sobre o Programa Development MOSAGRIUS)			和訳あり

62	投資に対する行政の障壁に関する調査報告 (英語) (ADMINISTRATIVE BARRIERS TO INVESTMENT : THE RED TAPE ANALYSIS)	1996	IFC	
63	英連邦メンバーとしてのモザンビーク (英語) 28ページ (Mozambique in the Commonwealth, Southern African Development Community, 1997)	1997	SADC	購入
64	モザンビーク・独立20年 (英語) 9ページ (MOZAMBIQUE 20 YEARS OF INDEPENDENCE)	1995	BIP-Public Infor- mation	購入
65	モザンビーク・農業 (英語) 9ページ (MOZAMBIQUE AGRICULTURE)	1996	同上	購入
66	モザンビーク・製造業 (英語) 8ページ (MOZAMBIQUE INDUSTRY)	1996	同上	購入
67	モザンビーク・通信 (英語) 9ページ (MOZAMBIQUE MEDIA)	1994	同上	購入
68	モザンビーク・教育 (英語) 8ページ (MOZAMBIQUE EDUCATION)	1993	同上	購入
69	モザンビーク・環境 (英語) 8ページ (MOZAMBIQUE ENVIRONMENT)	1993	同上	購入
70	モザンビーク・統計 (英語) 9ページ (MOZAMBIQUE NUMBERS)	1994	同上	購入
71	アトラス 第1巻 (ポルトガル語) (ATLAS GEOGRÁFICO Vol. I)	1980	教育省	
(一般図書)				
72	J. A. シサノ : 平和と再建 (英語) (PEACE AND RECONSTRUCTION)	1997	SARDC	購入 大統領へのQ & A
73	モザンビーク 平和と明るい展望の国(英語)115ページ (MOZAMBIQUE-LAND OF PEACE AND PROMISE)	1996	Bureau de Infor- mação Pública	購入
74	生田 滋: ヴァスコ・ダ・ガマ 大航海者の世界 II 215ページ	1992	原書房	
75	宮本 正興・松田 素二編: 新書アフリカ史 講談社現代新書1366 596ページ	1997	講談社	

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