

AFR TZA/S 501/94

**TOPOGRAPHIC MAPPING OF
MWANZA-GEITA BLOCK IN
THE UNITED REPUBLIC OF TANZANIA**

FOLLOW-UP REPORT 1995

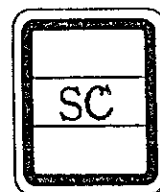
Project data

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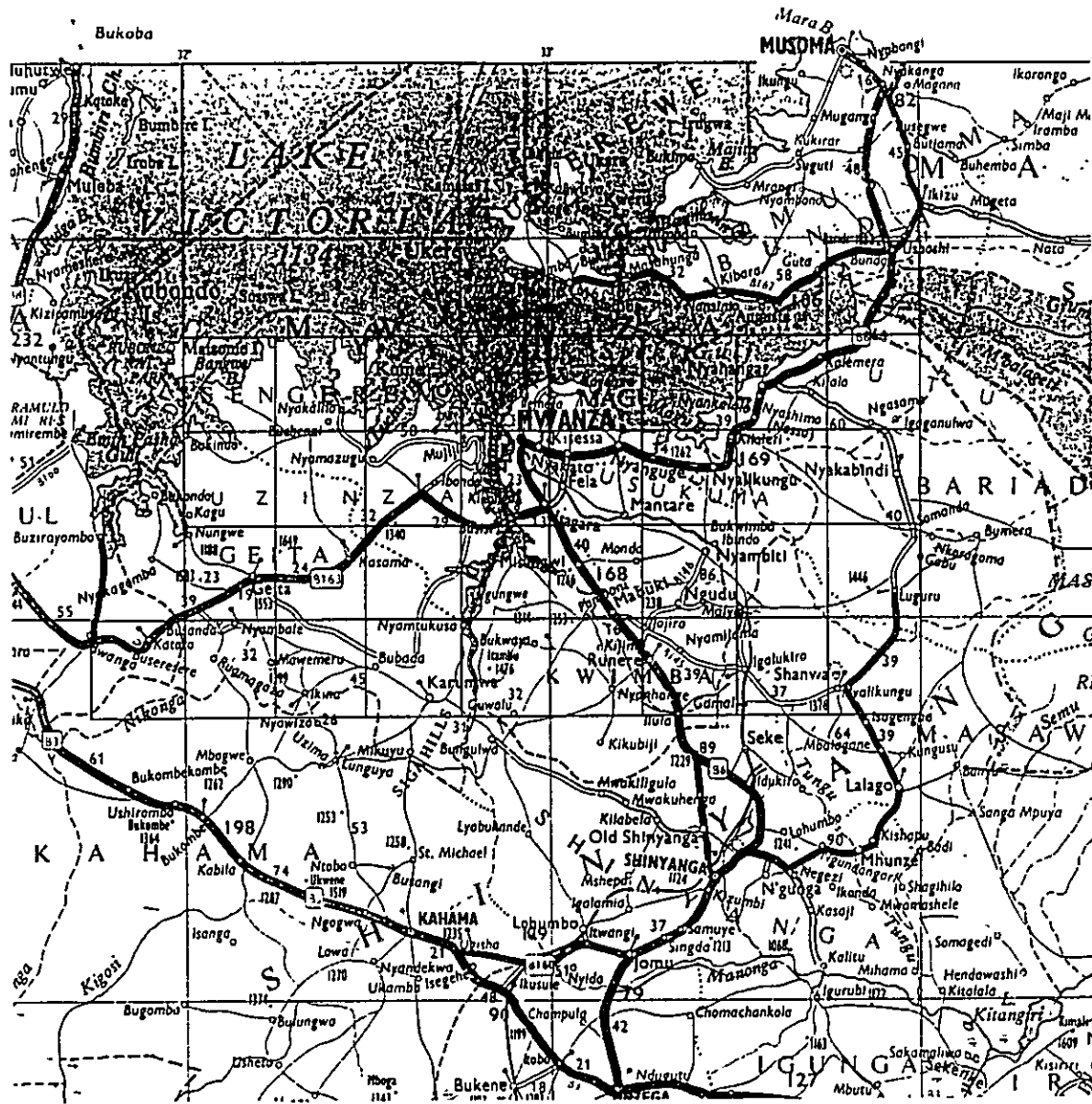
Region: Africa
Country: United Republic of Tanzania
Sector / Subsector: Social Infrastructure /
Survey & Mapping
Code No: AFR TZA/S 501/94
Type: Basic Study
Counterpart Agency: Survey & Mapping Division,
Ministry of Lands, Housing &
Urban Development
Fiscal Year Completed: 1995
Consultants: Pasco International, Inc.
Expenditure: Unknown (¥,000)
Present Status: Completed





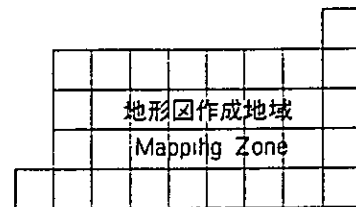
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Project site map / location



SCALE 1:2 000 000
 20 40 60 80 100 120 140 160 Kilometres

- | | | | |
|--|-------------------------|--|--------------------------------|
| | Trunk Roads | | Lodge |
| | Local Main Roads | | Licensed Aerodromes |
| | Secondary Roads | | Licensed Landing Grounds |
| | Tracks & Minor Roads | | International Boundaries |
| | Distances in Kilometres | | Provincial Boundaries |
| | | | District Boundaries |
| | Trunk Road Numbers | | Rivers (permanent) |
| | Other Road Numbers | | Rivers (seasonal) |
| | Vehicular Ferries | | Intermittent or Dried up Lakes |
| | Lake Steamer Routes | | Swamps |
| | Railways with Stations | | Springs/Wells |



- | | |
|--|----------------------|
| | National Parks |
| | National Reserves |
| | Heights in Metres |
| | Tribal or Area Names |

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1 Executive Summary

Note

A general report was produced by JICA on completion of the project in January 1995. Much of the information contained in this follow-up report is taken from that document.

Summary of survey results

25,000 km² of the Mwanza - Geita region was mapped at a scale of 1:50,000 onto thirty-four maps. 1,000 copies of each map were printed in Japan, and these maps, along with printers foils, were delivered to the Survey and Mapping Division in August 1995. The 34,000 maps have since been stored in Dar es Salaam where they are sold to the public. However, most of the maps are awaiting shipping to Mwanza for sale.

Conclusions

The project has filled its initial aims and is wholly successful. There are no reasons to doubt that the updated maps will greatly assist in the accurate development of the Mwanza - Geita region.

Recommendations for JICA

JICA may wish to consider applications for further mapping in the light of map sales and use as a result of this project.

Dissemination and following action

In addition to the JICA UK, and JICA Tanzania Offices, it is anticipated that this report will be circulated to the Survey and Mapping Division under the Ministry of Lands, Housing and Urban Development of the Government of the United Republic of Tanzania.

2 Results of survey: Project Design

Identification and outline of project rationale

The previous maps of the Mwanza-Geita block were produced in 1965 from surveys made in 1963 by a British consortium. Since that time, many geographical factors have changed. The Mwanza-Geita region is an area of intense settlement and activity in agriculture, forestry, and mining. Updated maps are required by many users including government departments in planning, transport, water development, agriculture, forestry, conservation, mining and urban development. The new maps are printed with metric measurements instead of the old imperial measurements.

The Government of Tanzania applied to the Government of Japan for funding to support the production of 100 maps to cover 150,000 km². The Government of Japan reviewed the proposal and agreed to fund the mapping of the highest priority area, this involved producing 34 sheets at a scale of 1:50,000.

Short description of project

The project mapped the Mwanza-Geita block by preparing aerial signalisation (to ensure accurate photography and identification of control points), and performing the aerial survey; this was undertaken by a contractor based in Kenya.

Following this, the control survey and leveling was performed in the field, and the aerial triangulation was completed. Office-based work, and final printing, was performed in Japan. Tanzanian technicians were trained in Japan and in the field, especially in survey techniques. The JICA team did not hand over any survey or mapping equipment to the Tanzanian side following the project.

Project funding

The total cost of the project is unknown. (Neither the Surveys and Mapping Division, nor JICA Tanzania have a record of this). The Surveys and Mapping Division made a request for a breakdown of costs as they are required to report to the Ministry of Finance.

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Review of project design

The design of the project was determined largely by survey and mapping protocols. Decisions over exact symbols were discussed in conjunction with the Surveys and Mapping Division, while the issue of sites of production was determined by the donor on the basis of time, cost and quality of output.

3 Results of survey: Project Implementation

Implementation and monitoring

A general report was produced by JICA on completion of the project in January 1995. This report, and the previous JICA reports from the first and second year's work, provides comprehensive description of the project implementation.

Impacts

Unfortunately, for over two months the maps have remained in storage in Dar es Salaam awaiting transport to Mwanza where the greater market exists. To date only 150 maps have been sold in Dar es Salaam at 2,500 Tsh each. Their impact has been minimal. The Surveys and Mapping Division stated that they had been unable to transport the maps because of lack of funds available to them in the period leading up to the parliamentary elections of October 1995.

However, the impact of the JICA training for thirty-two Tanzanian counterparts has been considerable. For instance, the Surveys and Mapping Division stated that the counterparts trained in Global Positioning System (GPS) technology now train other Tanzanian surveyors in the use of GPS. GPS teams move round Tanzania in groups to work along with regional and district surveyors and thereby transfer the technology to many users.

Sustainability

The sustainability of the mapping project can be judged by the ability to re-print, revise and update the maps within Tanzania. To some extent, the maps require revision because of changes in administrative boundaries, and in names of villages and other sites. This work could be performed by the Surveys and Mapping Division with GPS technology. Furthermore, the Surveys and Mapping Division state that they have the capacity to perform this work, although they still require more GPS and total station units and the ministry is hindered by lack of transport.

The Surveys and Mapping Division are also hoping to obtain a government mandate to retain monies from the sale of the maps,

to help fund purchase and maintenance of survey equipment, and for operational costs.

4 Results of survey: Conclusions

General comments on development

The Surveys and Mapping Division commented that they had asked for the maps to be provided in digital form. From the point of view of the Surveys and Mapping Division, digital maps are easy and quick to update, and specific sections can be transmitted via telephone to regional offices for updating or manipulation for a specific use. They are also keen to develop a Geographical Information System (GIS) for Tanzania at 1:250,000 scale, and digital maps are obviously simple to integrate into such a system.

JICA may wish to examine the Tanzanian context before making a decision to promote GIS technology. The cost-effectiveness of GIS systems in any country relies wholly on the practical ability to effect policy at ground level, for instance, in soil erosion measures or deforestation. In a similar vein, the ability to transmit maps through telecommunication also relies on the effectiveness of the telecommunications system.

Specific comments on JICA's role

JICA's role was warmly received by the Surveys and Mapping Division, the training of technicians was especially welcomed.

Requests for further surveys

There were no requests for further studies to be performed, however, as mentioned above, the Surveys and Mapping Division made a specific request for basic survey equipment to equip each region with the capacity to provide information to upgrade maps, and to perform small surveys for the public and private sector. In addition, the Surveys and Mapping Division also requires major funding to complete the updating of all the older blocks of mapping which date back to the 1960s.

Annex A: Interview

Interview notes from Mr Molle & Mr Maselle of the Surveys and Mapping Division of the Ministry of Lands Housing and Urban Development.

Note: Questions given in Italics

Why was the project needed and how did you choose that particular area?

The maps were needed because they were last done in 1965. We planned to revise maps for the area and made an application to Government of Japan to fund a block of 150,000 km² maps at 100 sheets. JICA reviewed the application and funded the production of 34 of those sheets.

The reason we needed to revise those particular areas were to provide base maps for the water survey / hydrogeological survey, irrigation planning, mining and forestry. There is a lot of deforestation in the area.

Was the project successful?

The maps were delivered in August, they were scheduled to arrive in May so they were late. There were 1,000 copies of each map, and we can print more if required. The big demand is in the Mwanza Geita area, not here in Dar es Salaam. We have only sold 150 to miners from around Geita. Our problem is that the maps are still stored here in Dar es Salaam, and we have been unable to transport them to our map shop in Mwanza (two months). In the recent months the government budgets were frozen during the lead up to the election and we couldn't access any money for transport.

How are the maps marketed?

Each map is standard format at 1:50,000 scale and costs Tsh 2,500/-. There are map shops in Dar es Salaam and Mwanza. The Institute of Resource Assessment in the University had one set of free copies.

Was the project comprehensive?

What we would like is digital maps, these are much easier to upgrade, and we can send the data for field verification by telephone line. It is very fast. Digital maps also link into GIS systems, and we hope to establish a National GIS database at 1:250,000 scale.

Was there a formal training component?

Working with the JICA surveyors we learned GPS techniques and the use of Electronic Distance Meters (EDMs). The JICA team did not hand over any equipment, but we have since purchased our own GPS and the JICA trained operators now train other users.

What are the next priorities?

One thing we'd like to have is enough land surveying equipment to equip each regional office. We have made requests through the Ministry of Planning, but so far no funding has become available.

Why only equipment?

Of our 20 regions, there are 104 districts, each district has a qualified land surveyor. We have skilled staff who are starved of adequate equipment. There are pieces of equipment here and there, but not a complete set of survey equipment in any regional office.

Is there a market in the private sector for surveying?

The present moves to create the ability to use land as collateral on a loan means that villagers and farmers want to know exactly how big their land is, and to lay claim to it, in order to obtain a loan. Therefore, simple surveying skills and equipment is in increasing demand. Once land is surveyed, you can impose property tax.

Can you retain money from the sale of maps for the purchase of new equipment?

Also under the process of rationalisation and allowing the Department of Surveys, we are negotiating in principle to use funds from the sale of maps to buy survey equipment. Income from surveys of commercial estates could also be used.

Are other donors involved?

Canada, the British ODA, there is a list of donors that have contributed to updating specific sections.

Annex B: Terms of reference and purpose of survey

Terms of Reference

- The JICA UK Office has requested the consultants to prepare of an independent follow-up survey in Tanzania.
- It is proposed that the work be a carried out between Thursday 9th November and Friday 22nd December, 1995.
- The survey will comprise a broad evaluation and current appraisal of thirteen (13) Master Plans, Feasibility Studies, and Basic Studies in comparison to the present and future status of the individual projects or studies.
- The scope of work will cover:
 - a) Study on Water Resources Development in the Ruvu River Basin
 - b) Study on Dar es Salaam Road Development Plan
 - c) Natural Soda Development in Lake Natron and Related Transportation Facilities
 - d) Kilimanjaro Region Integrated Development Plan
 - e) Southern Coast Link Road Project
 - f) Proposed Mahale Mountains National Park
 - g) Lower Moshi Agricultural Development Project
 - h) Mkomazi Valley Area Irrigation Development Project
 - i) Expanded Afforestation Work in the Same District of Kilimanjaro Region
 - j) Road Improvement and Maintenance in Dar es Salaam
 - k) Lower Hai and Lower Rombo Agricultural Development Project
 - l) Rehabilitation of Dar es Salaam Water Supply
 - m) Topographic Mapping of Mwanza-Geita Block in the United Republic of Tanzania
- If possible, the survey will cover recent and relevant developments in the context of each project or study.
- Where appropriate, the reports will comprise questionnaires, interviews and highlight following actions for JICA and/or the Government of Tanzania.
- The reports will contain a detailed itinerary, records of interviews made and sources of information.

- The quantity and quality of information contained in the reports will reflect the availability and accessibility of information in Tanzania.
- The reports will be prepared in draft form and presented to the relevant implementing Ministries for comments before leaving Tanzania.
- Final report texts and layouts will be completed by Friday 22nd December, 1995.

Purpose of survey

This report comprises a descriptive assessment of the progress of the project against the objectives of the project as described in the original study. The purpose of the survey is to:

1. Describe project achievements to date by their:
 - A. Impacts
 - B. Effectiveness
 - C. Relevance
 - D. Efficiency
 - E. Sustainability
2. If required, produce specific and general recommendations to improve the performance of this and other similar projects
3. Further communication between funding agencies, design consultancies, implementing agencies and project beneficiaries

Annex C: Methodology and Chronological Itinerary

Methodology

As far as possible, the survey was performed by a structured process:

- Identify the authorities involved
- Identify and locate key informants within the authorities
- Locate adequate documentation and reportage
- Define aims of project
- Conduct interviews on specific and general issues
- Define indicators of achievement and/or progress
- Visit the site
- Analyse the collected data
- Prepare draft report
- Discuss the draft report with key informants
- Edit and prepare final report text

Chronological Itinerary

Tuesday, November 14th

Meeting with Ministry of Surveys and Mapping:

Mr Mollel, Director of Surveys and Mapping

Mr Maselle, Head of Mapping Section

Annex D: References & reports used in survey

JICA (1995) The Topographic Mapping of Mwanza - Geita Block in the United Republic of Tanzania. General Report. January 1995

JICA (1995) Report of First Year's Work for Topographic Mapping of Mwanza - Geita Block in the United Republic of Tanzania. Signalisation, Aerial Photography, Control Point Survey, Second Order Leveling. March 1992

JICA (1995) Report of Second Year's Work for Topographic Mapping of Mwanza - Geita Block in the United Republic of Tanzania. Control Point Survey, Leveling, Pricking, field Verification. March 1993

THE HISTORY OF THE UNITED STATES

CHAPTER I. THE DISCOVERY OF AMERICA

IN 1492, CHRISTOPHER COLUMBUS, an Italian navigator, sailed from Spain in search of a westward route to the Indies. He discovered the Americas on October 12, 1492.

His voyage opened the way for European exploration and settlement of the New World.

The discovery of America was a turning point in world history.

It led to the development of a new continent and the growth of a new nation.

The United States has since become a leading power in the world.

Its history is a story of struggle, progress, and achievement.

The United States has always been a land of opportunity and hope.

It has been a land where freedom and democracy have flourished.

The United States has always been a land of progress and innovation.

It has been a land where the American dream has been realized.

The United States has always been a land of courage and sacrifice.

It has been a land where the American spirit has been born.

The United States has always been a land of peace and harmony.

