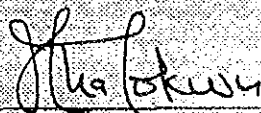


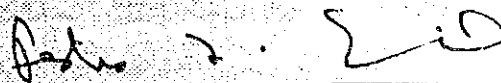
**SCOPE OF WORK
FOR
THE STUDY ON
THE NATIONAL WATER RESOURCES
MASTER PLAN IN
THE FEDERAL REPUBLIC OF NIGERIA**

**FEDERAL MINISTRY OF FINANCE AND ECONOMIC DEVELOPMENT
FEDERAL MINISTRY OF WATER RESOURCES
JAPAN INTERNATIONAL COOPERATION AGENCY**

NOVEMBER 8TH, 1991



**MR. J.C. CHALOKWU
DEPUTY DIRECTOR
DEVELOPMENT AID DIVISION
FEDERAL MINISTRY OF FINANCE AND
ECONOMIC DEVELOPMENT**



**ENGR. (DR.) F.I. SORIBE
DIRECTOR OF PLANNING,
RESEARCH & STATISTICS.
FEDERAL MINISTRY OF
WATER RESOURCES.**



**MR. MORIYA MIYAMOTO
LEADER
PREPARATORY STUDY TEAM AND SPECIAL
TECHNICAL ASSISTANT TO THE
PRESIDENT OF JICA
JAPAN INTERNATIONAL COOPERATION AGENCY.**

I. INTRODUCTION

In response to the request of the Government of the Federal Republic of Nigeria, the Government of Japan has decided to implement the Study on the National Water Resources Master Plan in the Federal Republic of Nigeria (hereinafter referred to as "the Study"), in accordance with the relevant laws and regulations in force in Japan.

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

The present document sets forth the Scope of Work for the Study.

II. OBJECTIVE OF THE STUDY

The objective of the Study is to formulate a national water resources master plan which assures the optimum water resources use and provide appropriate development alternatives on short(year 2000) and long(year 2020) term basis.

III. SCOPE OF THE STUDY

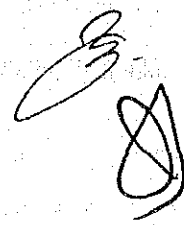
1. Study Area

The Study will cover the whole area of the Federal Republic of Nigeria.

2. Study Framework

The Study comprises of the following two (2) phases.

Phase I: Review of Available Information and Preparation of Study Programme



This phase includes review and analysis of existing studies such as the draft provisional national water resources master plan, data and information relevant to the Study, and the execution of first field survey. The findings of the review and the analysis mentioned above will lead to the formulation of a study programme for subsequent works in Phase II.

Phase II: Main Works for the National Water Master Plan

This main part of the Study includes comprehensive assessment, development, planning, conservation, management and other aspects of the nation's water resources which are subsequently crystallized into the National Water Resources Master Plan. In the Study, due attention will be paid to watershed management and other environmental issues.

3. Study Items

3-1 Phase I: Review of Available Information and Preparation of Study Programme

3-1-1 Collection and Review of Existing Data and Information

The data and informations collected and reviewed relate to:

- (1) the draft provisional national water resources master plan
- (2) meteorology and hydrology, focussing on availability of records
- (3) topography, including aerial photography
- (4) geology, including general geological maps, geological data of potential dam sites, reservoirs, irrigable areas and others
- (5) groundwater, including hydrogeological maps and other literature.
- (6) water use and water rights in the fields of domestic, industrial, irrigation, power, etc.
- (7) water quality, covering general aspects, saline effects and water pollution

- (8) ecology and environmental aspects including fish, wild life, vegetation, recreation, etc.
- (9) irrigation and agriculture including livestock
- (10) flood mitigation and drainage, including flood damage records
- (11) hydropower
- (12) domestic and industrial water supply
- (13) navigation in rivers
- (14) watershed conservation and management
- (15) socio-economy, including demography, regional industry, settlement programme, specific socio-cultural factor, etc.
- (16) urban and regional development planning
- (17) land use covering existing and planned projects in agriculture, forestry, fishery, industry, etc.
- (18) existing water resources development studies
- (19) laws, regulations, policies and customary practices related to water use and development
- (20) present institutions, organizations and administration including their functions related to water development and management

3-1-2 Preparation of Study Programme for Phase II Work

- (1) Identification of fields, subjects and items which should be included in the Study
- (2) Recommendations on improvement of existing data and collection of additional data needed for Phase II Study
- (3) Elaboration of Study programme for Phase II Study

3-2 Phase II: Main Work for the National Water Master Plan

3-2-1 Study on Potential Water Resources

The study evaluates the nation's water resources and their development potential in the following aspects:

- (1) Study of natural river discharges
 - (a) Meteorological and hydrological characteristics of river basins

- (b) Run-off yield and its characteristics
- (c) Flood discharges
- (2) Groundwater resources
 - (a) Delineation of potential areas
 - (b) Safe yield in major potential areas
 - (c) Quality of water
 - (d) Preparation of hydrogeological maps
- (3) Water resources development criteria and standards
 - (a) Risk hedging criteria used for water resources development projects
 - (b) Minimum flow criteria ensuring the natural environment of river
 - (c) Standards for water resources development planning and design
- (4) Review and identification of problems and needs for water resources development covering the areas of:
 - (a) land use policies and practices
 - (b) agricultural land development (irrigation schemes, land reclamation schemes, livestock development schemes etc.)
 - (c) urban development
 - (d) industrial development
 - (e) forest development and management
 - (f) waste disposal
 - (g) river conditions
 - (h) environmental conservation and protection
 - (i) fish farming development
 - (j) reservoir, diversion weir and tidal barrage development
 - (k) hydropower development
 - (l) expressway development
- (5) Possible water resources exploitation sites (dam, weir, estuary barrage, etc.)
 - (a) Short term (year 2000) schemes are examined through reconnaissance survey and desk study for assessment of site

conditions, plans, social/environmental impact, cost estimate, etc.

(b) Long term (year 2020) are examined through desk study for preparation of preliminarily proposed plans

(6) Flood control

(a) Assessment of inundation areas and flood damage in relation to flood discharges

(b) Existing flood protection facilities

(c) Preparation of comprehensive flood control plans over the country with cost estimates

(7) Hydropower potentials

(a) National hydropower supply programme and power demand projection

(b) Possible hydropower generation dam sites with cost estimates

(8) Irrigation and agricultural development

(a) Survey of existing agricultural areas, crops and methods

(b) Study of available agricultural development plans

(c) Identification of agricultural development potential with desirable crop types, soil classification and reclamation potential

(d) Study of present and future livestock development

(9) Industrial development

(a) Survey of existing industries

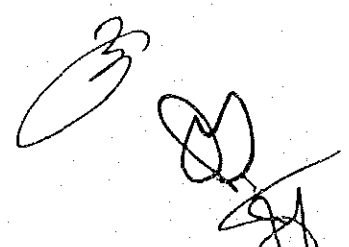
(b) Study of industrial development potential

(c) Recommendations on sites for different types of industries in view of available water resources

(d) Identification of problems of water pollution by industry and industrial waste disposal

(10) Urban centers

(a) Survey of existing cities, market centers, and potential urban areas



- (b) Study of town planning schemes and development plans
- (11) Water quality
 - (a) Supplementary field survey and evaluation of water quality, sediment transport and salinity in major rivers
 - (b) Water quality to be maintained and measures to be taken against pollution
 - (c) Preliminary economic study for enhancement of water quality in the most critical areas
- (12) Formulation of multipurpose dam development plans
 - (a) Coordination of water use, allocation of reservoir capacity for water supply, hydropower, flood control, irrigation, maintenance of minimum low flow, etc.
 - (b) Formulation of multipurpose dam development plan
- (13) Formulation of national water resources development programme by basin
 - Coordination and arrangement of water resources development between surface water and groundwater, taking into account water quality, quantity, cost, social impact, and other.

3-2-2 Water Demand Projection

- (1) Current socio-economic conditions
- (2) Current water demand and water use
- (3) Projection of economic development targets and potential on short (year 2000) and long term (year 2020) basis.
 - (a) Population and other socio-economic indices
 - (b) Irrigation and agricultural development
 - (c) Industrial sectorial development
 - (d) Urban and regional development framework

- (e) Other water related factors, including fishery, fish farming, recreation, navigation, pollution abatement, ecosystem conservation etc.
- (4) Water demand requirement in 2000/2020
 - (a) Domestic and industrial water demand
 - (b) Irrigation
 - (c) Hydropower generation
 - (d) Other water demand such as those of natural reserves, recreation, fish farming, eco-system, navigation, pollution control, indigenous water use by people along rivers

3-2-3 Optimum Water Development and Use by Zone

- (1) Zoning for water development and use
 - (a) Economic development zones
 - (b) Water resources development zones
 - (c) Study on the allocation of water for all the uses
- (2) Demand and supply in quantity and quality
- (3) Comprehensive water resources development programme
 - (a) Planning of water resources development to meet the demands and needs taking the followings into account
 - coordinated use of water among sectorial developments
 - ways and means to increase per capita water resource distribution in dry districts including plans for possible interbasin water transfer
 - (b) Estimation of investment costs required for the water resources development plans and comparison among feasible alternative plans
 - (c) Evaluation of water costs for specific projects as required and appropriate
- (4) Socio-environmental aspect
 - (a) Evaluation of socio-environmental impact of water resources development projects and environmental protection measures required to mitigate or minimize adverse environmental effects

3-2-4 Review of laws and Institutions

- (1) Legislative, organization and institutional relationship
 - (a) Laws and regulations related to water
 - (b) Institutions and staffing of the agencies concerned
 - (c) Practices and customs
- (2) River administration
 - (a) Classification of rivers
 - (b) Administrative bodies and administration of rivers
 - (c) Execution of river works
- (3) Administration of water resources development and management
 - (a) Organizational function and coordination in planning and management
 - (b) Coordination in water use
 - (c) Water resources conservation and management policy

3-2-5 Formulation of National Water Master Action Plan

- (1) Water development programme
- (2) Strategies and policies for the water management
- (3) Institutional and legislative recommendations

IV. STUDY SCHEDULE

The whole work will be carried out in accordance with the attached tentative study schedule.

V. REPORTS

JICA shall prepare and submit the following reports in English to the Government of Nigeria.

1. Inception Report
Fifty (50) copies
Within one (1) month after the commencement of the Study.
2. Progress Report (1)
Fifty (50) copies
Within three (3) months after the commencement of the Study.
3. Interim Report (1)
Fifty (50) copies
Within seven (7) months after the commencement of the Study.
4. Progress Report (2)
Fifty (50) copies
Within eleven (11) months after the commencement of the Study.
5. Interim Report (2)
Fifty (50) copies
Within fourteen (14) months after the commencement of the Study.
6. DRAFT FINAL REPORT
Fifty (50) copies.
Within seven (7) months after submission of the Interim Report(2).
The Government of Nigeria will provide JICA with its comments within one (1) month after the receipt of the Draft Final Report.

7. FINAL REPORT

One hundred (100) copies

Within one (1) month after receipt of the comments

VI. UNDERTAKING OF THE GOVERNMENT OF NIGERIA

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

- (1) to secure the safety of the Japanese study team,
- (2) to permit the members of the Japanese study team to enter, leave and sojourn in Nigeria for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees,
- (3) to exempt the members of the Japanese study team from taxes, duties and other charges on equipment, machinery and other materials brought into Nigeria for the conduct of the Study,
- (4) to exempt the member of the Japanese study team from income taxes and charges of any kind imposed on or in connection with any emolument or allowance paid to the members of the Japanese study team for their services in connection with the implementation of the Study,
- (5) to provide necessary facilities to the Japanese study team for remittance as well as utilization of funds introduced into Nigeria from Japan in connection with the implementation of the Study,
- (6) to secure permission for entry into private properties or restricted areas for the conduct of the Study,

- (7) to secure permission for the Study team to take all data and documents (including maps and photographs) related to the Study out of Nigeria to Japan,
- (8) to provide the medical services as needed. Its expenses will be chargeable on member of the Japanese study team,
- 2 The Government of Nigeria shall bear claims, if any arises against the members of the Japanese 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 Japanese study team.
- 3 Federal Ministry of Water Resources shall act as the counterpart organization to the Japanese study team and also as the coordinating organization with other relevant organizations for the smooth implementation of the Study.
- 4 Federal Ministry of Water Resources shall, at its own expense, provide the Japanese study team with the following;
- (1) available data and information related to the Study,
 - (2) counterpart personnel and supporting staffs,
 - (3) a suitable office with necessary equipment in Abuja,
 - (4) credentials or identification cards,
 - (5) vehicles with drivers
 - (6) permission to use walkie-talkies for the execution of the field survey.

VII. UNDERTAKING OF JICA

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

- 1 to dispatch, at its own expense, study teams to Nigeria,
- 2 to pursue technology transfer to the Nigerian counterpart personnel in the course of the Study.

VIII. CONSULTATION

JICA and Federal Ministry of Water Resources shall consult with each other in respect of any matter that may arise from or in connection with the Study.

TENTATIVE STUDY SCHEDULE

A N N E X

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
DESCRIPTION	PHASE-I												PHASE-II											
WORK IN NIGERIA																								
WORK IN JAPAN																								
REPORT PRESENTATION																								

IC/R : Inception Report PR/R : Progress Report

IT/R : Interim Report

DF/R : Draft Final Report

F/R : Final Report

3. Minutes of Meetings (M/M)

MINUTES OF MEETINGS ON THE STUDY ON
THE NATIONAL WATER RESOURCES MASTER PLAN (NWRMP)
IN THE FEDERAL REPUBLIC OF NIGERIA
HELD IN ABUJA

Based on formal requests of the Government of Nigeria, the Government of Japan, through the Japan International Cooperation Agency (JICA), has agreed to cooperate in the execution of the Study on the National Water Resources Master Plan (herein after referred as "the Study") in the Federal Republic of Nigeria.

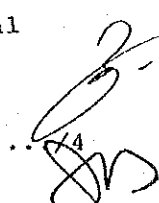
JICA preparatory study team headed by Mr. Moriya Miyamoto Special Technical Assistant to the President of JICA visited Abuja between 31st of October and 6th of November, 1991 where they had series of meetings with the Nigerian officials concerned with the Study, led by the Director of Planning, Research and Statistics in the Federal Ministry of Water Resources - Engr. Dr. F.I. Soribe. The list of participants are as shown in the annex. During the visit, the document "Scope of Work for the Study on the National Water Resources Master Plan in the Federal Republic of Nigeria" was discussed by the Nigeria representatives and the JICA team. The document defines the terms and conditions of this bilateral cooperation for the Study and implementing and coordinating organizations in Nigeria and Japan respectively to facilitate the smooth conduct of the Study. In addition to the Scope of Work, the JICA Mission and the Nigeria representatives concerned confirmed the following :-

- (1) The Nigeria side expressed its keen interest on the full participation of Nigeria counterpart personnel in the Study in order to facilitate their dynamic and continuous exercise for the National Water Resources Master Plan after the completion of the proposed Study. The Japanese side showed its willingness for joint work on

the study since the Development Study scheme extended by JICA aim at the technology transfer to the Nigerian counterpart personnel in the course of the Study.

- (2) Considering the availability of hydrological and meteorological information as the key factor for the formulation and implementation of the National Water Resources Master Plan, the Nigeria side pointed out that the existing data bank system for both collection and processing of data in Federal Ministry of Water Resources and National Water Resources Institute, Kaduna should be enhanced in the course of the Study.
- (3) The Nigeria side explained the necessity of local consultants to be involved in the Study to facilitate essential data collection. The Japanese side explained that the utilization of local consultants could be considered by JICA to prepare for collection of the basic data and information such as topography, hydrology, environment and so forth. However, the selection of the local consultants and contents of the contract should be subject to JICA's procedural requirement.
- (4) The Nigeria side indicated the need for workshops and seminars for the counter part personnel and officials of concerned Ministries and organization in the course of the Study. The Japanese side promised to consider workshops and a seminar for technology transfer and smooth implementation of the Study.
- (5) Although drivers could be provided to the study team by the Federal Ministry of Water Resources, the Nigeria side requested JICA to provide vehicles for the efficient execution of the Study. The Japanese side took note of the request.

- (6) The Nigerian side requested for the provision of equipment necessary for the implementation of the Study by JICA. The Japanese side took note of this request.
- (7) The Nigerian side strongly requested JICA to provide the training opportunities in Japan as much as possible to facilitate joint analysis and planning for the Study. The Japanese side took note of the request.
- (8) Both sides agreed to establish a steering committee at the policy making level and a technical committee for the day-to-day technical consideration for the efficient implementation of the Study. The Steering Committee will consist of Senior officials of all the Ministries involved in the preparation of the National Water Resources Master Plan. The Committee will provide development and policy advice and guidelines to the study team. In addition, the Committee will study all reports submitted by the team and make comments and recommendations.
- The Technical Committee will consist of some Nigerian officials and JICA study team involved in the day to day implementation of the Study. The Committee will review technical aspects and progress of the Study from time to time.
- Membership of both Committees would be worked out later by the Federal Ministry of Water Resources.
- (9) The Nigerian side requested that due attention should be paid to the following technical aspects of the Study:-



- (a) The regional priority among the users of water resources is to be set, after hydrological, economical, sociological, health, environmental and other aspects of the region are properly examined;
- (b) The allocation of water use of the reservoir is duly planned after the hydrological, economical, sociological, health, environmental and other aspects are properly examined;
- (c) Proper development alternatives including viable water resources development projects are to be formulated so that appropriate action can follow the Study;
- (d) Manpower requirements for the plan implementation;
- (e) Implications of the plan on the use of international waters Nigeria shares with her neighbours is to be studied based on information provided by the Nigerian side;
- (f) The Section on Scope of Work dealing with Legislations, Organisations and Institutional arrangements for the implementation should be highlighted.

The Japanese side took note of these.

.....
 Engr. Dr. F. I. Soribe
 Director of Planning, Research
 & Statistics
 Federal Ministry of Water
 Resources
 Federal Republic of Nigeria

.....
 Mr. Moriya Miyamoto
 Leader of the Preparatory
 Study Team and Special
 Assistant to the President
 Japan International
 Cooperation Agency.

.....
 A. A. Aderinto,
 Federal Ministry of Finance & Economic
 Development, Nigeria.

ABUJA, FEDERAL REPUBLIC OF NIGERIA,

November 1991

LIST OF ATTENDANCE 31/10/91

NIGERIA: FMWR

1. Prof. S. Mustafa - Special Adviser to Honourable Minister
2. Engr. Dr. F.I. Soribe - Director Planning, Research
Statistics (PRS)
3. Mr. J.A. Hanidu - Directo Hydrology & Hdrogeology (H/H)
4. Engr. M.H. Ibrahim - Director Irrigation & Drainage (I&D)
5. Engr. S. Mohmood - Director Dam & Reservoir Operation (D&RO)
6. Engr. R.D. Abubakar - Dep. Director Water Supply and
Quality Control (WS&QC)
7. Engr. J.A. Akinola - Dep. Director (PRS)
8. Engr. C.O. Adegbilero - Asst. Director (PRS)
9. Mr. J.A. Otokiti - Asst. Director (PRS)
10. Dr. E.A. Adanu - Chief Planning Officer (PRS)
11. Mr. A. Aletan - Chief Hydrogeol. WS&QC)
12. Mr. J.A. Shamonda - Asst. Chief Hydro (H/H)
13. Mr. C.O. Obidike - Asst. Chief Hydro. (PRS)
14. Mr. P.E. Ibeka - " " " "
15. Mr. N.C. Nwosu - " " " "
16. Dr. J.A. Oguntola - Princ. Planning Officer (PRS)
17. Mr. A. Pasoranti - Irrigation Engr. (I&D)
18. Mr. N.E. Nnenanya - Research Officer (PRS)

OTHER AGENCIES

19. Engr. A.A. Lawal - Executive Director,
(NRBDA), Minna.
 20. Mr. S.A. Ayorinda - Deputy Director,
Fed. Min. of Industries,
Abuja.
 21. Dr. O.A. Bamgboye - Deputy Director,
National Water Resources Institute
Kaduna (NWRI).
 22. Mr. S.A. Ettu - Head, Meteorology,
MET., Lagos.
 23. Engr. O.B. Folowosele - Chief Engineer,
Niger River Basin Development
Authority (NRBDA), Minna.
 24. Mr. F.C. Ojimba - Rep. of Fed. Fept. of Inland
Waterways, Lokoja.
 25. Mr. C.O. Nwuna - Rep. of Dept. of Agric.,
Land Resources, Abuja.
- 

CONSULTANTS

26. Chief L. C. Okigbo - Executive Director,
Skoup & Co. Ltd., Enugu
27. Mr. O.O. Ntima - Chief Consultant,
Skoup & Co. Ltd., Enugu.

JAPAN (31/10/91)

JICA

1. LEADER: Mr. Moriya MIYAMOTO
Special Assistant to the President
Japan International Cooperation Agency
(JICA)
2. WATER RESOURCES DEVELOPMENT: Mr. Kazunori YOSHIOKA
Director for Policy Planning
Minister's Secretariat, Ministry of
Construction.
3. AGRICULTURAL DEVELOPMENT: Mr. Mitsuhiro GOTO
Director, Agricultural Land Improvement
Office,
Tohoku Regional Administration Bureau
Ministry of Agriculture, Forestry
& Fisheries.
4. RIVER PLANNING: Mr. Kenzo HIROKI
Deputy Director, River Coordination
Division, River Department,
Kanto Regional Construction Bureau,
Ministry of Construction.
5. IRRIGATION PLANNING: Mr. Hirofumi NIWA
Irrigation Engineer, Design Division
Construction Dept. Chugoku-Shikoku
Regional Administration Bureau
Ministry of Agriculture, Forestry
& Fisheries.
6. STUDY PLANNING: Mr. Masahiro KOBAYASHI
Deputy Director, Second Social Dev.
Division, Social Development Study
Dept.,
Japan International Cooperation Agency
(JICA)
7. GRAND WATER: Mr. Atsuo KANDA
Chief Engineer, Geological Survey
Department
Kokusai Kogyo Co., Ltd

ATTENDANCE LIST 01/11/91

NIGERIA

i. FMWR

- (1) Mr. J. A. Hanidu - Director (H/H), Chairman
- (2) Engr. R.D. Abubakar - DD (WS&QC)
- (3) Engr. J. A. Akinola - DD (PRS)
- (4) Mr. A. Aletan - Chief Hydrogeologist (WS&QC)
- (5) Mr. C.O. Obidike - Asst. Chief Hydro (PRS)
- (6) Mr. J. A. Shamonda - Asst. Chief Hydro (H/H)
- (7) Mr. N. C. Nwosu - Asst. Chief Plan. Offr (PRS)
- (8) Mr. A. Fasoranti - Irrigation Engineer (I&D)
- (9) Mr. N.E. Nnennaya - Research Officer (PRS)

II. OTHER AGENCIES

- (10) Engr. A.F. Akinbiwu - Deputy Director,
Fed. Min. of Industries,
Abuja.
- (11) Dr. O.A. Bamgboye - Deputy Director,
NWRI., Kaduna
- (12) S.A. Ettu - MET Dept., Lagos.
- (13) F. C. Ojimba - Rep. of Inland Waterways,
Lokoja.
- (14) C. O. Nwunne - Rep. of Dept. of Agricultural
Land Resources, Abuja.
- (15) M. O. Idowu - Rep. of Fed. Min. of Health,
Lagos.

III. CONSULTANTS

- (16) Chief L.C. Okigbo - Executive Director,
Skoup & Co. Ltd., Enugu.
- (17) O. O. Ntima - Chief Consultant,
Skoup & Co. Ltd., Enugu.

ATTENDANCE 01/11/91

JICA

1. LEADER: Mr. Moriya MIYAMOTO
Special Assistant to the President
Japan International Cooperation Agency
(JICA)
2. WATER RESOURCES DEVELOPMENT: Mr. Kazunori YOSHIOKA
Director for Policy Planning
Minister's Secretariat, Ministry of
Construction.
3. AGRICULTURAL DEVELOPMENT: Mr. Mitsuhiro GOTO
Director, Agricultural Land Improvement
Office,
Tohoku Regional Administration Bureau
Ministry of Agriculture, Forestry
& Fisheries.
4. RIVER PLANNING: Mr. Kenzo HIROKI
Deputy Director, River Coordination
Division, River Department,
Kanto Regional Construction Bureau,
Ministry of Construction.
5. IRRIGATION PLANNING: Mr. Hirofumi NIWA
Irrigation Engineer, Design Division
Construction Dept. Chugoku-Shikoku
Regional Administration Bureau
Ministry of Agriculture, Forestry
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Dept.,
Japan International Cooperation Agency
(JICA)
7. GRAND WATER: Mr. Atsuo KANDA
Chief Engineer, Geological Survey
Department
Kokusai Kogyo Co., Ltd

LIST OF ATTENDANCE 6/11/91

NIGERIA

FMWR

- | | |
|-------------------------|---|
| (1) Prof. S. Mustapha, | - Special Adviser to Hon. Minister. |
| (2) Dr. F. I. Soribe | - Director of Planning, Research and Statistics - Chairman. |
| (3) Mr. J. A. Hanidu | - Director of Hydrology and Hydrogeology (H/H). |
| (4) Engr. M. H. Ibrahim | - Director of Irrigation & Drainage. |
| (5) Dr. D. T. Gowon | Director of Erosion & Flood Control. |
| (6) Mr. P. I. Yakowa | - Director of Finance & Supplies. |
| (7) Engr. J. A. Akinola | - Deputy Director (PRS). |
| (8) Dr. E. A. Adanu | - Chief Planning Officer (PRS). |
| (9) Mr. A. Aletan | - Chief Hydrologist (WS & QC). |
| (10) Mr. J. A. Shamonda | - Assistant Chief Hydrologist (H/H). |
| (11) Mr. C. E. Obidike | - Asst. Chief Hydrologist (PRS). |
| (12) Mr. P. E. Ibeka | - Asst. Chief Planning Officer (PRS). |
| (13) Mr. N. C. Nwosu | - Asst. Chief Planning Officer (PRS). |
| (14) Mr. A. Fasoranti | - Irrigation Engr (I & D). |
| (15) Mr. N. E. Nnenanya | - Research Officer (PRS). |

OTHER AGENCIES

- | | |
|------------------------|---|
| (1) M. O. Idowu | - Project Coordinator, Federal Ministry of Health. |
| (2) Mr. A. A. Aderinlo | - Asst. Chief Finance Officer, Federal Ministry of Finance & Economic Dev. |
| (3) Mr. C. O. Nunne | - Soil Scientist, Department of Agricultural Land Resources, Federal Ministry of Agriculture. |

JAPAN 6/11/91

LEADER:	Mr. Moriya MIYAMOTO Special Assistant to the President Japan International Cooperation Agency (JICA)
COOPERATION POLICY:	Mr. Masaya TOMA Official, Development Cooperation Div. Economic Cooperation Bureau, Ministry of Foreign Affairs
WATER RESOURCES DEVELOPMENT:	Mr. Kazunori YOSHIOKA Director for Policy Planning Minister's Secretariat, Ministry of Construction
AGRICULTURAL DEVELOPMENT:	Mr. Mitsuhiro GOTO Director, Agricultural Land Improvement Office Tohoku Regional Administration Bureau Ministry of Agriculture, Forestry & Fisheries
RIVER PLANNING:	Mr. Kenzo HIROKI Deputy Director, River Coordination Div. River Dept. Kanto Regional Construction Bureau, Ministry of Construction
IRRIGATION PLANNING:	Mr. Hirofumi NIWA Irrigation Engineer, Design Div. Construction Dept. Chugoku-Shikoku Regional Administration Bureau Ministry of Agriculture, Forestry & Fisheries
STUDY PLANNING:	Mr. Masahiro KOBAYASHI Deputy Director, Second Social Development Div. Social Development Study Dept. Japan International Cooperation Agency (JICA)
GRAND WATER:	Mr. Atsuo KANDA Chief Engineer, Geological Survey Dept. Kokusai Kogyo Co., Ltd

COMPOSITION OF COMMITTEES

STEERING COMMITTEE

CHAIRMAN National Water Resources Master Plan
Coordinator: Director, Planning, Research and
Statistics Dept.

MEMBERS

- (i) All Directors of Departments of Federal
Ministry of Water Resources; (8)
- (ii) Director of National Water Resources
Institute, Kaduna.
- (iii) Director of National Electric Power
Authority;
- (iv) Director of Inland Waterways;
- (v) Director of Meteorological Services (MET);
- (vi) Director of Federal Environmental Protection
Agency;
- (vii) Representative of Federal Ministry of
Finance and Economic Development;
- (viii) Representative of the Federal Ministry
of Agriculture (Agricultural Land Resources
and Forestry);
- (ix) Representative of Federal Ministry of
Health;
- (x) Representative of Federal Ministry of
Industries;

SECRETARY Project Manager of National Water Resources
Master Plan.

TECHNICAL COMMITTEE

Membership will be composed by the Ministry in
association with JICA to discuss specific issues of
the Studies.



TENTATIVE COUNTERPART PERSONNEL

1. PROJECT CO-ORDINATOR
2. GEOLOGIST
3. DAM (ENGINEER) PLANNER
4. WATER SUPPLY (ENGINEER) PLANNER
5. HYDROPOWER (ENGINEER) PLANNER
6. SEWERAGE PLANNER
7. IRRIGATION/DRAINAGE (ENGINEER) PLANNER
8. AGRICULTURAL SPECIALIST (AGRONOMIST)
9. ENVIRONMENTALIST
10. RIVER TRAINING ENGINEER
11. ECONOMIST
12. SOCIOLOGIST
13. HYDROLOGIST (PLANNER)
14. HYDROGEOLOGIST (PLANNER)
15. REMOTE SENSING (GIS)
16. COMPUTER SPECIALIST (SYSTEM ANALYST).

4. 質問状及び調査結果

THE NATIONAL WATER RESOURCES MASTER PLAN IN THE FEDERAL REPUBLIC OF NIGERIA

/// Questionnaire for Data Request ///

A1 General

Item	Availability Conf.	Source Obt.	Remarks
A1-1 Census & Statistic Data in Past 10 years incl.			
a) Population by States or Prefecture Age, Sex, Race, Region, etc.	☐	☐	Federal Office of statistics
b) Occupational population	☐	☐	
c) Number of household	☐	☐	
d) Sectorial Production (Agriculture, etc.)	☐	☐	
e) Gross National Production (GNP)	☐	☐	
f) Balance of International Payment	☐	☐	Federal Office of statistics Research Section. (Mr. Etseama Henry) * 1991年11月まで国勢調査が実施中。
g) International Trading	☐	☐	
h) Consumer Price Index	☐	☐	
i) Sale Price Index	☐	☐	
j) Exchange Rate			No. 48.
A1-2 Population Density Map		☐	Geography of Nigeria
A1-3 Administration Map		☐	No. 28 Federal Surveys of Nigeria No. 35. No. 36. No. 37.
A1-4 Long term National Development	☒		
A1-5 Five Year National Development Plan (1989-1993)		☐	No. 43. No. 44. No. 45 - National Rolling Plan (1990-1992)
☐ 事前調査で収集。△ 資料不足 (JICA) ☐ 有価調査で収集可能。X 資料不足、不明			

Item	Availability	Source	Remarks
	Conf.	Obt.	
A2-1 Topographical Maps			
⊖ 1/2,000,000 x 1/1,500,000 ⊖ 1/1,000,000 Δ 1/500,000 - Δ 1/250,000 Δ 1/100,000 - Δ 1/50,000	○ ○ ○ ○	(FMWH) - Federal Surveys of Nigeria - Clagos & Kaduna	- Unit Cost (per sheet) and Index Map 1/2,000,000 # 50.00 1/1,000,000 " 50.00 1/500,000 " 10.00 1/250,000 " 10.00 1/100,000 " 10.00 1/50,000 " 10.00
A2-2 Aerophotograph			
- 1/40,000 - 1/25,000 - 1/5,000	○ ○ ○	Federal Surveys of Nigeria	- Unit Cost (per sheet) and Index Map # 20.00 # 20.00 # 30.00
A2-3 Geological Data			
a) Geologica Map			
- 1/2,000,000 - 1/250,000	○ ○	- FMMP - Geological Survey of Nigeria (Kaduna)	- Unit Cost (per sheet) and Index Map # 20.00 # 10.00
b) Geological Study Reports			
- Geology of Nigeria - Distribution & Chemical Quality of Groundwater in N. Nigeria - Fracture Map of Nigeria - Mineral Map of Nigeria	○ ○ ○ ○		20.00 20.00 20.00 20.00
A2-4 Remote sensing data & Data Base			
a) LANDSAT Imagery			
b) SPOT Image			
	○	○	- No 12. - No 24, No 25, No 26
A2-5 Land Use Map			
A2-6 Soil Classification Map			
A2-7 Road Map (1/2,000,000 1/1,500,000)			

1991年11月18日 1/650,000
Land Use Map 大陆
图式规范二幅 洲界线
4 Volumes. 日本出版
• 1/1,000,000 第一图
1/1,000,000

A3 Meteorology and Hydrology

Item	Availability Conf.	Availability Obt.	Source	Remarks
A3-1 Meteorological Data a) Location Map of the Observation station b) List of Station (Table-A1) c) Year Book d) Study Report of Climatic Condition	 O X	 O O A	NMS FMA, Federal Department of Meteorological Service (Lagos)	No 2 No 2 FOMS/A data set on rainfall - Geography of Nigeria
A3-2 Rainfall Data a) Location Map of the Observation station b) List of Station (Table-A2) c) Isohyet Map d) Year Book e) Study Report of Rainfall Characteristics	 O X X	 O O A A	FMA, FOMS & FMWR	No 42, No 8 No 42, No 8 Geography of Nigeria FOMS/A data set on rainfall Geography of Nigeria
A3-3 Discharge Data a) Location Map of the Gaging Station (1/2,000,000) b) List of Station (Table-A3) c) Hydrological Year Book	 O O O	 O O O	NWRI, FMWR FMWR/FMWR	No 20 No 20, No 21 No 21
A3-4 Data Bank System		O	NWRI, FMWR	No 12, No 24, No 25, No 26
A3-5 Data on Main Earthquake a) Location Map of Earthquake b) List of Main Earthquake (Table-A4) c) Design criteria for Earthquake	X			74
A3-6 Other Related Data	O			

A4 Surface Water (1)

Item	Availability Conf. Obt.	Source	Remarks
A4-1 River		FMWR, NWRI, RBDAs	No. 7. No. 8. (No. 3) (No. 3) (No. 3)
a) Map of Catchment Area & Tributaries	?	(NEPA)	
b) Profile & Typical Cross Section	?	(NEPA)	
c) Characteristics of Main River (Table-A5)	?	NEPA	
d) Discharge Record (Table-A6)	?		
A4-2 Dam		FMWR, NEPA	
a) Location Map of Dam (Existing, Under Construction, Planning)	?	(NEPA)	No. 3.
b) List of Dam (Table-A7)	?	(NEPA)	No. 3. No. 23.
A4-3 Present Water Consumption and Future Demand in 2000/2020 (Sector and Area) (Table-A8)	?	FMWR, RBDAs, NEPA SWBs	Geography of Nigeria No. 1. No. 2 (No. 3)
A4-4 Potential Water Resource	?	FMWR, NWRI, RBDAs, SWBs	Geography of Nigeria No. 1. No. 2. No. 3.
A4-5 Water Right		FMWR	No. 1. No. 2. No. 5. Draft NWRI Decree
a) Location Map of Registered Water Right	?		
b) Registration Form of Water Right	?		
c) List of Registered Water Right (Table-A9)	?		
A4-5 Law or Custom on River Maintenance Flow	?		
A4-6 Environmental Law to restrict Water Resources Development	?		

A4 Surface Water (2)

Item	Availability Conf.	Availability Obt.	Source	Remarks
A4-7 Previous Study Reports on Surface Water Development - Provisional National Water Resources Master Plan - Other Related Report		0	FMWR. FMWR, NWRI, RSDAs. SWBS.	No. 1. No. 2 No. 3. No. 6 (Effort)
A4-8 Other Related Data	0			

A-5 Groundwater (1)

Item	Availability Conf.	Availability Obt.	Source	Remarks
A5-1 Hydrogeology				
a) Hydrogeological Map and Profile				
- Sokoto State 1/500,000		○	GSN, NWRI, FMWR	- No 30, No 31, No 32, No 33, No 34.
- Bauchi State 1/500,000		△		
-		△		
b) Isopiezometric Contour Map				
c) Groundwater Quality Map (TDS, EC, etc.)		○		Sokoto state, No 29
d) Transmissivity Coefficient Map		○		No 29
e) Specific Capacity Map		△		No 29, Sokoto state
A5-2 Well Data				
a) Location Map of Existing Well				
- National Borehole Project ('81-'83)		○	FMWR RBDA's	No 1, No 3
- National/Rural Borehole Project ('83-)		○	Agricultural & Rural Dev. Authority	No 17, No 18, No 19
b) Well Inventory (Table-A10)			SWGs	
A5-3 Location & Yield of Main Groundwater Basins	○	○	GSN	No 29
A5-4 Present Usage and Future Demand in 2000/2020 by Sector & Area (Table-A11)	○	○	FMWR	No 1, No 2, No 3
A5-5 Groundwater Development Project Cost and Break-down	○	○	FMWR	No 1, No 3, No 45

A-5 Groundwater (2)

Item	Availability Conf. Obt.	Source	Remarks
A5-6 Previous Study Report on Hydrogeology & Groundwater Development - Project assisted by DAC and/or International Organization - Domestic Project	 O O A O O	G.S.N., FMWR, SWB, etc.	No45, (No43) No1, No3, No45 (No43)
A5-7 Data Bank System for Groundwater		FMWR	(Sokoto state)
A5-8 Other Related Data	O		

A6 Urban and Rural Water

Item	Availability		Source	Remarks
	Conf.	Obt.		
A6-1 Urban and Rural Water Supply System (Existing, Under Construction, Planning)			FMWR, RBDAs, SWBs.	
a) Location of Water Supply System	○			
b) List of Water Supply System	○			
A6-2 Urban and Rural Water Supply System Development Plan	○	○	FMWR, RBDAs, SWBs.	No. 1, No. 2, No. 3, No. 4, 5.
A6-3 Previous Study Report on Water Supply Development	○	○	FMWR, RBDAs, SWBs, etc.	(No. 1, No. 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100)
A6-4 Other Related Data	○			

A7 Agriculture

Item	Availability Conf.	Source	Remarks
A7-1 Present Condition (Table-A12) - Agricultural Statistic Data (Agricultural Area, Production, Export Market and Marketing System, etc.) - Areal Water Demand (Water Consumption) (Cropping Pattern, Water Requirement, - Style of Intake & Irrigation Network)	○ ○ ○ ○	FMWR (FMARD)	(FAO Year Book etc) } No.1, No.2, No.3, No.44. (No.23)
A7-2 Agricultural Policy & Future Condition in 2000/2020 (Table-A12) - Demand & Required Production	○ ○	FMWR (FMARD)	No.1, No.2, No.3, No.4, No.6 No.43, No.44.
A7-2 Present and Future Irrigation Area in 2000/2020 by Area a) Location Map of Irrigation Area b) List of Irrigation Area (Table-A13)	○ ○	FMWR (FMARD)	No.3, Geography of Nigeria - No.1, No.2, No.3, No.4, No.44. No.53
A7-3 Agricultural Development Plan by Area - Project Name, Area, Outline, - Water Source, Planned Year and Organization, etc.	○ ○	FMWR (FMARD)	No.3, No.4, No.44, etc. No.1, No.2
A7-4 Previous Study Report on Agriculture Development Plan	○ ○	FMWR (FMARD) FAO, UNDP, W/13, etc.	(No.1, No.2, No.3, No.44, etc.) (Geography of Nigeria)
A7-5 Other Related Data	○		

A8 Electric Power

Item	Availability Conf.	Availability Obt.	Source	Remarks
A8-1 National Electric Power Development Plan	○	○	FMWR. (NEPA) FMOP	No1. No43. No44.
A8-2 National Hydropower Supply Program	○	○	FMWR. (NEPA) FMOP	No1. No2. No43. No44
A8-3 Present and Future Demand by Area a) Average Demand c) Peak Demand	○	○	(NEPA)	
A8-4 Existing Future Generation System a) Hydropower b) Fuel Thermal c) Others	○	○	FMOP. (NEPA)	No43. No44. (No1. No2)
A8-5 Existing and Future Transmission System	○	○	(NEPA)	
A8-6 Standard Construction Cost a) Power Station b) Transmission	○	○	(NEPA)	
A8-7 Standard Electric Charge	○	○	(NEPA)	
A8-8 Institutional System of Electric Supply (incl. O&M of Facilities)	○	○	(NEPA)	
A8-9 Data Bank System for Electric Power Development	○	○	(NEPA)	
A8-10 Previous Study Report on Electric Power Development	○	○	(NEPA)	
A8-11 Other Related Data	○	○	(NEPA)	

A9 Flood Control

Item	Availability Conf.	Availability Obt.	Source	Remarks
A9-1 Organization and Budget for Flood Control a) National Level b) Regional Level	0	0	FMWR. RBDAs	No1. No3.
A9-2 Past Flood Disaster by Each River System a) Inundation Area b) Damaged Item And Quantity c) Rainfall and Discharge(above Flooding)	?		FMWR. RBDAs	
A9-3 Existing Flood Control Works by River System a) National Project b) Regional Project	0	0	FMWR. RBDAs	No1. No3.
A9-4 Future Flood Control Plan by River System a) National Project b) Regional Project	0	0	FMWR. RBDAs	No1. No3.
A9-5 Previous Study Report on Flood Control	?		FMWR. RBDAs	(No1/4/88)
A9-6 Other Related data	0			

A10 Industry

Item	Availability Conf. Obt.	Source	Remarks
A10-1 Present Industry a) Location Map b) Production Item & Quantities	○	FMMP (GNSN) FMBP	No 34 No 43. No 44. Geography of Nigeria.
A10-2 Future Industry Plan	○	FMBP	No 43. No 44.
A10-3 Present & Future Water Demand for Industrial Water	○	FMWR	No 1. No 2. (No 3) Geography of Nigeria.
A10-4 Standard Charge of Industrial Water	○	FMWR.	
A10-5 Previous Study Report on Water Use of Industry	○	FMWR.	(No 1 Page 2)
A10-6 Other Related Data	○		

All Ecology and Environment

Item	Availability Conf.	Availability Obt.	Source	Remarks
All-1 Present ecological and Environmental Problems and Counter-measures relating to Water Resources Development a) Water Pollution b) Fish and Wild Life c) Vegetation d) Serious Epidemic Disease	○	△ ○	FMBP. FMWR	Geography of Nigeria No1. No43. No45.
All-2 National Standard for Environment	?			
All-3 Location Map of National Park and Game Preserve		○		No28. No35. etc
All-4 National Forestry Plan	○	○	FMBP	No43. No44.
All-5 Previous Study Report on Environmental Conservation	○			(No1/1/82)
All-6 Other Related Data	○			

A12 Others

Item	Availability Conf.	Availability Obt.	Source	Remarks
A12-1 Organization of Government (Federal & States)		○	FMWR	No1.
A12-2 Organization of Water Resources		○	FMWR	No1.
A12-3 Low, Regulation and Local Rule relating to Water Resources Development	○	○	FMWR	No1. Nos.
A12-4 National Budget in past 5 years	○	○	FMBP	No43
A12-5 National Plan of Transportation		○	FMWH	No13. No28
a) Existing Road Network	○	○	FMBP	No43. No45
b) Future Plan under City Plan				
A12-6 List of Governmental and Private Company & Required Job Cost (Table-A14)	○			
a) Drilling & Pumping Test	○			
b) Survey	○			
c) Geophysics	○			
d) Water Quality Analysis	○	○	NWRI	No22
e) Engineering & Consulting	○			
f) Construction	○			
A12-7 Local Cost (Table-A15)	○	○		
A12-8 Labour Cost (Table-A16)		○		
A12-9 Other Related Data	○	○		

5. 収集資料リスト

資料リスト (収集資料)

様式第1号

番号	資料の名称	形態	版型	ページ数	オリジナル コピーの別	部数	収集先名称又は発行機関	寄贈・購入 (価格)の別
1	Collation of data of National Water Resources M/P, FMWR.Feb.1991	製本	A4	162	オリジナル	1	FMWR	寄 贈
2	Draft Copy of NWRMP by FMWRX FAD(1985)		A4	250	コピー	1	FMWR	コピー代 # 250
3	Monitoring of RBDAs Annual Rep. in Nigeria	製本	A4	210	オリジナル	1	FMWR	寄 贈
4	Inventory of Irrigation Scope (1985)		A4	φ3 190	コピー	1	FMWR	コピー代 # 190
5	Draft NWR Decree		A4	16	コピー	1	FMWR	コピー代 # 16
6	3-Year Rolling Plan(92-94) Madejia-Tama RBDA		A4	52	コピー	1	FMWR	寄 贈
7	Drainage Map of Nigeria(1/2百万)		A1		コピー	1	FMWR	コピー代 # 12
8	Hydrological Area Map(1~8)		A4	8	コピー	1	FMWR	} コピー代 # 10
9	同上 Stationリスト		A4	11	コピー	1	FMWR	
10	同上観測のdataの1例(from data Base)		A4	8	コピー	1	FMWR	寄 贈
11	州別人口一覽表(1963,1985,1987)		A4	2	コピー	1	FMWR	寄 贈
12	FMWRのData Base System現状		A4	4	コピー	1	FMWR	寄 贈
13	Spectrum Road Map Nigeria(1/150万)				オリジナル	+3 1	Spectrum Books Ltd	# 40
14	Map of Abuja				オリジナル	+1 1	Giftshop (ヒルトンホテル)	# 25
15	Abuja ガイドブック		B5	44	オリジナル	+1 1	同 上	# 40
16	Agricultural Policy for Nigeria. I/S/P (Jan.,1988)		A4	273	コピー	1	FMARD	コピー代 # 273
17	FDWR/EOF Water Resources Project Final Report Volume I (July 1986)		A4	180	コピー	1	NWR I	寄 贈
18	同上 Volume II Borende completion Report		A4	97	コピー	1	NWR I	寄 贈
19	同上 Volume III Geophysical Data		A4	89	コピー	1	NWR I	寄 贈
20	Hydrometric stations in Hydrological Area (1/2,000,000)		A3	2	コピー	1	NWR I	寄 贈
21	Hydrometeorological Data Yearbook (1978-1980) 16/4/91	製本	A4	157	コピー	1	NWR I	寄 贈

資料リスト (収集資料)

様式第 1 号

番号	資料の名称	形態	版型	ページ数	オリジナル コピーの別	部数	収集先名称又は発行機関	寄贈・購入 (価格)の別
22	Water Quality Analysis information NWRI April ~August 1991		A4	2	コピー	1	NWRI	寄 贈
23	Water News FMWR		A4	12	コピー	1	FMWR	"
24	NWRIのデータベース及びリモセン解析システムの現状 (Requition)		A4	2	コピー	1	NWRI	"
25	Effective Management of River Basin by Use of Spot Imagery (1990)		A4	20	コピー	1	NWRI	} コピー # 14
26	NWRI a GIS情報 (4通)		A4	(1式)	コピー	1	NWRI	
27	Progress of Sheet Mapping 1/100,000 GSN 1899b				コピー	1	GSN	コピー # 20
28	Road & Administrative Map (30 州) 1/2,000,000 1991				オリジナル	1	Satode Cartographic Consultant	# 45
29	The Distribution and Chemical Quality of Ground water in N. Nigeria (1/2,000,000)	製本	A4	91	オリジナル	1	FMWP GSN	# 45
30	Geological Map of Nigeria 1984				オリジナル	1	"	# 20
31	Geological Map of Nigeria 1/250,000 Sokoto				オリジナル	1	"	# 10
32	同上 1/250,000 Ibadan				オリジナル	1	"	# 10
33	Fracture Map of Nigeria 1/2,000,000 1986				オリジナル	1	"	# 20
34	Mineral Map of Nigeria 1/2,000,000 1988				オリジナル	1	"	# 20
35	Administrative Map of Nigeria 1/2,000,000				オリジナル	2	Federal Surveys	#100 (50×
36	Kano State Map 1/500,000				オリジナル	1	"	# 30
37	Kaduna State Map 1/500,000				オリジナル	1	"	# 50
38	1/250,000 地形図 Abuja				オリジナル	2	"	# 20(10×
39	1/100,000 地形図 Kakuri Kafanchan (Paduna avce)				オリジナル	2	"	# 20(10×
40	1/50,000 地形図 Abuja SW, Abuja NE				オリジナル	2	"	# 20(10×
41	Nigeria City Map 1/5,000 Zaria, (航空写真 Map) カラー				オリジナル	1	US Army Topography- cal Command	# 30
42	Climatological Map Nigeria & サンプルデータ		A4	9	プリント	1	FMA PDMS	コピー #

資料リスト (収集資料)

様式第 1 号

番号	資料の名称	形態	版型	ページ数	オリジナル コピーの別	部数	収集先名称又は発行機関	寄贈・購入 (価格)の別
43	Guidelines for the National Rolling Plan 1990-1992	製本	B5	128	オリジナル	1	FMBP Planning Office	＃ 10
44	First National Rolling Plan 1990-92, Vol. II Part A	"	"	702	"	1	"	＃ 25
45	同上 Vol. II Part B	"	"	2250	"	1	"	＃ 25
46	Statistical News No.155 External Trade 1990		A4	4	コピー	1	Federal Office of Statistics	寄 贈
47	同上 August, 1991 No.157 Consumer Price Index:		A4	6	コピー	1	"	"
48	GDP(81~90) その他経済資料		A4	4	コピー	1	"	"
49	Summary of Balance of Payment Nigeria (1981~90)		A4	1	コピー	1	"	"
50	Nigeria Total Exp. & Imp. (1981~90)		A4	1	コピー	1	"	"
51	Statistic of Selected Economic Indicators (1981~90)		A4	1	コピー	1	"	"
52	1/500,000 地形図サンプル Sheet 14				オリジナル	1	Federal Survys	＃ 10
53	1/1,000,000 地形図(全国)				オリジナル	1	"	＃ 50
54	Nigeria Under Structural Adgustment (Efiong Essieu)	製本	B5	307	オリジナル	1	Fountain Publications Ibadan Nigeria	＃ 130
55	Africa Embattled (Nigerian Economy etc.) (Olusegun Obasanjo)	"	"	118	"	1	"	＃ 45
56	Partitioned Africans (A. L. Asiwa)	"	A5	275	"	1	University of Lagos Press	＃ 30
57	Achieving Even Development in Nigeria (E. J. Nwasu)	"	"	454	"	1	University of Nigeria Enug Campus	＃ 90
58	Borderlands in Africa (Nigeria & west Africa)	"	"	436	"	1	University of Lagos Press	＃ 120
59	Challauges of Nigerians Economic Reform (Oladele Olashore)	"	"	331	"	1	Typesat by Wemilore Press(Nigo) Ltd., Ibadon	＃ 140
60	Nigeria Handbook 1991	"	"	433	"	1		
61	Winnay Lages street Atlas	"	"	147	"	1	Macmillon Publishers	＃ 60

6. 面会者リスト

○在ナイジェリア日本大使館

- ・黒河内 康 特命全権大使
- ・林 渉 参事官
- ・別井 弘始 二等書記官

○MINISTRY OF FINANCE AND ECONOMIC DEVELOPMENT

Mr. J. C. CHALOKWU – Deputy Director, Development Aid Div.

Mr. A. A. Aderinto – Asst. Chief Finance Officer,

OTHER AGENCIES

- 19. Engr. A.A. Lawal - Executive Director,
(NRBDA), Minna.
- 20. Mr. S.A. Ayorinda - Deputy Director,
Fed. Min. of Industries,
Abuja.
- 21. Dr. O.A. Bamgboye - Deputy Director,
National Water Resources Institute
Kaduna (NWRI).
- 22. Mr. S.A. Ettu - Head, Meteorology,
MET., Lagos.
- 23. Engr. O.B. Folowosele - Chief Engineer,
Niger River Basin Development
Authority (NRBDA), Minna.
- 24. Mr. F.C. Ojimba - Rep. of Fed. Fept. of Inland
Waterways, Lokoja.
- 25. Mr. C.O. Nwuna - Rep. of Dept. of Agric.,
Land Resources, Abuja.
- (1) M. O. Idowu - Project Coordinator, Federal
Ministry of Health.
- (3) Mr. C. O. Nwnne - Soil Scientist, Department of
Agricultural Land Resources, Federal
Ministry of Agriculture.
- (10) Engr. A.F. Akinbiwu - Deputy Director,
Fed. Min. of Industries,
Abuja.

FEDERAL MINISTRY OF WATER RESOURCES MINISTER

1. Prof. S. Mustafa - Special Adviser to Honourable Minister
2. Engr. Dr. F.I. Soribe - Director Planning, Research
Statistics (PRS)
3. Mr. J.A. Hanidu - Directo Hydrology & Hdrogeology (H/H)
4. Engr. M.H. Ibrahim - Director Irrigation & Drainage (I&D)
5. Engr. S. Mohmood - Director Dam & Reservoir Operation (D&RO)
6. Dr. D. T. Gowon - Director of Erosion & Flood Control.
7. Mr. P. I. Yakowa - Director of Finance & Supplies.
8. Engr. R.D. Abubakar - Dep. Director Water Supply and
Quality Control (WS&QC)
7. Engr. J.A. Akinola - Dep. Director (PRS)
8. Engr. C.O. Adegbilero - Asst. Director (PRS)
9. Mr. J.A. Otokiti - Asst. Director (PRS)
10. Dr. E.A. Adanu - Chief Planning Officer (PRS)
11. Mr. A. Aletan - Chief Hydrogeol. WS&QC)
12. Mr. J.A. Shamonda - Asst. Chief Hydro (H/H)
13. Mr. C.O. Obidike - Asst. Chief Hydro. (PRS)
14. Mr. P.E. Ibeka - " " " "
15. Mr. N.C. Nwosu - " " " "
16. Dr. J.A. Oguntola - Princ. Planning Officer (PRS)
17. Mr. A. Fasoranti - Irrigation Engr. (I&D)
18. Mr. N.E. Nnenanya - Research Officer (PRS)

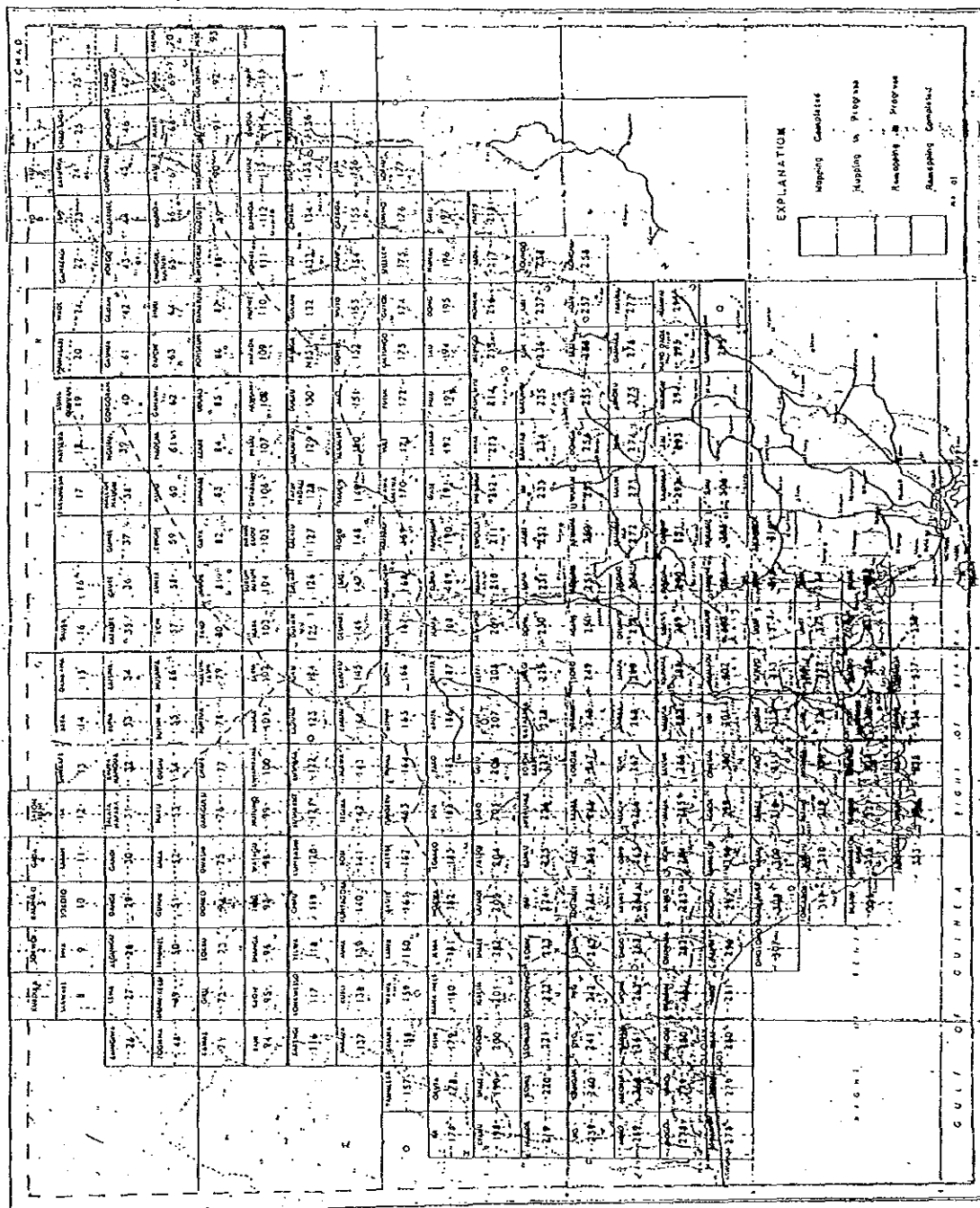
7. ナイジェリア地形図索引

PROGRESS OF SHEET MAPPING
SCALE 1:100,000

ナイジェリア国地形図索引
(1/100,000, 1/50,000)

ナイジェリア国における
地形図の整備状況

1/25,000 1.0%
1/50,000 76.4%
1/100,000 61.2%
1/250,000 35.8%



G.S.N. 16496

JICA