1. IDENTIFICATION STAGE

(1) Investigation into Social, Economic and Financial Background and Power Situation

Investigations and data collection concerning social, economic and financial conditions and the existing power facilities, load forecast and power source development programmes.

(2) Comparative Layout Studies

Comparative studies of the previous development plans, based upon the existing topographic maps and relevant data.

(3) Site Reconnaisance

(a) Site reconnaissance in the vicinities of Sri Aman, Limbang, Sarikei and Kapit.

(b) Ground surface surveys on topography and geology of probable dam sites including reservoir areas, power station sites, switchyards and quarry sites.

(c) Surveys on a transportation programme

(d) Preliminary hydrological study.

(4) Selection of the Optimum Site(s) and Preparation of a Field Investigation Programme

(a) Selection of the Site(s)

Preliminary layout studies of several potential sites will be conducted. Based on these studies, preliminary layout design shall be prepared which include determination of the power capacity, recommendations concerning key dimensions, size and type of all structures, the numbers of generating units, the main characteristics of the electrical and mechanical plant, including the transmission system. Then, construction costs of the respective sites will be estimated on the basis of these preliminary layout design, and costs and benefits will be examined. Selection of one optimum site, among the potential sites, which will meet the existing and forecast load demand for each of the four selected areas viz. Sri Aman, Limbang, Sarikei and Kapit, shall be made.

(b) Preparation of a Field Investigation Programme

The programme of the field investigation works on the optimum site(s) will be prepared.

The field investigation works will include topographic surveys, seismic prospecting, drilling works and field/laboratory tests.

(5) Site Confirmation

Following conditions shall be satisfied with a view to proceed to the Field Investigation Stage and Feasibility Design Stage.

(i) The Government of Malaysia shall then identify the best site(s) (hereafter referred to as the "selected site(s)" out of these optimum sites in consultation with JICA for the next stage of the Study.

(ii) Signing of the Minutes of Meeting between JICA and the Government of Malaysia which will include the name(s) of the selected site(s) and a tentative time schedule of the Field Investigation Stage.

2. FIELD INVESTIGATION STAGE

Based upon the results of studies at the Identification Stage, the subsequent works will include the following:

(1) Topographic Surveys

Ground survey on the selected sites of dam, spillway, headrace, power station, tailrace, switchyard and quarry, including the installation of survey posts and bench marks.

Aerophotograph mapping will also be conducted if so found necessary at the Identification Stage.

(2) Geological and Material Survey

(a) Seismic Prospecting

Seismic prospecting on the selected sites of dam, spillway, headrace, power station and quarry.

(b) Drilling Works

Drilling works and permeability tests on the selected sites of dam, spillway, headrace, power station, tailrace and quarry.

(c) Trench Excavation

Geological investigation by trench excavation and collection of soil and/or rock materials on the selected sites of dam, spillway and quarry.

(d) Test Pitting

Collection of investigation materials by test pitting on the selected sites of concrete aggregates, quarry if necessary and river-bed materials.

(e) Field/Laboratory Tests

Mechanical tests of fill materials, soil tests, concrete aggregate tests, bed-rock mechanical tests and water quality tests.

(3) Hydrological Survey

(a) Siting of hydrological observation stations (rainfall gauging stations, water level gauging stations and discharge observation stations).

(b) Actual measurement of discharge, sediments at the installed discharge observation stations.

(c) Hydro-meteorological study on flood/drought, run-off and sediments.

(4) Power Market Survey

All the available power and energy demand forecasts would be reviewed and on the basis of available data relating to population growth and development proposals, load forecasts up to the year 2010 would be projected.

A planting programme for the selected project(s) to meet the demand would be formulated taking into consideration all other proposed power developments for the period.

(5) Investigation and study of substations and transmission lines from power stations to the closest substation proposed.

(6) Study of social and environmental problems.

(7) Investigation of access road and transportation.

(8) Investigation of the houses, roads, land and rights to be submerged in the reservoir, and recommendation and compensation thereof.

3. FEASIBILITY DESIGN STAGE

Based upon the results of the studies at the Field Investigation Stage, the subsequent works will include the following:-

(1) Study and Review of a Power Generating Scheme

(a) Study and review of a power generating scheme and study of optimum operation of the power stations for the existing and forecast demand.

(b) To ascertain the timing, staging and phasing of the development of the selected project(s) taking into account of the Sarawak Electricity Supply Corporation's (SESCO) generation and transmission lines expansion plan.

(2) Feasibility Design

The design work shall include the following:

(a) Diversion works;

(b) All principal structures of civil works such as dam, power station and appurtenant works;

(c) All hydraulics steel structures;

(d) Electro-mechanical equipments;

(e) Infrastructure works;

(f) Temporary construction facilities;

(g) Transmission line routes; and

(h) Transmission line structures.

(3) Cost Estimation

The cost estimation of the various components of the selected project(s) will be broken down into local and foreign currency costs. The schedule of yearly disbursement will be prepared.

(4) Construction Plan for Implementation of the Selected Project(s)

Preliminary design and construction works schedule would be prepared for the various stages of implementation of the selected projects up to the date of commercial operation of the generating plants. The schedule would detail all phases of construction planning including detailed site investigation, and design and preparation of tendering documents to cover a contract for the civil works, an electrical and mechanical contract and a transmission lines contract.

(5) Economic and Financial Analysis of the Selected Project(s)

Economic analysis will be carried out for power generation. The economic analysis will include computation of the capital cost and operation and maintenance costs, examination and economic analysis of alternative power sources, project analysis from the view-point of national economy, cost-benefit analysis, calculation of economic rate of return and sensitivity analysis.

Financial analysis will include determination of financial capital costs, cash flow, evaluation of financial internal rate of return.

IV. STUDY SCHEDULE

The Study will be conducted in accordance with the tentative time schedule as shown in Appendix I.

V. REPORTS

1. The Government of Japan will prepare and submit the following reports in English to the Government of Malaysia:

   (1) Inception Report

   30 copies within 1 month after commencement of the Study.

   (2) Progress Report

   30 copies at the end of every other month.

   (3) Interim Report and Technical Specifications

   30 copies within 4 months after commencement of the Study.

   (4) Draft Final Report

   30 copies within 19 months after commencement of the Study.

   (5) Final Report

   80 copies within 2 months after receiving comments from the Government of Malaysia on the Draft Final Report.

2. The Study team should ensure that all data, information, maps, materials and findings connected with the Study are kept confidential and not disposed of or revealed to any third party except with prior written consent of the Government of Malaysia. Such maps and aerial photograph are to be returned to the Government of Malaysia immediately upon completion of the Study. All reports when finalized and submitted to the Government of Malaysia shall remain the property of the Government of Malaysia.

VI. TECHNICAL UNDERTAKINGS

The division of technical undertakings by the Government of Japan and the Government of Malaysia is detailed in Appendix II.

VII. UNDERTAKINGS OF THE GOVERNMENT OF MALAYSIA

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

   (1) To inform the members of the Japanese Study team of any existing risk in the Study area and to take any measures deemed necessary to secure the safety of the Study team.

   (2) To secure the necessary entry permits for the Japanese Study team to conduct field surveys in Malaysia and exempt them from consular fees.

   (3) To exempt the members of the Japanese Study team from taxes and duties, as normally accorded under the provision of Malaysian General Circular No. 1 of 1979, on equipment, machinery and other materials brought into and out of Malaysia for the conduct of the Study.

   (4) To exempt the members of the Japanese Study team from Malaysian income tax on their official emoluments in respect of their period of assignment in Malaysia in connection with the conduct of the Study but the Government of Malaysia shall retain the right to take such emoluments into account for the purpose of assessing the amount to be applied to income from other sources.

   (5) To provide the necessary facilities to the Japanese Study team for remittance as well as utilization of funds introduced into Malaysia from Japan in connection with conduct of the Study.

   (6) To secure permission for entry into private properties or restricted areas for the conduct of the Study.

   (7) To provide the Japanese Study team with medical services when needed but the expenses will be chargeable to the members of the Japanese Study team.

   (8) To make arrangements for the Study team to take back to Japan the data, maps and materials connected with the Study, subject to the approval of the Government of Malaysia in order to prepare the reports.

   (9) To facilitate prompt clearance through customs and inland transportation where possible, of equipment, materials and supplies required for the Study.

   (10) To indemify any member of the Japanese Study team in respect of damages arising from any legal action against him in relation to any act performed or omissions made in undertaking the Study except when the two Governments agree that such a member is guilty of gross negligence or wilful misconduct.

(11) To nominate SESCO to act as counterpart agency to the Japanese Study team and the Economic Planning Unit as the main coordinating body in relation with other governmental and non-governmental organisations concerned.

(12) At its own expense to provide the Japanese Study team with the following:

(a) Available relevant data and information relating to the Study.

(b) Counterpart personnel to the Study team during the Study period.

(c) Suitable office space with necessary office equipment both in Kuching and in the vicinity of the Study site.

(d) Credentials or identification cards.

(e) Adequate means of local transport for official travel only.

(f) Any other necessary communication facilities during the course of the Study, such as telephone, telex, transceivers etc.

(g) Clearing of paths for execution of field survey, geological survey and drilling work on the Project area.

(h) Necessary labour for the Study.

VIII. UNDERTAKINGS OF THE GOVERNMENT OF JAPAN

In order to conduct the Study, the Government of Japan shall take the following measures.

(1) To despatch, at its own expense, Study teams in relevant fields to undertake the Study in Malaysia.

(2) To meet the cost of accomodation and housing expenses for the Japanese Study team during their period of assignment in Malaysia.

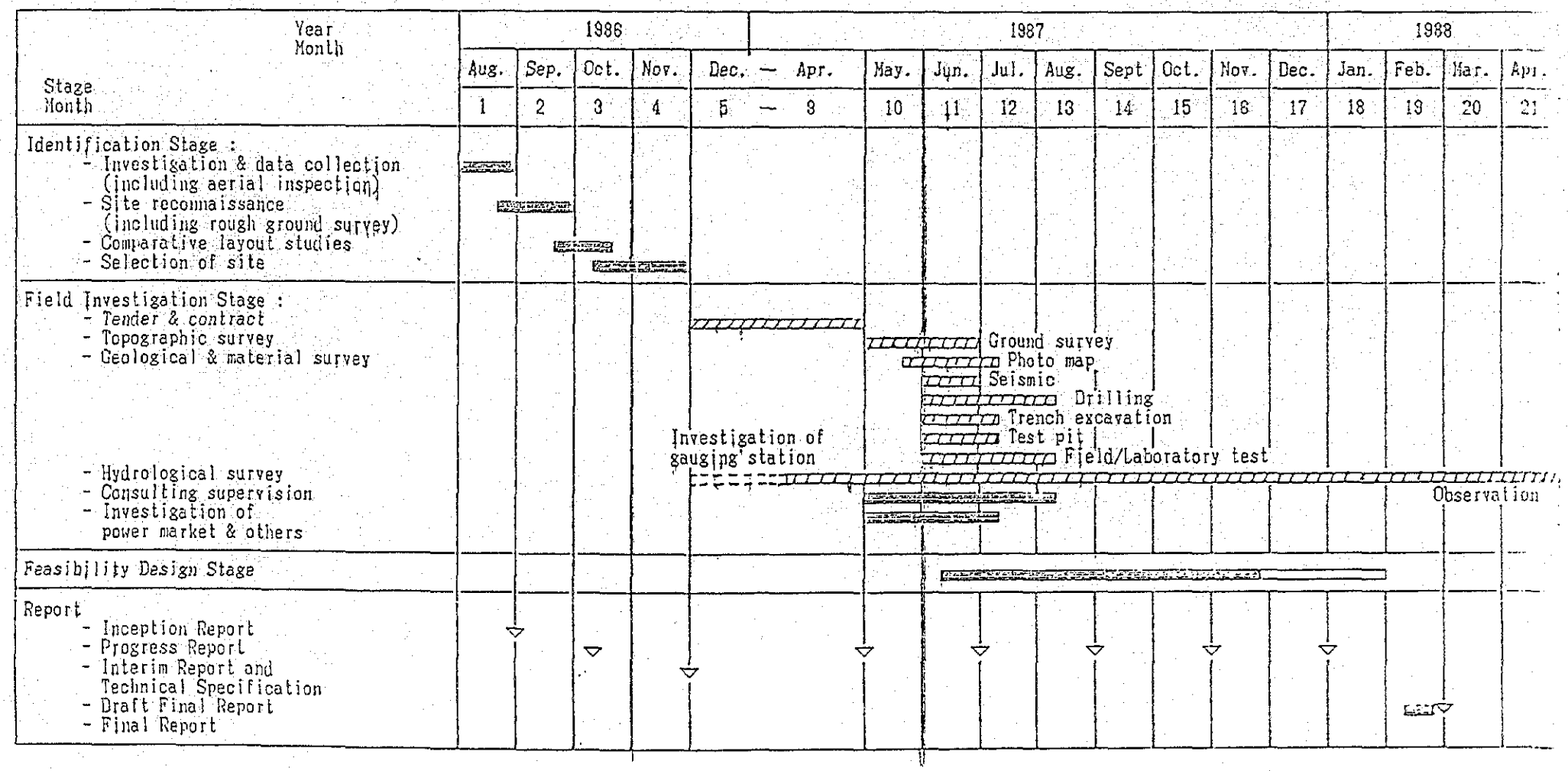
(3) To perform technology transfer to the Malaysian counterpart personnel during the course of the Study.

(4) To give consideration to accept Malaysian counterpart personnel for training in Japan.

IX. CONSULTATION

The Government of Japan and the Government of Malaysia shall consult with each other in respect of any matter that is not agreed upon in this document and may arise from or in connection with the Study.

Appendix I : Tentative Time Schedule for Feasibility Study of Sarawak Small Scale Hydroelectric Power Development Project



Appendix II

Technical Undertakings by the Government of Japan and the Government of Malaysia for Feasibility Study of Sarawak Small Scale Hydroelectric Power Project

Working Items	Undertakings by the Government of Japan togther with SESCO counterparts	Undertakings by the Government of Malaysia
1. Site reconnaissance	1. Site reconnaissance	1. Provision of counterpart engineers and laborers for guidance, clearing of paths, and transport facilities
2. Topographic survey 2.1. Aerial survey and mapping	1. Programming 2. Preparation of specifications 3. Check and decision of control points 4. Supervision of aerial topographic survey	1. Provision of assistants and laborers for aerographic survey 2. Carrying out of the following items by contracting with local contractor(s) (1) Survey of control points (2) Aero-photographing (3) Aerial triangulation (4) Provision of films/maps (5) Aerographic mapping on the scale of 1:5000 for the project site and 1:5000 for the dam site
2.2. Ground survey	1. Programming 2. Preparation of specifications 3. Determination of locations 4. Supervision of ground survey 5. Despatch of a ground survey advisor	1. Provision of assistants and laborers for ground survey 2. Provision and ascertaining of height at the bench mark available in the nearest terminal to the site 3. Carrying out of ground survey by contracting with local contractor(s) 4. Production of survey maps on the scale of 1:500 for the dam site and other main structures' sites, if necessary

Working Items	Undertakings by the Government of Japan together with SESCO counterparts	Undertakings by the Government of Malaysia
3. Geological investigation 3.1. Drilling work and permeability tests	1. Preparation of specifications 2. Selection of drilling locations 3. Geological assessment of boring cores 4. Supervision of geological investigations 5. Despatch of supervisors for drilling work and permeability tests	1. Provision of laborers and technical assistants 2. Carrying out of drilling works and permeability tests by contracting with local contractor(s)
3.2. Seismic prospecting	1. Programming 2. Identification of locations of the area 3. Supervision of seismic prospecting 4. Despatch of an expert in seismic prospecting 5. Analysis of data	1. Provision of laborers for seismic prospecting 2. Carrying out of necessary topographic surveys 3. Provision of explosives for seismic prospecting 4. Provision of technical assistants and guards of powder magazine(s) 5. Provision of powder magazine(s) 6. Carrying out of recording
3.3. Trench and pit excavations	1. Programming 2. Preparation of specifications 3. Determination of location 4. Supervision of trench and pit excavations 5. Geological assessment of results of trench and pit excavations	1. Carrying out of trench and pit excavation

Working Items	Undertakings by the Government of Japan together with SESCO counterparts	Undertakings by the Government of Malaysia
3.4. Field/laboratory tests	1. Programming 2. Preparation of specifications 3. Identification of location for sampling 4. Despatch of an expert 5. Analysis of data	1. Carrying out of the following items by contracting with local contractor(s) (1) Provision of laborers for sampling and local transport of sampled materials (2) Preparation of testing devices (3) Carrying out of tests
3.5. Preparation of geological maps	1. Field reconnaissance 2. Geological assessment based on results of field geological explorations 3. Preparation of geological maps	1. Provision of the existing available data on geology and the past earthquake in the vicinity of the Study area
4. Hydrological investigation (including water quality and sedimentation, flood and drought studies)	1. Planning of hydrological measurement 2. Analysis of data	1. Provision of available hydrological data 2. Installation of measuring instruments 3. Observation and recording 4. Provision of laborers for sediment sampling
5. Load demand and transmission studies	1. Review and analysis of previous studies 2. Preparation of demand forecast and Power development program	1. Provision of previous studies on potential load demand and transmission requirement
6. Land use, social and environmental surveys	1. Carrying out of surveys	1. Provision of relevant data 2. Provision of assistants and laborers for surveys

SCOPE OF WORK

FOR

THE FEASIBILITY STUDY

ON

THE ESTABLISHMENT OF INTEGRATED TEXTILE MILL

IN

KINGDOM OF NEPAL

AGREED UPON BEWTEEN

MINISTRY OF INDUSTRY,

HIS MAJESTY'S GOVERNMENT OF NEPAL

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

KATHMANDU, DECEMBER 18, 1985

S.P. SHARMA	TOSHIKAZU MIURA
JOINT SECRETARY,	LEADER,
MINISTRY OF INDUSTRY,	PRELIMINARY STUDY TEAM,
HIS MAJESTY'S GOVERNMENT OF	JAPAN INTERNATIONAL COOPERATION
NEPAL	AGENCY

I. INTRODUCTION

In response to the request of His Majesty's Government of Nepal (hereinafter referred to as "HMG/N"), the Government of Japan decided to implement the Feasibility Study (hereinafter referred to as " the Study") on the Establishment of Integrated Textile Mill (hereinafter referred to as "the Project") in accordance with the relevant laws and regulations in force in Japan.

Accordingly, 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 of HMG/N.

Ministry of Industry (hereinafter referred to as "MOI") shall be executing agency and shall act as counterpart agency to the Japanese side for the Study and also coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

The present document sets forth the Scope of Work with regard to the Study.

II. OBJECTIVE OF THE STUDY

The objective of the Study is to examine the technical, economic and financial feasibility on the establishment of an integrated textile mill in the Kingdom of Nepal.

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III. SCOPE OF THE STUDY

In order to achieve the above objective, the study will cover the following items:

1. Review on the Background of the Project

   1) The present situation of and policy on the economic developments and industrialization in Nepal

   2) The present situation of and policy on fiber and textile in Nepal

      (1) Supply and demand of fiber and textile

      (2) Trend of consumption of fiber and textile

      (3) Review of existing textile mills

   3) The relation of the Project with the national and regional development plans

      The present situation and future plan of demand and supply of fiber and textile

      The present situation of and policy on manpower development programme and required technical skill for the Project such as engineers, technicans and labourers for the operation and maintenance of the mill

      The revelant laws, regulations and investment incentives

2. Study on the Detailed Fiber and Textile Market in Nepal

1) The present and past supply and consumption; Natural (Silk, Wool and Cotton) and Chemical (Rayon, Nylon, Polyester, Acrylic and Others) Staple Fiber, Filament Yarn and Fabrics

2) The present and past situation of import and its cost

3) The trend and structure of price

4) The potential demand and constraints in the consumption growth of fiber and textile

5) The projection of demand and pricing in the coming (tentative) ten years

6) The marketing and distribution system

7) The cost and channel of transport and distribution from the manufacturing site to the major market area

8) The garments industry

3. Study on the Raw Materials for the Project

1) The possibility of raw material supply such as cotton, synthetic fiber and others

(1) The present situation of supply (import, production, export, quality, price and delivery)

(2) The future demand and supply projection

(3) The agricultural development plan for cotton

(4) The pricing, procurement and distribution of the raw materials

2) The suppliability of chemicals, dyestuff and the consumbles for the Project

3) The suppliability of materials for packaging and other inputs

4. Study on the Project Location and Site (Nepalgunj/Dang Area)

1) The potential sites, selection criteria and evaluation method of the sites

2) The natural conditions of the site and its surrounding area focusing on meteorology, geology and topography

3) The utilities and infrastructure such as electricity, fuel, water, transportation and communication

4) The regional development plan

5) The selection of the plant site based on the results of the survey on the availability of raw materials, utilities, marketing, infrastructure and other factor

6) The conditions of transportation of equipment and machinery, and its installation works

5. Basic Plan and Conceptual Design of the Facilities for the Project

1) The comparison of product mix, process and determination of the most suitable process configuration

2) The examination and determination of production scale

3) The fundamentals and major preconditions of conceptual design including list of major equipment

4) The process flow sheet

5) The layout of the mill (including auxiliary and common facilities)

6) The implementation programme of the construction and operation

7) The transport plan of equipment and machinery, and materials for the construction

8) The operation plan of the mill

9) The organization and manpower plan for the mill construction and operation including marketing and managerial aspects

10) The marketing and distribution system of the product mix

6. Study on Environmental Protection

7. Financial Analysis of the Project

1) The capital requirements

(1) Fixed capital (land, plant construction, auxiliary and common facilites, pre-operation cost including training cost, consultancy fees, contigencies and interest during construction)

(2) Working capital

(3) Investment schedule

2) The procurement of capital

3) The production and sales projection

4) The operating and production cost statements

5) The income statements

6) The fund flow statements

7) The profitability and financial indicators

8) The sensitivity analysis of major component variations of the Project

8. Economic and Social Evaluation of the Project

9. Conclusion and Recommendations

IV. STUDY SCHEDULE

The whole works for the Study will be conducted in accordance with the tentative time schedule

as shown in Appendix.

V. REPORTS

JICA shall prepare and submit the following reports in English to HMG/N:

1. Inception Report: 10 copies

2. Progress Report: 10 copies

3. Draft Final Report (including its Summary): 15 copies

4. Final Report (including its Summary): 30 copies

VI. UNDERTAKING OF HMG/N

To facilitate smooth conduct of the Study, HMG/N shall take the following necessary measure:

1. To secure the safety of the member of the Study team

2. To permit the members of the Study team to enter, leave and sojourn in Nepal for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees

3. To exempt the members of the Study team from taxes, duties and any other charge on equipment, machinery and other materials brought into and out of Nepal 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 emolument or allowance 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 Nepal from Japan in connection with the implementation of the Study

6. To secure permission for entry into private properties or if necessary restricted areas for the conduct of the Study

7. To secure permission to take all data and documents (including photographs) related to the Study out of Nepal to Japan by the Study team

8. To provide medical services as needed. Its expenses will be chargeable on the members of the Study team

9. HMG/N shall bear claims, 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 Study team.

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10. MOI shall, at its own expense, provide the Study team with the followings, in cooperation with other relevant organizations:

1) Available data and information related to the Study

2) Counterpart personnel

3) Suitable office space with necessary equipment

4) Credentials or identification cards

5) Adequate means of local transport

6) Any other necessary communication facilitites during the course of the Study such as telephone, telex, and others

VII. UNDERTAKING OF JICA

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

1. To despatch, at its own expense, the Study teams to Nepal

2. To pursue technology transfer to the Nepalese counterpart personnel in the course of the Study

VIII. CONSULTATION

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

Appendix TENTATIVE SCHEDULE OF THE STUDY

Year	1986											
Project Month	1	2	3	4	5	6	7	8	9	10	11	12
Calendar Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Preparatory Office Works												
Field Works												
Presentation of Inception Report												
Presentation of Progress Report												
Home Office Works												
Presentation of Draft Final Report												
Home Office Works												
Submission of Final Report												

Notes: : Works in Japan

: Works in Nepal

MINUTES OF MEETING

Japanese Preliminary Survey Team (the Team) sent by Japan International Cooperation Agency (JICA) and Ministry of Industry, HMG/N (MOI) exchanged views and had a series of discussions during the period from December 8 to 18, 1985 on the Scope of Work (S/W) for the Feasibility Study on the Establishment of Integrated Textile Mill in the Kingdom of Nepal.

As a result of the discussions, both parties agreed with the S/W attached hereto as Annex.

Further, the following points were elaborately discussed between JICA and MOI.

1. Regarding to the Article 4.1) of Item III of the S/W

   (1) The expected areas of the Project location and site are pointed out as Nepalgunj/Dang area.

   (2) Before JICA Study team comes to Nepal, the Nepalese side shall point out some potential sites in the above area.

   (3) At the stage of the Progress Report from the Study team, both sides shall select one site among them for the Study of the next stage.

2. Regarding to the Article 10.5) of Item VI of the S/W

   Nepalese side understands that MOI will take necessary measures to arrange local transportation

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for the Study team and its expenses will be directly borne by the Study team.

3. Regarding to the Article 2. of Item VII of the S/W

Technology transfer being an important aspect in strengthening the capabilities of the Nepalese counterpart personnel, Nepalese side requested to Japanese side to provide with training programme in Japan for the counterpart personnel of the Study.

Kathmandu, December 18, 1985

S.P. SHARMA
JOINT SECRETARY,
MINISTRY OF INDUSTRY,
HIS MAJESTY'S GOVERNMENT OF NEPAL

TOSHIKAZU MIURA
LEADER,
PRELIMINARY STUDY TEAM,
JAPAN INTERNATIONAL COOPERATION AGENCY

SCOPE OF WORK

FOR

MINERAL EXPLORATION

IN

THE KHUZDAR AREA OF BALUCHISTAN IN

THE ISLAMIC REPUBLIC OF PAKISTAN

AGREED UPON BETWEEN

THE GEOLOGICAL SURVEY OF PAKISTAN

AND

THE JAPAN INTERNATIONAL COOPERATION AGENCY AND

THE METAL MINING AGENCY OF JAPAN

Signed at Islamabad, October 2,. 1986

Waheeduddin Ahmed
Director General
Geological Survey of
Pakistan

Makoto Ishida
Leader of the Japanese
survey team, JICA and MMAJ

I. INTRODUCTION

In response to the request of the Government of the Islamic Republic of Pakistan (hereinafter referred to as "Pakistan"), the Government of Japan has decided to implement the mineral exploration in the Khuzdar area of Baluchistan in Pakistan (hereinafter referred to as "the Survey"), in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for implementation of the technical cooperation programmes of the Government of Japan, and the Metal Mining Agency of Japan (hereinafter referred to as "MMAJ"), the official agency for implementation of the technical cooperation for mineral exploration in joint operation with JICA, will undertake the Survey, in close cooperation with the Geological Survey of Pakistan (hereinafter referred to as "GSP"), and the other authorities of Pakistan.

The present document sets forth the Scope of Work with regard to the Survey.

II. OBJECTIVE OF THE SURVEY

The main objective of the Survey is to explore and to assess the mineral potential of the survey area.

III. OUTLINE OF THE SURVEY

1. The Survey will be carried out within a period of three years commencing from November, 1986.

2. The region to be surveyed covers an area of approximately 10 km^2 of the Surmai deposit for detailed mineral assessment and an area of approximately 4,000 km^2 including above 10 km^2 for geochemical survey as shown on the location map attached hereto.

3. The Survey will be carried out by means of geological, geochemical and geophysical surveys and drilling.

4. Processing and compilation of the data regarding the results of the Survey will be made in Japan and Pakistan.

5. At the end of each stage of the Survey, areas will be selected from the initial area for further detailed survey.

6. The detailed plan for the Survey will be discussed and determined by JICA, MMAJ and GSP.

IV. REPORTS

JICA and MMAJ shall prepare and submit annual and final reports (in English) to the Government of Pakistan.

V. UNDERTAKING OF THE GOVERNMENT OF PAKISTAN

1. To facilitate the smooth implementation of the Survey, the Government of Pakistan shall take necessary measures:

(i) to secure the safety of the survey team.

(ii) to permit the members of the Japanese survey team to enter, leave and sojourn in Pakistan for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees.

(iii) to exempt the members of the Japanese survey team from taxes, duties and any other charges on equipment, machinery and other materials brought into Pakistan for the implementation of the Survey.

(iv) to provide the necessary facilities to the Japanese survey team for unrestricted re-export of equipment and machinery brought into Pakistan for the implementation of the Survey.

(v) to exempt the members of the Japanese survey team from income tax and charges of any kind imposed on or in connection with any emolument or allowance paid to the members of the Japanese survey team for their services in connection with the implementation of the Survey.

(vi) to provide necessary facilities to the Japanese survey team for remittance as well as utilization of the funds introduced into Pakistan from Japan in connection with the implementation of the Survey.

(vii) to secure permission for entry into the survey area for execution of the field survey.

(viii) to secure permission for the survey team to take all data, documents and specimens including photographs related to the Survey out of Pakistan to Japan.

(ix) to provide medical services as needed. Its expenses will be chargeable on members of the Japanese survey team.

(x) to secure permission to use walkie talkies and other wireless telecommunications for excution of the field survey.

(xi) to provide services of liaison staff, local guides, laborers, drivers etc., required for the Survey, the cost of which will be borne by the Japanese survey team.

2. The Government of Pakistan shall bear claims, if any arises against the members of the Japanese survey team resulting from, occurring in the course of, or otherwise connected with the discharge of their duties in the implementation of the Survey, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Japanese survey team.

3. GSP shall act as counterpart agency to the Japanese survey team and also coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Survey.

4. GSP shall, at its own expense, provide the Japanese survey team with the followings, in cooperation with other relevant organizations.

(i) available data and information related to the Survey.

(ii) counterpart personnel including one geologist to work for the Survey as a head of the Pakistani counterpart personnel.

(iii) suitable office space with the necessary equipment in Quetta or Karachi.

(iv) credentials or identification cards.

VI. UNDERTAKING OF JICA AND MMAJ

For the implementation of the Survey, JICA and MMAJ shall take the following measures:

1. to dispatch, at its own expense, the survey team to Pakistan.

2. to provide equipment and machinery for the Survey at the request of the Government of Pakistan.

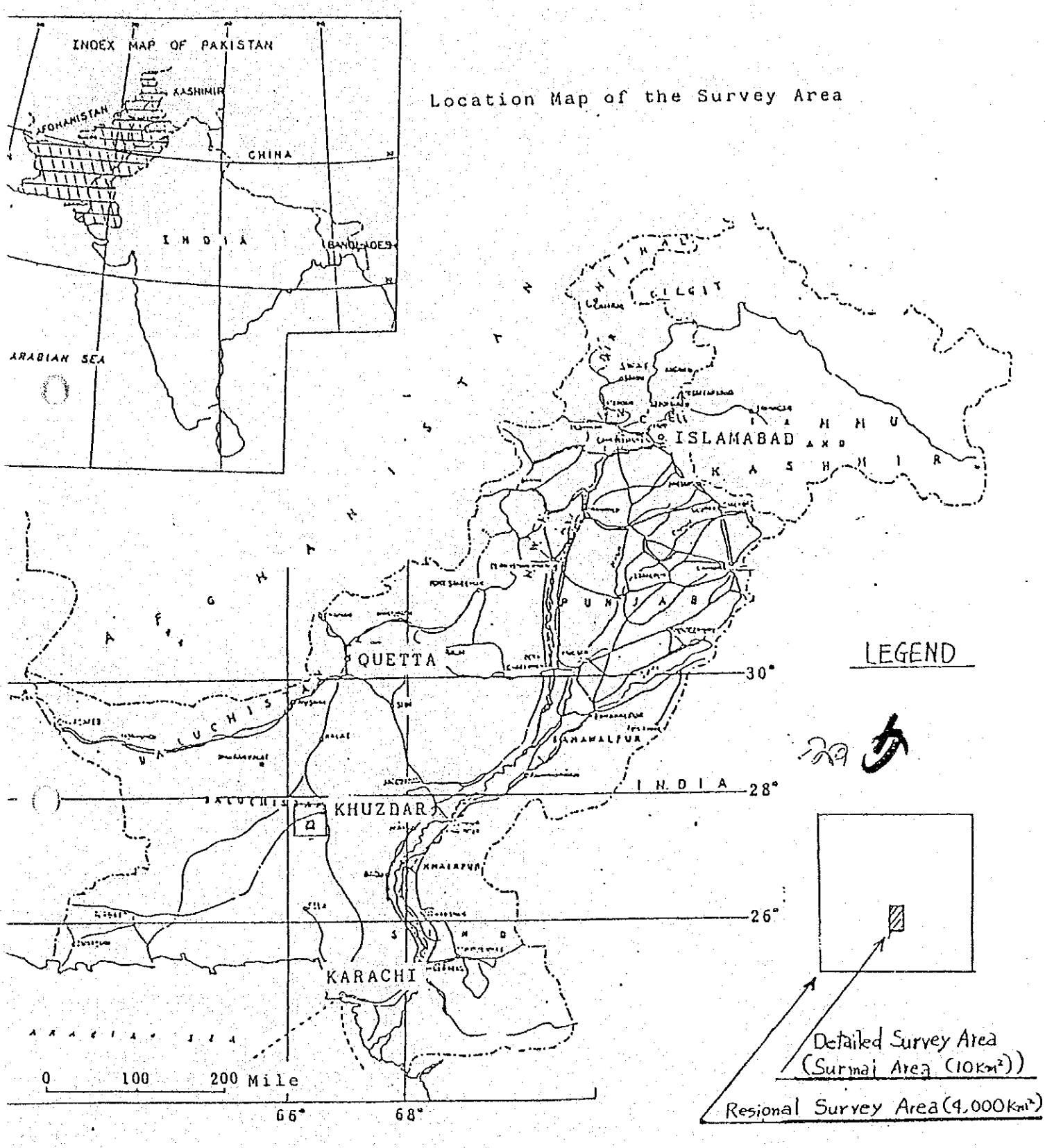
3. to accept one or more members of Pakistani counterpart personnel each year for data analysis and technical discussion which will be conducted in Japan.

4. to pursue technology transfer to the Pakistani counterpart personnel in the course of the Survey.

VII. CONSULTATION

JICA, MMAJ and GSP shall consult with each other in respect of any matter that may arise from or in connection with the Survey.

Location Map of the Survey Area



TENTATIVE PLAN FOR MINERAL EXPLORATION PROJECT
IN THE DISTRICT OF KHUZDAR, THE ISLAMIC REPUBLIC
OF PAKISTAN

PHASE	PHASE-I (1986-87)		PHASE-II (1987-88)		PHASE-III (1988-89)
AREA	4,000 Km²		Km²		Km²
PURPOSE	Unravelling the geology and mineralization in the survey Selection of the promising area	Investigation of the result of PHASE-I and decision making for next phase	Unravelling the detail mineralization emphasis on lead and zinc. Selection of the most promising area	Investigation of the result of PHASE-II and decision making for the next phase	Confirmation of the existance of ore deposits emphasis on lead and zinc. Evaluation of Surmai area.
Survey	Study of available data and information Detailed geological, geochemical and geophysical surveys.		Drilling Detailed integrated survey if necessary.		Drilling

In case of promising

In case of promising

The plan described above can only be performed subject to official approval of Japanese budget to be settled and will be subject to change.

TENTATIVE SCHEMATIC SCHEDULE FOR MINERAL EXPLORATION PROJECT IN THE DISTRICT OF KHUZDAR, THE ISLAMIC REPUBLIC OF PAKISTAN

(Phase-I (1986FY-1987FY))

	9	10	11	12	1	2	3
1. Consultation on the SCOPE OF WORK between the government of Pakistan and Japanese mission							
2. Implementation of the survey							
Field survey (Detailed geological, geochemical and geophysical survey)							
Laboratory work							
Report making							
3. Acceptance of Pakistani participant to Japan (Application form A.2 and Nomination form A.3)							
4. Provision of equipment (Application form A.4)							

The plan described above can only be performed subject to official approval of the Japanese budget to be settled and will be subject to change.

IMPLEMENTING ARRANGEMENT ON THE TECHNICAL COOPERATION

BETWEEN THE JAPAN INTERNATIONAL COOPERATION AGENCY

AND

THE NATIONAL IRRIGATION ADMINISTRATION

FOR

THE MASTER PLAN STUDY

ON

THE IMPROVEMENT PROJECT OF THE OPERATION AND MAINTENANCE

OF MAGAT RIVER INTEGRATED IRRIGATION SYSTEM

IN THE REPUBLIC OF THE PHILIPPINES

AGREED

BETWEEN

THE JAPAN INTERNATIONAL COOPERATION AGENCY

AND

THE NATIONAL IRRIGATION ADMINISTRATION

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ADMINISTRATION

20 November,1985

Manila - Philippines

I. INTRODUCTION

In response to the request of the Republic of the Philippines (hereinafter referred to as "GOP"), the Government of Japan (hereinafter referred to as "GOJ") has decided to conduct the Master Plan Study on the Improvement Project of the Operation and Maintenance of Magat River Integrated Irrigation System (hereinafter referred to as "the Study") and exchanged the Note Verbales with GOP concerning the implementation of the Study.

The Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of GOJ, will undertake the Study, in accordance with the relevant laws and regulations in force in Japan.

On the part of GOP, the National Irrigation Administration (hereinafter referred to as "NIA") shall act as counterpart agency to the Japanese study team and also as coordinating body in relation with other governmental and non-governmental organization concerned for the smooth implementation of the Study.

The present document constitutes the implementing arrangement between JICA and NIA under the above-mentioned Notes Verbales exchanged between the two governments.

II. OBJECTIVE OF THE STUDY

The objective of the Study is to formulate the Master Plan for the Operation and Maintenance of Magat River Integrated Irrigation System in order to upgrade the existing system's irrigation efficiency.

Ⅲ. SCOPE OF THE STUDY

Ⅲ)-1. Study Area

The Study area is located at about 380km northeast of Manila and covers the existing service areas of Magat River Irrigation System (MARIS) and Siffu River Irrigation System (SRIS).that is,approximately 100,000ha.

Ⅲ)-2. OUTLINE OF THE STUDY

The Study consists of two stages.

1. First_Stage

Data collection and field survey in rainy season will be carried out.

1-1. To collect and review available data and information relevant to the Study on the following items:

1) Meteorology and hydrology
2) Topography
3) Soil
4) Geology and hydrogeology
5) Flood
6) Irrigation and drainage
7) Agriculture
8) Agricultural institution
9) Agricultural and regional economy
10) Previous reports available on the Study
11) Infrastructure
12) Others

1-2. To carry out field investigation and survey on the following items:

1) Meteorological and hydrological survey

2) Topographical survey

3) Soil survey

4) Geological and hydrogeological survey

5) Flood survey

6) Irrigation and drainage survey

7) Agricultural survey

8) Survey on agricultural institution

9) Agricultural and regional economic survey

10) Construction material and cost survey

11) Others

1-3. To conduct the preliminary study and analysis in Japan based on the results of the first stage survey.

2. Second Stage

Supplementary survey in dry season and analysis will be conducted on the basis of results of the above-mentioned studies.

2-1. To carry out additional data collection and supplementary survey in dry season.

2-2. To conduct the comprehensive study and analysis.

1) To formulate an overall agricultural developement plan.

2) To make out the operation and maintenance plan and water management study of the irrigation and drainage system.

3) To formulate the improvement plan of irrigation facilities.