Ethiopian Telecommunications Corporation

Project Request Summary for the Application of the Technical Co-operation for Telecommunication Development by the Government of Japan Part I (For Telecom Master Plan Preparation)

Prepared By :PPD

Addis Ababa
March 2001

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1.Summary of request

Applicant: The Government of the Federal Democratic Republic of Ethiopia

Economic Sector: Telecommunication and Information Technology

Project Title: Master plan Study for the Rationalization of telecommunication sector to be integrated for Information Technology in the Federal Democratic Republic of Ethiopia

Site and Location: The Proposed Projects will cover the whole area where telecommunication services should be provided in the country.

Project type: Consultation on the preparation of Telecom Master Plan and supply of planning tools.

Promoting Agency: Ethiopian Telecommunication Corporation.

Project Objective: Design of modern and reliable Telecom Network able to carry different types of services

Main Inputs:- Funds for the establishment of a new telecomm master plan up to the year 2020

Benefits:- Provide reliable and efficient Telecom. planning

Cost:- For overall study;
Establishment of Telecom Master Plan;
Supply of planning tools;
Training on the system.

Funding:- Foreign Component- **Govt of Japan(USD2.8m)**
Local Component –**ETC(USD 1.4 m)**

Time Table:- 2001-2002

Project Logic:- Due to high demand through out the country requires new and modern type of Telecom network planning system

2. PROJECT DESCRIPTION

2.1 Country Profile

The Federal Democratic Republic of Ethiopia is the only country in Africa that has never been colonized and maintains its freedom from colonial rule, one exception being the Italian short occupation of 1936-41.In 1974 a military junta deposed Emperor Haile Sellassie who had ruled since1930 and established a socialist state. But the regime was finally toppled by people's Revolutionary Democratic Front (EPRDF) In 1991.A constitution was adapted in 1994 and Ethiopia 's first multiparty elections were held in1995

Ethiopia is situated in the north east of Africa, what is called Horn of Africa, covering about 1,133,380 sq km (about three times as big as Japan). Ethiopia's western neighbor is Sudan, to the north and northeast is Eritrea, and to the east and southeast lies the Republic of Djibouti and Somalia Democratic Republic, and to the south it has a common border with Kenya.

Ethiopia's population stood at 61.7 million in mid-1999,it is second most populous nation after Nigeria in Sub-Sahara Africa. The annual population growth rate during 1990-96 was 2.2%.

The landscape varies from barren salty desert to lush forest. Some parts of the Afar desert,in the northeast, are 100 meters below sea level. Rising westwards beyond the Afar desert, the land becomes higher, greener, and cooler, up to highland where plateau are rived by gorges, containing a number of lakes, and watered by great rivers.
The Blue Nile starts its long journey, dividing the highland from north to southwest is Great Rift Valley. To the west of the highland are forests, to the southeast are rangelands, and to the far west are fertile arable plains on the border with Sudan.

Although Ethiopia is relatively close to the equator, The central plateau has an average annual temperature of 16° C. Only in the east (hot lowland) and west, near Sudan gets very hot.

Administrative divisions consist of nine (9) ethnically based administrative regions created by the new constitution of 1994, these are Tigrai, Afar, Amhara, Oromiya, Benishangul-Gumuz, Southern

peoples, Gambella, Harar, and Somali , together with 2-chartered cities of Addis Ababa, and Dire Dawa.

Ethiopia has abundant natural resources, but agricultural land is densely populated areas of highland which has been deteriorated steadily in recent decades. The Government has spurred a series of environmental initiatives including a National Conservation Action Plan, with measures for selective reforestation. An Environmental protection Agency has also been created and Ethiopia is taking tentative steps towards establishing a biodiversity strategy.
Aside from agriculture, livestock and forestry, Ethiopia has undeveloped mineral resources. In the past five years private foreign interest in gold and other precious metal mining, and gas exploration, has increased.

Ethiopia also has a great potential for energy generation, from hydroelectric sources along the Awash and Nile valleys, remains largely untapped. The African development Bank is financing feasibility studies into the construction of hydroelectric installations along the Blue Nile, although these plans have caused controversy with Ethiopia's down stream neighbors, Sudan and Egypt. Once operational, such dams could produce sufficient electricity for the north of the country and potentially allow for export.

The Ethiopian economy is highly dependent on agriculture, which accounts for around 45% of GDP. Coffee exports account for more than 65% of foreign-exchange earnings, while hides and sins are the second main foreign-exchange earners.
Services account for more than one-third of economic activity. The composition of services earnings has shifted only slowly in response to economic liberalization, with limited growth in the building, transport and tourism sectors.

Although there has been a complete reorientation of economic policy since 1991, Ethiopia's economy faces severe structural problems, more critically, persistent food insecurity. Near-total dependence on rain-fed agriculture, low fertilizer use and susceptibility to pest damage, coupled with extensive high-land soil erosion, have resulted in low and erratic yields. Policies to improve early-warning systems for famines, and the establishment of local food security reserves, are designed to tackle the short-term effects of crop failure.

The government has formulated extensive sectional investment programmes, notably for transport, communication, health and education to be implemented at federal and state level. However, these are critically dependent upon external funding, and also require improvement in capital budget and project implementation, which could promote a stable growth, is highly rerquired.

3. Present State of Telecommunications and Information Technology

3.1 Telecommunication Service in view of Information Technology

Telecommunications services in Ethiopia is provided by Ethiopian Telecommunications Corporation (ETC) as the sole national carrier. This enterprise is owned by the State and is providing all telecommunication services over whole nation area, including local, long distance and international services.

Telecommunications networks remain basic, the total number of the subscriber lines is approximately 231,945 lines and the average telephone density as of June 2000 remained only 0.37 lines per 100 inhabitants.

ETC launched a mobile phone service in 1999 for Addis Ababa and its environs. During the end of the budget year there were about 17,720 subscribers, at the same time there were about 2461 Internet customers. The ETC has a monopoly over internet provision, which requires further development to enhance education, health, agricultural sectors of the country.

Until now ETC develops its telecom network on a 5 year developmental basis, without having a long range strategic Master Plan. This resulted in a piecemeal expansion of the network based on incidental requirement. But time has come for an integrated Master plan to give a reasonable telecommunication services for the country.

ETC is now also under consideration to make integration of Telephony and Information technology to overcome digital divide to strengthen expansion of national economy.

The rehabilitation of Ethiopia's road and communication infrastructure has been established as a core component of the country's economic reform programs. More than 20% of the capital budget has been allocated to construction and repairs in recent years.

3.2 Problems to be solved

Due to recent situation, establishment of the effective policy is highly required in order to expand the Telecommunication Network and integrate it with IT to catch up with reasonable universal access digital divide.

Besides, the grand vision for the efficient investment by the aforesaid enterprise is also needed to reach the multmedia area.

The problems to be solved for the coming era of Telecommunication and IT are as follows:-

1) Formulation of efficient Telecommunication & IT Sectorial policy relevant to the situation of the counrty.

2) Development of a long range Telecommunication and IT Master Plan, incorporating both economic & technical plans.

3) Along side the development of the master plan, the emerging telecommunication network must be equipped to accommodate IT features in line with global direction.

4) At the same time the direction of IP tech Telephony and 3G Mobile phone should comply with the requirement of IT development in our country to evade social gaps caused by digital divide.

Therefore we urgently require know-how that should be able to modernize our telcom Network and establish knowledge systems and knowledge management to activate the fruits of Telecommunication & IT to make Ethiopian national economy take-off by the full use of Telecommunication and IT.

3.3 Strong Desire of Government for Telecommunication & "IT" Master Plan by recent trend

Reflecting recent trend and Government Policy, ETC is earnestly expecting implementation of Master Plan Study for Tecom & IT concentrating the topics of the study especially to the following six key issues of Telecommunication & IT Master Plan Study in Ethiopia.

1. Provision of reasonable universal access to the rural areas and provision of adequate Tecom service in urban are as to promote economic growth

2. To realize the above objective there is a strong need for Telecommunication Master Plan.

3. Universal Access & Digital Divide Problems Solution

Ethiopia is a country with 61 Mil. Population scattered in the vast land of the country. Thinking of such difficult geographic situation of the country, solution of providing reasonable universal access & Digital Divide problems is the first priority among items of study for Telecommunication and IT Master Plan.

Expected items of study for this study shall be as follows;

(1) Solution of improving agricultural sector for food security through the application of Telecom and IT.

(2) Solution of training and educational problems through application of Telecommunication & IT.

(3) Solution of health & medical problems through application of Telecommunication & IT.

(4) Solution of environmental problems through application of Telecommunication & IT.

4. Introduction and Application of Telecommunication & IT

(1) Study of needs of the public & Governmental Telcom & IT infrastructure.

(2) Study by step formation plan of E-Government structure
(3) Establishment of Telcom & IT backbone network plan

5. Expansion Plan of Telecommunication & IT Human Resources

6. Improvement of Social System and Preparation of Laws and Regulations to accommodate Telcom & IT Technology

8. Background of Request

8.1 Need for the development of Telecommunication & IT Master Plan covering

-Defintion of universal access & service policy.
-Forecasting of future service requirements
-Definition of Technical plans
-Technology selection policy and etc

8.2 Improvement of planning procedures & supply of planning tools.

8.3 Need for the analysis of current & anticipated telecommunications to make it the backbone network of Information Technology

Due to reformation of common carriers into ETC, the comprehensive prospects for future integration of Information Technology and telecommunications is required in order to grasp and exploit future possibility of deployment of Information Technology in combination with Telecommunications Infrastructure.

8.4 Need for establishment of the framework for integration of Information Technology and Telecommunications

Establishment of the expanding framework of integration of Information Technology and Telecommunication is urgently needed in the view from:

a) To achieve an efficient nation wide economic development by evading digital divide, including so many multi-media services such as 3G mobile phone and IP Telephony with complete support of backbone Trunk Network to be equipped with facilities acceptable for Information Technology.

b) To study conditions to take off economic growth by Telecommunication and IT infrastructure in Ethiopia from the point of knowledge system and building up of knowledge management.

8.5 Relations between Sector and the Study

This kind of study of development of telecom Master Plan and Integration of Information Technology and telecommunication has a great effect toward the whole activities of ETC as a guideline to create an effective market which will lead development of nationwide Telecommunication and IT networks and to be prepared for rapid growth of Ethiopian economy.

8.6 Reasons Why Japan's technical Assistance is requested

The Government of the Federal Democratic Republic of Ethiopia has gained trust of Japan's highly advanced technology and abundant experience in the field of Telecommunications and IT.

9. Justification of Study

The Government of the Federal Democratic Republic of Ethiopian made a great effort to establish a market oriented economy, particularly Telecommunication and Information Technology has a great impact to the whole industries for building up knowledge systems and management. Living standard of residents shall eventually be raised drastically.

Taking into account the aforesaid matters, the Ministry of Transport and Communications of the Government of the Federal Democratic Republic of Ethiopia finally decided to request the Japanese Government for technical assistance to establish the framework of developing Telecom Master Plan Integration of Telecommunications & Information Technology in aspects of Integration of network and relative knowledge systems and management such as operational support system and Network Management System.

10. Objectives of Study

The over all objective of the study is to analyze the existing ETC's telecommunication network, forecast potential demand for services for the next 20 years period and finally propose a Telecommunication Master Plan integrated with the new information technology era.

10.1 Specific Objectives:

a) Formulate a clear telecommunication sector policy relevant to the situation of the country in terms of :-

- Comparative analysis with other similar countries.
- Setting target for universal access in the rural areas and degree of service penetration in urban areas.
- Its relation towards the development of other sectors.

b) Analysis of the existing network and make the necessary inventory of the network to assess to what extent it can satisfy the emerging demand.

c) Develop an appropriate forecasting method for the main urban areas, at the same time decision oriented universal access criterion for the rural area to estimate the total service demand in the next 20years.

d) Propose a new telecom ***Fundamental Plan*** fulfilling the above identified demand.

e) Propose an appropriate "Technology Selection Policy" to be pursued for the realization of the sector policy and envisaged fundamental Technical plans.

f) Formulate an appropriate strategy for the following
- Automatisation strategy
- Digitalization strategy
- Service improvement strategy.
- Integration of the telecommunication network with information technology.

g) Propose implementation plan and estimate cost (hardware, software & other resources) for the implementation of envisaged

Telecommunication network.

10.2 Development of a Telecom & IT Master Plan,

Development of Telecom and IT Master Plan is essential for efficient utilization of the country resource. It also envisages the development of other sectors of the economy. The Master Plan also formulates the implementation strategy

10.3 Improvement of planning Procedures & introduction of network planning tools.

For effective implementation of the Master Plan, effective planning procedures and tools are required. ETC now needs improvement of its planning procedures. Also requesting is the supply of appropriate computerized network planning tools from the project.

10.4 Formulation of Integration Plan of Information Technology and Telecommunications Development

The formulation and implementation of well-balanced integration plans of information Technology and Telecommunications such as backbone Trunk network to be fully prepared for IT and 3G Mobile phone systems and IP Telephony taking into consideration future social development. This plan shall take into account not only the overall improvement of digital divide but also rectification of regional discrepancies. Optimum and balanced development should be the first priority of the government and operating entity in the sector.

10.5 To establish an optimum organization and structures to be aimed at integration of Information Technology and Telecom operation

It is widely recognized that the development and integration of Information Technology and Telecommunications is indispensable to socioeconomic progress, and that industrial development and the improved quality of national life will be widely affected by the aforesaid integration. Also overall study of the character shall be essential to conquer digital divide. Thus, basic organizational study is indispensable.

It is necessary to examine the advantages and disadvantages of such policy in determining how this integration should be adopted in our country.

10.6 Pursuit of Management Efficiency through Information Technology from the side of knowledge systems and management

It is necessary to improve management efficiency by positively incorporating the results of technological innovations in the form of knowledge system and management. These include the introduction of Operational Management System, Operation support System and Network Management System reflecting IT and reductions in operating personnel by introducing new systems. The knowledge system and management should be expanded to every field of society eventually.

10.7 Human Resources Development

In order to continuously secure the human resources that are necessary to operate and manage rapidly expanding integration of Information Technology and Telecommunications network in the future, it is desirable to establish a basic plan of training core people of society in large scale to be prepared for rapid revolution of technology for 3G Mobile and IP Telephony. We should like to know how we should be able to implement this fundamental plan most effectively.

Ethiopian Telecommunications Coporation

Project Profile for the application of the technical cooperatoion for Telecommunications Development study by the Government of Japan

Part II

(For Telecom Master Plan Preparation)

Prepared By: PPD

Addis Ababa
March, 2001

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1.Project Profile

Project Title:	Preparation of Telecommunications Master Plan
Site and Location:	The Proposed Projects will cover The whole area where telecommunication Services should be provided in the country. ANNEX I
Project type:	Data Collection, Forecasting, Planning.
Promoting Agency:	Ethiopian Telecommunication Corporation.
Project Objective:	Provision of modern and reliable telecom Network able to carry different types of services Provision of a reliable and efficient Telecom planing
Main Inputs:-	Funds for the establishing a new telecommunications Development program up to the year 2020
Benefits:-	Provide reliable and efficient Telecom. planing
Cost:-	For overall study Establishment of Telecom Master Plan Training on the system
Funding:-	Foreign Component-**Government of Japan** Local Component –**ETC**
Time Table:-	2001-2002

Project Logic:- Due to high demand through out the country requires new and modern type of Telecom network planing system.

2. JUSTIFICATION AND BACK GROUND OF THE PROJECT

2.1 Current Situation

Public telephone services in Ethiopia are provided by Ethiopian Telecommunications Corporation (ETC), which is an autonomous state owned operating entity.

In satisfying the demands of its customers, the corporation is now in a continuous effort for both quantitative and qualitative enhancement of its facilities. Hence, it plays a decisive role in the social and economic constructions of the country.

II Domestic Services

A. Public Stations

ETC provides national and international telecommunications services, using communication media of Satellite, Microwave, Digital Radio Multi-access System (DRMASS), VSAT, VHF, UHF, and HF Radio. As far as growth of public stations concerned, the opening of 33 new stations brings up the total number of telephone stations to 606, out of which 79 are serving by using automatic telephone exchanges, 145 by pay stations & rural radio communication (RRC) and the remaining are manual exchanges, some of which are provided with semi-automatic facilities.

B. Subscription

In the fiscal year 1992(1999/2000) the total installed exchange capacity is reached 458,247 which has shown a 23% increase over the previous year. Of the total capacity digital accounts for 73.6% and the remaining 20.9% and 5.4% are Analog Automatic and Manual exchange lines respectively.

The exchange capacity exceeds the waiting list by large as the unsatisfied demand by the end of fiscal year is 196,883. On the other hand , comparing with last year, the waiting list goes down from 224,788 to 196883, showing a decrease of 12.41% . This is a consequence of mainly two reasons, the measure taken by the corporation to verify the unreliable data on waiting list that is accumulated for many years on one hand, and a relatively better sales performance of the year on the other hand.

During the fiscal year 1992(1999/2000), the telephone subscription under all categories i.e., residential, business, government and others reached 231,945, revealing a 19.25 % growth over that of previous year.

By the end of the year, the number of Internet subscriber is 2461 where as the number of Mobile is also 17727, showing growth rates of 13.78% and 163.46% respectively over that of last year. On the other hand, both telegram and telex services have a straight decrease due mainly to their backward technologies, outshine by latest faster, less costly and less laborious innovations such as the Telefax and the Internet.

The country telecom penetration (Teledensity or number of telephone subscribers per 100 inhabitants) has increased from 0.32 to 0.37 in the fiscal year 1992(1999/2000).

C. Traffic

During the year, a boost on metered traffic is observed. This high traffic growth in the metered telephone traffic is attributable to the aggressive action taken by the corporation in installing a number of high and low capacity digital exchanges in a number of towns of the country for one of the following reasons:- to replace the existing manual systems, or to replace the already existing analog by digital ones, or expansion of exchanges to satisfy additional demands on a given particular area. This event can be realized by observing the progress in the digital exchange capacity (please review item number 1.7 & 1.8 on page 1 of this report).

Hence, the registered metered traffic for the year under review is 1010.21 million pulses. This figure shows 28.45% growth over that of last year's metered traffic, which was 786.42 million, pulses. Likewise, the interurban calls have also recorded an increase of 13.86 % over that of previous year.

Regarding the international telephone traffic, the outgoing telephone traffic has grown from 12.45 million to 13.42 million in minutes or from 4.08 million to 4.36 million in calls. The incoming traffic exceeds the outgoing by 2.29% in calls and by 3.81% in minutes.

A declining trend in the time series data of telex and telegraph traffic for both national and international is due to the introduction of Telefax and Internet and other latest technology services.

D. Finance

During the budget year, the financial performance of the corporation has been encouraging. The estimated operational revenue is 675,576,000 where as the expenditure is 304,708,800 with annual growth rate of 8.25% and 6.70% respectively. The gross profit before taxation stood at Birr 370,867,200 and has a percentage growth 9.56% over previous year.

E. Personnel

In the fiscal year 1992, about 791 new employees have been permanently employed in the corporation. The total number of employees has increased from 6573 to 7083 showing an increase of 7.76 % over the previous year. On the other hand, 282 employees have been terminated for various reasons.

With the objective of improving the efficiency of the employee, during the year a total number of 1527 employees have been trained, among whom 148 were technical, 409 were internet and computer trainees, 247 business studies & telex operators and the remaining have participated in administration and cable jointing courses.

II International Services

Now, Ethiopia has 380 telephone, 74 telex and 4 telegram satellite circuits for the purpose of the international traffic. To get access to the rest of the world Ethiopia has two standard A satellite earth stations serving as for ETC's international traffic link and the other important microwave network link is the PANAFTEL that provides direct access to

By the end of June 2000 the number of Internet subscriber is 2461 where the number of Mobile is 17727,showing growth rates of 13.78% and 163.46% receptively over that of the last year.

2.2 Problem in the Sector

2.2.1 Financial Resources for Development

For expansion of telephone network and upgrading the existing facilities adequate amount of financial resources is required. But during the last 3 decades the financial resources were limited and it was not possible to expand and upgrade the telephone network in the country.

2.2.2. Effects of Planning

Investment of the limited budget and smooth implementation of the project. Good planning is essential factor for well-balanced and organized telecommunication development. The planning is also necessary for effective.

2.2.3 Quality of Service

At present the average fault rate is estimated to be 176 faults per 100 telephones per year and it is very high as compared to many countries. Due

to high fault rate it is difficult to bring the fault under control with the existing staff and facilities. In general it has the following drawbacks.

1. Inadequate telephone facilities
2. Low quality of service
3. Delay in clearing the faults

3. DEVELOPMENT POLICY OF THE GOVERNMENT

The Government of the Federal Democratic Republic of Ethiopia has given the highest priority to the Telecommunication Sector. The goal set by ETC for the year 2001 is to raise the telephone density from 0.3 to 1.0 per 100 inhabitants. To meet this figure, installation of additional 500,000 telephone exchange lines is under construction.

4. NECESSARY MEASURES TO BE TAKEN IN THIS SECTOR

For the development of telecommunications services in Ethiopia a practical master plan (Short-term and long plans) is an indispensable and essential issue for the success and development of telecommunications in the Federal Democratic Republic of Ethiopia.

4.1 Outline of the Project

Revising and updating the existing telecommunication development program and establishing a new telecommunication development program up to the year 2015 on a 5 year basis (2005,2010 & 2015) that will ensure an orderly and balanced implementation of telecommunication projects to provide various services for the public.

4.2 Proposed short-term and long-term objectives

Reviewing and establishing the requirements and priorities of project implementation to improve and develop domestic and international telecommunication services in the Federal Democratic Republic of Ethiopia.

Reviewing and establishing telecommunications Rehabilitation and enhancement program for ETC.

Establishing a short-term telecommunications development program up to the year 2000 that will ensure provision of orderly and well-balanced telecommunication services.

4.3 Desired or Scheduled Time of Commencement of the study

The fiscal year 2000 and 2001.

4.4 Expected Funding Source and/or Assistance (including External Origin)

Japanese Technical Assistance (a kind of Grand Aid Program)

4.5 Other Related Project, if any

None.

5. TERMS OF REFERENCE FOR THE PROPOSED STUDY

5.1 Necessity and Justification of the study

ETC has a strategic plan until year 2001. However, neither practical and strategic medium term nor long terms Development Plan beyond year 2001. It is evident that implementation of projects will be difficult without a Master Plan, in consideration throughout the Federal Democratic Republic of Ethiopia.

5.2 Necessity and Justification of Japanese Technical Cooperation

ETC would eagerly like to know how to set up the various kinds of telecommunications services to be provided, budgeting, revenue and investment, computerization, human resource development, institutional strengthening, etc.

Despite its urgent necessity, ETC has faced a serious shortage of funding for the Master Plan Study at the moment, the government of Japan to consider granting a technical assistance for the purpose of the study.

5.3 Objective of the study

Reviewing and establishing the requirements and priorities for improving and developing domestic and international telecommunication services for the Federal Democratic Republic of Ethiopia.

Reviewing and establishing the existing telecommunications rehabilitation and development programs.

Revising and updating the existing telecommunications development program and establishing a new telecommunications develo0pment program up to the year 2020 that will ensure an orderly and well-balanced provision of telecommunications service.

Undertaking feasibility studies for investments under the recommended development program.

- Identifying areas where further technical assistance is required to ensure smooth and successful implementation and operation of the recommended investment project.

5.4 Area to be covered by the study

The whole area where telecommunications services should be provided in the Federal Democratic Republic of Ethiopia.

5.5 Scope of the study

The Study Team (consultant) will initially conduct a study consisting of item (a) to (d) stated in the above item, Objectives of the Study. The consultant will then prepare an Interim Report, recommending a long-term feasibility of urgent projects and/ or in investments will be discussed and agreed upon a meeting among the Government, ETC and the consultant. The output of the work is finally shown in the Final Report to be prepared by the consultant, as ETA's Master Plan.

5.6 Work Force and Time Schedule for the Study

Work force : To be decided later
Time : Two years time

Time schedule : 2001-2002

5.7 Expected Major Outputs of the Study

A Comprehensive Master Plan up to the year 2020, including the study on the urgent projects to implemented by ETC.

5.8 Request of the Study to Other Agencies, if any:

None

5.9 Other Relevant information, if any

None in particular

6 FACILITIES AND INFORMATION FOR THE STUDY TEAM

ETC will provide the Study Team (the consultant) with the necessary facilities for the study, such as local transportation and office with furniture & telephone lines.

7. GLOBAL ISSUES ENVIRONMENT, WOMAN IN DEVELOPMENT, POVERTY, Etc..

7.1 Environmental components

The Study does not affect the environmental components.

7.2 Anticipated Environmental impacts

The same as item 1.

7.3 Women as main beneficiaries or not

None in particular

7.4 Anticipated impacts on women caused by the project

None

7.5Poverty reduction components of the project

Shall have positive effect.

7.6 Any constraints against the low-income people caused by the project.

None at all

8. UNDER TAKINGS OF THE GOVERNMENT OF THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

In order to facilitate the smooth and efficient conduct of Ethiopia shall take the necessary.

1.To secure the safety of the study team.

2.To permit the members of the study team to enter, leave and sojourn in Ethiopia in connection with their assignment therein, and exempt them from foreign registration requirements and consular fees.

3.To exempt the study team from taxes, duties and any other charges on equipment, machinery and other materials brought into and out of Ethiopia for the conduct of the study.

4.To exempt the study team from tax and charges of any kind imposed on or in connection with any emoluments paid to the members of the study teamimOplementation equipment of the study.

5.To provide necessary facilities to the study team for remittance as well as utilization of the funds introduced in Ethiopia from Japan in connection with the implementation of the study.

6.To secure permission for entry into private properties restricted areas for the conduct of the study.

7.To secure permission for the study team to take all data, documents and necessary materials related to the study out of Ethiopia.

8.To assist in the provision of medical services as needed. Its expenses will be chargeable to members of the study team.

9.The Government of the Federal Democratic Republic of Ethiopia shall bear claims, if any arise against member(s) 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 member of the study team.

The Ethiopian Telecommunication Corporation shall act as counterpart agency to the Japanese study team and also as

coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the study.

The Government of the Federal Democratic Republic of Ethiopia assures that the matters refereed to in this form will be ensured for the smooth conduct of the development Study by the Japanese Study Team.

Signed:_____

Title _____

On behalf of the Government of the Federal Democratic Republic of Ethiopia.

Date:-_____

PROPOSED PRIORITY AREAS (Annex Ir)

- **Northern Region**
(Mekele, Adigrat, Axum, Adwa, Shire, Maichew, Humera)

- **North East Region**
(Dessie, Combolcha, Woldia, D/Birhan, Assita)

- **North West Region**
(Bahar-Dar, Gonder, Debre-Markose, Dangila, Debre -Tabour, Finote -Selam Chagni, Motta).

- **Eastern Region**
(Dire Dawa, Harar, Asebeteferi, Jijiga, Godie)

- **Southern Region**
(Shashemene, Awassa, Zwaye Wolayita, Dilla, Yirgalem, Kibre-Mengist, Ariba-Minch, Moyale)

- **West Region**
(Nekemte,Ghimbi, Assosa)

- **South West Region**
(Jimma, Gambella, Mizan –Tefferi)

- **South East Region**
(Nazareth, D/Zeit, Assela, Goba, Hosann)

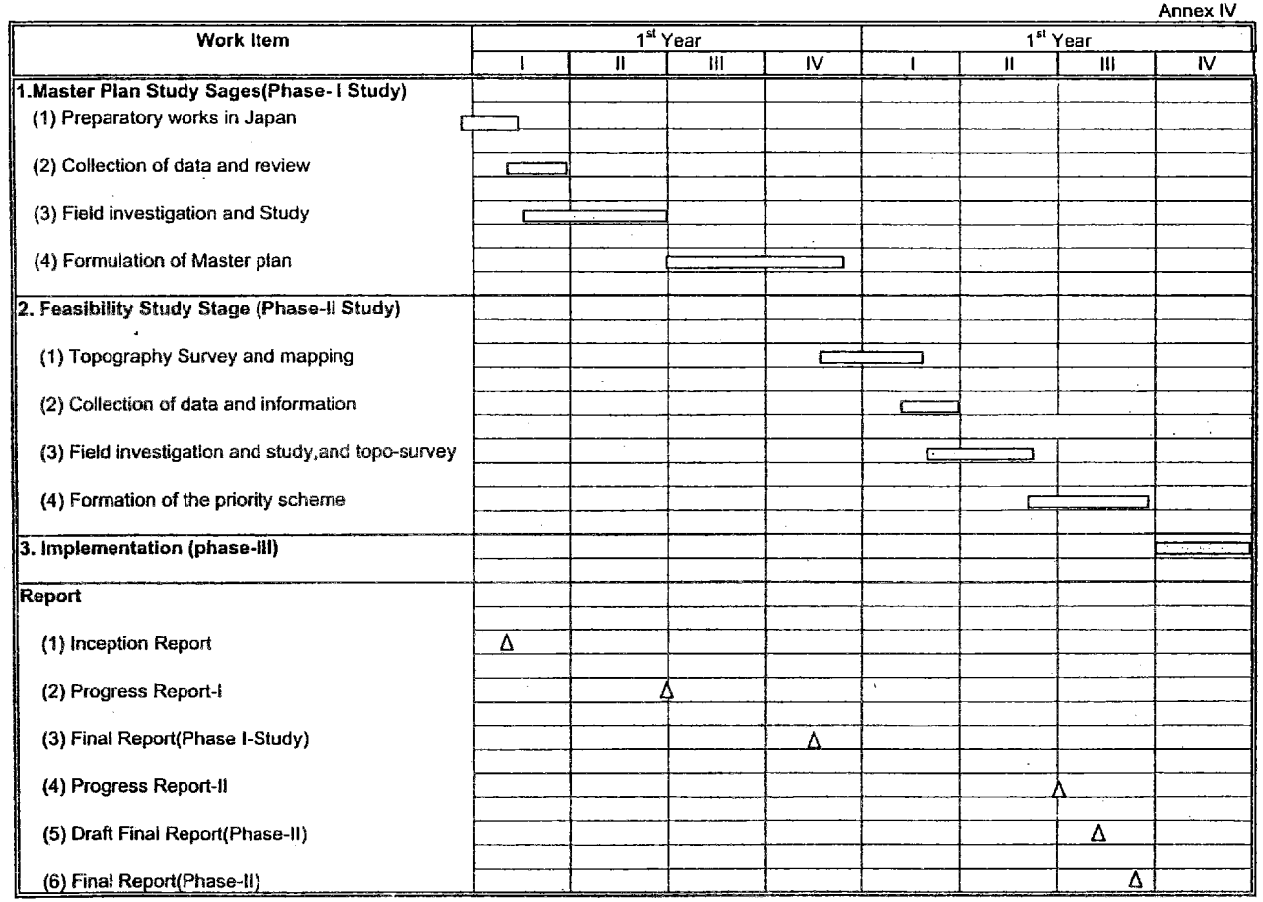
- **Addis Ababa Zones**
(North A.A... Central A.A..., West A.A..., South A.A.., South West A.A..,)

The priority areas are decided as seen above. After deciding the priority area feasibility study shall be conducted in each area.

(End of the Applications).

Implimentation schedule

Annex IV



Working in Ethiopoa

Working in Japan

Annex-V

LOCATION MAP OF

THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA