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Report No: 29747-ET

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR 17.1 MILLION
(US$ 25.0 MILLION EQUIVALENT)

TO THE

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

FOR AN

INFORMATION AND COMMUNICATION TECHNOLOGY ASSISTED DEVELOPMENT PROJECT

AUGUST 18, 2004

CURRENCY EQUIVALENTS

(Exchange Rate Effective May 31, 2004)

Currency Unit	=	Ethiopian Birr
ETB 1.0	=	USD 0.11696
SDR1.0	=	USD 1.46275

FISCAL YEAR
July 8 – July 7

ABBREVIATIONS AND ACRONYMS

AAU	Addis Ababa University
ATM	Automatic Teller Machines
AVU	African Virtual University
CAS	Country Assistance Strategy
CFAA	Country Financial Accountability Assessment
CIDEV	Community ICT-Development Program
CPAR	Country Procurement Assessment Review
CBO	Community Based Organizations
DED	German Development Service
DUPIS	Development and Upgrading of the Parliamentary Information System
EBA	Ethiopian Broadcasting Agency
EICTDA	Ethiopian Information and Communication Technology Development Authority
ETA	Ethiopian Telecommunications Agency
ETC	Ethiopian Telecommunications Corporation
FMR	Financial Monitoring Report
GDLN	Global Development Learning Network
GDP	Gross Domestic product
GoE	Government of Ethiopia
IAPSO	Inter-Agency Procurement Services Office
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
ICT	Information and Communication Technologies
IDA	International Development Association
IP	Internet Protocol
ISPs	Internet Service Providers
IPU	International Parliamentary Union
ISG	Information Solutions Group
IT	Information Technology
ITIT	Institute for Telecommunications and Information Technology
MoCB	Ministry of Capacity Building

MDG	Millennium Development Goals
M & E	Monitoring and Evaluation
NCB	National Competitive Bidding
NCBP	National Capacity Building Program
NGO	Non-governmental Organization
NTCA	National Telephone Cooperative Association
OFAG	Office of Federal Auditor General
PHRD	Japan Policy and Human Resource Development Fund
PIP	Project Implementation Plan
POM	Project Operational Manual
PMU	Projet Management Unit
PPF	Project Preparation Facility
PSCAP	Public Sector Capacity Building Program
PRSC	Japan Policy and Human Resource Development Fund
PSR	Project Status Report
QCBS	Quality and Cost Based Selection
ReMSEDA	Regional Micro and Small Enterprise Agency
SA	Special Account
SBCQ	Selection Based on Consultants Qualifications
SDPRP	Sustainable Development and Poverty Reduction Program
SME	Small and Medium Enterprises
SOE	Statement of Expenditures
SPN	Specific Procurement Notice
SRFP	Bank's Standard Request for Proposals
TVET	Technical Vocational and Educational Training
UNCTAD	United Nations Conference on Trade and Development
UNDB	United Nations Development Business
UNDP	United Nations Development Program

Vice President:	Callisto Madavo
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Task Team Leader:	Bobak Rezaian

ETHIOPIA
Information and Communication Technology Assisted Development Project

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ETHIOPIA

IINFORMATION AND COMMUNICATION TECHNOLOGY ASSISTED DEVELOPMENT PROJECT

PROJECT APPRAISAL DOCUMENT

AFRICA

AFTKL

Date: August 18, 2004 Country Director: Ishac Diwan Sector Manager/Director: Nicolas M. Gorjestani	Team Leader: Bobak Rezaian **Sector(s):** General information and communications sector (60%), General education sector (10%), Health (10%), General industry and trade sector (10%), General public administration sector (10%) **Theme(s):** Rural services and infrastructure (P), Decentralization (P), Education for the knowledge economy (P), Other human development (S), Trade facilitation and market access (S)
Project ID: P078458	Environmental screening category: Not Required
Lending Instrument: Sector Investment and Maintenance Loan	Safeguard screening category: No impact

Project Financing Data

[ ] Loan [X] Credit [ ] Grant [ ] Guarantee [ ] Other:

For Loans/Credits/Others:
Total Bank financing (US$m.): 25.00
Proposed terms: Standard IDA Credit

Financing Plan (US$m)

Source	Local	Foreign	Total
BORROWER/RECIPIENT	5.00		5.00
INTERNATIONAL DEVELOPMENT ASSOCIATION	8.50	16.50	25.00
German Development Service		1.80	1.80
Total:	13.50	18.30	31.80

Borrower: FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

Responsible Agency: ETHIOPIAN ICT DEVELOPMENT AUTHORITY (EICTDA)
Address: P.O. Box 1028
Addis Ababa, Ethiopia

Contact Person: Ato Dhaba Oria, Director General
Tel: (251-1) 503973 Fax: (251-1) 534246 Email: robidhab@eictda.gov.et

Estimated disbursements (Bank FY/US$m)									
FY	2005	2006	2007	2008	2009				
Annual	2.24	5.53	7.53	5.75	3.95				
Cumulative	2.24	7.77	15.30	21.05	25.00				

Project implementation period: Start: November 30, 2004 End: November 30, 2009
Expected effectiveness date: November 30, 2004
Expected closing date: May 31, 2010

Does the project depart from the CAS in content or other significant respects?	[ ]Yes [**X**]No
Does the project require any exceptions from Bank policies?	[ ]Yes [**X**]No
Have these been approved by Bank management?	[ ]Yes [ ] No
Is approval for any policy exception sought from the Board?	[ ]Yes [**X**]No
Does the project include any critical risks rated "substantial" or "high"?	[ ]Yes [**X**]No
Does the project meet the Regional criteria for readiness for implementation?	[**X**]Yes [ ]No

Project development objective

The objective of this project is to assist communities to improve their livelihood through the use of appropriate Information and Communication Technologies (ICT) that facilitate increased access to markets, development information, and public services.

Project description

The project consists of two components:

1. Policy and Institutional Support: This component will establish an enabling environment for the growth of the ICT sector by supporting a comprehensive assessment of the existing policy, regulatory and legal framework, particularly in the areas of information technology, telecom, information sharing, and internet. It will also strengthen capacity of the key institutions that regulate the sector, provide services, or manage the reform process.
2. Application and Community Support: An important objective of the Government's ICT development program is to increase connectivity and to provide access to communications services throughout the country. International experience suggests that the expansion of communications network is strongly correlated with economic growth, and that access to communications in rural areas diminishes the urban/rural economic disparities, provides access to market information, and facilitates service delivery in health, education and other areas thereby reinforcing the poverty reduction contribution of ICTs.

Which safeguard policies are triggered, if any?
There are no safeguard policies triggered by the ICTAD Project.

Significant, non-standard conditions, if any:
Not applicable

Board presentation: The following Board presentation conditions have been met:
Signed PPF; Revised Procurement Plan; Signed Letter of Sector Policy

Loan/credit effectiveness:

1. Establishment of the accounting and financial management system for the Project, satisfactory to the Association;
2. Opening of the Project Account and depositing therein the initial deposit;
3. Adoption of the Project Implementation Plan and the Project Implementation Manual with all Schedules in respect thereof, in form and substance satisfactory to the Association;
4. Completion of the work program, including the budget and the procurement plan for the first 18 months of Project implementation, satisfactory in form and substance to the Association; and
5. Establishment of the PMU with personnel having experience and qualifications satisfactory to the Association, including a Project Manager, a Procurement Specialist, a Financial management Specialist, a Monitoring and Evaluation Specialist, and a Communications Specialist and has employed them all in accordance with the provisions of the Guidelines for Selection and Employment of Consultants dated May 2004.

The Government has already made substantial progress with respect to fulfillment of these conditions. A suitable financial management system has been identified for implementation as soon as the PMU is fully staffed. The final version of the Project Implementation Plan is being prepared and is expected to be completed shortly. Condition 4 has been fully met and the procurement plan for the first 18 months of Project implementation has been incorporated in Annex 8 of the current PAD. Advertisement of the PMU positions, establishment of review committees, and short listing of qualified candidates for all key PMU positions have been completed, and the selection process is expected to commence shortly. All key PMU staff are expected to be in place well in advance of effectiveness.

Covenants applicable to project implementation:

Financial Covenants

1. EICTDA/PMU will submit the audited Project accounts to IDA six months after the end of each fiscal year. The fiscal year ends on 7 July of each year. The audited financial statement will include all sources of funds for the Project, including other donors and the government. EICTDA/PMU will submit quarterly FMRs to IDA forty-five days after the end of each quarter;
2. Appointment of auditors within three months of the effective date;
3. Organization of a project launch workshop within three months of the effective date.

Dated Implementation Covenants

1. By June 15, 2005, the Borrower publicly announces that licenses for qualified legally established entities as Internet Service Providers will be issued by ETA starting no later than September 30, 2005;

2. By August 1, 2005, the Borrower publicly announces that licenses for qualified autonomous, legally established entities as Rural Connectivity providers will be issued within 24 months from the effectiveness date of the project;
3. By August 1, 2005, the Borrower publicly announces that licenses for qualified autonomous, legally established entities as Community Radio providers will be issued by EBA from October 3, 2005.

A. STRATEGIC CONTEXT AND RATIONALE

1. Country and sector issues

The Ethiopian economy is mainly agrarian. With an estimated GDP of USD 6.4 billion in 2002 (about USD 100 per capita), Ethiopia is ranked as one of the poorest countries in the world. Of an estimated population of 65 million, almost 85% live in rural areas. Out of 177 countries, Ethiopia ranked 170 in the UNDP' s 2004 Human Development Index, ranking very low particularly in the areas of life expectancy, literacy rate, and access to primary health care. To address these issues the Government has embarked on a wide-ranging program to improve the efficiency and effectiveness of its socioeconomic development and poverty reduction programs for service delivery in health, education, agriculture, and other sectors. This approach is embedded in a constitutional decentralization policy entrusting Regions and Woredas with the task to respond to local needs locally.

The Government intends to utilize Information and Communication Technologies (ICTs) as enablers for implementing the country's development program and has embarked on a major National ICT Capacity Building Program. The vision of this program is to *" Develop and exploit ICTs as an accelerator for the attainment of national development objectives and global competitiveness."*

The Government's ICT development program consists of four strategic objectives:

1. Creating an enabling policy, regulatory and legal environment for the growth and utilization of ICTs;
2. Developing the necessary ICT human resources, infrastructure, rural access, ICT standards, and local content;
3. Strengthening various national ICT policy, regulatory and advocacy institutions to facilitate the mainstreaming of ICTs for socioeconomic development;
4. Facilitating the use of appropriate technologies for development of applications and content for Rural Development, Good Governance, and service delivery in priority sectors.

Together, the four strategic pillars constitute the core of an ICT policy that will facilitate Ethiopia's effective move towards ICT-assisted development. The Government is aware that availability and affordability of ICTs depend on broader factors such as provision of reliable electricity, literacy, and access to appropriate and sustainable communication technologies and infrastructure, particularly in rural areas.

2. Rationale for Bank involvement

The value added of the Bank will be through i) increasing the impact of ICT Development and ICT-assisted programs by supporting an integrated multi-sectoral approach, and improving coordination among sectors in their ICT programs; ii) sharing lessons of experience for ICT assisted development based on global and Regional experience and adapted knowledge (e.g. Iganga -Uganda ICT-assisted maternal mortality reduction, community radio for education, etc.);

iii) offering global lessons of experience in ICT sector reform and institutional development issues; iv) expanding the opportunities for the private sector participation.
A key contribution of the Bank is its ability to help Ethiopia develop innovative approaches for solving its development problems. The Bank is now in a position to not only offer financial assistance, but also to act as a knowledge broker and partner to convene donors in Ethiopia in relation to ICT-assisted service delivery in health, education and other sectors.

3. Higher level objectives to which the project contributes

The overarching objective of Ethiopia's Sustainable Development and Poverty Reduction Program (SDPRP) is to reduce poverty by enhancing rapid economic growth while maintaining macroeconomic stability. The Executive Directors discussed the SDPRP on September 19, 2002, and the SDPRP progress report on January 16, 2004. While stressing the importance of rural and agrarian development in order to improve the lot of poor people, the SDPRP acknowledges the need for explicit efforts at private sector development to put the economy on a higher growth trajectory. The SDPRP is built on the following four pillars: (1) Agricultural Development Led Industrialization (ADLI) and food security; (2) governance, decentralization, and empowerment; (3) reform of the justice system and the civil service; and (4) capacity building. In addition, the SDPRP identifies key sectoral measures and cross-cutting priority issues, including HIV/AIDS, private sector development and trade, education, health, roads, water and sanitation, and gender.

The 2003-2005 Ethiopia Country Assistance Strategy (CAS) provides support to Ethiopia's SDPRP to reduce poverty and achieve the MDGs. World Bank support to Ethiopia's SDPRP can be translated into four inter-related themes:

- Enhancing pro-poor growth;
- Improving human development outcomes;
- Reducing vulnerability;
- Improving governance .

Since capacity building is a common underpinning to all four themes, the Bank will strengthen efforts to build institutional capacity within the public and private sector, and in civil society. This effort will encompass institutional reforms, development of new institutions and systems, and improvement of skills. The draft CAS progress report (IDA/R2004-0224) provides a short update on the development in the Telecommunications sector in Ethiopia.

As part of these discussions, the Bank has agreed to support the ICT-Assisted Development Project (ICTAD). The project will support the CAS goals of enhancing pro-poor growth and improving human development outcomes by improving service delivery to the poor through ICT-assisted interventions, in alignment with the overall multi-sectoral capacity building and development objectives of the Government. The project will also foster economic growth by supporting the creation of a favorable environment for more active participation of the private sector in all aspects of ICT sector development.

B. PROJECT DESCRIPTION

1. Lending instrument

The lending instrument is a Sector Investment and Maintenance (SIM) credit in the amount of SDR 17.1 million (USD 25 million equivalent).

2. Project development objective and key indicators

The objective of this project is to assist communities improve their livelihood through the use of appropriate Information and Communication Technologies (ICT) that facilitate increased access to markets, development information, and public services. To achieve this objective, the ICT Assisted Development Project will enable public and private sector providers of information, goods and services to improve the quality and quantity of their products through the efficient and effective use of ICTs.

The project will therefore help to:

1. Create an enabling policy, legal and regulatory environment for the growth of ICTs;
2. Strengthen the institutional capacity of key policy, regulatory and advocacy institutions;
3. Establish locally adapted ICT industry standards and data security arrangements;
4. Foster opportunities for Small and Medium Enterprises, women and youth in the ICT sector;
5. Facilitate access to markets and market information for rural and urban communities;

The intended outputs of the project are:

- Specific policy, legal, and regulatory decisions, proclamations, and legislation that will create an enabling and growth enhancing environment for broadcasting, communications, information technology, internet, knowledge sharing, and private sector investment;
- An operational Ethiopian ICT Development Authority (EICTDA); and a capable Ethiopian Telecommunications Agency (ETA) and Ethiopian Broadcasting Agency (EBA) with the capacity to regulate and foster the growth of ICTs;
- A public-private partnership between Ethiopian Telecommunications Corporation (ETC) and private sector groups to offer community level connectivity and access to the national telecommunications and ICT services;
- A growing private sector ICT business community that can respond faster to market demands;
- Successfully tested appropriate technologies for targeted, scalable interventions to increase the efficiency and effectiveness of efforts for reaching Millennium Development Goals (MDGs).

The key performance indicator will be the increase in number of ICT-assisted service delivery operations established by the public and private sectors for improved service delivery to communities based on ICT support. A detailed list of indicators can be found in Annex 3.

3. Project components

The project consists of two components: 1) Policy and Institutional Support, and 2) Application and Community Support.

Component 1. Policy and Institutional Support – $13.4 mil
This component will establish an **enabling environment for the growth of the ICT sector** by supporting a comprehensive assessment of the existing policy, regulatory and legal framework in the areas of information technology, telecom, broadcasting, knowledge sharing, and internet. It will also strengthen the capacity of key institutions that regulate the sector, provide services, or manage the reform process.

The **Policy, Regulatory and Legal Framework** sub-component will help identify policy and regulatory impediments to the growth of ICTs, and will propose favorable trade, taxation, privacy, and security policies. It will also support drafting of appropriate business law and preparation of new policies and regulations that will address the current deficiencies.

The ICT Standards sub-component will support development of coherent, and well defined locally adapted standards through an open and participatory process. Special needs of disabled in using ICTs will also be addressed. The subcomponent will also help establish **Data Security** standards and procedures. The sub-component will include **training** and study tours and **technical and management training** for key ICT stakeholders and policy makers on use and management of new communication and data exchange technologies such as internet; Internet Protocol (IP) based networks, wireless communications and related technologies. Particular emphasis will be given to clarification of needs and identification of options for the development of an adequate and sustainable infrastructure for data exchange purposes. This is particularly important in the context of the Government's decentralization of public administration activities to local authorities at Woreda level. Since the bulk of activities under this component consist of consultancies, the funding for this component will be pooled to facilitate implementation arrangements.

The **Institutional Strengthening** sub-component will be the key ICT policy and regulatory agencies to develop the necessary capacity for effective support of ICT sector. These agencies include the Ethiopian ICT Development Authority (**EICTDA**); the Ethiopian Telecommunications Agency (**ETA**) and the Ethiopian Broadcasting Agency **(EBA),** and the Institute for Telecommunications and Information Technology (**ITIT**). ETA's capabilities will be strengthened in Frequency Spectrum Management and in providing advisory services on sector reform options to allow rapid growth of ICTs. The EBA will be strengthened to better facilitate the licensing of local, community based radio broadcast operations. ITIT will receive technical assistance to strengthen its training programs in the areas of advanced digital technologies and networks.

A **Project Management Unit** (PMU) established under EICTDA will be responsible for coordination and monitoring of ICTAD project implementation activities.

Component 2. Application and Community Support- $18.4 mil

An important objective of the Government's development program is to increase access to telecommunications services and internet connectivity to communities throughout the country. International experience suggests that the expansion of communications network enhances economic growth, and that access to communications in rural areas diminishes the urban/rural economic disparities, provides access to market information, and facilitates service delivery in health, education and other areas thereby reinforcing the poverty reduction contribution of ICTs.

The **Connectivity / Access** sub component will facilitate the creation of public-private partnerships between ETC and qualified cooperatives and/or private sector groups to offer community level connectivity and access to the national telecommunications and ICT services. In these partnerships ETC would act as a wholesaler of communications network infrastructure, and the cooperatives and/or private sector operators will be the service providers at community level, offering telecommunications services, access to internet, and other value-added services. Community organizations, cooperatives and/or qualified local private sector groups would then act as community based operators or re-sellers of voice and data communication services. This sub-component would create a win-win situation for all key stakeholders: the communities will benefit by having access to national communications infrastructure, information, etc.; local and regional economies could benefit from the information flow and access to market information that this will bring about; ETA will strengthen its capacity through "learning by doing" by tackling a series of real-world regulatory issues that it must manage skillfully in order to make rural connectivity in Ethiopia a reality; ETC will also benefit from a scalable business model that promises to create new revenue streams for ETC through increased traffic on the backbone, interconnection charges and provision of technical services.

In addition, the **Rural Connectivity Program** will create opportunities for **transfer of technology to Ethiopia**; support **Research and Development activities** at Addis Ababa University, Institute for Telecommunications and Information Technology (ITIT) on Broadband rural communications, and potentially **export quality production** of relevant equipment. This component will be implemented in two phases. **Phase I** would include detailed studies of available rural connectivity options, identify international best practices, and propose practical options for modalities of Government financial assistance and/or technical support for rural connectivity in Ethiopia. Phase I would also demonstrate the usefulness of the technology and provide lessons with regard to managing the investments prior to scaling up, and to identify and solve any bottlenecks in the licensing process. Phase I would be managed by EICTDA in cooperation with ETA, ETC, regional and local authorities. During Phase I the project would also establish the appropriate access rules, including the design of output based subsidies or low interest loans (the potential financial models are not limited to the two mentioned above but will rather be determined by the reality on the ground at the time of implementation of Phase I) that would be required to attract cooperatives and/or private investors to invest in rural connectivity. **Phase II** will implement Rural Connectivity solutions under Public-Cooperative or Public-Private arrangements based on the findings of Phase I.

The **ICT Private Sector Development (Business Incubator)** sub-component will foster the direct participation of the private sector in all ICT related aspects by creating opportunities for their growth in the ICT sector. The objective is to identify and/or create opportunities for local private companies in the ICT sector to participate more actively in the local as well as

international ICT market. Specific activities will be designed for creating business opportunities for the private sector to strengthen its ICT capacity by direct involvement in sector activities through the establishment of an incubator that will provide technology-enhanced support systems to private sector companies, including support for setting up of operations by private sector Internet Service Providers (ISPs). Other activities will include the strengthening of private sector's capacity for the use and maintenance of locally adapted technologies. This sub-component will also support initiatives for increasing opportunities for women and youth to participate in ICT related businesses or training opportunities.

The **ICT Training of trainers in a selected TVET center,** will support specific ICT related technical training delivered by vocational streams (either through secondary level vocation training programs or in polytechnics and community colleges). Special emphasis will be given to developing ICT technical and vocational training skills. This sub-component will also support strengthening of a Regional Micro and Small Enterprise Agency (ReMSEDA) to invoke a stronger involvement of small and micro enterprises into the development of the ICT sector.

The **Community ICT- Development Program** (CIDEV) sub-component will support community-oriented initiatives that help communities to access and use ICT assisted services for their development needs and activities. This program will finance proposals submitted by communities or intermediaries that meet a set of predefined criteria. These criteria are defined around the following basic principles: ownership by communities, feasibility, sustainability, scalability, alignment with national priorities and ICTAD objectives, and measurability of results. A special operational manual will be produced by the PMU to allow for a transparent, and swift processing of proposals. The ICTAD PMU will manage the program. For further details please refer to Annex 4.

4. Lessons learned and reflected in the project design

The following lessons have been incorporated in the design of the ICTAD project:

OED Lessons of Experience:

- Building regulatory institutions is a fragile, long-term process and therefore local demand for reform must be nurtured and capacity supported over a long time;
- Development of strategic information systems is a demanding and complex task, requiring significant attention and expertise from the Bank and borrower;
- Privatization is likely to be effective in producing improved performance only when the necessary policy and regulatory framework is created first. Moreover, in pursuing privatization, borrowers should be encouraged to move to competition in all segments of telecommunication services as early as possible;

Bank-wide Lessons of Experience:

- Consultations with stakeholders are essential for the success of reforms;
- Newly created regulatory agencies are frequently overwhelmed by their responsibilities, but have little in-house expertise to draw upon. Support from on-site advisers and operational advice during the initial stages to deal with priority issues are invaluable;

- Telecommunications sector policy should include incentives to promote access to services to rural populations and to improve the affordability of services to the poor in both rural and urban areas;
- The momentum created by policy reform initiatives can lead to sustained sector growth provided implementation is undertaken promptly;
- Existence of an independent regulator within a stable regulatory framework encourages higher levels of investment and more rapid development of services that are being opened to competition (e.g. Value added service);
- Provision of internet access must be supported by content development and capacity building; Provision of connectivity and access alone is not enough to yield the potential development benefits;
- Benefits of internet access can be much more widely distributed if access is provided to local radio stations that can act as conduits for access to, and dissemination of all global and local information that is available on-line;
- Content development must be genuinely locally driven, albeit with the assistance of outsiders to help identify specific needs;
- The project design reflects the well known lesson that reform projects are likely to succeed when there is commitment at the highest level. Hence this project focuses on the areas where the Government of Ethiopia is committed to take action.

Other Lessons:

- Introducing a phased approach will work most effectively by starting with the realities on the ground, establishing base lines, introducing gradual change, strengthening existing institutional capacity, responding to business needs based on existing service improvement demands, and dealing with policy, regulatory, and legal reform issues in parallel with institutional and human capacity building;
- Linking reform measures to removal of bottlenecks for the Government's service delivery and development agenda will increase the chances of reform success;
- Linking the scope of project activities to existing absorption capacity of stakeholders and beneficiaries will improve the chances for the long-term sustainability and effectiveness of these activities;
- Adopting a *learning by doing* approach will increase the impact of human capacity building efforts and will improve sustainability.

5. Alternatives considered and reasons for rejection

Various alternatives have been considered to identify the one that is most responsive to the Government's development objectives, realistic in its expected outputs and outcomes, sustainable after completion and likely to succeed based on existing realities on the ground.

All alternatives were discussed extensively with authorities, technical experts, stakeholders and Bank staff and they include:

Technology-driven versus Development-driven approach. The option of adopting a technology-driven approach whereby the latest technological solutions would be used to

modernize all aspects of Ethiopian economy was discussed at the outset. This option was dismissed in favor of a development-driven approach, where the emphasis is on adapting appropriate technologies to local needs and conditions for sustainable ICT-assisted interventions.

Full-fledged implementation of the Government's ICT Program versus selectivity and prioritization. The Government's original proposal was to turn the entire ICT Program of the government into an operation supported by the Bank. Existing impediments (e.g. lack of a favorable policy environment, adequate telecom infrastructure, human resources and institutional capacity) would make a country wide attainment of the objectives unlikely and results would not be sustained. *Prioritization* and *selectivity* will:

- reduce risks by providing ample opportunity for learning and adaptation;
- allow for better coordination of the cross sectoral approach;
- provide the opportunity to build the foundations for ICT development (i.e. policy reform, HR etc.)

C. IMPLEMENTATION

1. Partnership arrangements

The Bank has helped to convene donors in Ethiopia in relation to ICT-assisted service delivery in health, education and other sectors. A Donors consultative group on ICTs has been established with active support from the Government, UNDP and other partners. Bilateral donors have expressed interest in providing technical assistance and grant funds for a number of activities envisaged under this project. For example, the Government of Japan provided significant support for this project in the form of a PHRD grant (of about $969,000) which helped finance the bulk of project preparation activities. The German Development Service (DED) has also agreed to actively support this project by providing technical assistance of USD 1.8 million equivalent for human resource development efforts, Small and Medium Enterprise development and strengthening of ICT vocational training programs.

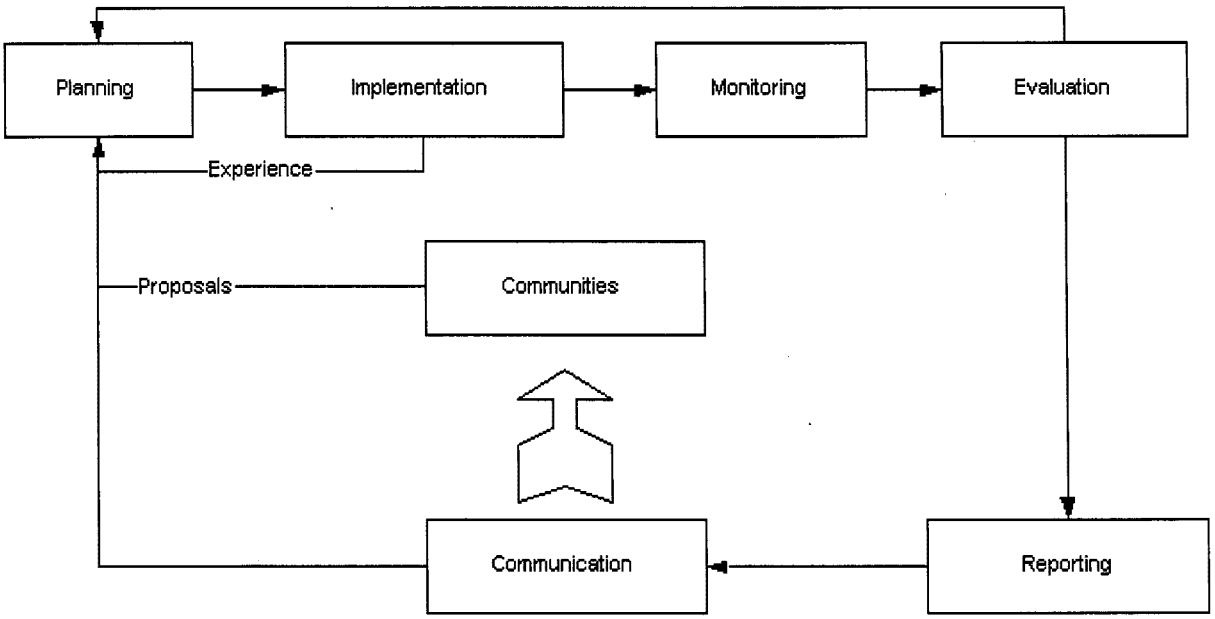
2. Institutional and implementation arrangements

The project will be executed by EICTDA. Implementation of institutional capacity building activities by EBA, ETA, EICTDA, and ITIT will be carried out by the respective institutions, in close coordination with the PMU under the EICTDA. The multi-sectoral and cross-sectoral ICT Development activities will be therefore directly linked to the sector objectives of these programs (where applicable), and will support the overall objectives of the National Capacity Building Program. The CIDEV sub-component is carefully designed to support communities to develop ICT assisted use for their development purposes. Under this component, ICT can act as a catalyst for social change controlled by the communities themselves.

3. Monitoring and evaluation of outcomes/results

The Project Management Unit will include a Monitoring and Evaluation Specialist and a Communications / Program Officer as well as a Program Assistant to assure that appropriate

work plans related to the specified activities are developed and implemented, that the implementation is closely monitored and evaluated and that potential lessons are drawn from the experiences made. Initially it is expected that the Monitoring and Evaluation Specialist assists in designing the work plans of the different PMU departments which will be consolidated into the work plan of the PMU. At this level a primary backstopping of the planned activities will be carried out during the day to day supervision. Once the project has become effective and has gathered implementation momentum, practical experiences will flow into the planning so that in the first and possibly second year of implementation a high degree of flexibility will be of importance. The flexibility needed is emphasized by the fact that in the initial stages no experience related to the impact of information campaigns, implemented by the Communications / Program Officer, which are to trigger the demand for the Community ICT Development Program, are available. Lessons in this respect can only be drawn during or after the first year of implementation.



The Monitoring and Evaluation Specialist will engage in secondary backstopping based on i) information stemming from reports and M&E data to be submitted by communities implementing accepted proposals and ii) the supplied data as specified in Annex 3 which will be used for analytical purposes indicating developments important to the achievements of component outcomes and the project development objective. To ensure that proposals submitted by communities make provisions for M&E, templates will be designed by the M&E Officer and additional support will be given by the Program Assistant of the PMU. Templates to gather baseline information on community level for three different sectors (Health, Agriculture and Education) have already been developed through an M&E study. Additional templates need to be developed as required and based on the sectors touched by the Community ICT Development Program.

Based on the described flow of information for monitoring and evaluation purposes the PMU

through the Authority will report to IDA on a quarterly basis. The frequencies of the internal reporting system will be determined by this requirement. The Planning, Monitoring and Evaluation activities of the project will be supported by a customized Management Information System which will need to be highly flexible as activities relating to the Community ICT Development Program can not be planned in advance. Adequate resources will be provided under the project for effective execution of M&E functions. For additional details on the planned M&E activities and the related Key Performance Indicators see Annex 3.

4. Sustainability

The ICTAD project is responding to a very strong client demand for capacity building in the ICT sector to create an enabling environment for sector growth and strengthening of service delivery to communities. The Government has launched a national ICT Development initiative to meet these objectives. The Government's overall ICT-Assisted Development program appears very ambitious and its full implementation requires strong institutions and human capacity beyond present levels. The ICTAD project is therefore focusing on strengthening them.
The project preparation process included several consultation workshops with local stakeholders and beneficiaries to ensure that the design and implementation of each component is fully endorsed and owned by the respective stakeholders. These include consultations with NGOs/CBOs and Community Based Organizations (e.g. Kebeles, Farmers Associations) and other community and local government institutions.

The project will also actively support and promote an increasing role for the private sector in provision of ICT human resource training and local content development. While the initial major investments for development of training of trainers may be covered under the project, the long term maintenance of such facilities, the operating costs and other related expenses must be integrated into the annual budgets of the respective institutions. In addition, potential sources of revenue generation (e.g. registration fees, user fees, etc.) must be realistically developed and implemented. The project will assist the Government in assessing these needs and developing appropriate measures to ensure sustainability of these initiatives beyond the project period.

The fiscal implications of the institutional strengthening activities will be minimal, and well within the absorption capacity of the Government budget. The Government has already planned to provide on-going funding for the Ethiopian ICT Development Authority, and ETA, during and beyond the life cycle of the project. In addition to the already existing strong government ownership, the project seeks social support through continuous dialogue with stakeholders and communities.

Technical appraisal of the design of the activities funded under the CIDEV subcomponent is based on applying principles of appropriate and locally adaptable technologies, and therefore is consistent with existing level of capacity and technical know-how in the country. Scalability of any proposed activity will be a requirement for its funding under the ICTAD project.
It is expected that the fiscal impact of policy reform programs will be mainly absorbed by the project, and that their potential budgetary implications will be minimal beyond the duration of the project.

Sustainability of the CIDEV program activities beyond the project duration are of concern. The more successful and scalable activities may require additional resources in order to be scaled up or replicated in other areas or sectors. However, determination of scalability of successful CIDEV financed projects would include a careful analysis of their costs and benefits prior to scaling up.

5. Critical risks and possible controversial aspects

The most important risk for the project is that the GoE fails to support creation of an effective ICT policy, regulatory and legal framework. This risk is mitigated by the following factors:

- Despite the telecom monopoly and the slow progress in the policy and regulatory areas, the Government has shown a sustained commitment to introducing a wider role for the private sector in provision of value added services, internet service provision, and resale of telecom services. In addition, the Government has taken an important step by appointing a new managing director for ETC to facilitate the move towards creation of an enabling environment for ICTs;

- The Government has endorsed the ICT Policy framework, and has established the ICT Development Authority with the mandate to coordinate the ICT development agenda. EICTDA will facilitate the institutionalization of ICTs and will create a framework for moving the ICT policy and regulatory reform and the sector development agenda forward;

- The Government has demonstrated a very high level of support for the ICT development agenda and commitment to ensuring that its own rural development plans and ICT-assisted service delivery programs succeed effectively. Therefore, it is expected that the project will be able to substantially mitigate the above risk by focusing first and foremost on the institutional strengthening and capacity building activities that will convince the decision makers of the importance and significance of successful development of a favorable ICT policy, regulatory and legal framework.

Risks	Risk Mitigation Measures	Risk Rating with Mitigation
To project development objective		
Present political priorities will change due to regional conflicts or repetitive and continuous severe droughts.	M	Though a modest risk it cannot be ignored, as it cannot be influenced, close monitoring will be in place and in the event, project will be reviewed to respond appropriately.
The GoE restricts internationally competitive ICT solutions, access to bandwidth, licensing of other regulatory provisions and service levels.	S	Project will provide intensive "knowledge brokerage" and baseline and investment studies to demonstrate

		the economic benefits of a competitive approach.
The decentralization process strains the relations of Woredas with the central administration in a manner that adversely affects project implementation and enforcement of new regulations at the local level.	S	Project will establish coordination mechanism that involves all stakeholders from all levels.
In spite of its assurances the Government does not increase connectivity and access to communication services through public-private Partnerships.	M	This cannot be completely ruled out as at some stage potential changes of laws may be required which would need parliamentary approval. All indications of political leaders however indicate a low likelihood.
The government does not agree on a formula that will guarantee competitive bandwidth charges and service levels based on industry standards available in Sub-Saharan Africa.	S	Project will provide intensive "knowledge brokerage" and baseline and investment studies to demonstrate the economic benefits of a competitive approach.
ETC's national backbone infrastructure is not maintained functional to an acceptable level because of lack of technical support, spare parts, etc.	S	Even though this cannot be ruled out, the fact that the national backbone is a resource of substantial income for the Government this risk is unlikely to materialize. As the impact would however be rather high the risk is rated as substantial.
The EICTDA is not sufficiently equipped by the government in terms of personnel and other resources.	M	An institutional assessment will show the capacity building necessities for the authority. The identified gaps will be filled through capacity building efforts financed by the project.
A low salary scale leads to a high fluctuation of PMU Staff and triggers delays in project implementation.	S	The Bank will propose a competitive salary scale for the PMU.
The response of the private sector to project initiatives is below expectations.	M	This cannot be completely ruled out and will depend on strong signals from the GoE with regard to opening of markets and other incentives. The project will specifically address the requirements of SME in the ICT sector and takes a comprehensive approach for upstream and downstream activities, providing many opportunities such as Public-public and public-private partnership for the private sector to engage.

To component results		
Staff trained under ICTAD cannot be retained and attracted to remote areas.	M	The Government's Civil Service Reform program supports the establishment of improved wages for civil servants. When implemented, these policies are expected to provide incentives at all levels.
Autonomy of training institutions regarding local content to meet local conditions delayed or denied.	M	The project will support these decentralized providers of information only after establishing their independence. The remaining risk depends on the overall political climate, which has been in a liberalizing trend over the last few years.
GoE restricts internationally competitive ICT solutions, access to bandwidth, licensing or other regulatory provisions and service levels.	M	Project will provide intensive knowledge brokerage" and baseline and investment studies to demonstrate the economic benefits of a competitive approach.
Overall risk rating	**M**	

Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N(Negligible or Low Risk)

6. Loan/credit conditions and covenants

Effectiveness Conditions

1. Establishment of the accounting and financial management system for the Project, satisfactory to the Association;
2. Opening of the Project Account and depositing therein the initial deposit;
3. Adoption of the Project Implementation Plan and the Project Implementation Manual with all Schedules in respect thereof, in form and substance satisfactory to the Association;
4. Completion of the work program, including the budget and the procurement plan for the first 18 months of Project implementation, satisfactory in form and substance to the Association; and
5. Establishment of the PMU with personnel having experience and qualifications satisfactory to the Association, including a Project Manager, a Procurement Specialist, a Financial management Specialist, a Monitoring and Evaluation Specialist, and a Communications Specialist and has employed them all in accordance with the provisions of the Guidelines for Selection and Employment of Consultants dated May 2004.

The Government has already made substantial progress with respect to fulfillment of these conditions. A suitable financial management system has been identified for implementation as soon as the PMU is fully staffed. The final version of the Project Implementation Plan is being prepared and is expected to be completed shortly. Condition 4 has been fully met and the

procurement plan for the first 18 months of Project implementation has been incorporated in Annex 8 of the current PAD. Advertisement of the PMU positions, establishment of review committees, and short listing of qualified candidates for all key PMU positions have been completed, and the selection process is expected to commence shortly. All key PMU staff are expected to be in place well in advance of effectiveness.

Financial Covenants

1. EICTDA/PMU will submit the audited Project accounts to IDA six months after the end of each fiscal year. The fiscal year ends on 7 July of each year. The audited financial statement will include all sources of funds for the Project, including other donors and the government. EICTDA/PMU will submit quarterly FMRs to IDA forty-five days after the end of each quarter;
2. Appointment of auditors within three months of the effective date;
3. Organization of a project launch workshop within three months of the effective date.

Dated Implementation Covenants

1. By June 15, 2005, the Borrower publicly announces that licenses for qualified legally established entities as Internet Service Providers will be issued by ETA starting no later than September 30, 2005;
2. By August 1, 2005, the Borrower publicly announces that licenses for qualified autonomous, legally established entities as Rural Connectivity providers will be issued by ETA within 24 months from the effectiveness date of the project;
3. By August 1, 2005, the Borrower publicly announces that licenses for qualified autonomous, legally established entities as Community Radio providers will be issued by EBA from October 3, 2005.

D. APPRAISAL SUMMARY

1. Economic and financial analyses

The main focus of ICTAD is on creating an enabling ICT policy, legal and regulatory framework, and strengthening the institutions that can play a key role in this process. These include the Ethiopian ICT Development Authority, Ethiopian Telecommunications Agency, Ethiopian Broadcasting Agency, and the Institute for Telecommunications and Information Technology.

The project is also focusing on creating practical opportunities that foster growth of demand from below, and increase the need for removal of policy, legal and regulatory bottlenecks. For example, the Rural Connectivity initiative is focusing on provision of community level connectivity to residents of under-served or un-served areas through introduction of last-mile connectivity options.

The large differential between Ethiopian teledensity and globally observed norms of teledensity suggests that there is significant suppressed demand for telecommunications services. In such

circumstances, demand is often price sensitive and elastic. Ethiopia's teledensity of about .9 is so low (far below Sub-Saharan Africa and HIPC averages), that almost any appropriately located and scaled telecommunications services provider can succeed because of the substitution effect relative to other, less efficient means to transmit and receive information. Ethiopia, while poor, is a supply-constrained market for telecommunications. The reforms and activities proposed in ICTAD, by initiating the process of creating competitive markets, will likely result in lower prices for telecommunications services, thus generating increased demand.

Lack of access to basic telephone service carries considerable costs. There are numerous case studies documenting the prohibitive costs paid by society when rural and peri-urban residents are denied access to telephone service. For example, the World Bank's World Development Report 1994, Infrastructure for Development, states that studies in Colombia and the Philippines have shown that the ratio of productivity gains arising through the use of telephone service exceeds the annual cost of providing service by at least 20:1 for businesses.

A study of the Grameen Village Phone program in Bangladesh detailed some of the economic benefits achieved by introducing phones into villages. According to this study, the cost of a typical trip from a village to the capital city amounts to almost two to eight times the cost of a single phone call. And a single phone call from a family member in the capital city to the village can generate a consumer surplus between 3.64% to 9.8% of mean monthly household income. (D. Richardson, R. Ramirez, and M. Haq, Grameen Telecom's Village Phone Program in Rural Bangladesh: A Multi-Media Case Study, Telecom Development Group, Ontario, Canada, for the Canadian International Development Agency, 2000).

Community consultations carried out by the US National Telecommunications Cooperatives Association (NTCA) in rural Nigeria elicited similar examples. Communities surveyed reported that they would benefit from telecommunication services in numerous ways. These benefits can be grouped into five general categories:

- Reduced transport cost and time;
- Market information for buying and selling;
- Reduced isolation from the outside world;
- Job creation/training/reduced rural out-migration;
- Access to information about health, agricultural and environmental management.

Cost Recovery Model

In a typical scenario, if there are 3000 community-phones provided at a cost of about USD 2,660,000, the investment costs can be recovered in 5 years based on a 30-minutes use of each phone per day, at a rate of $0.99 per hour, or 0.14 Ethiopian Birr per minute (assuming 1 USD = 8.5 Ethiopian Birr). This is a very reasonable rate compared to what ETC is charging for phone calls in the greater Addis Ababa area. Provision of access to internet will require an additional investment cost

Due to lack of supporting infrastructure (electricity, roads), one may consider Ethiopia to be a high cost environment, with a cost per line of USD 1000 per fixed-wireless line, and USD 1,200–2,000 of extending fixed-line service to remote areas. Extension of mobile services will

likely be cheaper, but is not normally calculated in a per line basis. More important to consider is the fact that, as a result of Ethiopia's extremely low teledensity, there is ample potential for growth under a rural connectivity program. However, some fundamentals are still lacking: policy must be developed in order to move firmly, and a sound and reliable regulatory framework must also develop. ETC has ambitious network backbone plans which include roll-out of broadband and multimedia access capacity, yet from a policy perspective, universal access to voice and some basic form of text email must be a priority, followed by the more broadband intensive applications. Ethiopia's universality approach should aim not only at rural and remote areas, but also at urban and semi-urban areas, which are agonizing for more connectivity and remain in most cases surprisingly isolated. The opportunity to enhance economic growth, as a result of more information and communication resources, in key areas like tourism, exports of agricultural and some nonagricultural products is enormous. See Annex 9 for further details.

2. Technical

Expert consultants have assessed all the major technical aspects and options, and have provided feasibility studies and options for implementation of activities in their respective areas. Proposed activities and technical options have been formulated in close collaboration with stakeholder groups in Ethiopia. The project preparation team and the consultants have also received additional guidance and support on specific topics from appropriate Bank units (e.g. from GDLN/ISG on Distance Learning options).

Technical designs of the proposed activities have been based on using locally sustainable appropriate technologies, and therefore are consistent with existing level of capacity and technical know-how in the country. Scalability of any proposed activity will be a requirement for its funding under the ICTAD project. Compatibility of selected technologies or technical solutions with international and national standards (where applicable) will be a requirement. Development of such compatibility requirements will take place in direct consultation with appropriate stakeholders to ensure compatibility with existing (or required) standards, and with locally sustainable and supported solutions.

International standards will be adopted as the starting framework for all technical equipment, hardware, software and training. National Standards for other aspects of Information Technology solutions that have to be adapted to local needs (e.g. local language keyboard, fonts, etc.) will be developed as a key foundation building activity during implementation of the project.

3. Fiduciary

Procurement

Public procurement in Ethiopia is regulated by (a) the Financial Proclamation No. 57/1996 which constitutes the Procurement Law, (b) the Financial Regulations No. 17/1997 issued by the Council of Ministers and (c) the Ministry of Finance Directives procurement and contracts, issued in 1997 and revised in 1999, at the federal level. The Bank carried out two Country Procurement Assessment Reviews (CPARs) in 1998 and 2002 jointly with the Government. The reviews included detailed diagnosis of the current procurement system, its strengths, weaknesses

and development of an Action Plan to address the weaknesses. The main weaknesses identified were (i) Lack of an oversight body for policy and monitoring, (ii) Weak procurement procedures, (iii) Lack of a legal and regulatory framework and (iv) Lack of adequate procurement capacity.

The main recommendations of the CPAR include: (i) enactment of a procurement law; (ii) establishment of a regulatory body; (iii) development of procurement directives; (iv) preparation of standard bidding documents, manuals and guidelines; and (v) implementation of a comprehensive capacity building (including training) strategy. The Government has accepted the recommendations of the CPAR and has established a taskforce to lead the procurement reform process. A procurement code has been drafted and training has started to be provided to procurement staff at Federal level. The new procurement code has been approved by the Council of Ministers and is expected to be presented to the parliament by October 2004. The code provides for the establishment of an independent regulatory body and the Government plans to fully decentralize procurement functions to civil service institutions at the federal level upon enactment of the code.

The Government has started a process to develop new standard bidding documents for the procurement of goods, works and services. The National Bidding documents, when developed, can be used for national competitive bidding after verification by the Bank that the countries laws and procedures are acceptable. In order to be acceptable the national procedures should ensure that: (i) bids will be advertised in national newspaper(s) with wide circulation; (ii) the bid documents clearly explain the bid evaluation and award criteria; (iii) bidders are given adequate response time (minimum four weeks) to prepare and submit bids; (iv) bids are awarded to the lowest evaluated bidder; (v) foreign bidders are not precluded from participation in NCB; and (vi) no domestic preference margins are applicable to domestic manufacturers and suppliers. For details see Annex 8.

Financial Management

The overall conclusion from the recent CFAA exercise is that considerable progress has been made in the rationalizing and strengthening of budgeting process at the Federal level. Various capacity building efforts are being undertaken at the regional levels as well. Despite some progresses made in the last three years, there are weaknesses in medium term planning, accounting, auditing and reporting.

The Project will be implemented by a PMU that will be established under the Ethiopian Information and Communication Development Authority (EICTDA) before the project effectiveness. As a result of this, the project will need to ensure that the financial management system is carefully planned and developed as is indicated in the action plan shown below. Establishment of adequate financial management system, among other things, includes development of a financial management manual and appointment of key finance staff at the PMU.

The draft financial management and Procurement manuals have been prepared.
Funding sources for the project include Bank credit, government and other donor funds. The credit proceeds from the Bank will flow from the credit account to a SA to be opened at the National Bank of Ethiopia. From the SA, funds may be transferred to the local Birr account and

from the local Birr account, payments may be made to suppliers and contractors.
The Federal Auditor General will assign external auditors, acceptable to the Bank, to conduct the audit of the project financial transactions. For details see Annex 7.

4. Social

A social analysis was carried out by consultants to analyze the impact of ICT-assisted interventions on improving the lives of the intended beneficiaries, urban and rural communities, small and medium enterprises, public and private organizations, rural population, women and youth, and disabled. The results of studies point to a positive impact against the background of an overall poorly developed sector.

Community ownership and buy-in will be critical for the success of the project. Therefore, a total of eleven awareness raising workshops, initial needs assessments, and stakeholder and beneficiary consultation workshops have been held during the design and preparation of the project. The first consultation workshop was held in May, 2003, with over 130 participants. These included representatives from Federal, Regional and Local Government representatives, various line ministries, NGOs and Community Based Organizations (CBOs), local community organizations, private sector groups, academic institutions, donors and other partners. Subsequent consultative workshops were held on ICT Development, ICT Standards, Rural Connectivity, Wireless Communications, and other ICT Technical Issues. Consultations with Private Sector stakeholders were also held on ICT SME Development. Regional consultative workshops on ICT Development were also held in Assosa, Benishangul, Gambela and Tigray.

Stakeholder consultation workshops during project preparation have included discussions and collaboration with NGOs and Community Based Organizations, particularly those that are already actively involved in service delivery programs.

The project will be executed by EICTDA. The multi-sectoral and cross-sectoral ICT Development activities will be therefore directly linked to the sector objectives of these programs (where applicable), and will support the overall objectives of the National Capacity Building Program. The CIDEV sub-component is carefully designed to support communities to develop ICT assisted use for their development purposes. Under this component, ICT can act as a catalyst for social change controlled by the communities themselves.

The PMU will advise the authorities on how to monitor the ICT sector and its contribution to socioeconomic development. In this context, studies can be conducted under the project that provide more in-depth analysis. Through the CIDEV sub-component proponents of projects will be required to provide indicators for the socioeconomic impact of their proposals.

5. Environment

There are no environmental issues with respect to the ICTAD project (Environmental category for this project is C).

6. Safeguard policies

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP/GP 4.01)	[ ]	[x]
Natural Habitats (OP/BP 4.04)	[ ]	[x]
Pest Management (OP 4.09)	[ ]	[x]
Cultural Property (OPN 11.03, being revised as OP 4.11)	[ ]	[x]
Involuntary Resettlement (OP/BP 4.12)	[ ]	[x]
Indigenous Peoples (OD 4.20, being revised as OP 4.10)	[ ]	[x]
Forests (OP/BP 4.36)	[ ]	[x]
Safety of Dams (OP/BP 4.37)	[ ]	[x]
Projects in Disputed Areas (OP/BP/GP 7.60)*	[ ]	[x]
Projects on International Waterways (OP/BP/GP 7.50)	[ ]	[x]

7. Policy Exceptions and Readiness

The project does not require any policy exceptions, and meets the Regional criteria for readiness for implementation.

* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

Annex 1: Country and Sector Background

ETHIOPIA: Information and Communication Technology Assisted Development Project

1. Summary of Key Structural and Institutional Features of the Sector

The key features of the ICT sector in Ethiopia are discussed below.

Policy Environment
Ethiopia's broadcasting law is progressive compared to other sub-Saharan African countries. However, in practice no private radio or television stations are licensed to operate as yet.

Ethiopian Telecommunications Corporation (ETC) is the incumbent public telecom operator, with a monopoly over all telecom services in the country (fixed, mobile, Internet and data communications). Independent V-SAT connections and satellite phones are not allowed, and call-back services are illegal.

The Government has recently decided to proceed with the licensing of rural connectivity initiatives, private sector Internet Service Providers (ISPs) who will initially lease connectivity facilities from ETC and resell to users, and Community Radios.

In the Information Technology (IT) and networking segment of the sector, there is no coherent policy in place as yet to support the growth of IT industry. Existing high import tariffs (40%) on computer and communications equipment make the widespread use of such systems rather expensive, particularly for smaller businesses and institutions.

Institutional Features
Development of ICTs in Ethiopia has been treated in an ad hoc manner until recently. Various sectors and institutions have tried to address their needs and concerns independently, rather than in the context of creating a favorable framework applicable to all. The ICT Policy Paper of 2003 provides a framework for defining the direction of the sector and its development objectives. It also sets the stage for institutional arrangements for policy development, and the promotion and regulation of the ICT sector.

The Ethiopian Telecommunications Agency (ETA) is the Regulator. ETA is a rather new institution and its capacity in executing its mandate is limited. ETA carries out frequency assignment for a small segment of the spectrum. However, it does not have any spectrum management and monitoring activities due to lack of licensing schemes, human resources, and monitoring equipment.

The government has recently established the Ethiopian ICT Development Authority (EICTDA), which is mandated to oversee the implementation of the ICT strategy.

Connectivity, Data Communications Infrastructure and Related Services
It is generally accepted that a robust telecommunications infrastructure is the necessary condition for more effective development of markets and growth of the economy. The national telecommunication switching capacity is about 550,000 lines, of which about 340,000 are

currently in use. About 60 percent of telephones are concentrated in Addis Ababa. Ethiopia's teledensity is about 0.54, one of the lowest in Sub-Saharan Africa.

Use of mobile phones in Ethiopia is rather limited, but growing. The number of current subscribers is about 90,000 and growing. Costs are relatively affordable, but service quality and availability are low. ETC plans to introduce prepaid and subscriber mobile lines (about 400,000 new lines during 2004-2005) to alleviate the situation.

Despite the existing regulatory and infrastructure limitations, the private sector has been increasingly active in offering IT related goods and services in recent years. Over 170 companies offer computer technology related products and services, mostly in Addis Ababa.

A dedicated digital data network provides the underlying infrastructure for ETC's Internet service. The number of internet accounts is still limited to about 6,000. International link congestion is quite severe for daytime connections. Despite the availability of the nationwide local call tariff for dial-up Internet users, the distribution of Internet users is still strongly skewed to the capital (94% are located in Addis). This is partly due to the limited availability of telecom infrastructure, and partly because of the low level of computerization outside the capital. The speed and reliability of internet connections are rather low.

ICT Human Resource

Considerable efforts are under way to increase the number of trained ICT professionals in Ethiopia. These include vocational training programs offered by various institutions, as well as college and university level degree programs in computer science, electronics, telecommunications and information theory, software engineering and programming, technical management, and design and maintenance of management information systems.

ETC's Institute for Telecommunications and Information Technology (ITIT) provides basic training in plant maintenance, switching, transmission, traffic and management of telecommunication networks. ITIT has recently begun basic training on computer applications and is planning to offer graduate courses in telecom engineering, management and information technologies in 2004 - 2005.

Since 1992, the private sector has been providing basic computer and software applications training. The growth of computer training centers in the country, despite their uneven quality, has improved the general level of computer literacy and resulted in more skilled computer usage. Most of these computer-training centers offer courses on application packages, systems analysis and design, and computer maintenance. However, the quality of facilities and training programs varies greatly among providers.

Applications in Sectors

The basic education system has been virtually untouched by computers or Internet. Very few of the 12,000 primary schools have computers or internet access. The Government is currently implementing a School Network program (SchoolNet) that will connect about 500 secondary schools as part of a national network. The Government has started to introduce ICT training programs in secondary and Technical and Vocational and Educational Training (TVET) schools.

The tertiary education system comprises 6 national universities and 3 polytechnics with a total of approximately 75,000 students. Addis Ababa University (AAU) is the largest tertiary institution and is also host to the African Virtual University (AVU) facilities. AAU has developed a campus-wide network with partial access to internet. Most other institutions have limited access to computer networks and internet.

E-commerce and the use of the Internet in trade are at a very early stage of development in Ethiopia. E-commerce related laws and regulations such as privacy protection and digital signature have yet to be adopted. Automatic Teller Machines (ATMs) are being introduced on a pilot basis.

There are about 350,000 civil servants in Ethiopia, of which only 2,200 have email accounts (based on 735 government EthioNet accounts each having 3 users). It is estimated that about 14% of public servants have access to PCs. Several government ministries and agencies, including Ministry of Finance, have parts of their operations computerized. There are also plans for computerization of other public sector management operations.

The Ethiopian Civil Service College in Addis Ababa is operating a Global Development Learning Network (GDLN) center, offering video conferencing and distance learning services in Addis Ababa. The two-way video conferencing facility is housed in a classroom capable of taking up to 40 students. A variety of courses have been offered to about 1,200 students.

The Government is developing implementing plans for a Government Network and a local authority (Woreda) network, to connect the Federal, Regional and local governments. The initial phase will create a Regional and Woreda administration network that will connect over 560 high schools and 611 Woreda administrations with the Regional and Federal governments. The proposed initial applications for this network include communication and data exchange among local, regional and federal government agencies. The Government is also considering broader use of these facilities for service delivery to local communities and offering them as access points for rural connectivity and access through a variety of arrangements, which include public as well as private service providers.

ICT Standards

Lack of locally adapted technology standards for information technology systems is a major concern that requires special attention. Several major local languages are widely used in Ethiopia, which vary across the Regions. Government's broader objectives of capacity building, decentralization, and networked classrooms and local administrations will require development of ICT standards that are responsive to these needs.

2. Summary of the Bank's assessments of key policy, institutional issues and constraints

The Government has recently taken several positive steps to address the ICT sector development challenges. It has established the Ethiopian ICT Development Authority (EICTDA), with a mandate to propose policy and to coordinate a multi-sectoral effort for development of the ICT sector. Two key telecommunications agencies (ETA and ETC) now have newly appointed managing directors, and the new management teams that are keen on advancing the ICT sector

development objectives. All these developments could facilitate the steady growth and development of the sector.

Encouraging developments in licensing of private sector operators to set up cyber cafes and to engage in sales, installation and service of communications equipment and services are also consistent with the Government's stated objectives in its ICT Policy paper. However, major challenges still remain. The Broadcasting law allows setting up of private sector non-government programs, but nongovernmental operations or programs are virtually nonexistent in Ethiopia.

Staff of the Ethiopian Broadcasting Agency (EBA) lack exposure to international best practices in broadcasting policy formulation, licensing and the development of local (language) content.

ETC's position as the incumbent monopoly has led to its inefficiency and ineffectiveness in responding to customer needs and the growing demands of the public and private institutions for connectivity, communications, and data exchange services.

ETA's institutional capacity for regulation of the sector is weak. Major challenges remain in the areas of rural connectivity, development of national telecom infrastructure, mobile telephony, data communications, and availability and affordability of internet and related services.

The Information Technology sector (computers, networks, and related services) is small but growing. ICT human resources are limited due to small markets, low salaries, low on the job incentives, and lack of institutional infrastructure. Sector-specific ICT applications are limited in scope, and very often are implemented in a disjointed and fragmented manner. The implemented solutions are also generally under-utilized. Information availability, particularly in local languages, is limited. Lack of ICT standards hinders widespread growth of applications, particularly in local languages.

In practical terms, a number of regulatory, technical, and operational prerequisites must be instituted before ICTs can have a significant impact on Ethiopia's poverty reduction and socioeconomic development efforts.

Government's strategy to address these issues and constraints

For Ethiopia to meet its development objectives using ICTs as enablers, considerable investments are needed in institutional and sector capacity building efforts. The same is true about human resource development needs, and communications and information technology infrastructure. In addition, appropriate policy and regulatory reforms are needed to ensure equitable, reliable, and affordable access to information and communication technologies.
In response to these challenges, the Government has embarked on a major effort to put in place many of the building blocks required for developing a robust ICT sector in Ethiopia. The Government has:

1. Prepared an ICT Policy paper (driven by the development objectives outlined in the SDPRP) which is reviewed and endorsed by the Council of Ministers;

2. Established the Ethiopian Information and Communication Technology Development Authority (EICTDA) as the national policy advocacy and coordinating body for ICTs;
3. Initiated a national ICT capacity building program (see Section B for details);
4. Appointed a new management team for the Ethiopian Telecommunications Agency (ETA) and the Ethiopian Telecommunications Corporation (ETC) respectively, to ensure effective strengthening of telecom regulation and removal of regulatory bottlenecks, for ICT development and to improve the efficiency and effectiveness of the operator in response to the changing demands of the market;
5. Initiated actions to facilitate active participation of the private sector in provision of ICT and telecom related value added services (e.g. issuing licenses for provision of internet services and cyber café's by the private sector);
6. Agreed to increase connectivity and access to communications services, particularly in rural areas, through licensing of private sector Internet Service Providers (ISPs); Rural Connectivity public-private partnerships; and community radios.

3. Sector issues to be addressed by the project and strategic choices:

Discussions on the existing status of Ethiopia's ICT sector have led to a mutual understanding between the Government and the Bank on the purpose and scope of the ICTAD project as follows:

- Implementation of the GoE's ICT capacity building program requires a major effort to establish the cross-cutting prerequisites and foundations for sustainable growth of the ICT sector;
- The ICTAD project will focus on cross-cutting foundation building issues (e.g. policy and regulatory environment, ICT standards, training of trainers, capacity building and institutional strengthening, etc.). These are among the key prerequisites for the successful institutionalization and mainstreaming of ICTs in all sectors, and for the effective growth of ICT-assisted development in Ethiopia;
- Large scale computerization and roll-out activities in various sectors will be carried out under the respective sector operations. These large scale operations include IDA funded operations, such as the Higher Education and the Rural Development Projects, and the Public Sector Capacity Building Program (PSCAP). In the context of these projects, modalities of ICT applications and roll-out activities include ICT enhanced sector service delivery, Good Governance, and computerization of federal, regional and local government institutions and the installation of management information systems.

Therefore, ICTAD project activities will focus on:

- Facilitating the creation of an enabling Policy / Regulatory / Legal environment through a select group of policy reviews and recommendations;
- Establishing the cross-cutting, multi-sectoral prerequisites for the growth of ICTs in Ethiopia (e.g. locally adapted technical standards and data security);
- Strengthening EICTDA's oversight and sector monitoring capacity;
- Strengthening the performance of regulatory authorities such as Ethiopian Telecommunications Agency and the Ethiopian Broadcasting Agency's regulatory capacity;
- Strengthening ITIT's training programs and upgrading its personnel's skills;

- Providing Sector M&E and project administration through a PMU;
- Application and Community Support Incorporating ICT training of trainers in selected TVET training centers;
- Strengthening the Regional Micro and Small Enterprise Development Agency's capacity to develop Public-Private Partnerships with SMEs for provision of increased connectivity
- and access;
- Establishing ICT Business Development incubators under a Public-Private Partnership arrangement;
- Supporting rural connectivity initiatives and creation of access points in outlying areas;
- Establishing a demand driven Community ICT Development Fund, and evaluating its impact.

Initially, the project will mobilize existing institutional capacity and work within the existing policy, regulatory and legal framework, while facilitating the shift towards introduction of the necessary reforms to help develop the ICT sector.

4. Summary of Proposed Approach

With respect to the four pillars of the Government's ICT strategy, the proposed project components concentrate on: i) creating an enabling policy, legal, and regulatory environment; ii) strengthening ICT-sector institutions; iii) facilitating increased connectivity / access ; and iv) supporting the utilization of ICT assisted services and providing access to communications through use of appropriate technologies at community level through a demand driven facility.

This facility will provide funding on a competitive basis. The first three areas of focus will have direct global, multi-sectoral and cross-cutting impact on the growth of ICTs in Ethiopia. The community driven pilots will demonstrate the potential value and impact of access to ICT-assisted interventions in improving the efficiency and effectiveness of service delivery to communities.

The outcomes of ICTAD's activities will be complementary to those of other ICT initiatives supported by the Government and Bank programs and projects. This project will help create an enabling legal, political and economic environment for the growth of ICTs through policy dialogue and advice, strengthening the key sector institutions, and developing opportunities for private sector and communities to actively engage in the sector and benefit from it. Large scale computerization or roll-out activities are beyond the scope of this project and will be carried out under respective sector operations.

Annex 2: Major Related Projects Financed by the Bank and/or other Agencies

ETHIOPIA: Information and Communication Technology Assisted Development Project

To date, no major Information and Communications Technology or Telecom Reform operation has been carried out in Ethiopia with the Bank's assistance. Therefore, similar ICT, information Infrastructure or Telecom related Bank projects in other countries have been consulted for lessons and insights. These include:

- West bank and Gaza – Integrated Community Development Project;
- Jordan – Education Reform for Knowledge Economy;
- Morocco – Information Infrastructure Sector Development;
- Uruguay: Public Services Modernization Technical Assistance;
- Dominican Republic: Telecom Regulatory Reform;
- Uganda: Energy for Rural Transformation.

Lessons of these and other projects have been incorporated in the design of ICTAD.

Sector Issue	Project	Latest Supervision (PSR) Ratings (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective (DO)
Quality and availability of social and economic services, multipurpose community telecenters.	West Bank and Gaza: Integrated Community Development Project	S	S
Human Resources Development and Capacity Building for the Knowledge Economy	Jordan: Education Reform for Knowledge Economy	S	S
Market Liberalization, Private Sector Participation, and strategy for the use and development of IT	Morocco: Information Infrastructure Sector Development Adjustment Loan	S	S
Access to public services, legal/regulatory frameworks, and Private Sector involvement	Uruguay: Public Services Modernization Technical Assistance	S	S
Telecom Regulatory, Rural Access, and Private Investment	Dominican Republic: Telecom Regulatory Reform	S	S
Rural/Renewable Energy and ICTs for service delivery	Uganda: Energy for Rural Transformation	S	S

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

Annex 3: Results Framework and Monitoring

ETHIOPIA: Information and communication Technology Assisted Development Project

Results Framework

PDO	Outcome Indicators	Use of Outcome Information
Public and private sector providers of information, goods and services will be enabled to improve quality and quantity of their products through the efficient and effective use of ICTs.	By 2009, in the areas covered by the project: - Business transaction cost for users of ICT assisted services reduced by 30% - Number of registered ICT based businesses increases by 15% annually on average after implementation of policy reforms - By 2009, in the areas not covered initially by the project, at least 20% of the initiatives supported by the project were mainstreamed, transferred or adapted to other locations.	The relevant information will be reported to the Minister of Capacity Building as well as IDA. Critical issues or problems on cross-sectoral ministerial level requiring attention will be handled by the above mentioned Minister.
Intermediate Results One per Component	**Results Indicators for Each Component**	**Use of Results Monitoring**
Component One: **1. Policy, legal, regulatory and institutional framework in place that is conducive to the growth of the ICT sector.**	**Component One:** 1.1 Enabling policy / regulatory/ and legal environment in place by 2008 - Laws enacted by 2006, allowing competitive provision of connectivity and ICT related goods and services - Policies, laws and regulations adopted governing the protection and interests of copyrights and intellectual property rights of indigenous knowledge bearers and providers by 2008. 1.2 Standards for script, localization of software applications, keyboard layout etc. adopted by 2007. 1.3 Ethiopian ICT Development Authority (EICTDA) effectively fulfills its mandate as stipulated in its 2003 proclamation. 1.4 Ethiopian Telecommunications Corporation (ETC) effectively provides backbone services at competitive rates, 1.5 Institute for Telecom and Information Technology (ITIT) produces sufficient technicians and skilled workers concomitant with its own and private sector demand in the area of Network design, management, and operation and	**Component One:** The relevant information will be disseminated to the relevant implementing agencies as well as IDA. Critical issues or problems on cross-sectoral level requiring attention will be handled by the above mentioned institutions. The lead agency in this regard is however EICTDA.

	mobile phone switching. 1.6 Ethiopian Telecom Agency (ETA) effectively regulates and enforces national policy by 2007 (spectrum management, licensing, new technologies etc.) and licenses at least 2 private ISPs per annum. 1.7 Ethiopian Broadcasting Agency (EBA) develops a radio licensing scheme by 2005, effectively supports applicants to meet license requirements. 1.8 EICTDA/PMU monitoring effectively provides key policy makers actionable recommendations on a regular basis and/or on demand related to • institutional, legal and policy environment • impact of policy reform on ICT and other relevant sectors • impact of special ICTAD supported measures • impact analysis of training on supply of skilled ICT work force 1.9 Effective outreach and communication structure in place by end 2005 provides transparent, effective and efficient management of measures supported under ICTAD. 1.10 Effective and efficient management of ICTAD supported activities in place by end 2005.	
Component Two: **2. Public and private sector providers enabled to provide ICT assisted services and users enabled to access and utilize them.**	**Component Two :** 2.1 In selected TVET training center at least 400 ICT trainers trained by 2009. 2.2 100 Selected ICT SMEs supported within the context of ReMSEDA by 2009. 2.3 By 2007 two incubators in place to provide a conducive environment of at least 20 private ICT sector operators 2.4 By 2006 local facility for computer remanufacturing established 2.5 By 2009 at least 3000 community phones operational 2.6 By 2009 at least 40 Community ICT Development projects funded, evaluated and screened for scaling-up in a transparent manner.	**Component Two:** The relevant information will be disseminated to the relevant implementing agencies as well as IDA. Critical issues or problems on cross-sectoral level requiring attention will be handled by the above mentioned institutions. The lead agency in this regard is however EICTDA.

Arrangements for results monitoring

Outcome Indicators	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
By 2009, in the areas covered by the project Business transaction cost for users of ICT assisted services reduced by 30%.	TBD		x	x	x	30	Annual "Business Climate Index" type report	- Reports of ICT service providers - Independent client Percentage an aggregate, quantified quality statement summarizing business owners sentiments	M&E specialist of the PMU in cooperation with Chamber of Commerce (CoC)
By 2009, in the areas covered by the project Number of registered ICT based businesses increases by 15% annually on average after implementation of policy reforms.	TBD		x	x	x	x	Annually; PMU in cooperation with CoC and relevant Ministry to determine baseline and to conduct annual surveys	Data of CoC, Ministry of Industry, ETC/ ATA records	M&E specialist of the PMU in cooperation with Chamber of Commerce
By 2009, in the areas not covered initially by the project, at least 20% of the initiatives supported by the project were mainstreamed, transferred or adapted to other locations.	0	x	x	x	x	x	Initiate data collection approach by 2006, start annual reviews	Project records; records in ministry, other development partners; hiring of external consultant	M&E specialist of the PMU
Results Indicators for Each Component									
Component One :									
1.1 Enabling policy / regulatory/ and legal environment in place by 2008 - Laws enacted by 2006,	NA	x	x	x	x	x	- - Specific reports of the M&E and learning system for CIDEV and Rural Connectivity Program (RCP) and related sub-projects.	Government publications ; operator reports, Consultants ,PMU-Staff;	M&E specialist of the PMU

allowing competitive provision of connectivity and ICT related goods and services - Policies, laws and regulations adopted governing the protection and interests of copyrights and intellectual property rights of indigenous knowledge bearers and providers by 2008.							- Network logs of operators and providers - Bank reports on investments of private sector into ICT Business - Reports of private sector operators - Reports from radio operators; sector ministries; coordinating agencies; - Lists of publications produced, subscribers, recipients.	Independent Client surveys ,	
1.2 Standards for script, localization of software applications, keyboard layout etc. adopted by 2007.	NA	x	x	x			Annual observation of progress	Observation, focus studies	M&E specialist of the PMU
1.3 Ethiopian ICT Development Authority (EICTDA) effectively fulfills its mandate as stipulated in its 2003 proclamation.	NA	x	x	x	x	x	Annually	Institution reports	M&E specialist of the PMU
1.4 Ethiopian Telecommunications Corporation (ETC) effectively provides backbone services at competitive rates.	NA; criteria for effective service" elaborated and agreed u0pon in Y 1			x	x	x	Annually	Institution reports; regional comparisons;	ETC management, M&E specialist of the PMU
1.5 Institute for Telecom and Information Technology (ITIT) produces sufficient technicians and skilled workers concomitant with its own and private sector demand in the area of Network design, management, and operation and mobile phone switching.	TBD	x	x	x	x	x	Annually	Institution reports; tracer study	ITIT management, M&E specialist of the PMU
1.6 Ethiopian Telecom Agency (ETA) effectively	0				2	4	Annually after 2007	Institution reports; regional	ETA management,

regulates and enforces national policy by 2007 (spectrum management, licensing, new technologies etc.) and licenses at least 2 private ISPs per annum.								comparisons;	M&E specialist of the PMU
1.7 Ethiopian Broadcasting Agency (EBA) develops a radio licensing scheme by 2005, effectively supports applicants to meet license requirements.	NA; criteria for effective service" elaborated and agreed upon in Y 1		x	x	x	x	Annually after 2005	Institution reports; regional comparisons;	EBA management, M&E specialist of the PMU
1.8 EICTDA/PMU monitoring effectively provides key policy makers actionable recommendations on a regular basis and/or on demand related to • institutional, legal and policy environment • impact of policy reform on ICT and other relevant sectors • impact of special ICTAD supported measures • impact analysis of training on supply of skilled ICT work force	NA	x	x	x	x	x	Annually	Project Management System	M&E specialist of the PMU
1.9 Effective outreach and communication structure in place by end 2005 provides transparent, effective and efficient management of measures supported under ICTAD.	NA	x	x	x	x	x	Annual reviews; Areas covered, communities reached, feedback obtained etc	Project reports, MIS	PMU, M&E specialist
1.10 Effective and efficient management of ICTAD supported activities in place by end 2005.	N/A	x	x	x	x	x	Annual reviews; Areas covered, communities reached, feedback obtained etc	Project reports, MIS	PMU, M&E specialist
Component Two :									

2.1 In selected TVET training center at least 400 ICT trainers trained by 2009.	0		100	100	100	10	- Follow-up with school leavers, initiation of tracer studies	Consultants, Reports of TVET institutions - Tracer studies for IT personnel trained. - Reports of incubator operators - Reports of access providers - Reports of CIDEV and RCP monitoring and proponents - PMU Monitoring	TVET Center
2.2 100 Selected ICT SMEs supported within the context of ReMSEDA by 2009.	0		20	20	30	30	Annually	Business reports, ReMSEDA reports	ReMSEDA
2.3 By 2007 two incubators in place to provide a conducive environment of at least 20 private ICT sector operators	NA			20			Ad hoc visit upon signing of MoU between operator and occupants; observe level of attrition	Observation, Contracts between provider and occupant	Incubator operator
2.4 By 2006 local facility for computer remanufacturing established	NA	x	x	x					
2.5 By 2009 at least 3000 community phones operational	0		100	400	1000	1500	Annually	statistics of operators	Operators
2.6 By 2009 at least 40 Community ICT Development projects funded, evaluated and screened for scaling-up in a transparent manner.	0		10	20	30	40	Annually	Project records, applicant records	PMU M&E specialist

Annex 4: Detailed Project Description

ETHIOPIA: Information and Communication Technology Assisted Development Project

The project consists of two components:
1. Policy and Institutional Support, and
2. Applications and Community Support

By Component:

Project Component 1 - USD 13.40 million

Policy and Institutional Support

This component will establish an enabling environment for the growth of the ICT sector by supporting a comprehensive assessment of the existing policy, regulatory and legal framework, particularly in the areas of information technology, telecom, information sharing, and internet. It will also strengthen capacity of the key institutions that regulate the sector, provide services, or manage the reform process.

The **Policy, Regulatory and Legal Framework** sub-component will help identify policy and regulatory impediments to the growth of ICTs, and will help propose favorable trade, taxation, privacy, and security policies. It will also support drafting of appropriate business law and preparation of new policies and regulations that will address the current deficiencies.

Several major local languages are widely used in Ethiopia, particularly in the Regions. Government's broader objectives of capacity building, decentralization, and networked classrooms and local administrations will require development of ICT standards that are responsive to these needs. **The ICT Standards** sub-component will therefore support specific activities to translate standardization requirements into coherent, well defined tasks and projects, and promote an open process for establishment of the necessary standards. Special needs of disabled in using ICTs will also be addressed. Associated with standard development the sub-component will help to establish mechanisms that improve **Data Security**.

The sub-component will include **training and study tours and technical and management training** for key ICT stakeholders and policy makers on use and management of new communication and data exchange technologies such as internet, Internet Protocol (IP) based networks, wireless communications and related technologies. Particular emphasis will be given to clarification of needs and identification of options for the development of an adequate and sustainable infrastructure for data exchange purposes. This is particularly important in the context of the Government's decentralization of public administration activities to local authorities at Woreda level.

Since the bulk of activities under this component consist of consultancies, the funding for this component will be pooled to facilitate implementation arrangements.

The component will support the **strengthening of key ICT policy and regulatory agencies.** This includes support for the Ethiopian ICT Development Authority (**EICTDA**); for the Ethiopian Telecommunications Agency (**ETA**) and the Ethiopian Broadcasting Agency **(EBA)** to become more effective regulators and facilitators for the user oriented development of the ICT sector. ETA's capabilities will be strengthened in Frequency Spectrum Management and in providing advisory services on sector reform options to allow rapid growth of ICTs. The EBA will be strengthened to better facilitate the licensing and operation of local, community based radio broadcasting. This sub-component will also support ETC, to become a more efficient operator in its areas of core competency, and will assist ETC in the transfer of certain value added services to the private sector. Specific activities include supporting institutional capacity for the Ethiopian ICT Development Authority (EICTDA); strengthening of an independent telecom regulatory Agency; instituting an effective spectrum management system; encouraging and facilitating (through comprehensive assessments and studies) the development of an appropriate national communication infrastructure and provision of sufficient bandwidth for data and multimedia; Increasing awareness among policy makers and community leaders on the significant role that ICTs can play as enablers for improved governance and service delivery.

Efficient **Project Management and Sector Monitoring** are key to a successful implementation of the project. The sub-component will assist the EICTDA to manage the project through an operationally independent **Project Management Unit** (PMU) that provides overall coordination and management of the project, more specifically, planning, communication, M&E, financial management, procurement, reporting functions. In addition the PMU will manage the community ICT Development program (CIDEV) (component 2) and evaluate its impact.

An effective *M&E* program and a robust *learning system* are considered key activities under this project for the following reasons:

1. The inter-dependent nature of the planned activities is such that to achieve the program objectives, a series of *asynchronous* activities must be carried out *in parallel.* The complexity of managing the interdependencies and the sequencing needed, requires a very effective monitoring system *throughout the implementation process.*

2. The interdependencies also imply that successful implementation of the project requires a robust *learning* and *knowledge sharing* system. All key stakeholders must be very clear about the project's goals and how to measure progress and success, and be constantly aware of the status of each program. The team must evaluate the progress and impact of each activity, and make the necessary adjustments to ensure that project activities remain responsive to the changing needs while remaining consistent with the program objectives. This is particularly important where the activities are to inform or guide future policy and investment decisions in ICT-assisted Development.

Most poverty reduction interventions (schools, health clinics, agricultural development programs and social services) depend on communications and information exchange for their effective delivery. Provision of adequate communications capabilities, particularly when adapted to local circumstances and needs, also encourages the poor to participate in economic activities and

social and political processes. Therefore, the Monitoring and Evaluation, and Learning System will support baseline studies to:

a. develop an empirical basis for evaluation of the impact of ICT investments on urban and rural development and poverty alleviation; and
b. identify a set of monitoring indicators for ICT-assisted community oriented interventions;
c. assess the role of ICTs in poverty alleviation, with particular focus on gender equity
d. measure the level of increased beneficiary access to public and private services;
e. measure the increase in effective use of such services;
f. measure the impact of the CIDEV sub-component

Project Component 2 - USD 18.40 million

Application and Community Support

An important objective of the Government's ICT development program is to increase connectivity and to provide access to communications services throughout the country. International experience suggests that the expansion of communications network is strongly correlated with economic growth, and that access to communications in rural areas diminishes the urban/rural economic disparities, provides access to market information, and facilitates service delivery in health, education and other areas thereby reinforcing the poverty reduction contribution of ICTs.

One sub-component will provide **ICT Training of trainers in a selected TVET center,** supporting specific ICT related technical training delivered by vocational streams (either through secondary level vocation training programs or in polytechnics and community colleges). The long-term objective is the development of ICT human resources to deal with more advanced technical needs (e.g. network design and management, communications system design and implementation, advanced technologies). Special emphasis will be given to developing ICT technical and vocational training skills. It further includes training in technical management and support of institutional information systems, computer programming, hardware maintenance and support, applications development. This sub-component will also support strengthening of a (Regional Micro and Small Enterprise Agency (ReMSEDA) to invoke a stronger involvement of small and micro enterprises into the development of the ICT sector.

The **ICT Private Sector Development (Incubator)** sub-component will foster a more direct participation of the private sector in all ICT related aspects by creating opportunities for their growth in the Information Technology (IT) sector. To this end, a study will be carried out in close collaboration with the private sector to identify their needs and the bottlenecks for ICT sector growth. The objective is to identify opportunities for a more active participation of private sector companies in the ICT sector, both locally as well as internationally. Additionally an ICT market assessment and growth opportunity analysis will be carried out, including the assessment of training and human resource needs and a capacity assessment of the private sector. Specific activities will be designed for creating business opportunities for the private sector to strengthen its ICT capacity by direct involvement in ICT activities through the establishment of an

incubator that will provide technology-enhanced support systems to private sector companies. This initiative will have three main activities: i) a high-end ICT business incubator to foster innovative and advanced use of ICT business ideas both at local and international level, including support for setting up of operations by private sector Internet Service Providers (ISPs); ii) a Small and Medium Enterprise incubator for Information Technology companies to assist them in business development, marketing, and access to new customer base; and iii) re-manufacturing and upgrading initiative for production of low cost computers and peripheral equipment. Other activities will support the strengthening of the private sector's capacity for use and maintenance of locally adapted technologies. This sub-component will also support initiatives for increasing opportunities for women and youth to participate in ICT related businesses and training opportunities.

The **Connectivity / Access** sub component will facilitate the creation of public/private partnerships between ETC and qualified cooperatives and/or private sector groups to offer community level connectivity and access to the national telecommunications and ICT services. In these partnerships ETC would act as a wholesaler of communications network infrastructure and services and provide backbone infrastructure for connecting to the national communications network. Community based and/or qualified local private sector groups would act as community based operators or re-sellers for retail sales of communications services. This sub-component would create a win-win situation for all key stakeholders. The communities will benefit by having access to national communications infrastructure, information, etc. Local and regional economies could benefit from the information flow and access to market information that this will bring about. ETA will strengthen its capacity through "learning by doing" by tackling a series of real-world regulatory issues that it must manage skillfully in order to make rural connectivity in Ethiopia a reality. ETC will also benefit from a scalable business model that promises to create new revenue streams for ETC through increased traffic on the backbone, interconnection charges and provision of technical services. A set of access rules will be developed based on transparency and accountability that ensure a maximum interest of private sector and community involvement without exposing the Government's budget to subsidies that would not be sustainable. This component will provide communities with access to communications services beyond the current reach of the national telecommunications infrastructure. It will also create opportunities for **technology transfer** to Ethiopia, particularly where certain components of the rural connectivity systems could be **manufactured and/or assembled locally**. In addition, related human resources, and **research and development capacity** in rural access technologies could be established and supported at technical schools and higher education institutions. These efforts could also foster **export activities** in certain areas of rural access technology.

This component will be implemented in two phases. **Phase I** would include detailed studies of available rural connectivity options, identify international best practices, and propose practical options for modalities of Government financial assistance and/or technical support for rural connectivity in Ethiopia. Phase I would also demonstrate the usefulness of the technology and provide lessons with regard to managing the investments prior to scaling up, and to identify and solve any bottlenecks in the licensing process. Phase I would be managed by EICTDA in cooperation with ETA, ETC, regional and local authorities. During Phase I the project would also establish the appropriate access rules, including the design of output based subsidies or low

interest loans (the potential financial models are not limited to the two mentioned above but will rather be determined by the reality on the ground at the time of implementation of Phase I) that would be required to attract cooperatives and/or private investors to invest in rural connectivity. **Phase II** will implement Rural Connectivity solutions under Public-Cooperative or Public-Private arrangements, based on the findings of Phase I.

The **Community ICT- Development Program** (CIDEV) component is carefully designed to support community oriented initiatives that help communities to access and use ICT services within the context of their needs and development activities that are ongoing or under preparation. This program will finance proposals by communities or intermediaries (such as Government departments, projects, NGOs, associations and other eligible proponents) that meet a set of criteria developed based on the following basic principles: ownership by communities, feasibility, sustainability, scalability, measurability of results, and alignment with national priorities in Health, Agriculture, Education, Good Governance and ICTAD objectives. Under direct supervision of the Project Director (EICTDA), the PMU will manage the program and its appraisal, and monitoring and evaluation procedures in a transparent manner. PMU will also make all information related to the CIDEV program and proposals public. It is essential to note that the program is meant to demonstrate the complementary nature of ICT in achieving a development objective.

Community ownership and buy-in will be critical for the success of the project. Therefore, awareness raising workshops, initial needs assessments, and stakeholder and beneficiary consultation workshops have been carried out during the design phase to determine the relevance and sustainability of ICT support. The studies have assessed the communities' information and communication needs, potential impact of ICT-enhanced services on the local economy, and the commitment of community leaders to support these initiatives. These ICT-enhanced activities will introduce appropriate technologies through specific interventions to improve the effectiveness and impact of sector programs.

A special operational manual will be produced for the CIDEV program by PMU to allow for a transparent, and swift processing of proposals.

Annex 5: Project Costs

ETHIOPIA: Information and Communication Technology Assisted Development Project

Project Cost By Component	Local US $million	Foreign US $million	Total US $million
Policy and Institutional Support	3.12	9.48	12.60
Applications and Community Support	9.61	7.79	17.40
Total Baseline Cost	12.73	17.27	30.00
Physical Contingencies			
Price Contingencies	0.77	1.03	1.80
Total Project Costs[1]	13.50	18.30	31.80
Interest during construction	-		
Front-end Fee	-		
Total Financing Required	13.50	18.30	31.80

[1]Identifiable taxes and duties are 0 (USD m), and the total project cost, net of taxes, is 31.8 (USD m). Therefore, the share of project cost net of taxes is 78.62%.

Annex 6: Implementation Arrangements

ETHIOPIA: Information and Communication Technology Assisted Development Project

Institutional and implementation arrangements:

The project will have an implementation period of five years, from November 30, 2004 to November 30, 2009.
The Government of Ethiopia has created the Ethiopian ICT Development Authority (EICTDA) to coordinate ICT related developments in Ethiopia, and to advise the Government on ICT policy issues. This Authority is accountable to the Ministry of Capacity Building, and is responsible for overseeing the implementation of the Government's ICT Development program.

Executing Agency:
The EICTDA (Ethiopian ICT Development Authority) will be the executing agency for the project. Ministry of Capacity Building (MoCB) will be the oversight agency for ICTAD project through EICTDA. A Project Management Unit will be established in EICTDA, which will be responsible for the management, coordination and monitoring of the project activities. Policy and technical guidance would be provided by MoCB. The PMU will be under EICTDA. The Authority will provide the PMU with adequate mandate to effectively implement the day to day project activities. Details of the PMU's responsibilities and accountabilities will be specified and reflected in the PIP and Project Operational Manual.

Project Management

Central level: The PMU at the center would be staffed with experts to coordinate and monitor the project activities. It will include a PMU Project Manager, a Communication / Program Specialist, a Financial Management Specialist, a Procurement Specialist, and a Monitoring and Evaluation Specialist. Additional staff may be hired as needed.

Regional level: In the regions, the regional capacity building bureaus will be responsible for the implementation of ICTAD project activities. It is expected that each regional bureau will assign a focal person for ICTAD project. The woreda capacity building office in the regions will be responsible for woreda level activities. Depending on the level of activities the woreda capacity building offices will assign a focal person for ICTAD activities. Staff requirement could be kept flexible depending on regional and business needs.

Annex 7: Financial Management and Disbursement Arrangements

ETHIOPIA: Information and Communication Technology Assisted Development Project

1. Summary of the Financial Management Assessment

Introduction

The Bank's policy (OP 10.02) requires borrowers and project implementing agencies to maintain financial management systems, including accounting, financial reporting and auditing systems, adequate to ensure that they can provide to the Bank accurate and timely information regarding project resources and expenditures. The assessment of the financial management systems of this project was done during the month of January and March 2004, in-line with the guidelines issued by the Financial Management Sector Board in June 2001.

Summary of Project Description

The project consists of two components:

Component 1. Policy and Institutional Support
Component 2. Application and Community Support

Country Issues

The recent Country Financial Accountability Assessment (CFAA) carried out jointly by the government, Bank and donors indicated that although considerable progress has been made in the budgeting process, more needs to be done in the areas of budgeting, accounting, reporting and auditing. The CFAA report highlighted development action plan that should be implemented in order to improve the public financial management systems. Most of the action plan will be covered in the existing financial reforms under way through the financial support of donors.

Risk Analysis

Summary Risk Assessment

Project: ICTAD
Date: March 30, 2004

Risk Assessment

		Risk Mitigating Measures
Inherent Risk		
Lack of trained manpower in the area of accounting and auditing and low pay scales for civil servants	S	There is a civil service reform Project in progress undertaken by the government to develop the accounting and auditing profession and to improve the salary scale of civil servants. This

		vill have a long-term effect ather than a short-term effect.
There is no national professional association and accounting and auditing standards	M	This area is covered under the civil services reform Project
Overall Inherent Risk	M	
Control Risk		
1. Implementing Entities The project is implemented by a new PMU to be established and fully functional at effectiveness	M	EICTDA should facilitate the establishment of the PMU and staff it with adequate and experienced staff
2. Funds Flow The Project intends to use FMRs-based disbursements and this may have an impact on the fund flow since a new and complex system will be used	M	The PMU needs to install the recommended software and provide training to the financial officer and his/her assistant before effectiveness of the project
low salary scale	S	The salary scale will be attractive to obtain qualified people
4. Accounting Policies and Procedures The financial management manual has not yet been finalized and the recommended accounting software not installed	M	All the pending tasks will be finalized before effectiveness except the computerization, which may be installed after effectiveness
5. Internal Audit The internal audit capacity at the EICTDA is not strong to make effective post audit activities	M	The internal audit department at EICTDA will be strengthened by hiring additional staff and providing training to the internal audit staff
6. External Audit Low capacity in the auditing profession	S	Developing the TOR of the audit and appointment of auditors immediately after effectiveness
7. Reporting and Monitoring **Non-regular reports from other** implementing agencies, which are not complete and relevant	S	Developing a good reporting and monitoring mechanism
Overall Control Risk	M	

H – High S – Substantial M – Moderate N – Negligible

Implementing Entities
The Ethiopian Information Communication Technology Authority (EICTDA) is responsible for the overall implementation of the project. In order to facilitate implementation, a new Project Management Unit (PMU) will be established and will be housed under the newly established EICTDA.

The PMU will be responsible for the overall financial management of the project. All the payments, except some which will be made on exceptional basis, will be made by the PMU. The PMU will have an experienced and qualified finance officer and junior accountant.

Flow of Funds
The Government of Ethiopia, the World Bank and other donors will provide financial support to the project. A Special Account will be opened at the National Bank of Ethiopia to receive funds from IDA for project implementation. The EICTDA/PMU will be responsible for monitoring the status of disbursements from the Special Account and to process applications for replenishment in a timely manner so as to ensure an unobstructed flow of funds to the project and its beneficiary components.

One local currency account in Birr will be opened at a commercial bank acceptable to IDA to transfer money from the USD SA to cover six months expected expenditures. Another local currency may be opened to be used for the counterpart contribution. The SA and the two local currency accounts will be managed by the EICTDA/PMU.

The Government has agreed to select the FMRs-based disbursement for this project after an initial transition period, and details are shown in the disbursement sections of the PAD. Replenishments to the SA will be made up on submission of FMRs and additional statements by EICTDA to IDA.

All payments will be processed and paid by the PMU. ETA, ETC, EBA, and other sector ministries will provide technical assistance, such as providing specifications for goods and TORs for consultants; and confirming the receipts of goods and services. All the original supporting documents will be kept at the PMU.

Staffing
The PMU will hire finance officer and junior accountant with adequate educational qualifications and experience. The advertisement for the finance officer has already been posted in a national newspaper. The junior accountant will be in place looking at the volume of the transactions in the first few months of project implementation.

An international consultant will be hired to finalize the financial management manual of the project and will provide appropriate training to the finance officer to be hired. The consultant in cooperation with the finance officer will install a computerized accounting system for the project, which is capable of generating the regular FMRs.

Accounting policies and procedures
The PMU will use accrual system of accounting on a double entry basis except fixed assets and stocks for which the cost of fixed assets and stocks will be recognized as expenditure at the time of purchases. As far as possible the PMU will use the Public Sector International Accounting Standards in recording and reporting the financial transactions of the project. Detailed procedural guidelines are included in the financial management manual of the project.

Internal Controls
Internal control comprises the entire systems of control, financial or otherwise, established by management in order to (a) carry out the project activities in an orderly and efficient manner; (b) ensure adherence to policies and procedures; and (c) safeguard the assets of the project and secure as far as possible the completeness and accuracy of the financial and other records.

The project is expected to design and install internal control systems, which will help the management of the project in achieving the project objectives in an orderly and efficient manner. Since the project will not have an internal audit section, the control systems to be designed should compensate for the nonexistence of the internal audit. Thus, the main focus of the internal control is placed on the following:

-Segregation of duties
-Physical control of assets
-Authorization and approval
-Clear channels of command
-Arithmetic and accounting accuracy
-Integrity and performance of staff at all levels
-Supervision

The internal audit unit of the EICTDA will perform some post audit activities of the project.

Reporting and Monitoring
The EICTDA/PMU will establish adequate accounting and reporting systems, which will produce accurate and reliable information regarding project resources and expenditures. The systems should provide reliable records and reports on all assets and liabilities and financial transactions of the project, and sufficient financial information for managing and monitoring activities. The accounting and reporting systems will, among other things, include the:

-Flow of funds
-Accounting policies to be followed
-Accounting systems
-Chart of accounts
-Reporting mechanism
-Budgeting process
-Auditing arrangements
-Staffing requirements

The first draft of the financial management manual has been issued and the revised and final one will be an effectiveness condition.

The EICTDA/PMU will produce quarterly Financial Monitoring Reports (FMRs) and submit the same to IDA 45 days after the end of each quarter. The FMRs will include financial, physical progress and procurement information. At a minimum, the financial reports must include the sources and uses of funds, expenditures by main expenditure classifications, beginning and ending cash balances and other supporting schedules.

Action Plan

	Action to be taken	Expected completion date	Responsible body
1	Finalization of a financial management manual describing the flow of funds, accounting, reporting and auditing arrangements	Before effectiveness	Borrower
2	Appointment of a financial officer at the PMU	Before effectiveness	Borrower
3	Opening of bank accounts at the national level	Before effectiveness	Borrower

Supervision Plan.
A supervision mission will be conducted at least every six months. The mission's objectives will include ensuring that strong financial management systems are maintained for the project throughout its life. A review will be carried out regularly to ensure that expenditures incurred by the project remain eligible for IDA funding. The Project Status Report (PSR) will include a financial management rating for the component.

2. Audit Arrangements

According to the Ethiopian Constitution, the Office of Federal Auditor General (OFAG) is responsible to carry out the audit of all the financial transactions of the federal government and subsidies to the regions. Each of the regions has regional auditor general responsible to audit financial transactions in the region. The OFAG usually delegates its responsibility mostly to the Audit Services Corporations, the government owned audit firm, and in some cases to private audit firms to carry out the audit of donor-financed projects. For this project, OFAG will assign an external auditor acceptable to IDA.

According to the new audit policy of IDA, PMU will prepare consolidated statements for the project which include all the sources from donors and the government and related Project expenditures and the auditors will express a single opinion on the consolidated Project accounts. The TOR for the external audit were agreed during negotiations. The audit reports should be submitted to IDA six months after the end of each fiscal year, which ends on 7 July of each year.

3. Disbursement Arrangements

There are two ways to disburse funds from the Bank. The first one is the traditional disbursement method, which uses SA, SOE procedures and direct payment procedures. The second one is the report-based method, in which regular Financial Monitoring Reports (FMR) plus additional statements will be the basis for disbursement. The project will use the transaction-based disbursement method during the initial transitional period and convert to Report-based disbursements after the PIU has established a good financial management system capable of producing quarterly FMRs. The project will however submit quarterly reports (FMRs) required under Report-based disbursements during the transitional period. The reports will be used to assess the progress towards meeting the requirements of the Report-based disbursement method. An advance into the Special Account, based on the amount determined during negotiations, will be made at the inception of the project, and subsequent replenishments will be made on the basis of withdrawal applications and Statements of Expenditure (SOE's).

After the transition to FMRs based disbursement, disbursement of the IDA Funds to the PMU will be made on the basis of FMRs that integrates project accounting, procurement, contract management, and disbursement with physical progress of project implementation. The FMRs will include information under three main categories: a project financial statement which includes a summary of sources and uses of finds, an updated six-month forecast, Special Account activity and reconciliation statements, a statement of eligible expenditures by disbursement category; a project progress report explaining variances between actual physical and financial progress versus forecasts; and a procurement management report showing procurement status and contract commitments as well as statements on suppliers information for contracts below and above Prior Review Threshold.

An advance will be made into the Special Account as soon as the use of FMRs-based disbursement is cleared by IDA. The advance will be meant to cover project expenditures for six months as indicated in the initial six-month cash flow forecast. In the subsequent quarter, the project will submit FMRs, which include a cash flow forecast for the following six months period. The cash request at the reporting date will be the amount required for the forecast period as shown in the approved FMRs less the balance in the Special Account at the end of the quarter.

The option of disbursing funds through direct payments from IDA on contracts above a predetermined threshold will also be available throughout the life of the project. Withdrawal applications for such payments will be accompanied by relevant supporting documents such as copies of the contract, contractors' invoices and appropriate certifications.

IDA will have the right, as reflected in the Development Credit Agreement, to suspend disbursement of the Funds if reporting requirements are not complied with.

The proceeds of the Credit will be disbursed over the project implementation period of five years. Disbursements will be made against the categories of expenditure presented in Table A below and in accordance with the guidelines set out in the World Bank's Disbursement Handbook and the financial monitoring guidelines.

Table A: Allocation of Credit Proceeds

Expenditure category	Amount in USD Million	Financing Percentage
Works	0.85	100% of foreign expenditures and 90% of local expenditures
Goods & Equipment	6.25	100% of foreign expenditures and 90% of local expenditures
Consultant Services and Audits	10.20	100% of foreign expenditures and 85% of local expenditures
Training	2.35	100%
Grants	2.25	100%
Operating Costs	1.60	90%
PPF	0.59	100%
Unallocated	0.91	100%
Total	**25.00**	

Uses of Statement of Expenditures (SOEs)

Disbursements made on the basis of SOEs will be as follows: (a) for works, all contracts less than USD 500,000; (b) for goods, all contracts less than USD 150,000; (c) for consulting firms, all contracts less than USD 100,000; (d) for individual consultants, all contracts less than USD 50,000; (e) for Grants, costing less than $50,000 equivalent per Grant Agreement; (f) for training, costing less than $50,000 equivalent per contract; and (g) workshops and operating costs on all contracts regardless of the amount. Foreign study tours and training are subject to no objection from IDA. The borrower will retain all the supporting documentation for SOEs, including completion reports and certificates. The supporting documents will be made available to IDA during Project supervision and will be audited annually by independent auditors acceptable to the Association. Disbursements for expenditures above these thresholds will be made against presentation of full documentation relating to those expenditures. During the Project launch workshop, there will be a session on proper preparation of withdrawal applications, including the preparation and submission of required supporting documents.

Special Account

To facilitate disbursements against eligible expenditures under the Credit, EICTDA/PMU will establish a Special Account (SA) in the National Bank of Ethiopia. The authorized allocation for the Special Account will be USD 2,500,000. Upon effectiveness, IDA will deposit an initial deposit up to USD 1,500,000 into the Special Account. Once the total disbursements from the Credit account, including commitments, have reached an aggregate amount of SDR 4,000,000, the initial allocation may be increased up to the authorized allocation. The EICTDA will submit

replenishment applications at least once a month.

Counterpart fund

The Government of Ethiopia will open a local currency account in a commercial bank acceptable to IDA and will deposit Birr 7,200,000 (USD 837,000 equivalent) for the first project year and subsequent deposits of Birr 8.6 million (USD 1.0 million equivalent) at the beginning of each project year based on the annual budget of the project.

Annex 8: Procurement

ETHIOPIA: ICT Assisted Development Project

General Information

1. Public procurement in Ethiopia is regulated by (a) the Financial Proclamation No. 57/1996 which constitutes the Procurement Law, (b) the Financial Regulations No. 17/1997 issued by the Council of Ministers and (c) the Ministry of Finance Directives procurement and contracts, issued in 1997 and revised in 1999, at the federal level. The Bank carried out two Country Procurement Assessment Reviews (CPARs) in 1998 and 2002 jointly with the Government. The reviews included detailed diagnosis of the current procurement system, its strengths, weaknesses and development of an Action Plan to address the weaknesses. The main weaknesses identified were (i) Lack of an oversight body for policy and monitoring, (ii) Weak procurement procedures, (iii) Lack of a legal and regulatory framework and (iv) Lack of adequate procurement capacity.

2. The main recommendations of the CPAR include: (i) enactment of a procurement law; (ii) establishment of a regulatory body; (iii) development of procurement directives; (iv) preparation of standard bidding documents, manuals and guidelines; and (v) implementation of a comprehensive capacity building (including training) strategy. The Government has accepted the recommendations of the CPAR and has established a taskforce to lead the procurement reform process. A procurement code has been drafted and training has started to be provided to procurement staff at Federal level. The new procurement code has been approved by the Council of Ministers and is expected to be presented to the parliament by October 2004. The code provides for the establishment of an independent regulatory body and the Government plans to fully decentralize procurement functions to civil service institutions at the federal level upon enactment of the code.

A. General

3. Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement Under IBRD Loans and IDA Credits" dated May 2004; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004, and the provisions stipulated in the Legal Agreement. The general description of various items under different expenditure category are described below. For each contract to be financed by the Credit, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank project team in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

4. The Government has started a process to develop new standard bidding documents for the procurement of goods, works and services. The National Bidding documents, when developed, can be used for national competitive bidding after verification by the Bank that the countries laws and procedures are acceptable. In order to be acceptable the national procedures should ensure that: (i) bids will be advertised in national newspaper(s) with wide circulation; (ii) the bid documents clearly explain the bid evaluation and award criteria; (iii) bidders are given adequate

response time (minimum four weeks) to prepare and submit bids; (iv) bids are awarded to the lowest evaluated bidder; (v) foreign bidders are not precluded from participation in NCB; and (vi) no domestic preference margins are applicable to domestic manufacturers and suppliers.

Procurement of Works: Works procured under this project, would include civil works related to Technology Park / Incubators and Connectivity and access. The procurement will be done using the Bank's Standard Bidding Documents (SBD) for all ICB and National SBD agreed with (or satisfactory to) the Bank. Works contracts exceeding USD 500,000 will be procured through ICB. Contracts below 500,000 will be procured through NCB. Works contracts below USD 50,000 may be procured based on quotations from at least three qualified domestic contractors in response to a written invitation. The award shall be made to the contractor who provides the lowest price quotation for the required work, and who has the experience and resources to complete the contract successfully.

Procurement of Goods: The project will finance Office equipment, furniture, vehicles and supplies. The procurement will be done using Bank's SBD for all ICB and National SBD agreed with (or satisfactory to) the Bank. To the extent possible and practicable, goods and equipment to be purchased under the project would be combined into packages worth at least USD 150,000. Goods that cannot be packaged and procured efficiently using ICB procedures will as much as possible be packaged in sizable contracts to be awarded on the bases of NCB procedures. Contracts estimated to cost less than USD 150,000 equivalent would be procured using NCB. Procurement for readily available off-the-shelf goods that cannot be grouped together estimated to cost less than USD 50,000 equivalent would be procured on the basis of Shopping Procedures. Solicitations for National and International Shopping will (a) be issued in writing to at least three reputable suppliers (it may be better to approach five or six suppliers because not all three suppliers may respond, so that at least three competitive quotations are received.), (b) include specifications, and if goods are not immediately available, the delivery time, (c) give the estimated cost, including cost of inland transportation and insurance, (d) be opened at the same time for evaluation (to avoid abuse), and (e) in the case of International Shopping quotations, be solicited from at least three suppliers from two different countries. Alternatively such goods may also be procured from UN Agencies (Inter-Agency Procurement Services Office or IAPSO) provided each individual contract does not exceed USD 100,000.

Selection of Consultants: Consultant Services include studies related to policy, regulatory and legal framework, standards, data security, M&E and Community ICT development. Short lists of consultants for services estimated to cost less than $200,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. The preferred methods of selection for consultant services shall be Quality and Cost Based Selection (QCBS) method. Consultant for complex and highly specialized assignments with high downstream impact and assignments that can be carried out in substantially different ways may be procured under contracts awarded using *Quality Based Selection* in accordance with the provisions of clause 3.2 of the Consultant Guidelines. Services for audit and other similar services estimated to cost less than US 100,000 equivalent per contract may be procured under contracts awarded using least-cost selection method in accordance with the provisions of clauses 3.1 and 3.6 of the Consultant Guidelines. Consulting assignments costing less than USD 100,000 may be procured by using Selection Based on

Consultants Qualifications (SBCQ) by comparing the qualification of consultants who have expressed an interest in the job or who have been identified. Individual consultants will be selected in accordance with Section V of the Guidelines. Services for tasks that meet the requirements of paragraphs 3.8 to 3:11 of the consultant' Guidelines may be awarded using the Single Source Selection method. Services for which a team of Consultants are not required and meet all the requirements set forth in paragraph 5.01 of the Consultant Guidelines shall be procured under contracts awarded to individual consultant in accordance with the provisions of paragraphs 5.1 through 5.3 of the Consultants Guidelines

B. Assessment of the agency's capacity to implement procurement

Procurement activities will be carried out by The Ethiopian Information and Communication Technology Development Authority (EICTDA). EICTDA is a rather new organization established in 2003. A draft organization structure has been developed for the Authority. The Director for the Authority has been assigned and it is anticipated that additional staff would be assigned from other Government offices and employed as required as per the organization structure in the near future. At the time of the appraisal none of the key positions with the exception of the Director were filled. It was therefore not possible to conduct a comprehensive capacity assessment.

As per the agreement reached during the pre-appraisal a draft procurement manual has been prepared by an International consultant. The manual will be reviewed and finalized as per the final program of the project before effectiveness.

Two Procurement staff will be employed in the Project Management Unit (PMU). The advertisement for the employment of the procurement officer and other PMU staff has been issued and applications have been received for the positions. The best qualified candidate will be selected and employed using the PPF funds for the project and prior to project effectiveness. Depending on the qualification of the persons appointed for the positions appropriate training may be given to the individuals either locally or at Regional (ESAMI or GIMPA) training centers. If it is not possible to get an adequately qualified person then the use of consultants for short period of time during the initial phase of the project will be considered. The consultant can in addition to performing procurement activities act as a mentor for the procurement specialist.

In order to insure that there is a comprehensive understanding of procurement processes within the organization an orientation training will be given to all staff that would be involved in the procurement decision making process including managers, tender committee members and department heads. The Orientation will be conducted through a short term Consultant.

The overall project risk for procurement is high.

1. PROJECT IMPLEMENTATION ARRANGEMENTS

All procurement for the project will be handled by the PMU under the ICTDA. The PMU will be responsible for the day-to-day procurement activities including preparation of procurement plans and tender documents, processing of bids and proposals, evaluation of tenders, preparation of contracts and contract management. The PMU will employ two staffs to handle these activities, a Procurement Specialist and a Junior Procurement Officer. For highly specialized goods, preparation of specifications and technical evaluation of offers will be done by external consultants or the office for which the goods are being prepared if it has the necessary capacity.

A tender committee comprising of a minimum of five members will be formed specifically for the project. Three members of the committee will be from the PIU and will include the Procurement Specialist and the Financial Management Officer. The tender committee will have two additional members on a permanent basis from the PMU or other departments. But these members can be replaced by representative of the end user to ensure that the procurement complies with the needs of the user. At least two members of the tender committee should have adequate knowledge about the procurement process that needs to be followed. The final decision makers for the procurement activities will be defined in the procurement manual.

Procurement related activities like inspection of goods, and logistics support will be handled by the respective departments of ICTDA. The procurement manual will define the procedures to be followed.

C. Procurement Plan

The Borrower, at appraisal, developed a Procurement Plan for project implementation which provides the basis for the procurement methods. Subsequent changes agreed between the Borrower and the Project Team have required modifications to this Plan, which are expected to be incorporated in the plan by the Borrower and submitted to the Bank prior to Effectiveness. The final Procurement Plan will be made available on the Web. It will also be available in the Project's database and on the Bank's external website. The Procurement Plan will be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

D. Frequency of Procurement Supervision

In addition to the prior review supervision to be carried out from Bank offices, the capacity assessment of the Implementing Agency has recommended bi-annual supervision missions to visit the field to carry out post review of procurement actions.

Annex 8

Attachement 1

Details of the Procurement Arrangement involving international competition.

1. Goods and Works and non consulting services.

(a) List of contract packages which will be procured following ICB and direct contracting:

1	2	3	4	5	6	7	8	9
Ref. No.	**Contract (Description)**	**Estimated Cost (USD 000s)**	**Procurement Method**	**P-Q (Y/ N)**	**Domestic Preference (yes/no)**	**Review by Bank (Prior / Post)**	**Expected Bid-Opening Date**	**Comments**
1. Ethiopian ICT Development Authority (EICTDA):								
EICTDA-G1	software on HR, M&E, and Financial management system	500.0	ICB	No	Yes	Prior	Jan. 2005	
EICTDA-G2	Server (2), Desktop PC(10) and Printers(5) with accessories	43.0	NCB	No	No	Post	Jan. 2005	
EICTDA-G3	Office Equipment including; Heavy duty Photocopy machine(1), Fax (2), Scanner(3), Digital Camera(1), LCD Projector(1), UDB stick/flash disk(10), Cassette player and TV.	25.0	NCB	No	No	Post	Jan. 2005	
EICTDA-G4	Complete LAN system with accessories	5.0	NS	No	No	Post	Jan. 2005	
EICTDA-G5	Printing Equipment- Small Size & Duplicating machine.	40.0	NS	No	No	Post	Jan. 2005	
EICTDA-G6	Facilities for specialized training programs:- Server, Desktop PCs, Printers, and other materials	110.0	ICB	No	No	Prior	Jan. 2005	
EICTDA-G7	Data and information security management system set ups (software and hardware)	40.0	NCB	No	No	Post	Jan. 2005	
EICTDA-G8	1000 refurbished PCs for pilot PC remanufacturing	150.0	TBD	No	No	Prior	Feb. 2005	
EICTDA-G9	10,000 PCs for PC remanufacturing	800.0	TBD	No	No	Prior	Nov. 2005	
EICTDA-G10	Equipment for PC remanufacturing	80.0	NCB	No	No	Post	Jan. 2005	
EICTDA-G11	Business Incubator - Office equipment and furniture.	75.0	NCB	No	No	Post	Jan. 2005	
EICTDA-G12	Business Incubator- PCs, Network & IT infrastructure	100.0	NCB	No	No	Post	Jan. 2005	
EICTDA-G13	Rural Connectivity - Communication and towers equipment, enclosures, spares and maintenance connectivity. (bandwidth, etc)							
	1st Stage	94.0	ICB	No	No	Post	Jan. 2005	

	2nd Stage	161.0	ICB	No	No	Prior	Oct. 2005	
	Total EICTDA-G	**2293.0**						
2. Ethiopian Broadcasting Agency (EB								
EBA-G1								
EBA-G2	1 AM/FM, 1 VHF , 1 UHF Field ,Strength meter and Handheld Spectrum Analyzer with accessories and	71.0	NCB	No	No	Post	Dec. 2004	
EBA-G3	1 Web Site Networking LAN Computer Server	11.0	NS	No	No	Post	Dec. 2004	
EBA-G4	10 Desktop computers with UPS and accessories, and 3 Laptop computers.	33.0	NS	No	No	Post	Dec. 2004	
EBA-G5	1 Set 36 Port CISCO or equivalent Switch with cable and accessories.	2.0	IS	No	No	Post	Dec. 2004	
	Total for EBA-G:	117..0						
3. Ethiopian Teleommunicat ns Agency (ETA):								
ETA-G1	Radio frequency spectrum management software(2), Frequency analyzers(2),	563.0	ICB	No	Yes	Prior	Feb. 2005	
ETA-G2	Transportable microwave monitoring equip.(1), RF power meter(2), RF signal Gen(2), Frequency Counter(2), DC power supply(2), and Digital Oscilloscope(2).	153.0	ICB	No	Yes	Prior	Feb. 2005	
ETA-G3	Portable testing instrument and procedures for mobile network performance inspection and Electrical and electronics tools and testing instruments and an operating laboratory including accessories.	120.0	ICB	No	Yes	Post	Feb. 2005	
ETA-G4	- Servers, a router, switches, modem pool, relevant software, - Organized active web site management and registry database systems	100.0	ICB	No	Yes	Post	Feb 2005	
ETA-G5	Establish and maintain information resource center.	34.0	NS	No	No	Post	Feb 2005	
ETA-G6	Modification work to Laboratory rooms. (works)	30.0	NCB	No	No	Post		
	Total for ETA-G:	1000.0						
4. Institute for Telecommunications and Information technology (ITIT):								

ITIT-G1	Communication Network Lab Equipment with basic configuration.	81.0	ICB	No	No	Post	Dec. 2004	
ITIT-G2	Technical Journals	5.0	DC	No	No	Prior	Dec. 2004	
ITIT-G3	Gatekeeper and Gateway with software package	80.0	NCB	No	No	Post	Dec. 2004	
ITIT-G4	Software Packages	15.0	DC	No	No	Prior	Dec. 2004	
	Total for ITIT-G:	**181.0**						

(b) ICB Contracts for procurement of works estimated to cost above 500,000 USD per contract and contract for procurement of goods estimated to cost USD 150,000 or above per contract and all Direct contracting will be subject to prior review by the Bank.

2. Consulting Services

(a) List of Consulting Assignments with short-list of international firms.

1	2	3	4	5	6	7
Ref. No.	**Description of Assignment**	**Estimated Cost (USD 000s)**	**Selection Method**	**Review by Bank (Prior / Post)**	**Expected Proposals Submission Date**	**Comments**
1. EICTDA:						
EICTDA-C1	Study on policy and regulatory impediments to ICT growth	125.0	IC	Prior	Dec. 2004	
EICTDA-C2	Study on trade, taxation, privacy and security policies	125.0	IC	Prior	Dec. 2004	
EICTDA-C3	Study for the development of an appropriate ICT business law	125.0	IC	Prior	Dec. 2004	
EICTDA-C4	Preparation of new policies and regulations	125.0	IC	Prior	Dec. 2004	
EICTDA-C5	Needs assessment and identification of options for the development of an adequate and sustainable infrastructure	125.0	IC	Prior	Dec. 2004	
EICTDA-C6	Creation of public/private partnerships between ETC and qualified cooperatives and/or private sector groups to offer community level connectivity	125.0	IC	Prior	Jan. 2005	
EICTDA-C7	Creation of public/private partnerships between ETC as a wholesale of communications network infrastructure and services, and community based and/or qualified local private sector groups	125.0	IC	Prior	Feb. 2005	
EICTDA-C8	Consultancy for developing/adaptation of a national ICT security strategy and roll out mapping/architecture for security system.	125.0	IC	Prior	Dec. 2004	
EICTDA-C9	Consultancy on setting standards for software and hardware for Govt. offices	125.0	IC	Prior	Dec. 2004	
EICTDA-C10	Consultancy for keyboard layout and local language interoperability	125.0	IC	Prior	Dec. 2004	
EICTDA-C11	Study on indigenous knowledge capturing and management	25.0	IC	Post	Dec. 2004	

EICTDA-C12	Study on appropriate ICT for the support of SME and Community	25.0	IC	Post	Dec. 2004	
EICTDA-C13	Study on the establishment of refurbishing operation.	30.0	IC	Post	Feb. 2005	
EICTDA-C14	Consultancy for setting up of IT incubator.	40.0	IC	Post	Dec. 2004	
EICTDA-C15	Business incubator- Business consultants	30.0	IC	Post	Feb. 2005	
EICTDA-C16	Lead consultant for PC Remanufacturing, 2 assisting consultants & In-Country advisor y position	666.0	QCBS	Prior	March 2005	
EICTDA-C17	4 consultants for Rural Connectivity (Contracted Individually)	186.0	IC	Prior	Feb. 2005	
	Total for EICTDA-C:	**2,252.0**				
2. EBA:						
EBA-C1	Formulation of broadcasting regulation based on the existing law.					
	♦ National Consultant (6 months)	5.0	IC	Post	Dec. 2004	
	♦ International Consultant (6 Months)	32.0	IC	Post	Dec. 2004	
EBA-C2	Support to EMMTI & AAU in curriculum development of broadcast regulation	20.0	IC	Post	March 2005	
EBA-C3	Study on the necessity of community radio & its regulation	5.0	IC	Post	Feb. 2005	
EBA-C4	Research on the audience need on programs being broadcasted	5.0	IC	Post	Jan. 2005	
	Total Consultancy for EBA:	**67.0**				
3. ETA						
ETA-C1	Technical expertise assistance to examine ETC's cost analysis methods and pricing and, forward recommendation on pricing of wholesale services that suite rural connectivity program.	22.0	IC	Post	Dec. 2004	
ETA-C2	Technical expertise service to carryout technical analysis on QoS, infrastructure, customer protection, etc..	37.0	IC	Post	Dec. 2004	
ETA-C3	Consultancy service to build an integrated Regulatory information system at ETA.	40.0	IC	Post	Jan. 2005	
ETA-C4	Consultancy service to design and install the national IP addressing scheme and domain name system, train the staff and lead the organization of the consultative workshop.	46.0	IC	Post	March 2005	
ETA-C5	Resident Advisor in defining and developing quality of services and equipment testing procedure manuals, and assist in practicing its practical operation	125.0	IC	Prior	Jan. 2005	

ETA-C6	Resident Advisor in establishing an integrated national frequency management system, establishment of fixed monitoring system, and strengthening of quality monitoring operation	125.0	IC	Prior	Jan. 2006	
	Total consultancy for ETA:	**395.0**				
4. ITIT						
ITIT-C1	Individual Consultancy and short term teaching on IT and communication technology (three Individuals).	180.0	IC	Prior	Jan. 2005	
	Total Consultancy for ITIT:	**180.0**				

(b) Consultancy services for firms estimated to cost USD 100,000 or more per contract and Individual consultants estimated to cost the equivalent of USD 50,000 or more per contract; and each single source selection of consultants (firms and Individuals) will be subject to prior review by the Bank.

(c) **Short lists composed entirely of national consultants**: Short lists of consultants for services estimated to cost less than USD 200,000 equivalent per contract, may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

3. Training

1	2	3	5	6	7
Ref. No.	**Description of Assignment**	**Estimated Cost (USD 000s)**	**Review by Bank (Prior / Post)**	**Expected Training Start Date**	**Comments**
1. E ICTDA					
EICTDA-T1.	Advanced Training on Project Management and Coordination.	20.0	Prior		
EICTDA-T2.	Study Tour for experience sharing on Institutional development and national Systems.	10.0	Prior		
	Total Training for ICTDA	***30.0***			
2.Ethiopian Broadcasting Agency					
EBA-T1	Study Tour for 10 broadcast managerial and professional personnel of the Agency. The staff will be equipped with different experiences and knowledge of other partners in the sector thereby enabling them to implement the existing broadcast law in granting licenses.				
	♦ Study Tour to UK and Ghana	39.0	Prior	Oct 20 2004	
	♦ Study Tour to Australia and South Africa.	39.0	Prior	Nov 20 2004	
EBA-T2	Training of 6 managerial and professional staff of the Agency will capacitate the Agency's main duties in the expansion of broadcasting services of the country by the issuance of licenses for those applicants requiring to run services in the sector.	49.0	Prior	Feb 2004	
	Total Training for EBA	127.0			
3. Ethiopian Telecommunication Agency					
ETA/CB03-1/04	Training to two ETA's technical staff at MSc on distance learning basis and in short term training (3) for one month in areas of communication regulation.	39.0	Prior		
	Short term training on different areas of communication regulation	105.0	Prior		
ETA/CB03-2/04	Incorporate regulatory courses in the curriculum of higher educational institutions and conduct local trainings	20	Prior		
ETA/CB03-3/04	Conduct local trainings	38	Prior		
ETA/CB03-4/04	Designing and prioritizing regulatory research activities	23	Prior		
	Total Training forETA	225.0			
1.	CBT on IT and Communication Technology courses with basic hardware backup.	71.5	Prior	Nov 2004	
3.	Advanced PhD Study in Germany (Cost of Living Only) 2-3 candidates	72.0	Prior	Nov 2004	
4.	Training of Technicians and study tour	30.0	Prior	Nov 2004	
	Total Training for ITIT:	173.5			

ICTAD Procurement Plan Summary:

Ethiopia ICT Assisted Development Project (ICTAD)
Procurement Plan Summary –in USD 000's

	Agency	Goods	Works	Consultants Services	Training	Total
1.	Ethiopian ICT Development Authority	2,293.0	0	2,252.0	30.0	4,575.0
2.	Ethiopian Broadcasting Agency	117.0	0	67.0	127.0	311.0
3.	Ethiopian Telecommunication Agency	970.0	30.0	395.0	225.0	1,620.0
4.	Institute of Telecommunications and Information Technology	181.0	0	180.0	174.0	535.0
	Total	**3,561.0**	**30.0**	**2,894.0**	**556.0**	**7,041.0**

Annex 9: Rural Connectivity Viability and Cost Recovery Options

ETHIOPIA: Information and Communication Technology Assisted Development Project

The main focus of ICTAD is on creation of an enabling ICT policy, legal and regulatory framework, and strengthening of the institutions that can play a key role in this process. These include the Ethiopian ICT Development Authority, Ethiopian Telecommunications Agency, Ethiopian Broadcasting Agency, and the Institute for Telecommunications and Information Technology. The second component of the project is focusing on creating practical opportunities that foster growth of demand from below, and increase the need for removal of policy, legal and regulatory bottlenecks.

For example, the Rural Connectivity initiative is focusing on provision of community level connectivity to residents of under-served or un-served areas through introduction of last-mile connectivity options. To demonstrate the viability of these options and their cost effectiveness, a typical scenario is described below.

Return on Investment

The vast differential between Ethiopian teledensity and globally observed norms of teledensity suggests that there is significant suppressed demand for telecommunications services. In such circumstances, demand is often price sensitive and elastic. Ethiopia's teledensity of about .90 is so low (far below UN LDC, Sub-Saharan Africa and HIPC averages), that almost any appropriately located and scaled telecommunications services provider can succeed because of the substitution effect relative to other, less efficient means to transmit and receive information.

Ethiopia, while poor, is a supply-constrained market for telecommunications. This is shown by the price sensitivity of demand for telecommunications there. The reforms and activities proposed in ICTAD, by initiating the process of creating competitive markets, will likely result in lower prices for telecommunications services, thus generating increased demand.

Lack of access to basic telephone service carries considerable costs. There are numerous case studies documenting the prohibitive costs paid by society when rural and peri-urban residents are denied access to telephone service. For example, the World Bank's World Development Report 1994, Infrastructure for Development, states that studies in Colombia and the Philippines have shown that **the ratio of productivity gains arising through the use of telephone service exceeds the annual cost of providing service by at least 20:1 for businesses.**

In another example, a study of the Grameen Village Phone program in Bangladesh detailed some of the economic benefits achieved by introducing phones into villages. According to this study, the cost of a typical trip from a village to the capital city amounts to almost two to eight times the cost of a single phone call. And according to this study, a single phone call from a family member in the capital city to the village can generate a consumer surplus between 3.64% to 9.8% of mean monthly household income. (D. Richardson, R. Ramirez, and M. Haq, Grameen Telecom's Village Phone Program in Rural Bangladesh: A Multi-Media Case Study, Telecom

Development Group, Ontario, Canada, for the Canadian International Development Agency, 2000.)

Community consultations carried out by the US National Telecommunications Cooperatives Association (NTCA) in rural Nigeria elicited similar examples. Communities surveyed reported that they would benefit from telecommunication services in numerous ways. These benefits can be grouped into five general categories:

Reduced transport cost and time
Market information for buying and selling;
Reduced isolation from the outside world;
Job creation/training/reduced rural out-migration;
Access to information about health, agricultural and environmental management.

Cost Recovery Model

In a typical scenario, if there are 3000 community-phones provided at a cost of about USD 2,660,000, the recovery rate of the network based on a 30-minutes use of each phone per day is (assuming nonprofit mode of business):

$2.66 mil cost / (3000 POTS services X 60 months x 30 days x 0.5 hours per day average utilization) = $2.66 million / (2.7 million hours) = $0.99 per hour minimum recovery rate, or 0.14 Ethiopian Birr per minute (assuming 1 USD = 8.5 Ethiopian Birr).

This is a very reasonable rate compared to what ETC is charging for phone calls in the greater Addis Ababa area. Provision of access to internet will require an additional investment cost

Estimated Cost per Line

Due to lack of supporting infrastructure (electricity, roads), Ethiopia is considered to be a high cost environment, with a cost per line of USD 1000 per fixed-wireless line, and USD 1,200 – 2,000 of extending fixed-line service to remote areas. Extension of mobile services will likely be cheaper, but is not normally calculated in a per line basis. More important to consider is the fact that, as a result of Ethiopia's extremely low teledensity, there is ample potential for the kind of projects suggested under the connectivity program that has been outlined in the report. However, some fundamentals are still lacking: policy must be developed in order to move firmly, a sound and reliable regulatory framework must also develop. ETC has ambitious network backbone plans which include roll-out of broadband and multimedia access capacity, yet from a policy perspective, universal access to voice and some basic form of text email should be a priority, followed by the more broadband intensive applications. Ethiopia's universality approach should aim not only at rural and remote areas, but also at urban and semi-urban areas, which are agonizing for more connectivity and remain in most cases surprisingly isolated.

The opportunity to enhance economic growth, as a result of more information and communication resources, in key areas like tourism, exports of agricultural and some nonagricultural products is enormous. There is a huge market potential that will easily justify

investment in the short term, although more detailed assessments than those carried out to date will become necessary.

Beneficiaries

Ethiopia has inadequate telecommunications infrastructure and low penetration of basic telecommunication services, especially in – but not confined to –rural communities in every region surveyed. The telecommunications deficit appears endemic nationwide outside of the capital. Therefore, the potential beneficiaries comprise a vast cross-section of the entire Ethiopian population. The specific number benefiting from the initial program will depend on the communities selected.

The ICTAD Rural Connectivity component will provide access to about 3000 community phones, within a coverage area of about 100,000 square kilometers.

Scalability

The proposed extensions of connectivity are based on backbone network expansion plans of ETC. As such, they are scalable to the extent that infrastructure exists to support them. In addition to the WoredaNet and SchoolNet programs, ETC is in the process of constructing a 200,000 line capacity expansions of its mobile network for Addis Ababa and 12 regional centers. Part of this expansion is complete and the services are already available. ETC is also in the process of procuring a 350,000 line fixed-line capacity expansion, which is reported to have recently been contracted.

The technology associated with the rural pilots is modular and as such can be readily expanded. The extent of such scalability will be affected by more than technical factors, however, with one of the principal limiting factors being the ability of communities to provide trained personnel for management and technical positions in local telecommunications enterprises.

Similar Successful Examples

As the Bank's Rapid Response Policy Unit has written, "Competitive, private-led markets have shown they can go a long way towards making telecommunications services available throughout the population, but gaps remain. Cost-effective measures to achieve widespread access to services thus focus primarily on removing obstacles that prevent markets from working well. Nonetheless, what private operating companies are prepared to do on commercial terms alone typically does not quite suffice to achieve what governments seek for economic, social, regional, cultural, or other development reasons. Rural and remote localities, as well as low-income urban households and the disabled, tend to lag, especially in the poorer countries."

Two nations in the Sub-Saharan African region, South Africa and Nigeria, have implemented, or plan to implement, national information and communication technology strategies involving universal funds and/or agencies. A third, Uganda, has embarked upon such a plan that is integrated with sector liberalization and a comprehensive national development framework. These initiatives are each funded by assessments on operating revenues of licensed

telecommunications operators. Beyond that, they vary in terms of their goals, mechanisms of operation, and impact on universal access in their respective countries.

Worldwide, various models have been employed for management of universal access funds. In Colombia and the Philippines, for example, the relevant government ministries administer the funds. More commonly, the telecommunications regulator manages the fund, as in Brazil, Chile, India, Nepal, Peru, and Uganda. South Africa has created a separate agency to administer its universal access fund (similarly, in the United States, the universal service loan fund is administered by a sub-agency of the agriculture department). Also, fund management and administration can be delegated to the private sector (Australia and the United States manage their universal service operating subsidies in this manner).

Reasons for considering an output based subsidy, low interest loan, or similar incentives to assist Community Telephone Service Providers

Experience in the U.S. and elsewhere has shown that, in general, it is important to distinguish between rural and under-served areas served by dominant PTO's (who conduct the bulk of their business elsewhere), and rural and under-served areas served by small telecommunications providers based in the community. Historically, these small, community-based telecommunications providers (whether co-ops or investor-owned), have done a better job than have large companies of achieving universal voice telephone service, despite obstacles of serving areas with lower population densities and lower income levels. This historical success has been achieved through a system of explicit subsidies and implicit support to small telecommunications providers. The output based subsidy or a low interest loan option or a similar incentive mechanism would be important because the capital markets in Ethiopia are not structured to offer credit on terms customary or usual in the telecommunications industry or its sub-sectors; i.e., commercial terms are not patient enough relative to global industry benchmarks for ROI, liquidity of the development bank is not sufficient to fund capital intensive telecom projects, and risk premiums are too high for utility sector investments.

Annex 10: Safeguard Policy Issues

ETHIOPIA: Information and Communication Technology Assisted Development Project

There are no safeguard policy issues concerning this project, and the Environmental Category for this project is C.

Annex 11: Project Preparation and Supervision

ETHIOPIA: Information and Communication Technology Assisted Development Project

	Planned	Actual
PCN review	06/17/2003	06/12/2003
Initial PID to PIC	06/30/2003	06/24/2003
Initial ISDS to PIC	07/08/2003	06/17/2003
Appraisal	12/08/2003	03/16/2004
Negotiations	03/16/2004	06/18/2004
Board/RVP approval	09/16/2004	
Planned date of effectiveness	11/30/2004	
Planned date of mid-term review		
Planned closing date	05/31/2010	

Key institutions responsible for preparation of the project:

The ICT Program Team, Ministry of Capacity Building; Ethiopian ICT Development Authority (EICTDA).

Government of Japan - PHRD Fund

Government of Ethiopia:

Ato Dhaba Oria	EICTDA
Ato Bekele Gebremedhin	MoCB
Ato Gemechu Geleta	EICTDA
Ato Demmelash Berhanu	EICTDA
Ato Ehetu Alemu	ETA
Ato Tesfaye Biru	ETC

MoCB, NCIC, EBA, ITIT, ETC and EICTDA staff

Partners and Donors:

Mr. Sirak Yohannes	UNDP
Mr. Petri Hietanen	UNDP
Mr. Kornelius Burghardt	German Development Service (DED)
Mr. Hartwig Michaelsen	German Development Service (DED)
Mr. Leopold Reif (consultant)	GTZ

Bank staff and consultants who worked on the project included:

Name	Title	Unit
Bobak Rezaian	Task Team Leader	AFTKL
Nicolas Gorjestani	Sector Advice – ICT for Development	AFTKL
Reinhard Woytek	Community networking, Knowledge sharing, Indigenous Knowledge	AFTKL
Michael Broemmel	Quality Assurance, Monitoring and Evaluation	AFTQK
Gaiv Tata	Private Sector Development	AFTPS
Navin Girishankar	Public Sector Development	AFTPR
Abebaw Alemayehu	Country Office project coordination	AFTU1
Menbere Taye Tesfa,	Private Sector and civil society coordination – Field offices	WB Consultant
Gary Theisen	Post Secondary Education	AFTH3
Anwar Bach-Baouab	Health Sector Development	AFTH3
Mostafa Terrab	Telecom Policy and Regulation, and Quality Assurance	CITPO
Tenzin Dolma Norbhu	ICT Policy	CITPO
Solange Alliali	Legal Advice	LEGAF
Brighton Musungwa	Financial Management Advice	AFTFM
Eshetu Yimer	Financial Management Coordination, Field Office	AFTFM
Rogati Kayani	Procurement Advice	AFTPC
Samuel Haile Selassie	Procurement Coordination, Field Office	AFTPC
Abiy Admassu Temechew	Procurement Support	
Ghassal Alkoja	Peer Reviewer	INFCS
Robert Hawkins	Peer Reviewer	WBIHD
Richard Cambridge	Operational Quality Assurance	AFTOS
Marie-Therese Melkonian	Operational Preparations	AFTQK
Yohannes Kebede	ICT Technology and local applications	AFTKL
Daryoush Kianpour	Public Sector Management Information Systems	AFTKL
Willem Zijp	Quality Assurance	ECCU8
Wuleta Giday	Team Assistant, Field Office	AFC06
Rahel Lulu	Team assistant, Field Office	
Jalal Abdel-Latif	WBI and civil society coordination	WB Consultant

Bank funds expended to date on project preparation:

1. Bank resources: USD 216,500
2. Trust funds: USD 879,113
3. Total: USD1,095,613

Estimated Approval and Supervision costs:

1. Remaining costs to approval: USD 5,000
2. Estimated annual supervision cost: USD 90,000

Annex 12: Documents in the Project File

ETHIOPIA: Information and Communication Technology Assisted Development Project

Project Implementation Plan
Draft PIP and POM have been prepared by consultants, and are being updated based on the agreed upon revisions during appraisal. The final PIP and POM documents will be ready by effectiveness.

Other
A series of consultants reports and assessments and studies funded by a PHRD grant have been completed. These include:

1. Assessment of Existing Human Resources in ICTs
2. Local Content Development
3. Application of ICTs for Rural Development in Ethiopia
4. Information Technology Human Resource Development
5. Applications of ICTs for Improved Health Service Delivery in Ethiopia
6. Use of ICTs for Urban Development
7. Assessment of potential Socio-economic impacts of ICTs on Poverty reduction and Service delivery in Ethiopia
8. Private Sector and ICT Technology park Development Project.
9. Roadmap for the establishment of an ICT Business Incubator in Addis Ababa, Ethiopia
10. Rural Connectivity Planning and Related Locally Sustainable Technologies

11. ICT Infrastructure Survey for the Amhara Region
12. ICT Infrastructure Survey for Oromiya
13. ICT Infrastructure Survey for Addis Ababa
14. ICT Infrastructure Survey for Benishangul
15. ICT Infrastructure Survey for Gambela
16. ICT Infrastructure Survey for Somali
17. ICT Infrastructure Survey for Harrar
18. ICT Infrastructure Survey for Diredawa
19. ICT Infrastructure Survey for Afar
20. ICT Infrastructure Survey for SNN

*Including electronic files

Annex 13: Statement of Loans and Credits

Closed Projects	70
IBRD/IDA (US$ Millions)	
Total Disbursed (Active)	1079.0
of which has been repaid	0.0
Total Disbursed (Closed)	2452.6
of which has been repaid	409.5
Total Disbursed (Active + Closed)	3532.0
of which has been repaid	409.5
Total Undisbursed (Active)	929.7
Total Undisbursed (Closed)	0.0
Total Undisbursed (Active + Closed)	929.7

Active Projects

Project ID	Project Name	Last PSR Supervision Rating: Development Objectives	Last PSR Supervision Rating: Implementation Progress	Fiscal Year	Original Amount in US$ m: IDA	GRANT	Cancel.	IDA Undisb. [a]	Expected and Actual Disbursements [b]: Orig.	Frm Rev'd
P069083	AFTKL: ET GLOBAL DISTANCE LEARNING	U	U	2001	4.9		3.1	2.1	5.3	0.2
P050938	Capacity Building for Dec.Serv.Del.	S	U	2003	26.2			28.9	16.9	
P081773	EMERG DROUGHT RECOVERY PROJECT	S	S	2003	60.0			15.4	2.3	
P067084	EMERG RECOVERY AND REHAB. PROJECT	S	S	2001	230.0			88.2	69.4	
P035147	CONSERV.& SUSTAIN. USE MED. PLANTS	S	S	2001		1.9	0.0	0.0		
P057770	CULTURAL HERITAGE	S	S	2002	5.0			5.4	1.8	
P000736	ENERGY II	S	S	1998	200.0			15.3	19.2	
P075915	Pastoral Community Development	S	S	2003	30.0			29.4	0.9	
P044613	Road Sector Development Program II	S	S	2003	126.8			131.6	8.3	
P000733	AG. RESEARCH & TRAINING	S	S	1998	60.0			16.6	15.2	
P052315	CONSERVATION OF MEDICINAL PLANTS	S	S	2001	2.6			1.9	-0.9	
P073196	ET:Demobilization and Reintegration Proj	S	S	2001	170.6			33.5	27.2	
P049395	ETHIOPIA -ENERGY ACCESS	S	S	2003	132.7			148.0	60.4	
P000755	ETHIOPIA ROAD SEC. DEV. PROG.	S	S	1998	309.2			47.3	48.7	43.1
P050383	Ethiopia:FOOD SECURITY PROJECT	S	S	2002	85.0			91.0	-8.2	
P000756	Health Sector Dev.	S	S	1999	100.0			21.1	18.9	
P069886	Multisectoral HIV/AIDS	S	S	2001	59.7			29.0	44.1	
P074020	Public Sector Capacity Building Program	#	#	2004	100.0			96.3	1.3	
P000771	Social Rehab. (ESRDF I)	S	S	1996	148.3		11.5	27.4	19.6	32.4
P076735	Water Supply and Sanitation Project	S	S	2004	100.0			98.1		
P050342	Women Dev. Initiatives	S	U	2001	5.0			3.3	1.7	1.1
	TOTAL				1956.0	1.9	14.6	929.7	352.3	76.8

Legend: HS = Highly satisfactory; S = Satisfactory; HU = Highly unsatisfactory; U= Unsatisfactory

a. Undisbursed balance may exceed IDA $US denominated commitment due to SDR appreciation since commitment.

b. Intended disbursements to date minus actual disbursements to date as projected at appraisal.

IFC and MIGA Program for Ethiopia
As of August 10, 2004

	2000	2001	2002	2003
IFC approvals (US$m)	0.0	0.0	25.0*	0.0
Sector (%)				
Food and agri-business	--	--	100	--
Investment instrument(%)				
Loan	--	--	60	--
Equity	--	--	40	--
MIGA guarantees (US$m)	0.0	0.0	0.0	0.0

** Total IFC investment in Coca-Cola SABCO for five countries: Ethiopia, Kenya, Uganda, Tanzania, and Mozambique*

Statement of IFC's Held and Disbursed Portfolio
As of August 10, 2004

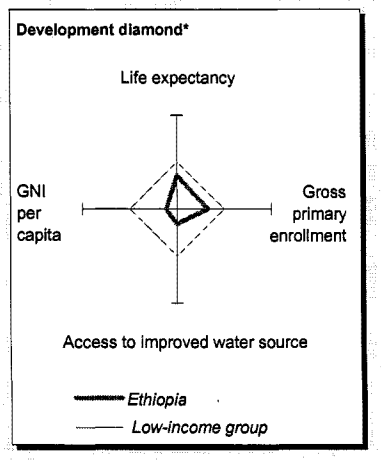
Year	Borrower/Purpose	Original Gross Commitments Loan	Equity	Participant	Total
Fully canceled, terminated, written-off, sold, redeemed, or repaid investments					
1965-73	Dire Dawa (Spinning, weaving and finishing)	2.4	1.4	1.1	4.8
1966	Ethiopian Pulp (Manuf. of pulp paper and paperboard)	0.0	1.9	0.0	1.9
1968	Metahara (Sugar factories and refineries)	4.9	3.5	0.7	9.0
1989	Red Sea (Crude petroleum and natural gas)	0.0	7.8	0.0	7.8
Approvals pending commitment					
2002	Coca-Cola SABCO (Ethiopia, Kenya, Uganda, Tanzania, Mozambique)	15.0	10.0	0.0	25.0
Total gross commitments 1/		22.3	24.6	1.7	48.6
Less: cancellations, terminations, repayments and sales		7.3	14.6	1.7	23.6
Total commitments now held		15.0	10.0	0.0	25.0

Source: World Bank.

Annex 14: Country at a Glance

8/16/04

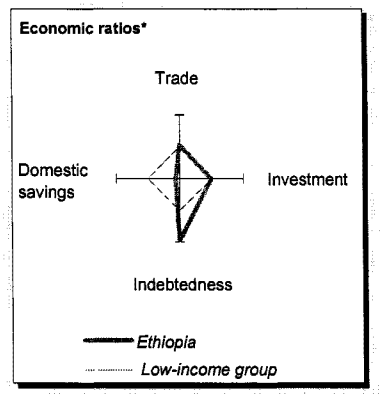
POVERTY and SOCIAL	Ethiopia	Sub-Saharan Africa	Low-income
2002			
Population, mid-year *(millions)*	67.2	688	2,495
GNI per capita *(Atlas method, US$)*	100	450	430
GNI *(Atlas method, US$ billions)*	6.5	306	1,072
Average annual growth, 1996-02			
Population *(%)*	2.4	2.4	1.9
Labor force *(%)*	2.2	2.5	2.3
Most recent estimate (latest year available, 1996-02)			
Poverty *(% of population below national poverty line)*	44	..	..
Urban population *(% of total population)*	16	33	30
Life expectancy at birth *(years)*	42	46	59
Infant mortality *(per 1,000 live births)*	114	105	81
Child malnutrition *(% of children under 5)*	47	..	..
Access to an improved water source *(% of population)*	24	58	76
Illiteracy *(% of population age 15+)*	58	37	37
Gross primary enrollment *(% of school-age population)*	62	86	95
Male	72	92	103
Female	51	80	87



KEY ECONOMIC RATIOS and LONG-TERM TRENDS

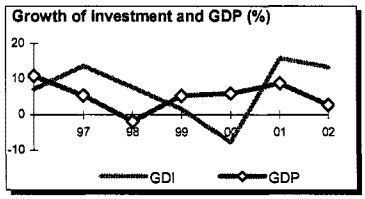
	1982	1992	2001	2002
GDP *(US$ billions)*	5.4	10.0	6.5	6.1
Gross domestic investment/GDP	13.4	9.2	17.8	20.5
Exports of goods and services/GDP	9.5	4.5	15.1	16.2
Gross domestic savings/GDP	5.6	3.0	3.1	2.5
Gross national savings/GDP	6.8	9.6	13.0	12.6
Current account balance/GDP	-6.8	0.4	-4.8	-7.9
Interest payments/GDP	0.4	0.4	0.9	0.7
Total debt/GDP	60.2	93.0	87.5	107.6
Total debt service/exports	13.8	23.1	17.8	10.4
Present value of debt/GDP	..	..	44.8	..
Present value of debt/exports	..	..	284.6	..

	1982-92	1992-02	2001	2002	2002-06
(average annual growth)					
GDP	1.0	5.5	8.8	2.7	5.4
GDP per capita	-2.1	3.1	6.4	0.5	3.1
Exports of goods and services	0.0	11.3	7.8	13.1	7.4

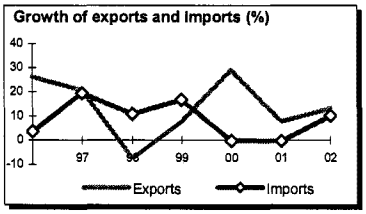


STRUCTURE of the ECONOMY

	1982	1992	2001	2002
(% of GDP)				
Agriculture	54.4	63.8	47.1	42.3
Industry	12.4	7.9	9.9	11.1
Manufacturing	7.6	4.7	..	..
Services	33.2	28.3	43.0	46.5
Private consumption	79.4	86.9	80.1	78.1
General government consumption	15.0	10.1	16.8	19.3
Imports of goods and services	17.4	10.7	29.8	34.2



	1982-92	1992-02	2001	2002
(average annual growth)				
Agriculture	1.4	2.4	11.5	-2.3
Industry	-1.8	6.0	5.0	5.8
Manufacturing	-2.8	6.4	3.9	4.1
Services	2.1	8.3	4.7	4.6
Private consumption	1.6	3.0	14.3	-3.1
General government consumption	-1.1	16.5	-19.6	19.5
Gross domestic investment	0.2	7.8	15.8	13.3
Imports of goods and services	1.6	7.3	-0.4	10.0

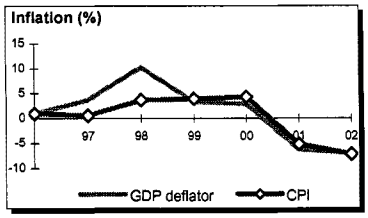


Note: 2002 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

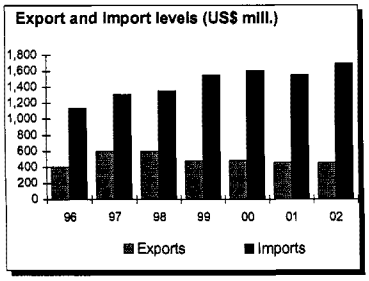
PRICES and GOVERNMENT FINANCE

	1982	1992	2001	2002
Domestic prices				
(% change)				
Consumer prices	7.3	21.0	-5.2	-7.2
Implicit GDP deflator	4.2	15.8	-6.3	-7.0
Government finance				
(% of GDP, includes current grants)				
Current revenue	17.8	12.6	22.4	22.6
Current budget balance	0.8	-3.1	3.2	2.3
Overall surplus/deficit	-5.5	-7.6	-6.6	-11.3



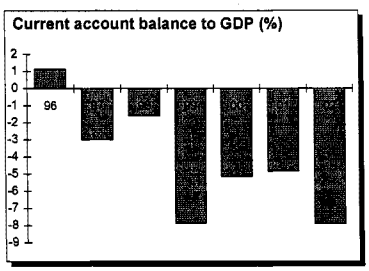
TRADE

	1982	1992	2001	2002
(US$ millions)				
Total exports (fob)	376	154	463	452
Coffee	232	81	182	163
Leather and leather products	24	0	41	66
Manufactures	79	38	86	67
Total imports (cif)	848	875	1,557	1,696
Food	..	131	110	209
Fuel and energy	..	120	292	268
Capital goods	..	322	487	523
Export price index *(1995=100)*	81	77	61	53
Import price index *(1995=100)*	107	94	115	113
Terms of trade *(1995=100)*	76	82	53	47



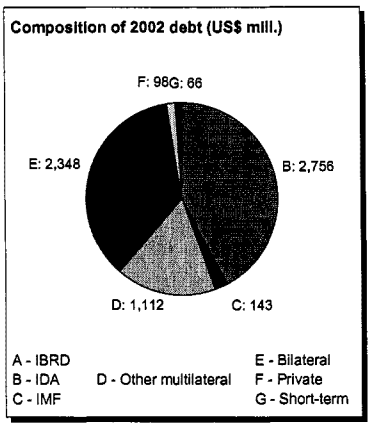
BALANCE of PAYMENTS

	1982	1992	2001	2002
(US$ millions)				
Exports of goods and services	512	453	979	983
Imports of goods and services	946	1,074	1,936	2,073
Resource balance	-435	-621	-957	-1,091
Net income	-9	-86	-51	-40
Net current transfers	73	747	694	653
Current account balance	-371	40	-314	-478
Financing items (net)	431	39	293	762
Changes in net reserves	-60	-79	22	-285
Memo:				
Reserves including gold *(US$ millions)*	277	172	337	664
Conversion rate *(DEC, local/US$)*	2.1	2.1	8.3	8.5



EXTERNAL DEBT and RESOURCE FLOWS

	1982	1992	2001	2002
(US$ millions)				
Total debt outstanding and disbursed	3,280	9,341	5,697	6,523
IBRD	48	12	0	0
IDA	302	964	2,151	2,756
Total debt service	76	109	182	108
IBRD	8	8	0	0
IDA	3	13	36	17
Composition of net resource flows				
Official grants	107	886	413	..
Official creditors	1,345	184	434	548
Private creditors	98	80	-10	-4
Foreign direct investment	2	0	20	..
Portfolio equity	0	0	0	0
World Bank program				
Commitments	30	150	202	343
Disbursements	28	112	455	465
Principal repayments	5	13	22	5
Net flows	23	99	433	460
Interest payments	6	8	14	12
Net transfers	17	92	419	447



MAP SECTION