PROFILE II

GUYANA

OCTOBER 9, 2001

Project name:	Information and Communications Technology	
Project number:	GY-0066	
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Date of Profile I:	April 27, 2001	
Borrower:	Government of the Cooperative Republic of Guyana	
Executing agency:	Information and Communications Technology Unit (ICTU) of the Office of the President	
Financing Plan:	Counterpart:	US$4.5 million
	IDB (FSO):	US$18.0 million
	Co-financing:	US$ 0.0 million
	Total:	US$22.5 million
Tentative dates:	Next Mission:	October 2001
	Analysis Mission:	November 2001
	Board:	December 2001
PTI:	No.	
SEQ:	During further project preparation, the Project team will examine whether the Project qualifies as a SEQ.	

I. INTRODUCTION

1.1 Implementation of an Information and Communication Technology (ICT) Strategy or ***Connectivity Agenda***, has been identified as a national priority by the Government of Guyana (GOG). The National Development Strategy (NDS)[1] views ICT as a pivotal tool to improve governance, accountability and transparency, generate employment, develop human potential, and strengthen national unity. The proposed Project will provide resources to: strengthen the recently created Information and Communications Unit (ICTU) in the Office of the President; modify the legal/regulatory framework to facilitate E-transactions and enhance Guyana's attractiveness as a site for E-service exports; increase public sector efficiency and transparency, and facilitate citizen access -- especially for the poor -- to needed public services by making them available online (e-Government); community outreach to enable low-income individuals to gain access to the opportunities for communicating, learning and identifying employment opportunities through the Internet; promotion of E- service exports to encourage economic diversification and to create new jobs, particularly for the young; network connectivity to lower unit costs and to benefit from network externalities; and human capital development, with emphasis on enhancing the skills of the youth. Total Project costs have been estimated at US$22.5 million, of which US$18 million would be financed by a Bank FSO loan.

II. BACKGROUND

A. Economic Framework

2.1 Guyana is an open and predominantly agricultural economy. For the two decades after the 1966 independence, it followed statist economic policies, and several important enterprises in the sugar, rice and bauxite sector were brought under government control. A massive outflow of Guyana's citizenry started during this period, and the tide has yet to be stemmed. No hard data is available, but it is widely believed that the there are more Guyanese residing abroad – mainly in North America - than in the homeland.

2.2 Beginning in 1988, a number of measures were implemented to liberalize the economy and to give a greater role to the private sector. The improved policy framework had highly positive effects beginning in the early 1990s. From 1991 to 1997 real GDP grew at an average rate of over 7%, the public sector deficit declined sharply, and inflation was reduced. Reductions in agricultural production associated with the effects of *El Niño*-induced drought and forest fires, combined with deterioration in the terms of trade, resulted in a temporary setback in 1998

[1] National Development Strategy (2001-2010) A Policy Framework - Eradicating Poverty and Unifying Guyana / A Civil Society Document

and real GDP declined by 1.7% that year. In 1999 GDP growth was again positive, about 3% for the year, and is expected to be 2.5% in 2001. Continued economic expansion will depend on a consolidation and deepening of economic and institutional reforms. The greatest challenge facing the authorities is the modernization of the state, to enhance its capacity to provide public services, encourage foreign investment and facilitate the creation of employment opportunities in Guyana for the country's eminently young population (about 35% less than 15 years old).

B. The Information and Communications Technology (ICT) Sector

2.3 Guyana has many attributes necessary to develop the Information and Communications Sector (ICT) sector, including affordable labor costs; linguistic, cultural and time zone affinities with major markets in North America; and an open environment for private investment. This potential has yet to be realized. While Guyana has relatively high teledensity for a country of its income level [2], development of the ICT sector has been hindered by the high costs of international telecommunications services, both dial-up and leased lines, and by an ambiguous regulatory framework for data transmission. Additionally, the costs of local broadband connections are very high, a result of limited competition.

2.4 The ICT sector can be described as small, underdeveloped and a user of software products. Several small ISPs[3] have started in the country, mostly in the Georgetown area, to serve consumer Internet connection demand. A number of commercial telecenters are also in operation, generating most of their income from the sale of computer time to make telephone calls abroad using voice over Internet Protocol (VOIP)[4] as an alternative to the high price for conventional international telephone calls. Rates paid by individuals at commercial telecenters range from US$1.60/hour for dial-up connections to US$3.60/hour for broadband access.[5] The University of Guyana and a few NGOs and private firms have also established telecenters offering training in basic computer skills and office applications. Some firms also offer network technical training. Several businesses have established their own local area networks and the Ministry of Finance has succeeded in automating the public sector payroll. GT&T has set up a large call center to provide ICT back-office services to the North American market. A number of foreign investors have expressed an interest in developing similar ICT export centers, but find the present costs of communications and lack of trained personnel are important limiting factors.

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[2] In 1999, there were seven lines per 100 inhabitants.
[3] Internet Services Provider: a value added services business aimed at provided retail access to the Internet and Internet.
[4] An Internet-based way of digitizing speech to enable its transmission over the Internet.
[5] In Peru and Colombia, for example, rates are under US$1.0/hour.

C. The ICT Strategy

2.5 In February 2001, a Government team supported by Industry Canada and the Bank[6] prepared a *Draft Guyana ICT Policy Paper*. This document defines the following objectives: greater efficiency and transparency in the public sector; enhanced access to public information by citizens; greater access to technology, training and communications for the disadvantaged; and economic diversification. The document calls for the creation of a "lead Agency", or Information Technology Authority (ITA) within the Government of Guyana, as a driving force that would lead a concerted effort to move Guyana into participation in the global knowledge-based society. An advisory committee, composed of advisors from the public and private sector, and from the NGO community was also proposed by the National ICT Strategy to ensure full participation and support of all stakeholders in the process of strengthening ICT policies and coordination mechanisms.

D. Progress to Date on ICT

2.6 The implementation of some elements of the Draft Guyana IT Policy has started. The GOG is committed to a process of consultation with the private sector and civil society on all aspects of the development of an ICT strategy. To further this objective, an informal working group has been established under the chairmanship of the Office of the President (OP) that has developed some preliminary priorities for ICT development in Guyana. Furthermore, during project preparation, an ICT Unit (ICTU) has been established in the office of the President and it is expected that it will eventually evolve into an Information Technology Authority. A highly qualified and experienced coordinator for the ICTU has been selected to function as the Chief Information Officer of Government (CIOG). Also, a small number of investors have established or are planning to establish ICT export-oriented operations in Guyana. The International Youth Foundation is considering supporting a training program in Guyana under the MIF "Program for Youth Employment**:** Technologies in the Workplace Program."

E. Bank Support for Telecommunications Reform

2.7 In July of 2000, the MIF approved an operation for Guyana, "Modernization of Telecommunications", with the objective of introducing competition in telecommunications. An international lawyer hired under the project has prepared a consultation paper that has been issued to the public to help advance a dialogue on telecommunications reform in the country. The MIF operation will fund the drafting of a new law and regulations to support competition in telecommunications, negotiations to modify the license of the leading carrier, and the establishment of an independent regulatory agency.

[6] Using C&D funds assigned to the Country Office Guyana.

F. Bank Strategy for the ICT Sector

2.8 Modernization of the public and private sectors is one of the major challenges facing Guyana. The Bank's strategy in this respect is focussed on creating an enabling environment to encourage foreign and local private investments, lower restrictive trade practices, policy and regulatory reforms (including the telecommunication sector), and privatization and increased competition in the local market place. A key element of this strategy is the modernization of the state. The proposed Project will support the Bank strategy through the improvement of efficiency and effectiveness in the provision of services, promotion of private sector initiatives and business opportunities in the ICT sector, and by increasing access of distant communities to public services and low-cost access to the Internet. Efforts will utilize ICT as a primary element in reform planning from the outset, not as a secondary consideration in the restructure of processes and relationships.

G. Bank and Other Donor Experience in the ICT Sector

2.9 Bank experience has been mostly limited to the introduction of ICT in projects, for example, in modernization of the state, education or social development programs. An example of a Bank project with a strong ICT component is the Barbados Education Sector Enhancement (BA-0009). Other Donor experience with ICT programs has been similar to the IDB', i.e. having ICT as a component of a project. Until now, neither the World Bank nor USAID have implemented integrated ICT projects. USAID has designed an integrated ICT project in Egypt, and implementation is just getting underway. The World Bank is also in the design stage of integrated ICT projects in Eastern Europe.

H. Lessons Learned

2.10 The Final Report of the Digital Opportunity Initiative (DOI) of July 2001: "Creating a Development Dynamic"[7] contains a thorough analysis of the considerations that should be taken into account in the design and implementation of ICT programs. A key conclusion is that a **comprehensive and holistic approach** is the most effective way to promote synergies and maximize the impact of ICT. According to the Final Report, interventions should include building human capacity; creating incentives for the private sector, particularly for E-exports; developing appropriate local content; and increasing competition, especially among telecommunications and Internet-related businesses. The design of the proposed Project is fully consistent with those recommendations.

2.11 Other conclusions drawn from analyzing experiences with ICT programs are:

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[7] Accenture, the Markle Foundation and UNDP sponsored the Final Report of the Digital Opportunity Initiative (DOI). It is a result of extensive cooperative work between DOI and the International Telecommunications Union (ITU), the Organization for Economic Cooperation and Development (OECD), the United Nations Educational, Scientific and Cultural Organization (UNESCO), and developing countries.

- Success in **promoting a greater use of ICT in the public and private sectors** requires support at the highest political level, as shown by the experiences of Ireland, the United Kingdom, Colombia, Costa Rica Chile and Uruguay.

- A number of **public sector automation** projects have failed. One of the reasons has been that they have used very sophisticated applications that require intensive participation of foreign consultants without building local capacity. Besides the high costs of installation, these systems require continuing high-cost maintenance and reliance on foreign skills. Therefore, it may be more cost-effective and less risky to use simpler applications that can be developed and maintained locally.

- Commercial **telecenters** have been successful mainly in urban areas where the cost of connectivity is affordable. The impact of purely commercial ventures on the poor and on rural areas tends to be minimal, as services are limited and the costs of connectivity prohibitive. Public sponsored telecenters have been successful when subsidies are well-focused and concentrated in start-up costs and training, and when they rely on local initiative and foster business-like operators that recognize the need to recover recurrent expenditures.[8]

- **E- service exports** can provide employment opportunities for young people with a wide-range of skills, beginning with call centers and moving up to fairly sophisticated software development. Initial activities at the low end can develop into higher value-added services as the business environment and human capital endowment improve and markets are developed.

III. THE PROJECT

A. Objectives

3.1 The **goal** of the proposed Project is to increase competitiveness in order to accelerate economic and social development. The **purpose** of the project is to increase the use of ICT in the private and public sectors through well-targeted interventions. The Project consists of five distinct components: support to the ICTU in the Office of the President; improvement in the legal framework; increased use of ICT in the public sector (E- Government); community outreach; and promotion of ICT service Exports. Two types of activities will span and support the five distinct components: network connectivity and human capital development. These components have been chosen to promote synergies. Within each component, the activities that will be financed have been dimensioned to ensure cost-effectiveness.

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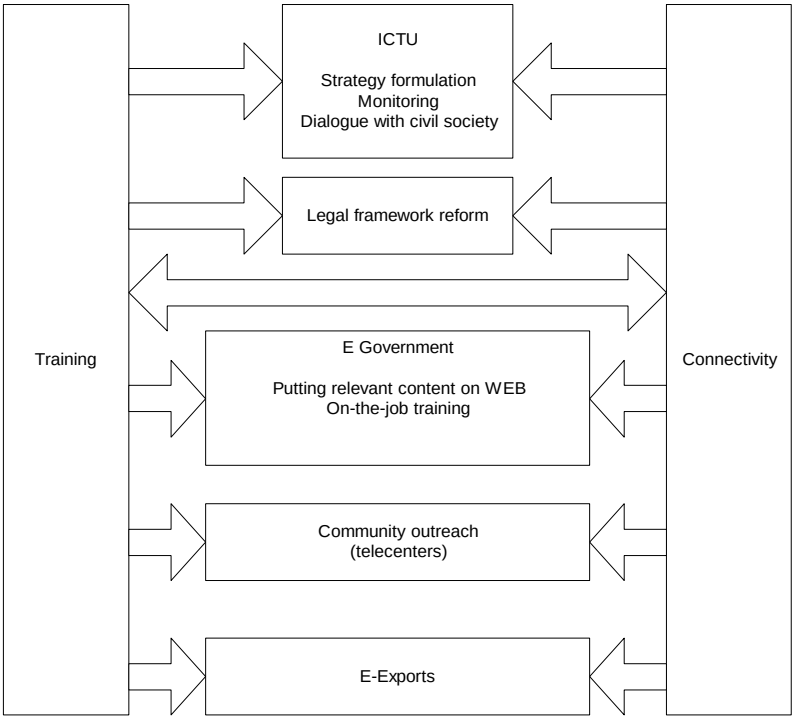
[8] Francisco J. Proenza, Roberto Bastidas-Buch and Guillermo Montero, *Telecenters for Socioeconomic and Rural Development in Latin America and the Caribbean*, FAO, ITU and IDB, May 2001.

3.2 The project can be represented schematically as follows:



B. Project Components

1. Support for the ICT Unit (ICTU) in the Office of the President (US$ 2,200,000)

3.3 This component will enhance the capability of the ICTU to refine and implement the ICT development strategy. The ICTU (Office of the Presidency) will be responsible for finalization and implementation of the ICT strategy and for the implementation of this Project. An ICT Advisory Board will be formally set up to help oversee policy and strategy implementation. This Board will be chaired by the ICTU coordinator, and will be comprised of a small number of advisors from the public and private sectors and NGOs. A monitoring system will be established to measure the Project's progress as well as other ICT initiatives sponsored by Government and other donors. This monitoring system will use the network as a main tool to measure use of the different Project provided services. The ICT Unit will be staffed by a small group of highly qualified Guyanese, and supported by an internationally recruited firm that will provide two long-term expatriate staff and specialized short-term consultants.

2. Legal /Regulatory Reforms (US$ 400,000)

3.4 This component will help identify the laws that need to be revised in order to enhance the enabling environment for ICT development in Guyana, and will provide legal assistance in the drafting of new laws as appropriate. The possibility of enacting a law based on the UNCITRAL[9] model law will be studied. Improvements in the legal and regulatory environment for E-service Exports are also envisaged, including strengthening of the legal framework for the protection of Intellectual Property Rights (IPRs) as they pertain to ICT. The Bank loan will finance the services of international and local specialists.

3. E-Government (US$ 3,100,000)

3.5 This component will seek to use ICT judiciously to improve communications between government agencies, and between Government and citizens and businesses, and to increase efficiency and effectiveness in the delivery of public services as well as broaden access[10]. Government "owns" significant content that is useful to citizens and making it readily available online will significantly increase the value of this content and reduce transaction costs. In selected agencies, automated processes and data bases will be developed using basic solutions that can be developed and maintained locally at low cost. The activities financed include:

- **Crosscutting activities**, including improving the web pages of all agencies and making the most common government forms, and instructions, available on line.
- Establishing a Guyanese based capacity to reliably **operate and maintain networks and systems**.
- Providing three computers and networking hardware and software to about 45 **Post Offices**, to allow them to serve as a main interface between citizens and government for obtaining forms, applying for services and making payments. The Post Office, throughout its decentralized network of outlets, today receives payments on behalf of the Government and the main utilities, and provides money transfer services to citizens. Presently, the payment tracking system is not automated, and the Project will provide resources aimed at automating it.
- Providing selected ministries and other agencies (not to exceed five) with the hardware and software to network existing computers (Local Area Network or LAN), as well as providing each entity with a maximum of three computers that will be made available in a central location to all employees in the ministry or agency and providing each employee with an E Mail account. Agencies will be selected on the basis of the internal capability to manage a Local Area Network (LAN), on the "business plan" to use the technology and on the commitment to provide adequate resources for maintenance and equipment renewal.
- Financing a **centralized help desk** to support ICT users.

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[9] United Nations Commission on International Trade Law.

[10] This component is being coordinated very closely with the Bank's Public Sector Improvement Program (PSIP), presently being designed.

- **Simple ICT solutions to improve the processes** of selected agencies, including the General Registrar's Office (GRO), Revenue Authority, Tender Board, Health, Traffic Section of the Police and Ministry of Agriculture. These solutions will include digitizing (through imaging) the records of the GRO (birth, marriage and death); putting the customs tariffs schedule on-line and updating rates as soon as they are modified; developing a process and data base to streamline issuance of tax compliance certificates; putting on-line procurement notices and awards by the Tender Board as well as other information of value to potential bidders[11]; studying the possibility of introducing E-procurement in the future; disseminating health, drug and care information to regional health care workers with capacity to exchange clinical advice with experts; providing simple processes and data bases to the Police (traffic section) to certify ownership, licensing and identity for vehicle stops; and providing farmers with information on markets, prices and agricultural production practices.

4. Community Outreach (US$ 3,000,000)

3.6 There is presently very limited access to the Internet by citizens, particularly in areas outside Georgetown. This component will promote the use of the Internet by individuals. It will finance:

- An **expansion in Guyana's telecenter network** and its capacity to serve the needs of secondary students and neighboring communities. The connectivity backbone will stimulate a market driven expansion in commercial telecenters, mainly in high profit areas in Georgetown. The Outreach component will provide for an additional expansion in telecenter facilities in rural areas. It will provide investment funding to independently run institutions that operate in the service of communities – i.e. IPED, and Learning Centers, to help them establish approximately 20 small (3-computer) telecenters. The program will also help secondary school students gain access to ICTs.
- A program of **small grants** to help finance social, economic and ICT export development initiatives that improve the welfare of communities through the use of ICTs. This will be accomplished through a program that will award small matching grants (US$ 5 000 – 30 000 each) to NGOs, grass roots organizations and community groups, to foster effective use of ICTs. Possible projects include: training of youth in web page making/computer repair for well defined market, long distance learning, community radio, training service workers for call centers or, for instance, as medical transcriptionists. Detailed eligibility criteria will be developed during further Project design.

5. Promotion of ICT Service Exports (US$2,000,000)

[11] Support to improve the procurement process will be coordinated closely with Bank-wide efforts to introduce E-procurement in member countries.

3.7 The market for ICT service exports is growing rapidly. The purpose of this component is to increase the attractiveness of Guyana as a site E-service exports. These exports range from low value added services such as call centers to fairly high value added services such as programming. Initially, it is likely that most activities will be concentrated a the low end. The project will finance the services of a firm that will evaluate the environment for Guyana for E-service exports, will develop a plan to market Guyana as a site for E- service exports and will help implement that marketing plan. These activities will be coordinated by GO-INVEST, the government agency charged with increasing foreign investment in Guyana. A number of investors considering Guyana as a site for establishing E-export facilities have encountered difficulties finding adequate sites for establishing facilities. The development of sites and services (streets, electricity, water connections, drainage and broadband connectivity) to encourage the establishment of export-oriented ICT park or parks will be studied during Project preparation, but a preferable option would be to refurbish an existing building at an university. An initial pilot program will be financed within or in the immediate vicinity of university. Possible locations include Georgetown (next to the University of Guyana), Berbice Region (next to the Berbice Campus of the University of Guyana) and Linden. Additionally, resources would be provided to design a mechanism to encourage private sector investment in export-oriented ICT parks.

6. Connectivity (US$ 4,300,000)

3.8 This component will offer connectivity to all Project activities at reasonable – international standard - costs. The component will capitalize on the significant economies of scale and density, as well as network externalities associated with ICT infrastructure development.[12] The proposed Project will also provide connectivity to teacher training centers in support of BEAMS and of the CIDA-funded teacher training program and also to schools.[13]

3.9 The project will establish an Internet based network as well as a technology/network management capacity to sustain the network and support e-government efforts.

3.10 Distribution points, from which multiple local groups can be served, have been identified on the basis of population density and proximity to secondary schools and Post Offices, but every region in the country will have at least one distribution point, regardless of population density. Based on this criteria, the

[12] Network externalities occur because each additional computer connected to the net increases the value of the connection for all computers already connected. Metcalf's Law posits that the value of a network increases in proportion to the square of the number of nodes in the network.

[13] Given the potential synergies between the proposed Project and BEAMS, the design of both projects is being coordinated closely.

following distribution points have been chosen in consultation with GOG and civil society representatives:[14]

- **Georgetown**. Fifteen distributions point in the Georgetown area connecting government ministries, agencies and the University of Guyana.
- **Coastal region.** Thirty five distribution points with about four to five service points each including typically a Post Office, a school, a telecenter and when applicable a University of Guyana site or a teacher's college site.
- **Interior.** Six distribution points connected with four to five service points each.

3.11 The Project will pay for connectivity service fees for a period of four years. The firm that will provide connectivity will be selected under ICB (see paragraph 6.1).

7. Human Capital Development (US$ 3,800,000)

3.12 All project components require a variety of training and educational support that will be geared towards people with very different backgrounds, qualifications and demands. The objective of this cross-cutting activity will be to provide demand-driven training and educational services in support of all Project components. The following training will be financed:

- Awareness campaign for the public and private sector on the benefits of using ICT and on the importance of protecting IPRs.
- Support for the ICT academic programs at the University of Guyana (UG), including the establishment of links with a university with a sound ICT training program.
- Support for the non-academic ICT programs at the UG, including support for computer labs and connectivity, and improvements in the data base at the library.
- Establishment of a campus network to serve the university community.
- Non-academic training for government officials on web page design, data base programming and network management. This training will be offered both at the UG and at local training institutes.
- With MIF financing, the International Youth Foundation (IYF) is considering supporting training geared at E-export development. This will be carried out in partnership with local or NGOs and/or the UG. The Project is expected to finance additional training using similar mechanisms.
- Training to enable about 100 secondary school teachers to acquire and practice fundamental computer and Internet skills.

3.13 This component will be closely coordinated with other IDB and donor funded projects to prevent duplication of efforts, especially those that deal with the training of teachers and students in ICT.

[14] The number of sites and their locations are based on preliminary estimates. Distribution points are hubs that connect a series of service points. Each service point could serve a WAN.

C. Project Costs.

3.14 Project costs are summarized in the table below (in US$000):

COMPONENT	BANK	GOG	TOTAL	%
ICTU	2,000	200	2,200	9.8
Legal reforms	300	100	400	1.8
E-Government	2,000	1,100	3,100	13.8
Community Outreach	3,000	-	3,000	13.3
Promotion of ICT Exports	1,000	1,000	2,000	8.9
Connectivity	2,500	1,800	4,300	19.1
Human Capital Development	3,500	300	3,800	16.9
Subtotal	14,300	4,500	18,800	83.6
Physical and price contingencies	3,000	-	3,000	13.3
Fees	700	-	700	3.1
Total	**18,000**	**4,500**	**22,500**	**100%**

D. Project Implementation

3.15 Project implementation will be the responsibility of the Information and Communications Technology Unit (ICTU) that has been established in the Office of the President. Given the need for close coordination between numerous ministries and autonomous agencies and institutions such as the University of Guyana and the Post Office, placement of the ICTU in the Office of the President is expected to enhance that coordination. The Project Document will include an Annex detailing the types of activities that will be financed. The ICTU will be supported by a high level advisory board, and by a small team of expatriate advisors.

3.16 Efforts will be made to bundle Project activities in a small number of contracts that would attract bidders that would be selected under an International Competitive Bidding (ICB) process. At this juncture in project preparation, two main contracts are envisaged, one to provide connectivity and another one to manage the Community Outreach component. During Project preparation, detailed guidelines for the implementation of the Community Outreach component will be developed to ensure that grants to NGOs and other institutions are based on technical and sustainability criteria. In developing the Procurement Plan for the other Project activities, efforts will be made to bundle purchases to maximize the use of ICB. It is expected that running the VPN and hosting the servers that will contain the information of the E-Government component will be hosted by an Application Service Provider (ASP) selected under ICB procedures.

Contracting for the E-Government, connectivity, E-service Export and community outreach components will be conditioned upon a prior liberalization of the market for data transmission. This condition will be a contractual clause.

3.17 Given the close relationship between the proposed Project and other Bank projects such as the Basic Education Access, Management and Support Program (BEAMS), Systems of Bankable Property Rights, Public Sector Modernization Program, and Unserved Areas Electrification Program, coordination mechanisms will be established to ensure coordination and maximization of potential synergies between different Bank projects.

IV. ENVIRONMENTAL AND SOCIO-ECONOMIC ASPECTS

4.1 The Project inputs are basically technical assistance, training and the provision of connectivity. It is expected that connectivity will be provided essentially using wireless technology, but the bidding documents to select the firm that will provide these services will ensure that environmental specifications will be defined, if necessary, and included in the terms of reference of the civil works.

4.2 The Project gives particular emphasis to providing connectivity and training to low-income individuals, principally outside Georgetown. Additionally, the E-government solutions proposed would help make government services more readily available to low-income citizens, especially those residing in outside Georgetown. The Project team will examine during further Project preparation whether the Project qualifies as a SEQ.

4.3 During the next Project preparation phase a consulting firm will be hired to carry out feasibility studies of an export-oriented ICT park. These feasibility studies will include an environmental and social impact assessment.

V. ECONOMIC FEASIBILITY

5.1 Guyana is a low income-country with a small population of about 800,000 people. Access by the population to information and communication technologies is presently quite limited. This is partly due to the low income of the population, as well as to institutional constraints preventing greater development of the country's connectivity and ICT service infrastructure. Guyana has nevertheless important advantages that could be seized to bring about a significant turnaround on relatively short notice. First, about 90% of the country's population are concentrated along mostly flat lands along the coastal areas of the country in Regions 2 through 6, thus making infrastructure development potentially low cost. Second, it is estimated that there are more Guyanese abroad than in Guyana. This creates a large potential demand for communications between residents of Guyana and the expatriate Guyanese, and is in a sense the "killer application" that can

promote a high level of demand for connectivity. Third, being an English speaking country, Internet content is readily available and opens up numerous opportunities to supply labor services virtually to the North American market. Fourth, the country's population also has a relatively good basic educational profile and therefore training efforts would be high returns if targeted to the development of skills geared to a broadened job market now opened up virtually and online. Fifth, the time zone in Guyana coincides with major markets in the eastern seaboard of North America, and thus enhances the attractiveness of Guyana for some E-export services such as call centers. Sixth, the country's population is quite young. An estimated 35 % of its people are less than 15 years old, compared for example, to an average 21% for the U.S. and 19% for Canada. The youth of Guyana's population is a tremendous asset as it will facilitate the introduction of ICTs and make for a longer return horizon associated with investing in human capital.

5.2 The E-government component is expected to reduce government costs but more importantly to reduce the costs faced by citizens as they transact with government. For example, use of ICT in the General Registry (where birth, death and marriage certificates are obtained) will reduce the operating costs of the registry and improve the level of service by reducing the backlog. At the same time, citizens will be able to apply for and pay for their certificates at a local Post Office without the need to travel. Similarly, putting forms on line will reduce printing costs for the GOG but more importantly it will make those forms available to citizens at any Post Office or telecenter (see paragraph 3.13).

VI. RISKS

6.1 **Regulatory risk**. Presently, Internet broadband connectivity rates are very high. The project envisages an International Competitive Bidding Process (ICB) for providing connectivity, and this is expected to reduce costs to level that would make the Project financially viable and sustainable. Before contracting for the E-Government, Community Outreach, E-service exports and Connectivity components, the Government must clarify the regulatory environment and liberalize the market for data transmission. This will include issuing licenses for international connectivity to any existing or future ISP using simple and transparent procedures.

6.2 **Brain drain of ICT graduates**. This is a serious risk facing the project. It cannot be addressed solely by this project. People will continue to migrate as long as local services are deficient, poverty is ubiquitous and employment opportunities and income earning possibilities for young people are limited. The project will help mitigate this risk by creating job opportunities for young people in Guyana through its Outreach Program and ICT Export Development component. Additionally, some redundancy in the training program has been introduced, especially in key information technology positions, to allow for expected turnover of staff.

6.3 **Sustainability.** The proposed E-government services are relatively rudimentary. These consist mainly of the provision of information and online display of forms. The skill requirements for these services are not overly burdensome and do not require a major reorganization of operational flows currently in place. Furthermore, the project will provide training at all levels in those Ministries and agencies that will participate in the e-government component. As a contribution to counterpart, the GOG, the Post Office, and the private telecenters will pay all operating costs of connectivity, including network management.

6.4 **Outreach program becomes politicized and telecenters and other activities financed are unsustainable.** An Outreach Program Board comprised of well-respected members of the community - e.g. including representatives from the major church groups and the private sector - will have independent final decision over small grant approval. Grass roots organizations will receive assistance in the preparation of viable and self-sustaining proposals for funding. During project preparation, detailed guidelines for the implementation of this component will be developed.

6.5 **Technical.** To avoid technical risks and to ensure sustainability, the technologies proposed are commercial, off-the shelf, and proven in the market. There are very good models of successful e-government services, primarily in North America, that the project can imitate. The public Internet will be used for data transmission under management of a Virtual Private Network (VPN), a technology proven to maintain privacy over the Internet.

VII. STATUS OF PROJECT PREPARATION

7.1 Funding has been requested from the Japan Consultants Fund for a TC that will be used to develop the more detailed design, including the preparation of bidding documents for all Project components. This TC is expected to be approved in October 2001. A course for the main stakeholders on the Logical Framework methodology that will conclude with a refinement of the Logframe for this Project is planned for November 2001.