



Northern South America, bordering the North Atlantic Ocean, between Suriname and Venezuela



green, with a red isosceles triangle (based on the hoist side) superimposed on a long, yellow arrowhead; there is a narrow, black border between the red and yellow, and a narrow, white border between the yellow and the green; green represents forest and foliage; yellow stands for mineral resources and a

bright future; white symbolizes Guyana's rivers; red signifies zeal and the sacrifice of the people; black indicates perseverance

Originally a Dutch colony in the 17th century, by 1815 Guyana had become a British possession. The abolition of slavery led to black settlement of urban areas and the importation of indentured servants from India to work the sugar plantations. This ethnocultural divide has persisted and has led to turbulent politics. Guyana achieved independence from the UK in 1966, and since then it has been ruled mostly by socialist-oriented governments. In 1992, Cheddi JAGAN was elected president in what is considered the country's first free and fair election since independence. After his death five years later, his wife, Janet JAGAN, became president but resigned in 1999 due to poor health. Her successor, Bharrat JAGDEO, was reelected in 2001 and again in 2006.



Location

5 00 N, 59 00 W

total: 214,969 sq km

country comparison to the world: 84

land: 196,849 sq km

water: 18,120 sq km

Area - comparative:

slightly smaller than Idaho



Land boundaries:

total: 2,949 km

border countries: Brazil 1,606 km, Suriname 600 km, Venezuela 743 km



Coastline:

459 km



Maritime claims:

territorial sea: 12 nm

exclusive economic zone: 200 nm

continental shelf: 200 nm or to the outer edge of the continental margin



Climate:

tropical; hot, humid, moderated by northeast trade winds; two rainy seasons (May to August, November to January)

Terrain:

mostly rolling highlands; low coastal plain; savanna in south

Elevation extremes:

lowest point: Atlantic Ocean 0 m
highest point: Mount Roraima 2,835 m

Natural resources:

bauxite, gold, diamonds, hardwood timber, shrimp, fish

Land use:

arable land: 2.23%
permanent crops: 0.14%
other: 97.63% (2005)

Irrigated land:

1,500 sq km (2003)

Total renewable water resources:

241 cu km (2000)

Freshwater withdrawal (domestic/industrial/agricultural):

total: 1.64 cu km/yr (2%/1%/98%)
per capita: 2,187 cu m/yr (2000)

Natural hazards:

flash floods are a constant threat during rainy seasons

Environment - current issues:

water pollution from sewage and agricultural and industrial chemicals; deforestation

Environment - international agreements:

party to: Biodiversity, Climate Change, Climate Change-Kyoto Protocol, Desertification, Endangered Species, Hazardous Wastes, Law of the Sea, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, Tropical Timber 94
signed, but not ratified: none of the selected agreements

Geography - note:

the third-smallest country in South America after Suriname and Uruguay; substantial portions of its western and eastern territories are claimed by Venezuela and Suriname respectively



People ::GUYANA

Population:

744,768 (July 2011 est.)

country comparison to the world: [163](#)

note: estimates for this country explicitly take into account the effects of excess mortality due to AIDS; this can result in lower life expectancy, higher infant mortality, higher death rates, lower population growth rates, and changes in the distribution of population by age and sex than would otherwise be expected

Age structure:

0-14 years: 31.9% (male 120,981/female 116,654)

15-64 years: 63.3% (male 235,566/female 235,717)

65 years and over: 4.8% (male 14,801/female 21,049) (2011 est.)

Median age:

total: 23.9 years

male: 23.2 years

female: 24.6 years (2011 est.)

Population growth rate:

-0.44% (2011 est.)

country comparison to the world: [221](#)

Birth rate:

17.12 births/1,000 population (2011 est.)

country comparison to the world: [118](#)

Death rate:

7.2 deaths/1,000 population (July 2011 est.)

country comparison to the world: [125](#)

Net migration rate:

-14.32 migrant(s)/1,000 population (2011 est.)

country comparison to the world: [216](#)

Urbanization:

urban population: 29% of total population (2010)

rate of urbanization: 0.5% annual rate of change (2010-15 est.)

Major cities - population:

GEORGETOWN (capital) 132,000 (2009)

Sex ratio:

at birth: 1.05 male(s)/female

under 15 years: 1.04 male(s)/female

15-64 years: 1 male(s)/female

65 years and over: 0.71 male(s)/female

total population: 1 male(s)/female (2011 est.)

Infant mortality rate:

total: 36.76 deaths/1,000 live births

country comparison to the world: 68

male: 41.09 deaths/1,000 live births

female: 32.2 deaths/1,000 live births (2011 est.)

Life expectancy at birth:

total population: 67.08 years

country comparison to the world: 159

male: 63.27 years

female: 71.07 years (2011 est.)

Total fertility rate:

2.34 children born/woman (2011 est.)

country comparison to the world: 96

HIV/AIDS - adult prevalence rate:

1.2% (2009 est.)

country comparison to the world: 41

HIV/AIDS - people living with HIV/AIDS:

5,900 (2009 est.)

country comparison to the world: 118

HIV/AIDS - deaths:

fewer than 500 (2009 est.)

country comparison to the world: 91

Major infectious diseases:

degree of risk: high

food or waterborne diseases: bacterial and protozoal diarrhea, hepatitis A, and typhoid fever

vectorborne diseases: dengue fever and malaria

water contact disease: leptospirosis (2009)

Nationality:

noun: Guyanese (singular and plural)

adjective: Guyanese

Ethnic groups:

East Indian 43.5%, black (African) 30.2%, mixed 16.7%, Amerindian 9.1%, other 0.5% (2002 census)

Religions:

Hindu 28.4%, Pentecostal 16.9%, Roman Catholic 8.1%, Anglican 6.9%, Seventh Day Adventist 5%, Methodist 1.7%, Jehovah Witness 1.1%, other Christian 17.7%, Muslim 7.2%, other 4.3%, none 4.3% (2002 census)

Languages:

English, Amerindian dialects, Creole, Caribbean Hindustani (a dialect of Hindi), Urdu

Literacy:

definition: age 15 and over has ever attended school

total population: 91.8%

male: 92%

female: 91.6% (2002 Census)

School life expectancy (primary to tertiary education):

total: 12 years

male: 12 years

female: 12 years (2009)

Education expenditures:

6.1% of GDP (2007)

country comparison to the world: 28



Government ::GUYANA

Country name:



conventional long form: Cooperative Republic of Guyana
conventional short form: Guyana
former: British Guiana

Government type:

republic

Capital:

name: Georgetown

geographic coordinates: 6 48 N, 58 10 W

time difference: UTC-4 (1 hour ahead of Washington, DC during Standard Time)

Administrative divisions:

10 regions; Barima-Waini, Cuyuni-Mazaruni, Demerara-Mahaica, East Berbice-Corentyne, Essequibo Islands-West Demerara, Mahaica-Berbice, Pomeroon-Supenaam, Potaro-Siparuni, Upper Demerara-Berbice, Upper Takutu-Upper Essequibo

Independence:

26 May 1966 (from the UK)

National holiday:

Republic Day, 23 February (1970)

Constitution:

6 October 1980

Legal system:

based on English common law with certain admixtures of Roman-Dutch law; has not accepted compulsory ICJ jurisdiction

Suffrage:

18 years of age; universal

Executive branch:

chief of state: President Bharrat JAGDEO (since 11 August 1999); note - assumed presidency after resignation of President Janet JAGAN and was reelected in 2001, and again in 2006

head of government: Prime Minister Samuel HINDS (since October 1992, except for a period as chief of state after the death of President Cheddi JAGAN on 6 March 1997)

cabinet: Cabinet of Ministers appointed by the president, responsible to the legislature

(For more information visit the [World Leaders website](#) )

elections: president elected by popular vote as leader of a party list in parliamentary elections, which must be held at least every five years (no term limits); elections last held on 28 August 2006 (next to be held by August 2011); prime minister appointed by the president

election results: President Bharrat JAGDEO reelected; percent of vote 54.6%

Legislative branch:

unicameral National Assembly (65 seats; members elected by popular vote, also not more than 4 non-elected non-voting ministers and 2 non-elected non-voting parliamentary secretaries appointed by the president; members to serve five-year terms)

elections: last held on 28 August 2006 (next to be held by August 2011)

election results: percent of vote by party - PPP/C 54.6%, PNC/R 34%, AFC 8.1%, other 3.3%; seats by party - PPP/C 36, PNC/R 22, AFC 5, other 2

Judicial branch:

Supreme Court of Judicature, consisting of the High Court and the Court of Appeal, with right of final appeal to the Caribbean Court of Justice (CCJ)

Political parties and leaders:

Alliance for Change or AFC [Raphael TROTMAN and Khemraj RAMJATTAN]; Guyana Action Party or GAP [Paul HARDY]; Justice for All Party [C.N. SHARMA]; People's National Congress/Reform or PNC/R [Robert Herman Orlando CORBIN]; People's Progressive Party/Civic or PPP/C [Bharrat JAGDEO]; Rise, Organize, and Rebuild or ROAR [Ravi DEV]; The United Force or TUF [Manzoor NADIR]; The Unity Party [Joey JAGAN]; Vision Guyana [Peter RAMSAROOP]; Working People's Alliance or WPA [Rupert ROOPNARAINÉ]

Political pressure groups and leaders:

Amerindian People's Association; Guyana Bar Association; Guyana Citizens Initiative; Guyana Human Rights Association; Guyana Public Service Union or GPSU; Private Sector Commission; Trades Union Congress

International organization participation:

ACP, AOSIS, C, Caricom, CDB, FAO, G-77, IADB, IBRD, ICAO, ICCT, ICRM, IDA, IFAD, IFC, IFRCS, ILO, IMF, IMO, Interpol, IOC, IOM (observer), ISO (subscriber), ITU, ITUC, LAES, MIGA, NAM, OAS, OIC, OPANAL, OPCW, PCA, PetroCaribe, RG, UN, UNASUR, UNCTAD, UNESCO, UNIDO, UPU, WCO, WFTU, WHO, WIPO, WMO, WTO

Diplomatic representation in the US:

chief of mission: Ambassador Bayney KARRAN
chancery: 2490 Tracy Place NW, Washington, DC 20008
telephone: [1] (202) 265-6900
FAX: [1] (202) 232-1297
consulate(s) general: New York

Diplomatic representation from the US:

chief of mission: Ambassador (vacant); Charge d'Affaires Karen L. WILLIAMS
embassy: US Embassy, 100 Young and Duke Streets, Kingston, Georgetown
mailing address: P. O. Box 10507, Georgetown; US Embassy, 3170 Georgetown Place, Washington DC 20521-3170
telephone: [592] 225-4900 through 4909
FAX: [592] 225-8497

Flag description:

green, with a red isosceles triangle (based on the hoist side) superimposed on a long, yellow arrowhead; there is a narrow, black border between the red and yellow, and a narrow, white border between the yellow and the green; green represents forest and foliage; yellow stands for mineral resources and a bright future; white symbolizes Guyana's rivers; red signifies zeal and the sacrifice of the people; black indicates perseverance

National anthem:

name: "Dear Land of Guyana, of Rivers and Plains"
lyrics/music: Archibald Leonard LUKERL/Robert Cyril Gladstone POTTER
note: adopted 1966



Economy ::GUYANA

Economy - overview:



The Guyanese economy exhibited moderate economic growth in recent years and is based largely on agriculture and extractive industries. The economy is heavily dependent upon the export of six commodities - sugar, gold, bauxite, shrimp, timber, and rice - which represent nearly 60% of the country's GDP and are highly susceptible to adverse weather conditions and fluctuations in commodity prices. Guyana's entrance into the Caricom Single Market and Economy (CSME) in January 2006 has broadened the country's export market, primarily in the raw materials sector. Economic recovery since a 2005 flood-related contraction was buoyed by increases in remittances and foreign direct investment in the sugar and rice industries as well as the mining sector. Chronic problems include a shortage of skilled labor and a deficient infrastructure. The government is juggling a sizable external debt against the urgent need for expanded public investment. In March 2007, the Inter-American Development Bank, Guyana's principal donor, canceled Guyana's nearly \$470 million debt, equivalent to nearly 48% of GDP, which along with other Highly Indebted Poor Country (HIPC) debt forgiveness brought the debt-to-GDP ratio down from 183% in 2006 to 120% in 2007. Guyana became heavily indebted as a result of the inward-looking, state-led development model pursued in the 1970s and 1980s. Growth slowed in 2009-10 as a result of the world recession. The slowdown in the domestic economy and lower import costs helped to narrow the country's current account deficit, despite generally lower earnings from exports.

GDP (purchasing power parity):

\$5.069 billion (2010 est.)
country comparison to the world: 160
\$4.946 billion (2009 est.)
\$4.834 billion (2008 est.)
note: data are in 2010 US dollars

GDP (official exchange rate):

\$2.197 billion (2010 est.)

GDP - real growth rate:

2.5% (2010 est.)
country comparison to the world: 141
2.3% (2009 est.)
3% (2008 est.)

GDP - per capita (PPP):

\$6,800 (2010 est.)
country comparison to the world: [132](#)
\$6,600 (2009 est.)
\$6,400 (2008 est.)
note: data are in 2010 US dollars

GDP - composition by sector:



agriculture: 24.3%
industry: 24.7%
services: 51% (2010 est.)

Labor force:



333,900 (2007 est.)
country comparison to the world: [162](#)

Labor force - by occupation:



agriculture: NA%
industry: NA%
services: NA%

Unemployment rate:



11% (2007)
country comparison to the world: [120](#)

Population below poverty line:



NA%

Household income or consumption by percentage share:



lowest 10%: 1.3%
highest 10%: 33.8% (1999)

Distribution of family income - Gini index:



43.2 (1999)
country comparison to the world: [45](#)

Investment (gross fixed):



34.1% of GDP (2010 est.)
country comparison to the world: [11](#)

Budget:



revenues: \$619.5 million
expenditures: \$655.7 million (2010 est.)

Public debt:

57% of GDP (2010 est.)

country comparison to the world: [41](#)

Inflation rate (consumer prices):

6.8% (2010 est.)

country comparison to the world: [170](#)

2.9% (2009 est.)

Central bank discount rate:

6.75% (31 December 2009)

country comparison to the world: [54](#)

6.75% (31 December 2008)

Commercial bank prime lending rate:

14.54% (31 December 2009 est.)

country comparison to the world: [47](#)

14.58% (31 December 2008 est.)

Stock of narrow money:

\$386.9 million (31 December 2010 est.)

country comparison to the world: [162](#)

\$252.9 million (31 December 2009 est.)

Stock of broad money:

\$1.303 billion (31 December 2010 est.)

country comparison to the world: [153](#)

\$905.6 million (31 December 2009 est.)

Stock of domestic credit:

\$754 million (31 December 2010 est.)

country comparison to the world: [157](#)

\$524 million (31 December 2009 est.)

Market value of publicly traded shares:

\$NA (31 December 2009)

country comparison to the world: [112](#)

\$289.9 million (31 December 2008)

\$262.4 million (31 December 2007)

Agriculture - products:

sugarcane, rice, edible oils; shrimp, fish, beef, pork, poultry

Industries:

bauxite, sugar, rice milling, timber, textiles, gold mining



Industrial production growth rate:

2.5% (2010 est.)

country comparison to the world: [123](#)



Electricity - production:

821 million kWh (2007 est.)

country comparison to the world: [150](#)



Electricity - consumption:

667 million kWh (2007 est.)

country comparison to the world: [151](#)



Electricity - exports:

0 kWh (2008 est.)



Electricity - imports:

0 kWh (2008 est.)



Oil - production:

0 bbl/day (2009 est.)

country comparison to the world: [182](#)



Oil - consumption:

10,000 bbl/day (2009 est.)

country comparison to the world: [148](#)



Oil - exports:

0 bbl/day (2007 est.)

country comparison to the world: [171](#)



Oil - imports:

10,550 bbl/day (2007 est.)

country comparison to the world: [139](#)



Oil - proved reserves:

0 bbl (1 January 2010 est.)

country comparison to the world: [139](#)



Natural gas - production:



0 cu m (2008 est.)
country comparison to the world: [136](#)

Natural gas - consumption:

0 cu m (2008 est.)
country comparison to the world: [181](#)

Natural gas - exports:

0 cu m (2008 est.)
country comparison to the world: [108](#)

Natural gas - imports:

0 cu m (2008 est.)
country comparison to the world: [196](#)

Natural gas - proved reserves:

0 cu m (1 January 2010 est.)
country comparison to the world: [143](#)

Current account balance:

-\$311 million (2010 est.)
country comparison to the world: [98](#)
-\$265 million (2009 est.)

Exports:

\$814 million (2010 est.)
country comparison to the world: [159](#)
\$763 million (2009 est.)

Exports - commodities:

sugar, gold, bauxite, alumina, rice, shrimp, molasses, rum, timber

Exports - partners:

Canada 27.52%, US 16.93%, UK 10.84%, Ukraine 5.54%, Netherlands 5%, Trinidad and Tobago 4.33%, Jamaica 4.12% (2009)

Imports:

\$1.366 billion (2010 est.)
country comparison to the world: [165](#)
\$1.161 billion (2009 est.)

Imports - commodities:

manufactures, machinery, petroleum, food



Imports - partners:

US 25.23%, Trinidad and Tobago 23.23%, Cuba 6.41%, China 6.05% (2009)



Reserves of foreign exchange and gold:

\$506 million (31 December 2010 est.)
country comparison to the world: [125](#)
\$631.4 million (31 December 2009 est.)



Debt - external:

\$804.3 million (30 September 2008)
country comparison to the world: [155](#)
\$1.2 billion (2002)



Exchange rates:

Guyanese dollars (GYD) per US dollar -
204.07 (2010)
203.95 (2009)
203.86 (2008)
201.89 (2007)
200.28 (2006)



Communications :: GUYANA

Telephones - main lines in use:

130,000 (2009)
country comparison to the world: [139](#)



Telephones - mobile cellular:

281,400 (2005)
country comparison to the world: [170](#)



Telephone system:

general assessment: fair system for long-distance service; microwave radio relay network for trunk lines; many areas still lack fixed-line telephone services

domestic: fixed-line teledensity is about 15 per 100 persons; mobile-cellular teledensity about 35 per 100 persons in 2005



international: country code - 592; tropospheric scatter to Trinidad; satellite earth station - 1 Intelsat (Atlantic Ocean)

Broadcast media:

government-dominated broadcast media; the National Communications Network (NCN) TV is state-owned; a few private TV stations relay satellite services; the state owns and operates 2 radio stations broadcasting on multiple frequencies capable of reaching the entire country; government limits on licensing of new private radio stations continue to constrain competition in broadcast media (2007)

Internet country code:

.gy

Internet hosts:

8,840 (2010)

country comparison to the world: [132](#)

Internet users:

189,600 (2009)

country comparison to the world: [142](#)



Transportation :: GUYANA

Airports:

96 (2010)

country comparison to the world: [63](#)

Airports - with paved runways:

total: 10

1,524 to 2,437 m: 2

914 to 1,523 m: 1

under 914 m: 7 (2010)

Airports - with unpaved runways:

total: 86

914 to 1,523 m: 13

under 914 m: 73 (2010)

Roadways:

total: 7,970 km
country comparison to the world: 142
paved: 590 km
unpaved: 7,380 km (2000)

Waterways:

330 km (the Berbice, Demerara, and Essequibo rivers are navigable by oceangoing vessels for 150 km, 100 km, and 80 km respectively) (2010)
country comparison to the world: 92

Merchant marine:

total: 8
country comparison to the world: 121
by type: cargo 6, petroleum tanker 1, refrigerated cargo 1
registered in other countries: 3 (Saint Vincent and the Grenadines 2, unknown 1) (2010)

Ports and terminals:

Georgetown



Military ::GUYANA

Military branches:

Guyana Defense Force: Army (includes Coast Guard, Air Corps)
(2009)

Military service age and obligation:

18-25 years of age for voluntary military service; no conscription
(2008)

Manpower available for military service:

males age 16-49: 189,840 (2010 est.)

Manpower fit for military service:

males age 16-49: 133,239
females age 16-49: 147,719 (2010 est.)

Manpower reaching militarily significant age annually:

male: 8,849
female: 8,460 (2010 est.)

Military expenditures:

1.8% of GDP (2006)

country comparison to the world: [83](#)



Education for ICT driven development

National Priorities

The Government of Guyana has recognized the huge potential of Information and Communication Technology (ICT) to empower Guyanese to meet developmental challenges and strengthen the economy. The role of ICT in International Trade, in making industries more competitive, in facilitating e-commerce, in the health and education sectors and in simply making a wide range of information and services available electronically is fully recognized. The Government has therefore outlined various policies that are aimed at creating an environment that will foster technology use and encourage investment in ICT. These include fiscal policies that allow the import of computers free of tax and the integration of ICT in some critical areas. Education is one of the most critical of these areas because narrowing the digital gap is more than just providing physical access to computers and the Internet, people must understand how to put it to good use.

The NDS states that *“the most encompassing goal of development is the progressive realization of the abilities and talents of each individual for his/her own satisfaction and enhancement of the good of the community and the nation. This is what is meant by the concept of human development or people centered development.”* More specifically the document recommends improving *“the relevance of the curriculum by incorporating at least one foreign language, more exposure to computer training and basic competence in technical and vocational subjects such as mechanics, electronics etc.”*

Similarly, the GPRSP cited *“the lack of teaching facilities such as Science and Information Technology (IT) laboratories”* as contributing to low performance by students and proposed reforming the curriculum and expanding the teaching of Information Technology. One of the proposals for improving the quality and relevance of education was *“a pilot phase on the use of computers and the internet in school instruction.”* The National Competitive Strategy reiterates the importance of human resources and defines it as one of the core elements of Guyana’s competitiveness

policy; the strategy document further states that education quality and relevance are key contributors to strengthening this element.

In 2006 a National ICT Strategy was developed and a document prepared - "ICT4D Guyana National Strategy Final Draft April 2006". The strategic areas and strategic objectives for which Education has a significant role are: Capacity Building (Develop and implement policies to integrate ICT into the education and training system), Development of Content and Applications (Encourage/Promote the development and dissemination of local content, Improve the public's access to content, and Encourage partnerships). The following table summarizes the main national goals and the strategic implications for the education sector.

Key Points	ICT targeted at development and economic improvement	
National Goal	Strategic Implication for MOE	
Improve competitiveness of industries	<ul style="list-style-type: none"> • Produce IT Literate graduates • Produce lifelong learners • Produce students who excel in IT and can move on to higher learning • Produce IT competent graduates at the technical level using the Tech-Voc intuitions 	
Facilitating e-commerce	<ul style="list-style-type: none"> • Build foundation of e-commerce concepts • Encourage student IT projects to explore e-commerce 	
Improving the delivery of health and education services	<ul style="list-style-type: none"> • Accelerate the use of ICT in the teaching learning process • Expand the use of IT in remedial education • Use the Internet to deliver distance programs (for students and teachers) • Encourage collaboration between students and teachers • Use ICT to support student learning beyond the classroom (homework, discussion, etc) • Implement a system for the development of local content for student learning. 	

Making information available to citizens	<ul style="list-style-type: none"> • Develop a web portal for sharing information and learning resources with the public.
Developing human resources in ICT	<ul style="list-style-type: none"> • Make greater use of the work-study program for exposing students to ICT work experience • Train all teachers in the capacity to use ICT for curriculum delivery. • Collaborate with the University of Guyana to prepare students for entry to the Computer Science program

Current State of ICT in Education

The Education Strategic Plan (2003-2007) had as its most important objective the improvement in the quality of the delivery of education especially in the area of literacy and numeracy. The increased use of technology was among the strategies identified to achieve the improvement in quality. At the primary level the teaching of mathematics by Interactive Radio Instruction (IRI) for the first three grades was introduced. A new methodology for teaching literacy, with a strong emphasis on phonics, was implemented at the primary and nursery levels and some low performing primary schools were supported by innovative technology, including the setting up of computer laboratories and the use of supporting software programs in at least fourteen schools. At the secondary level the setting up of computer laboratories has mainly been for the purpose of allowing students to pursue studies in Information technology and to offer this subject at the Caribbean Secondary Education Certificate Examinations (CSEC) offered by the Caribbean Examinations Council (CXC).

The use of computer technology has also become a major necessity for the Technical and Vocational Education and Training (TVET) Institutions. All of these institutions are offering programs on computer studies for those who had no exposure to the technology at school. In addition, Computer Aided Design Training is now almost indispensable in instruction for drafting in engineering, construction, interior design etc. Further the TVET institutions are now offering courses in the maintenance of computers.

The use of computers at all levels of the education system requires that teachers themselves should be familiar with the technology. The latest quarterly edition of the Newsletter from UNESCO's International Institute of Education Planning states that *"Effective (not just formal) incorporation of ICT in teaching practices is best provided through in-service teacher training and staff development programs for education personnel"*. The Education Strategic Plan 2003-2007 set as a goal the improvement of equipment (including computer equipment) at the Cyril Potter College of Education (CPCE) centres and greater orientation to education technology. This has started but there is still a long way to go.

MOE is aware that computers by themselves are not going to improve the performance of students but it is clear that the potential benefits are enormous. Computers can be used to provide back up for education learned in the classrooms through tutorial programs. They provide a good way for students, including students with learning difficulties, to practice or review material. The program in the fourteen primary schools mentioned previously has shown some very positive results. One thousand and eighty-four students in Grades 1 to 3 of these schools are using software called Success Maker. In thirteen of the fourteen schools there has been a 50 percent improvement in reading and a 75 percent improvement in mathematics for the pupils using the system after 25 sessions on the computer. Teachers reported that the behavioural pattern of the students in the classroom has changed with more listening, reading and more disciplined attitudes towards learning. In addition to the actual improvement in the amount of content learned it is felt that those students who master the computer at an early age will be ready to enter the labour market well prepared and in command of skills needed in modern life. The computer also gives both students and teachers the potential capacity, via the internet, to allow communication all around the globe.

Under the Primary Education Improvement Program (PEIP) four computer laboratories were installed in primary schools and a further fourteen schools had laboratories installed during the Basic Education Access management Support Program (BEAMS). In addition to schools which received computers under donor assisted programs, some schools have received computers from firms, private citizens etc. However, this would apply to less than 15 percent of primary schools. There is slightly better coverage at the secondary level from similar sources but even here less than 30 percent of the schools have computers and most that do have computers have laboratories of less than ten computers.

As previously stated, all the technical institutes are offering computer studies and computers are being used where available to support some courses. These institutions have been trying to acquire computers on an incremental basis over the last two or three years but financial constraints have delayed the acquisition of an adequate number. The same is true of the Teacher Training institution (CPCE). CPCE has doubled the number of its in-service centres in the last five years (it now has 14 centres, eight in remote hinterland regions) and it has also become a dual mode institution offering the Trained Teacher Certificate program by distance modes with a few face-to-face tutorials. The College was able to acquire some computers under a project some time ago but some need to be replaced and the number needs to be significantly increased.

Recently as the Ministry has begun consultations for its new five year strategic plan (2008-2012), the use of the computer as a learning/teaching aid has been given renewed emphasis. Computer assisted learning has been especially recommended as a means of mitigating the shortage of skilled teachers in some areas e.g. Science, Mathematics, modern languages etc. It is being proposed that some subjects can be offered via a mixture of distance education and face-to-face modes. The distance education packages would include computer programs.

MOE 2008-2012 ICT Goals and Strategies

Given the national imperatives and current state of ICT in the Ministry of Education the following ICT goals are set for the new five year plan:

- 1 To develop in 50% of primary students the capacity to use the computer for learning
- 2 To have by 2012 at least 20% of all secondary students passing CXC IT
- 3 By 2012 to have all secondary graduates ICT literate based on criteria to be established
- 4 To improve the success rate of students taking introductory IT courses at the University of Guyana to greater than 75%

- 5 To double the technical ICT graduates from the Tech-Voc institutions and to increase the areas of specializations
- 6 To reach all secondary students with quality web based content delivered over the Internet for core subject areas.
- 7 To upgrade the capacity of all teachers to use ICT for teaching and learning
- 8 To help reduce the number of primary students entering secondary schools falling below a minimum standard in Mathematics and Language by 50%.
- 9 To provide information and learning services to the general public
- 10 To create greater partnerships with community and industries for sustainability.

The strategies for achieving these are grouped into the areas Access and Participation, Quality of Education, and Administration and Management as used in the plan framework.

Access and Participation

- 1.1 Fully implement a GIS based application linked to the EMIS to determine needs of the population to education services, interventions and resources.
- 1.2 Construct or upgrade classroom space for facilitating computer laboratories at 100% of secondary and tech-voc institutions, and 50% of primary schools
- 1.3 Equip schools in 1.2 with computer equipment for a PC:Student ratio of 1:10 for secondary schools and 1:20 for primary schools
- 1.4 Provide all schools in 1.2 with access to the Internet
- 1.5 Provide schools with learning software and resources for the targeted curriculum areas
- 1.6 Establish at least five regional technical support centers
- 1.7 Appoint in each of the schools in 1.3 an IT Coordinator to provide supervision of IT labs and a limited degree of first level support

Quality of Education

- 2.1 Make IT a compulsory subject in the curriculum at the secondary level (grades 7-9). This should be taught mainly by demonstrating linkages with the various subject areas.
- 2.2 Provide the option for students at grade 10 and 11 in all secondary schools to pursue IT at the CXC level
- 2.3 Develop a framework of guidance, best practice, and support for teachers utilizing ICT for curriculum delivery

2.4 Encourage the use of ICT for independent study, research, and collaboration thereby developing skills in self learning

2.5 Promote the development of skills for the application of ICT through Science fairs, Contests, and projects.

2.6 Update the ICT programs and courses at all Tech-Voc institutions to reflect technological changes and industry demands.

2.7 Expand the use of ICT for remedial teaching especially in the subject areas of Mathematics and Language. This to be applied at all grades of the primary level and grade 7 of the lower secondary schools.

2.8 Develop web-based courses for critical subject areas – for both teachers and students. This should be done with inputs from teachers in the areas of content development.

2.9 Introduce a school portal of the MOE web presence to facilitate student learning beyond the classroom – subject matter, homework, discussion.

2.10 Train all teachers in secondary schools and 50% in primary schools to use ICT in delivering the curriculum

2.11 Better prepare graduates for the work or further study by closer collaboration with the University of Guyana and local industries

Administration and management

3.1 Complete the integrated Education Management Information System

3.2 Develop a web portal for sharing information and learning resources with the public

3.3 Develop an Intranet application to support the internal business processes of the Ministry

3.4 Redefine & resource the IT organization in light of the expanded role and scope

Implementation Plan

The following table presents a high level schedule of actions within the ICT component of the MOE strategic plan.

Action	2008	2009	2010	2011	2012
1.1	GIS/EMIS Implementation				
1.2	School lab space				
1.3	Computer Equipment				
1.4	Internet Access				
1.5	Software				
1.6	Support Centers				
1.7	School IT Coordinators				
2.1 + 2.2	IT at grades 7-11				
2.3	Teacher guides				
2.4	Self learning				
2.5	Application of ICT				
2.6	Tech-Voc ICT Curriculum				
2.7	ICT in remedial education				
2.8	On-line courses				
2.9	School portal				
2.10	Teacher training in ICT				
2.11	Linkages with academia/industry				
3.1	Complete EMIS				
3.2	MOE Web				
3.3	MOE Intranet				
3.4	IT Organization				

Plan Cost

Action		Cost (US\$)	Funding Sources
1.1	GIS/EMIS Implementation	5,000	IDB/BEAMS
1.2	School lab space	200,000	GOG
1.3	Computer Equipment	7,220,000	Partners + GOG
1.4	Internet Access	262,500	Corporate Sponsors
1.5	Software	700,000	GOG
1.6	Support Centers	100,000	GOG
1.7	School IT Coordinators	630,000	GOG
2.1 + 2.2	IT at grades 7-11	100,000	GOG
2.3	Teacher guides	100,000	GOG
2.4	Self learning	20,000	GOG
2.5	Application of ICT	10,000	GOG
2.6	Tech-Voc ICT Curriculum	10,000	GOG
2.7	ICT in remedial education	100,000	GOG
2.8	On-line courses	100,000	GOG
2.9	School portal	20,000	GOG
2.10	Teacher training in ICT	330,000	GOG
2.11	Linkages academia/industry	with 10,000	GOG
3.1	Complete EMIS	100,000	IDB/BEAMS

3.2	MOE Web	20,000	IDB/BEAMS
3.3	MOE Intranet	20,000	IDB/BEAMS
3.4	IT Organization	300,000	GOG
TOTAL		10,357,500	

Potential funding required from GOG US\$4,950,000 over five years of implementation.

Breakdown of Items – 1.3		
School Level	Number of schools targeted	Equipment for each school/facility
Primary Grade A-B	100	24 Multimedia PCs 1 Laser Printer 12 UPS (1000Va) 13 Voltage Regulator (1000Va) Education Software Pack Start-up Supplies 30 node LAN 1 Mobile station with 1 Laptop + 1 Projector
Primary Grade C-E	100	12 Multimedia PCs 1 Laser Printer 6 UPS (1000Va)

		<p>7 Voltage Regulator (1000Va)</p> <p>Education Software Pack</p> <p>Start-up Supplies</p> <p>15 node LAN</p> <p>1 Mobile station with</p> <p>1 Laptop + 1 Projector</p>
Secondary	120	<p>24 Workstation PCs</p> <p>1 Laser Printer</p> <p>12 UPS (1000Va)</p> <p>13 Voltage Regulator (1000Va)</p> <p>Education Software Pack</p> <p>Start-up Supplies</p> <p>30 node LAN</p> <p>1 Mobile station with</p> <p>1 Laptop + 1 Projector</p>
Technical Vocational Centres	8	<p>24 Workstation PCs</p> <p>1 Laser Printer</p> <p>12 UPS (1000Va)</p> <p>13 Voltage Regulator (1000Va)</p> <p>Education Software Pack</p> <p>Start-up Supplies</p> <p>30 node LAN</p>

		<p>1 Mobile station with</p> <p>1 Laptop + 1 Projector</p>
Teacher Training Centres	14	<p>12 Multimedia PCs</p> <p>1 Laser Printer</p> <p>6 UPS (1000Va)</p> <p>7 Voltage Regulator (1000Va)</p> <p>Education Software Pack</p> <p>Start-up Supplies</p> <p>15 node LAN</p> <p>1 Mobile station with</p> <p>1 Laptop + 1 Projector</p>
Support Centres	5	<p>4 Workstation PC</p> <p>1 Laser Printer</p> <p>2 UPS (1000Va)</p> <p>3 Voltage Regulator (1000Va)</p> <p>12 node LAN</p> <p>Tools</p> <p>Furniture including work benches and racks, and customization of facility</p>
Teacher Training	<p>6816 persons</p> <p>P – 3600</p> <p>S – 2880</p>	<p>Training in the use of computers for curriculum delivery and student learning. A minimum of 12 hours of instructions.</p>

	Others - 36	
Resource development facility within NCERD (National Centre for Education Resource Development)	1	12 Multimedia PCs 1 Laser Printer 6 UPS (1000Va) 7 Voltage Regulator (1000Va) Education Software Pack Start-up Supplies 15 node LAN 1 Mobile station with 1 Laptop + 1 Projector

ICT IN EDUCATION AND SCHOOLING

In the school sector, There are 200 schools with computers for Administrative purposes and 300 schools with PC for Educational purposes