BRIEF ON THE
GOB/IDB/CDB EDUCATION SECTOR ENHANCEMENT PROGRAMME

OVERVIEW

The Education Sector Enhancement Programme (ESEP), familiarly known as EduTech 2000, is a comprehensive education reform programme for the primary and secondary school system in Barbados. This US$ 213 million programme is financed by the Government of Barbados (45%), the Inter-American Development Bank (40%) and the Caribbean Development Bank (15%).

The overall goal of the Programme is to increase the number of young persons contributing to the sustainable social, cultural and economic development of Barbados. The Programme aims to:

• prepare students who are creative, numerate, literate, well-trained and readily re-trainable at any point in their development;
• ensure that all students understand the necessity of being able to live and work harmoniously with other persons in their environment;
• increase the efficacy of the teaching/learning process by encouraging teachers to shift to child-centred and more collaborative forms of learning in their classrooms; and
• ensure that all children leave school with the basic skills and abilities that are required to participate productively in the skill and information-intensive job market.

The specific objectives of the Programme are to:

• repair and upgrade the existing school plant;
• integrate all available information and communications technologies within the school system;
• provide teacher training to enhance pedagogical skills;
• achieve the desired balance between teacher-centred and child-centred approaches; and
• strengthen the capacity of the Ministry to effectively manage the education system.

In tandem with these objectives, the Programme has four inter-related components:

• Civil Works- physical rehabilitation of school facilities to enhance the physical and learning environment;

• Technological Infrastructure- procurement and installation of hardware, software and technical infrastructure for the school system and the Ministry of Education;
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- **Human Resource Development**
  - **Teacher Training** - training of teaching and administrative staff within the school system;
  - **Institutional Strengthening** - training and technical support for personnel from the Ministry and related institutions; and

- **Curriculum Reform** - revision of the curriculum to meet emerging needs within the Barbadian society.

**PROGRAMME IMPLEMENTATION & MANAGEMENT**

The Programme is managed by the Ministry of Education, primarily through the ESEP Programme Co-ordinating Unit (PCU) and the Education Project Implementation Unit (EPIU). There are also various committees in place to assist in the design, implementation and monitoring of the Programme. The committee members are drawn from a cross-section of education-sector and societal stakeholders, including Ministry personnel, education professionals, and representatives of teacher unions, the private sector, government agencies and parents. There are presently five Programme committees - the Advisory Committee, the Policy Review Committee, the Planning and Implementation Steering Committee, the Demonstration Schools Steering Committee and the Phase 2 Schools Steering Committee.

The Programme also encourages the devolution of management to the school level. Each Programme school therefore has a School Implementation and Leadership Team (SILT) comprising a team leader (usually the principal), Information Technology Co-ordinator (ITC) and a Curriculum Co-ordinator (CC). These teams are in place to manage the reform process at their respective schools and are responsible for the preparation of school implementation plans. Team members are granted leave for Terms II and III of the academic year (January to July) to plan for Programme implementation in their schools and to receive training.

**CIVIL WORKS**

The civil works component of the Programme will ensure that all schools have the requisite physical environment and facilities that are conducive to learning. In addition, it will facilitate the installation of the necessary technological infrastructure. The civil works component includes general upgrading and rehabilitation of schools; retrofitting to accommodate physically challenged students and cabling. Additional facilities are also constructed at certain schools where necessary. All public primary and secondary schools will be refurbished over the seven phases of implementation, and the private schools are being provided with a limited civil works programme related only to the installation of their technological infrastructure.

At present, the schools in the first four phases of the Programme are in varying stages of their civil works. All thirteen public primary and secondary schools in Phase 1 of the
Programme have been completed and works on the two Phase 1 private schools is expected to begin early in 2002. With regard to the schools in Phase 2 of the Programme, 1 public primary school is completed, works are nearing completion on 6 other public primary schools, and works are due to start in the near future on 3 public primary schools and 5 public secondary schools. The schools in Phases 3 and 4 of the ESEP are presently in the design stage of their civil works programme, and works on the Phase 3 schools is expected to begin in the second half of 2002.

**TECHNOLOGICAL INFRASTRUCTURE**

The technological infrastructure component of the Programme will allow for the equipping of all Programme schools with information and communication technology. Specifically, Programme schools will have teacher multimedia centres in classrooms, as well as PCs and laptops for the staff room. Moreover, at the primary level, classrooms from Classes 1-4 will be equipped with computers, and there will be one computer laboratory for schools with less than 500 students, and two laboratories for schools with more than 500 students. At the secondary level, each classroom for Forms 1-3 will be equipped with computers. Each secondary school will also have specialist subject rooms outfitted with computers and other information and communications technology, as well as a computer laboratory equipped with 30 computers. The types of technology in the Programme include PCs, printers, digital cameras, scanners, plotters, science probes, electronic whiteboards, multimedia projectors and TVs. In addition, standard application software, Education Management Information System (EMIS) software and academic software will be provided under the Programme.

The overall aim of the technological infrastructure component of the Programme is to facilitate the full utilisation of technology in the education system as a teaching, learning and administrative tool. However, it must be stressed that the technology is to complement and not replace the best elements of the traditional teaching/learning process. Moreover, the technology is not being introduced in isolation, but is inextricably linked to teacher training and curriculum reform. On the whole, technology will be used as a tool to assist with lesson preparation and presentation, to build student skills and competencies and to foster integrated learning across subject areas. The integration of technology into the system is also expected to promote a higher level of student interest and achievement.

To date, equipment has been installed at the nine Phase 1 public primary schools, and most of the equipment has been delivered and installed at the four Phase 1 public secondary schools. There is also a pilot solar project in place at one of the Phase 1 public secondary schools, where the computers in the Chemistry laboratories are powered by a photovoltaic system.

With respect to software, the Ministry of Education has recently signed a School Licensing Agreement with Microsoft Corporation for the use of Microsoft software in the Programme schools. The Ministry has also procured an Education Management Information System (EMIS) software package for Phases 1 and 2 of the Programme.
Academic software was also to have been provided for the Phase 1 schools, but due to a legal problem in the procurement process, the software will not now be available until 2002.

One important innovation in the technology offered under the Programme is the NETSchools pilot project. Under this project, four primary schools and two secondary schools in the first two phases of the Programme will utilise the NETSchools Solution. This Solution provides rugged notebook computers for students called StudyPros and access to an Academic Information System (AIS) for teachers which includes over 24,000 curriculum-correlated web sites. The StudyPros have network connections via infrared ceiling access points. In addition, they allow for remote access to the school network from home, via a telephone line. Teachers, students and parents receive training in the use of the StudyPro computers as part of the project. One of the aims of the NETSchools project is to address issues of economic and social justice, by ensuring that students and families in the lower socio-economic brackets will have access to technology. The NETSchools project will therefore be closely monitored, both in terms of its educational impact and its socio-cultural impact on the students’ households.

StudyPros have already been deployed in the Phase 1 public schools utilising the NETSchools Solution – two primary schools and one secondary school. Students at these schools are allowed to use the StudyPros off the school premises once the relevant Computer Use Agreements have been signed by their parents/guardians.

**HUMAN RESOURCE DEVELOPMENT**

**Teacher Training**

Teachers are seen as the major change agents in the education reform process. As a result, teacher training forms the major part of the Human Resource Development component of the Programme. The majority of the training is conducted by the public post-secondary/tertiary institution Erdiston Teachers’ Training College, but various consultants also conduct training and workshops as necessary. School Implementation and Leadership Teams (SILTs) from the Programme schools are trained in Teaching Methodologies, Educational Leadership and Technology Mastery, after which they present implementation plans for their respective schools. School or centre-based training is also conducted for all the teachers at the Programme schools in Teaching Methodologies and Technology Mastery.

The Technology Mastery courses are aimed at equipping teachers with the knowledge and technical skills to understand and utilise technology effectively. In addition to this general technical training, Microsoft Certified Professional training and other specialised training are provided under the Programme. This advanced technical training is mandatory for those teachers serving as Information Technology Co-ordinators at their respective schools, in order to ensure that they have the requisite skills to successfully manage the integration of technology in their schools.
The Teaching Methodologies training is aimed at helping teachers to successfully employ various teaching methodologies and to effectively integrate technology into their work. Teachers will also benefit from training in Attitudinal Change in order to prepare them to adapt successfully to the fundamental changes brought about by the reform process. In addition, special needs training will be available to teachers in order to better cater to the special needs students within the school population and to facilitate the effective integration of these students into mainstream schools wherever possible.

The school teams from the schools in Phases 1 to 3 of the Programme have already been trained, and some teachers from the Phase 1 and Phase 2 schools have already benefited from training in technology and teaching methodologies. Teachers from the Phase 1 schools have also participated in overseas study tours in order to observe best practices relating to the integration of technology in schools. Study tours will now be conducted locally to observe the integration of technology at the demonstration (Phase 1) schools.

**Institutional Strengthening**

**Training of Personnel**

Under the Institutional Strengthening sub-component of the Programme, personnel from the Ministry of Education, Erdiston Teachers’ Training College and the school system receive training relevant to the implementation of the project. Ministry officers also participate in study tours and conferences as necessary.

To date, training for officers has included educational management, educational policy analysis and planning, curriculum technology integration, teaching and learning standards, creation of learning materials, development of an effective school inspectorate; international procurement; project management, and project monitoring and database design. In addition, preparations are being made for Ministry officers to undergo training in assessment.

**Education Evaluation Centre (EEC)**

The Ministry of Education also contracts the services of the Education Evaluation Centre (EEC) under the Institutional Strengthening sub-component of the Programme. The Centre was established at the Cave Hill Campus of the University of the West Indies in July 1999, through an agreement signed between the Government of Barbados and the University of the West Indies.

The Centre is responsible for monitoring and evaluating the Programme throughout its duration. Specifically, the EEC seeks to monitor reform activities in schools, with parents and the general public; technical and pedagogical support; teacher/manager training for information technology and student-centred methods; and perceptions of stakeholders about the Programme. In addition, the EEC seeks to evaluate the intended and unintended effects of the Programme on students (performance and attitudes);
teachers (teaching/assessment methods and attitudes); school managers (attitudes and practices); and relevant Ministry of Education personnel.

The periodic information received from the Centre is to be utilised in the “test-and-fix” approach to programme implementation. The Centre has already submitted reports relating to curriculum reform, school readiness and teacher training. In addition, the Centre has administered baseline tests and questionnaires in selected schools as part of the evaluation process for Phase of the ESEP, as well as post-testing. A report on this data is being prepared. Further, case studies are currently being carried out on designated schools.

Shell Software Review Centre

The Software Review Centre (SRC) was officially opened in May 1999 as part of the Educational Media Resource Centre in the Ministry’s Audio Visual Aids Department. Since then, teachers and MEC officers have used the Centre to review and evaluate software and learning technologies. In addition, the SRC has been utilised as a training facility. Ultimately, it is envisaged that the SRC will be the nucleus for the adaptation of existing software and the development of indigenous software.

Curriculum Reform

The curriculum reform component is the bedrock of the entire reform programme and serves as an important vehicle for effecting system-wide change in various areas. The process has been led by the Ministry of Education and the Curriculum Development Council, and is based on constructivism and the child-centred approach. As a result, the focus is the student’s interaction with the curriculum rather than the curriculum dictating the pace of learning. In addition, the revised curriculum promotes the utilisation of indigenous content and materials, as well as authentic, relevant experiences. There are seven major learning areas in the primary curriculum, while the secondary curriculum comprises the compulsory core, foundation studies, electives and enrichment activities. Special consideration is also given to the improvement of Early Childhood Education and Special Needs Education.

The curriculum reform initiative includes a number of special features, such as the change in the assessment mechanisms used in schools. The revised curricula represent a shift from traditional, product-based assessment modes (pencil and paper tests) to more authentic assessment modes based on a combination of process and product methods, including orals, interviews, peer and self-assessment, performance assessment, exhibitions, portfolios, project-based work, written achievement tests and norm-referenced tests. These assessment methods should foster the development of valuable higher order learning skills, and should give all students a better opportunity to excel in school. The changes in assessment will be reflected in the method of transfer from the primary to the secondary level. School-based assessment from Classes 1 to 4 (7-8 to 10-11 age groups), will now constitute 40% of the overall transfer marks. In addition, the
Barbados National Diploma of Secondary Education (BNDSE) will be implemented, which will be compulsory for all persons accessing secondary education.

The revised curriculum focuses on Outcomes-Based Education (OBE). This approach involves the development of attainment targets that outline specific student outcomes for each grade level in the various subject disciplines. The attainment targets facilitate the development of national standards, as well as greater participation of parents in the education of their children.

In addition, the revised curriculum included technology and Social and Emotional Learning. Technology will be integrated across subject disciplines, and technological skills and competencies will also be taught in primary schools and continued during the first three years of secondary schooling where necessary. Social and Emotional Learning skills such as self-management, problem solving, decision-making and conflict resolution will also be integrated across the curriculum where they will be monitored and evaluated systematically.

There has been substantial progress to date in the implementation of the curriculum reform. The revised curriculum at the Reception (4-5 years) and Class 1 (7-8 years) levels was piloted at all primary schools during the 2000/01 academic year. This process was monitored by teams of Ministry officers during the year, so that the necessary modifications could be identified. Piloting of the revised curriculum at the Infants A (5-6 years) and Class 2 (8-9 years) levels has commenced at the primary schools in the 2001/02 academic year. Piloting also commenced in the secondary schools during 2001/02 at Levels I and II of the six-level revised secondary curriculum.

A number of Curriculum Reform documents have been prepared, as outlined below:

**General**
- Curriculum 2000 - Rationale and Guidelines for Curriculum Reform (abridged and unabridged versions)

**Primary**
- Attainment Targets for Early Childhood Education 3-5 age group
- Attainment Targets for Early Childhood Education 5-7 age group
- Attainment Targets for Class 1 (7-8 years)
- Attainment Targets for Class 2 (8-9 years)
- Early Childhood Curriculum for Ages 3 to 7
- Syllabuses for Class 1 (7-8 years)
- Syllabuses for Class 2 (8-9 years)

**Secondary**
- Attainment Targets for Levels I and II of the curriculum.
- Syllabuses for Levels I and II of the curriculum.

The Ministry of Education has committed to the participation of all stakeholders in the curriculum reform process. As a result, the National Curriculum Development Council
and teachers have been involved in the preparation of all syllabuses and attainment targets. In addition, teams of Ministry officers have conducted orientation meetings on curriculum reform for all teachers in the public primary and secondary schools, as well as Town Hall Meetings for the general public.

In addition, Ministry officers have met with the Heads of Departments of the secondary schools to sensitise them about the curriculum reform process and to discuss the draft syllabuses. Moreover, during August and September 2001, Ministry officers conducted a series of presentations on continuous assessment at the primary level. One set of presentations was targeted for parents, while another set was targeted for teachers.

A series of short workshops on the administration of the Basic Skills Assessment Battery (BSAB) was also conducted during September 2001 by a team led by the Education Officer for Early Childhood Education in the Curriculum Section. The sessions were conducted for primary teachers and principals, as well as for Ministry personnel. All the curriculum reform booklets are being published for distribution and sale to the public. Six curriculum reform booklets are presently available to the public at a nominal price - “Rationale and Guidelines for Curriculum Reform” (abridged and unabridged versions) and attainment targets for primary Class 1, Class 2 and Early Childhood Education 3-5 and 6-7 age groups.

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