

E-LEARNING FOR LIFE: The Malaysian Initiative

A Partnership Between the Government of Malaysia (Ministry of Education), Coca-Cola Far East Limited, Malaysia Branch (“Coca-Cola Malaysia”), and UNDP

1. Development Problem

Malaysia’s vision of achieving full developed nation status by 2020 and of becoming a competitive player in the global economy has made information and communication technologies (ICT) an imperative in transitioning the country from a production- to a knowledge-based economy (K-economy). However, the Government of Malaysia (Government) recognizes this transition would require a population that is IT literate and a workforce that is highly educated, creative, and skilled in applying information, knowledge, and existing technology to create new economic opportunities and industries of the future. In response to the human capacity requirements of the K-economy, the Government has indicated in the Eighth Malaysia Plan and soon to be unveiled K-economy Master Plan the need to reengineer the educational system and realign it with the vision of the country.

As trainers of young minds, and incubators and transmitters of knowledge, schools play a pivotal role in preparing young citizens who will be the workforce and leaders of tomorrow to respond to the challenges and opportunities of the K-economy. As such, it is envisaged that by 2002 at least 2400 of the 7000 or so schools in Malaysia will be equipped with ICT infrastructure, connectivity, curriculum, and teacher training. By 2005, the Ministry of Education (Ministry) expects to equip well over 6000 schools in the country. This represents substantial investments by the Government to prepare for the K-economy and an impressive effort to bridge the digital divide between urban and rural schools, and between schools in communities of different socio-economic status.

Given the importance and high levels of investments of the Government’s ICT initiatives in education, the long-term sustainability is an issue of great importance particularly as most projects are still at the pilot phase and can benefit from experiences of other projects. Early reports and some on site observations suggest that schools in low-income communities will face the greatest challenge in maintaining their facilities without substantial ongoing financial and technical support from the Ministry. With a view to supporting the Ministry’s ICT initiatives, this pilot project endeavours to search for new ways to address the sustainability issue and perhaps to inform future policies or the design of similar projects.

Beyond the sustainability issue, this pilot project also seeks to find ways to bridge the digital divide more effectively with limited resources. Many non-urban communities in Malaysia still lag behind cities in terms of access, use, and benefits of ICT. By extending the school facility to communities which otherwise would not have ICT access, this approach actually extends the “digital bridge” to reach those on the fringe. This community extension approach has already been tested under the NITC STIC “Schools as Centres of ICT for the Community” project, but for a variety of reasons, the project was not successful in terms of community participation and support. This pilot project revives the community extension concept but takes it several steps further to ensure that the benefits are accrued to both schools and communities.

In particular, this pilot project proposes to:

- equip at least six selected schools with essential hardware, software, and information;
- develop a design and implementation approach that addresses the sustainability issue;
- develop a strategy for extending the school ICT facility to the community with a view to bridging the digital divide more effectively; and,
- build capacity of selected school staff, teachers, students, parents and community members to not only use ICT in a manner that improves their lives but also to train their peers and to transfer the knowledge as widely as possible.

The project envisages the facility set up at selected schools will serve as a school/community “ICT hub” providing access to ICT and training to other schools as well as communities in the vicinity. With an estimated student population of 1,000 in each school and over 7,000 in each community, it is expected the ICT hub and the web-based contents generated by this project will have a wide-reaching impact. Similarly, it is expected the training of core groups of both students and teachers as peer trainers will have a multiplier effect, reaching hundreds of teachers and over a few thousand students during and beyond the life of the project.

2. Previous Experiences and Lessons Learned

A number of projects have been implemented by the Government to encourage ICT use among citizens, in particular students. These include:

- Gerakan Desa Wawasan—launched in 1996 and aimed at increasing awareness among rural communities to participate actively by bringing about change and development to their areas. Under this programme, the Village Development and Security Committees were given computer facilities not only to assist in the management and administration of the villages but as an initial step to introduce ICT at the village level. By the end of 2000, a total of 995 villages benefited from this programme.
- Internet Desa Programme—launched in March 2000 at 2 pilot locations (Sg. Ayer Tawar, Selangor and Kanowit, Sarawak). Programme involved provision of ICT infrastructure at post offices and the launching of web sites that provided information on government services, local events and activities as well as free electronic mail (email) and Internet facilities. Most of the users were students. By the end of 2000, 12 such centers were implemented throughout the country.
- E-Bario Project—initiated by Universiti Malaysia Sarawak (UNIMAS) to promote ICT awareness and usage. Computers and Internet access were provided to schools to become community centers for learning.
- Smart Schools—introduced by the Government with the objective of producing a new generation of Malaysians who will be ICT literate, creative as well as innovative and capable of leading the economy into the Information Age. The pilot project was implemented in 1999 and involved 90 schools (construction of 9 new schools, upgrading 81 existing schools). Schools were equipped with state-of-the-art multimedia/computing

equipment and provided with comprehensive teaching-learning materials for 4 subjects (Bahasa Malaysia, English, science, and mathematics). These materials not only enhanced the network-based curricula but also enabled students with varying capabilities to progress at their own pace. The Smart School Management System enabled school administrators to efficiently and effectively manage resources and processes required to support the teaching and learning functions of these schools.

- STIC Project: Schools as Centers of ICT for the Community—one of eight projects identified by the Strategic Thrust Implementation Committee, under the National IT Council, to be carried out by the Schools Division under the Ministry. The main objective is for schools to become centers of ICT for community members (parents, mosque committee, students from other schools, and youths) to acquire new knowledge and ICT skills. A pilot study is underway in 14 urban and rural schools throughout Malaysia.
- Mobile Internet Unit (MIU)— the Mobile Internet Unit (MIU) project was launched in August 1999. The MIU is a 44-seater bus renovated into a cyber learning station to provide ICT training and an electronic classroom experience to school communities in non-urban areas of Malaysia. It consists of 20 Internet-ready networked computers, a server, a big screen television, DVD player, ICT training modules and computer reference books. The curriculum and contents focus on basic ICT skills. These include the basic computing skills, Internet services and e-learning experiences. The MIU project also collects strategic information and data for future national ICT planning purposes. The project is managed by MIMOS, funded partly by UNDP/APDIP and supported by MIMOS' partners - Automotive Corporation Malaysia, local universities and the Selangor State Education Department.

In addition to projects implemented by the Government of Malaysia and others, important experiences and lessons can also be drawn from the many initiatives supported by the Coca-Cola system in Malaysia as well as the Asia Pacific region.

- The Coca-Cola system and the Community in Malaysia—the company has been at the forefront of developing long-term community relations projects focussed on education and youth development. The Coca-Cola system's initiatives in Malaysia include: i) Partnership with the Football Association of Malaysia (FAM) to develop local talents; ii) Partnership with the Olympic Council of Malaysia (OCM) to enhance sporting excellence; iii) Partnership with the Ministry through its National School Sports Council (MSSM) to spot and develop young football talents in primary schools under the Tunas Bolasepak (Budding Footballers) project. This project started in the third quarter of 2000.
- The Coca-Cola system in China—the company has similar initiatives in the region, which provide e-learning opportunities and resources for youth in a way that confers meaningful community benefits. In China, the Coca-Cola system in partnership with the China Youth Development Foundation (CYDF), launched the "Coca-Cola e-learning for life" project to empower and support Chinese students and teachers by bringing e-learning opportunities and IT training resources to teachers, less advantaged young people and

local communities nationwide. The first ‘Coca-Cola e-learning center’ was opened in May 2001 in a primary school on the outskirts of Beijing. Twenty e-learning centers will be built across China over the next year.

- The Coca-Cola system in the Philippines—In April 2001, the company launched a community initiative called “Coca-Cola ed.venture” with the objective of spearheading efforts to bridge the ‘digital divide’ in the country. Targeted at public secondary/high schools in the countryside, Coca-Cola ed.venture will provide e-learning opportunities and resources for up to 10,000 students as well as training in computer and Internet literacy for 500 teachers in its pilot phase. Program partner FIT-ED (the Foundation for Information Technology Education and Development) will provide the technical expertise and resources to ensure the success of the program.

Several lessons have been learned during the implementation of all these projects. These include lessons on how to properly design programmes involving a multitude of end-users and stakeholders, as well as to design them in a way that they are effective, efficient, and sustainable. All of these lessons will be brought to bear on the design and implementation of the present project, so that it can provide both relevant and timely information to all its end-users.

3. The Development Objective

The ultimate development objective is to bridge the digital divide, in terms of knowledge and opportunities, among communities in Malaysia through the provision of ICT tools and training required to effectively utilize educational and development-related information to participate in the K-economy for social and economic betterment.

At the project level, the objective of this pilot initiative is to find more effective and sustainable approaches to bridge the digital divide with a view to inform Government policies and future programmes/projects. Specifically, it is hoped this pilot will produce a working model that will help the Ministry to improve or expand the current STIC project “Schools as Centres of ICT for the Community” or to add the community element to other school and ICT projects.

4. Strategies for Reaching the Development Objective

The UNDP Country Office in Malaysia and Coca-Cola Malaysia endeavour to support the Government in its effort to expand and strengthen the K-society and K-economy and to revamp the educational system to respond to the knowledge-driven demands of the new economy. This pilot project represents an important undertaking in strategic partnership building between the Ministry, the Coca-Cola system, and UNDP. The Ministry has designated the Schools Division as the Ministry lead focal point. Under advice and leadership of the Ministry, a Task Force was formed to undertake the formulation of the pilot initiative and to draft this project document. The Task Force is composed of members representing the Ministry, Coca-Cola Malaysia, UNDP, and the Asia-Pacific Development Information Programme (APDIP), a regional UNDP ICT programme based in Kuala Lumpur.

The central concept of this pilot initiative is the transformation of the school into a community “hub” for life-long e-learning as a way of extending ICT access to communities at large. Students, teachers, and community members will all share the ICT facility and infrastructure of the school. It is expected that the latter will pay a nominal user fee as contribution towards the maintenance of the facility.

The main components of the project include awareness raising and community development, capacity building through the training-of-trainers (teachers, students, parents, and community members), development of community and extra-curricular content for posting on school and community websites and portals; and provision of necessary hardware and software.

In terms of training, this project proposes to train teachers to teach computer literacy courses as well as apply ICT as a teaching tool; to train students on the use of computer-based information systems for learning and for their own personal growth through knowledge creation and application; and to train community members, including parents, on the use of ICT in a way that creates new learning as well as new social and economic opportunities for themselves, their children, and the community at large.

In terms of developing community and extra-curricular content for both school and community websites and portals, the project proposes to get the end-users directly involved in the process. This is an important aspect of learning as it allows trainees to actualize or demonstrate the application of new knowledge, tools, and skills they acquired. When possible, content, expertise, and technology would be procured locally.

The websites and portals would be developed under this project and they would be designed in a way that is visually easy and fun to use. It is proposed that each school create its own website and that the websites of all schools be linked to a central School Portal. The Portal, for example, would provide links to existing educational websites hosted or approved by the Ministry where students can learn more about environmental concerns, development issues, their communities, the job market, career opportunities, and so forth. The Portal would also allow students from selected schools to communicate with one another for information and knowledge sharing as well as for peer support.

The Community Portal is similar to the School Portal except that, in addition to educational information, it would also deliver information on social services, economic opportunities, government programmes, and so forth. As many government forms and services are now provided on-line, including university application, users would be able to download and, where possible, electronically submit forms; thus avoid mail delay, long queues, and special trips into town. As with the School Portal, the Community Portal can include a database of development-related information to deepen awareness of social, environmental, and other important issues. The database can also provide locally relevant information such as best agricultural practices, soil and crop classification, family health, education, and so forth.

In building the capacity of teachers, students, and community members, the project seeks to encourage maximum beneficiary participation as a way to foster a sense of local ownership among the stakeholders. The Headmistress/master, School and Community E-learning

Committees, computer clubs, Parent Teacher Associations, and other community organizations all have important roles to play in contributing to the sustainability of the school/community ICT hub

It is proposed that the project operate on a Build-Operate-Transfer (BOT) model which may include strong and sustained private sector support. After an initial demonstration period of operation and training, not exceeding 18 months from the signing of the project, it is proposed that ownership of the school/community ICT hub be transferred to the Schools Division of the Ministry. The Ministry, as with any other school assets and properties, would provide ongoing financial support to each of the selected schools, through the State Educational Department or other conventional channels, to cover operational and maintenance costs. Where feasible, participating schools would be expected to partially recover their operational expenses through user fees charged to community members.

To ensure that lessons and experiences are captured and disseminated, the project will be evaluated towards the end of its implementation period and guidelines will be produced with a view to assist the Ministry to replicate the model if it is effective. Beyond Malaysia, the guidelines will provide valuable insights and guidance to similar projects undertaken by UNDP and Coca-Cola Asia in other countries of the Asia Pacific region.

The project will initially be implemented in at least six 'hub' secondary schools. They will be selected by the Task Force under guidance of the Ministry based on the following criteria:

- Indication of interest and ability of school and community to engage in ICT activity, including security measures;
- Commitment of school and community members, as well as the PTA, to take on the operation and maintenance of the facility at the end of the project period;
- Commitment of teachers and trainers to impart ICT training to students and the community;
- Commitment or interest from community associations to support the project;
- Indication of interest from the community to furthering their awareness, understanding, and knowledge of ICT;
- Indication of interest from the community in the use of ICT as a tool to improve the social, including educational, or economic aspects of their lives, those of their children and the community at large.
- Location in peri-urban or peri-rural areas with basic infrastructure; and,
- Availability of a dedicated room large enough to house 20 PCs with 5KW uninterrupted power and telephone lines for Internet connection and proper furnishing.

5. Beneficiaries

Primary beneficiaries: i) students and teachers within selected schools; ii) parents of students and general citizens within surrounding communities; iii) various community associations

including the PTA; and iv) students and teachers from nearby schools with limited or no ICT facilities.

Other beneficiaries: i) Schools Division under the Ministry; and ii) State Departments of Education..

Other actors: i) Internet Service Provider (ISP); and educational content development company.