

# Development of NEPAD e-schools initiative



**Peter E Kinyanjui**

## Introduction

There is a new partnership that is driving business in Africa. The New Partnership for Africa's Development (NEPAD) has been widely accepted as the framework for Africa's development. A brainchild of the African Union (AU), NEPAD draws its legitimacy from the transformation of the Organisation of African Unity (OAU), and is informed by the new thinking reflected in the Constitutive Act of the AU. The transformation of the OAU to AU and the birth of NEPAD mark the beginning of a new era for Africa. For the continent to take advantage of the new opportunities created by NEPAD and the AU and for it to undergo the renewal process, it will need to harness the energy, creativity, talent and enthusiasm of all its people, including women who constitute over 52 per cent of its population, and the youth (those under 25 years) who constitute over 60 per cent of the population.

One of the flagship projects of NEPAD is the NEPAD e-schools initiative aimed at building information and communication technology (ICT) skills in the African population. The attributes of a NEPAD e-school are viewed in light of the great potential that such a school will have as a community resource, and the social and economic benefits it will generate within the school community and beyond. The approaches adopted in planning and implementing the NEPAD e-schools initiative through public-private partnerships have demonstrated certain ingredients of success which, if strengthened, supported and expanded, will improve, expand and enrich education and training in Africa.

## NEPAD's objectives and guiding principles

NEPAD's primary objectives include poverty eradication, placing African countries on a path of sustainable growth and development, the acceleration of female empowerment, stopping the marginalisation of Africa in the globalisation process and enhancing Africa's full and beneficial integration into the global economy.

To achieve these objectives, NEPAD is guided by the principles of:

1. good governance as a basic requirement for peace;
2. security and sustainable political and socio-economic development;
3. African ownership and leadership, as well as broad and deep participation by all sectors of society;

4. anchoring the development of Africa on its resources and resourcefulness of its people;
5. partnership between and amongst African peoples;
6. acceleration of regional and continental integration;
7. building the competitiveness of African countries and the continent;
8. forging a new international partnership that changes the unequal relationship between Africa and the developed world;
9. ensuring that all partnerships with NEPAD are linked to the Millennium Development Goals and other agreed development goals and targets.

## The NEPAD e-Africa Commission

The NEPAD e-Africa Commission ('the Commission') was established in 2001 and was formally adopted by the NEPAD steering committee, as its Task Team for ICT in September 2002. The NEPAD Heads of States and Government Implementation Committee (HSGIC) endorsed the action of the steering committee in November 2002.

The Commission's mandate is to manage the structured development of the ICT sector on the African continent in the context of NEPAD. It is also required to develop broad strategies and a comprehensive action plan for ICT infrastructure and its use for ICT applications and services. In March 2003 in Abuja, the Commission presented a list of six ICT projects to the sixth meeting of the HSGIC. The Committee endorsed these projects as high-priority NEPAD ICT projects and requested the Commission to press ahead with their implementation as a matter of urgency. The six priority projects are:

1. NEPAD e-schools initiative;
2. the low-cost satellite access project for NEPAD e-schools;
3. East African submarine cable system (EASSy);
4. NEPAD broadband access fibre-optic project for landlocked African countries;
5. NEPAD capacity-building project for e-learning in Africa (based on the Africa Virtual University); and
6. the e-policies and e-strategies project.



The Commission is currently implementing the NEPAD e-schools initiative, the EASSy project, the ICT broadband network for East and Southern Africa, and will shortly embark on the ICT broadband network for Central, West and North Africa. These projects broadly fall into two categories, namely those which relate to the need to establish an adequate broadband ICT infrastructure on the African continent and those which relate to imparting ICT skills in the African population. The basic idea is that infrastructure and skills are key prerequisites to bridging the digital and knowledge divide in Africa. The remainder of this article will deal only with the NEPAD e-schools initiative.

## The NEPAD e-schools initiative

More than 60 per cent of Africa's population is made up of young people below the age of 25 years. These young people are likely to be the most affected by the digital and knowledge divide. They also form the basis upon which the future economic activity of Africa will be built.

The United Nations Millennium Development Goal (MDG) Number Two aims to ensure that by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling and that boys and girls will have equal access to all levels of education. This aim is not only towards improving enrolment numbers but also towards improving the relevance and quality of education. The first phase of the World Summit on Information Society (WSIS), held in Geneva in 2003, agreed to harness the potential of ICT to promote the development goals of the Millennium Declaration.

In its report entitled, *Achieving the Millennium Development Goals in Africa* (AfDB, 2002), the African Development Bank recognised that African States must invest adequate resources in human development if they are to achieve the MDGs.

In response to these challenges, the Commission is implementing the NEPAD e-schools initiative whose aim is to impart ICT knowledge and skills to young Africans. Approximately 600,000 schools on the continent will be converted into NEPAD e-schools over a 10 year period.

The objectives of the NEPAD e-schools initiative are:

1. to provide ICT skills and knowledge to learners that will enable them to function in the emerging information society and knowledge economy;
2. to provide teachers with skills to enable them to use ICT as tools to enhance teaching and learning;
3. to provide school managers with ICT skills so as to facilitate the efficient management and administration in the schools; and
4. to make every learner health literate.

A NEPAD e-school is one that will:

1. produce young Africans with skills to participate in the knowledge economy;
2. have appropriate ICT equipment and infrastructure;
3. be connected to the Internet;
4. have teachers trained to impart ICT skills to students according to agreed curricula and content;

5. have teachers trained to integrate ICT for teaching and learning;
6. have access to, and contribute to, availability of locally appropriate teaching and learning materials;
7. have ICT tools to enhance the administration and management of the school;
8. be equipped with a 'health point'.

The implementation approach is based on continental coordination and national implementation. Senior officials nominated by the participating governments of the first phase countries have agreed on a concept framework for the NEPAD e-schools and on an implementation structure for the execution of the initiative. This coordinating body is tasked to approve strategies, frameworks and work-plans necessary for the continental coordination. The Commission, working with participating governments and other key stakeholders, will coordinate the development of standards, implementation and monitoring and evaluation while national teams will manage the day-to-day activities within their own countries.

## NEPAD e-schools demonstration project

The demonstration project (Demo) is a critical initial step in the implementation of the NEPAD e-schools initiative. It is intended to provide a learning mechanism, based on real-life experiences of implementing ICT in schools across the African continent that will serve to inform the roll-out of the broader NEPAD e-schools initiative. It provides a platform to investigate and report on the typical scenarios, circumstances and requirements for implementation, challenges in large-scale implementation, effectiveness of partnerships and partnership models, and benefits of the envisaged satellite-based connectivity network.

The Demo is being undertaken in all countries that make up phase one of the initiative, being the first twenty countries that have acceded to the African Peer Review Mechanism (APRM). The participating countries in the Demo are: Algeria, Angola, Benin, Burkina Faso, Cameroon, Congo, Egypt, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Mali, Mauritius, Mozambique, Nigeria, Rwanda, Senegal, South Africa and Uganda.

Six demonstration schools, at secondary level or equivalent, have been established and monitored in each of the participating countries. It is expected that the Demo will directly impact approximately 150,000 African learners and teachers.

Five consortia are involved, which are led by:

1. Advanced Micro Devices (AMD);
2. Cisco Systems;
3. Hewlett-Packard (HP);
4. Microsoft; and
5. Oracle.

The five consortia have assembled between them over 40 other companies to provide, at their own costs, end-to-end technology solutions for the schools, with at least two consortia in each country for comparison purposes. Tripartite memoranda of

understanding have been signed between the participating governments, the lead consortia and the NEPAD e-Africa Commission outlining the specific roles and responsibilities of each party in the partnership.

A comprehensive monitoring and evaluation plan (M&E Plan) has been put into place from the outset. The M&E exercise is conducted by the Commonwealth of Learning in partnership with the InfoDev of the World Bank at the request of the NEPAD e-Africa Commission. The purpose of the monitoring and evaluation process during the demonstration project phase is twofold:

1. it provides the project managers and decision-makers responsible for implementing the project with information and feedback as the project proceeds in order for them to make any necessary adjustments;
2. it analyses and synthesises the lessons learned during the demonstration project and makes recommendations for the comprehensive roll-out of the e-schools initiative in a summary report at the end of the demonstration period.

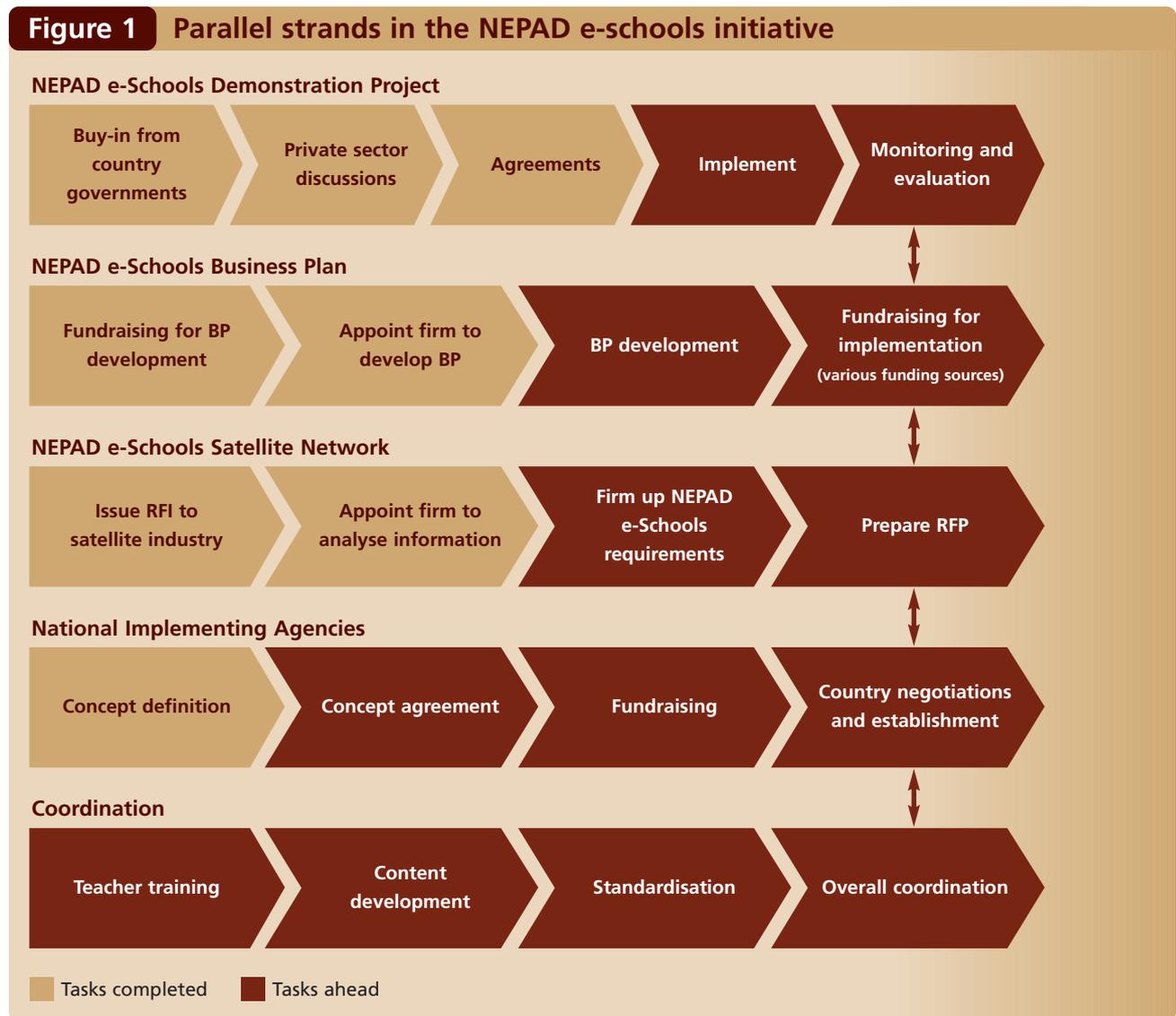
The M&E Plan will report on the extent to which the Demo will have met the overall objectives of NEPAD e-schools, the suitability of the solutions and the effectiveness of the partnership model. Two interim reports and a final report will have been produced by the Commonwealth of Learning (COL) by the end of December 2006.

### The six strands

Running parallel with Demo, are other interconnected strands that together are leading to the rollout of the NEPAD e-schools initiative (see also Figure 1).

The six strands are:

1. business plan;
2. National Implementing Agencies (NIA);
3. NEPAD e-schools Satellite Network;
4. teacher training;
5. content development; and
6. development of standards and overall coordination.





## Strand 1: the business plan

The Commission, with funding from the South African government, has engaged a consultant to develop the business plan for the NEPAD e-schools initiative. The business plan will bring together all the critical elements, inputs and processes that will form the basis for the execution of the roll-out. Several parameters will be considered in the business plan. For each parameter a vision or objective statement will be articulated, followed by a series of good practice criteria for success with detail that can be used to measure progress towards attaining the vision. The parameters will include legal, regulatory and policy frameworks; technology and accompanying infrastructures; education content, teacher training and professional development; governance and operations, including appropriate national structures and capacity to implement; marketing, advocacy and reflection by all role players and stakeholders; and sustaining the total cost of ownership of ICT integration and funding options.

It would also guide and inform the developmental phases of the project, starting at the school level, through the country and at the continental level. The preparation of the plan will involve close consultation with experts nominated by the participating governments, the regional economic communities (RECs) and various stakeholders that will include public, private and civil society organisations. The final business plan document will be finalised by November 2006.

## Strand 2: National Implementing Agencies

The NEPAD e-schools will be coordinated continentally through the coordinating body, but will be implemented nationally through the National Implementing Agencies (NIA) to be set up in each of the participating countries.

These agencies will consist of various government departments, private sector organisations, development agencies, as well as civil society organisations within the country. The Commission will support the agencies to manage the roll-out in their respective countries. The implementation of the NEPAD e-schools initiative at the country level will depend, to a large extent, on the quality, composition and capacity of each NIA to carry out the tasks agreed upon.

The specific roles of the national implementing agency can be grouped into four categories, as described below.

### Operational

These include supervising the installation, operation and maintenance of ICT hardware and software in the schools, working with experts and other stakeholders to provide educational portals to facilitate the flow of educational materials between appropriate sources and the schools, supervising and facilitating the timetable and other targets established for the NEPAD e-schools in the country and making recommendations to the Commission concerning schools that are fit to qualify as 'NEPAD e-schools'.

### Coordination

The NIA will coordinate with ministries and departments of education about the modalities for the ICT training of teachers

and school administrators and their deployment to the schools, work with the appropriate certifying authorities to set ICT skills proficiency standards for graduating students and establish sound working relationships with all other authorities and stakeholders within the country.

On the issues of health, NIA will coordinate with ministries of health regarding the installation and operation of 'health point' facilities.

### Fund raising

A major task of the NIA will be to raise funds from the various sources, create and sustain effective partnerships with the private sector and civil society organisations, and to create and sustain public support and enthusiasm for the NEPAD e-schools initiative in the country.

### Management

The NIA will establish sound financial and managerial operations, manage and operate its affairs in an ethical and professional manner and in accordance with standards and norms established for the NEPAD e-schools initiative across the continent.

It is worth emphasising here that whatever structure the governments decide upon, it would be helpful if the chosen entity is provided with sufficient leeway as well as human and financial resources to be able to fulfill the agreed functions.

Provision should also be made for the NIA to invite experts to assist in the performance of its functions. Appropriate capacity building measures should also be provided to make the NIA effective and sustainable. Although the agency may be located or attached to one of the government ministries or departments, the leadership and composition of this agency should be drawn from a wide representation of the main stakeholders to include other relevant government departments, the private sector, the civil society organisations and individuals. It should also be gender sensitive in its composition. The quality rather than the size of this agency should be the prime consideration in constituting such a body.

The NIA will plan the implementation, mobilise resources, and execute the roll-out of the NEPAD e-schools in a particular country. While the participating governments will be expected to establish and fund their own NIA, there will be need for material, human and financial assistance and support in order to expedite the work of these agencies, particularly at their nascent stages. The Commission will seek resources to nurture and support these agencies that will, in turn, expedite the implementation of the NEPAD e-schools in their respective countries.

## Strand 3: NEPAD e-schools satellite network

Given the relatively poor state of connectivity on the African continent, a satellite network is being established to provide communications to all NEPAD e-schools. One of the major functions of the NEPAD e-Africa Commission is to establish an Africa-wide satellite network that will connect the schools to the Internet as well as to points within each country from which educational content will be fed to the schools on a continuous basis. The Commission will procure satellite capacity in bulk and

make it available for the connection of schools to the Internet. By establishing a common network and common operations for the continent, it should be possible to optimise use of scarce technical skills as well as leverage the benefits of a large network and common standards to reduce the cost of equipment, technology and airtime. The Commission will develop common standards to ensure sound and effective operations of NEPAD e-schools in a wide range of areas including technical, operational, educational, financial and managerial. The Commission has appointed a consultant to define and make a preliminary design of the NEPAD e-schools Satellite Network. The final report is expected at the end of August 2006 and will also serve as an input into the business plan.

#### Strand 4: Teacher training

Teacher training is a key component in the NEPAD e-schools initiative. At the request of the Commission, the International Telecommunications Union (ITU) has funded a consultant to develop the teacher training framework. Once approved by the participating countries, this framework will form the basis upon which the countries will implement their national programmes for teacher training and professional development to achieve the objectives of the NEPAD e-schools, and to ensure the effective use of ICT for improved teaching and learning and effective administration and management of the schools. The framework is focused on the development of the 21st century skills, as identified in UNESCO's *Final Report on the Development of Guidelines on Teacher Training in ICT* (UNESCO, 2003).

However, in a multinational programme such as NEPAD's, the input from participating countries must influence the scope of this framework to reflect the broad needs of each country. Ultimately, the framework will need to be broad, flexible and relevant to allow for customised interpretation of its content within each country's education and training system.

#### Strand 5: Content development

In addition to developing the teacher training framework, the Commission will facilitate the development of an online content strategy. The objective here is to ensure that the content accessible via the e-schools infrastructure is, wherever possible, in local languages and accommodates the cultures of its users. The strategy will outline the content gaps, ownership, audiences, priorities and projects on the African continent. Furthermore the strategy will outline the role to be played by the Commission in facilitating the partnerships in the development and dissemination of content through appropriate education portals to ensure that Africans are not just consumers of content developed elsewhere but also originators and creators of their own content.

#### Strand 6: Development of standards and overall coordination

As part of its role in continental coordination, the Commission will develop norms and standards to ensure sound and effective operations of NEPAD e-schools in a wide range of areas including technical, operational, pedagogical, financial and managerial. The Commission will seek to bring to bear international best practice in all operations of the initiative. Further, the Commission will



## The West African Examinations Council

The West African Examinations Council (WAEC) was established in 1952 in the then four British West African colonies, now the Commonwealth countries of The Gambia, Ghana, Nigeria and Sierra Leone. Liberia became the fifth member of WAEC in 1973. WAEC was mandated to award certificates provided that the certificates did not represent a lower standard of attainment than equivalent certificates of examining bodies in the United Kingdom.

WAEC's mission is focused on continuing to be West Africa's foremost examining body, developing and maintaining internationally accepted procedures in examinations; providing qualitative and reliable educational assessment; encouraging academic and moral excellence among the youth and promoting sustainable human resource development, mutual understanding and international co-operation.

For more than five decades, WAEC has served the needs of Ministries of Education, educational institutions, and public and private organisations in testing, assessment and evaluation. More than two million candidates do WAEC examinations yearly.

In addition to administering examinations on behalf of reputable and internationally recognized professional bodies and universities, WAEC also provides aptitude and selection tests for employers and consultancy and training services.

With offices in five countries, WAEC is strategically positioned to provide reliable agency services in West Africa. Its Consultancy unit in Accra, Ghana, runs a conference centre with seminar rooms and a 32-bed facility.

#### Contact

Matthew P. Ndure (The Registrar)  
WAEC Headquarters  
Examinations Loop Ridge  
P.O. Box GP 125, Accra, Ghana

Tel: +233 (0)21 248967

Fax: +233 (0)21 222905

Email: [waechqs@africaonline.com.gh](mailto:waechqs@africaonline.com.gh)



[www.waeheadquartersgh.org](http://www.waeheadquartersgh.org)



strive to develop and nurture capacity at the national and regional levels for effective implementation and sustainability of the projects and programmes.

## The partnership model

All participating governments have a pivotal role to play in ensuring that the mission of the NEPAD e-Africa Commission is accomplished as planned. African governments are the key stakeholders in this initiative and must ensure that all their citizens are both participants and beneficiaries of ICT programmes and activities. As principal stakeholders, the participating governments should, *among other things*:

- accelerate the adoption of NEPAD e-schools as frameworks and guidelines for the rollout of ICT in all other schools and institutions in the country;
- commit adequate resources to the implementation of e-learning at all levels of education and training;
- strengthen the engagement with the private sector and the civil society organisations in the roll-out;
- create and sustain e-learning communities;
- establish strategic partnerships among African governments and institutions; and
- establish legal, policy and regulatory reforms to create a more conducive climate for business as well as for support to small and medium enterprises.

The partnership model adopted by NEPAD demonstrates unique commitment by Africans to drive decisively the social, economic and political transformation of the continent in partnership with the private sector, the civil society organisations and the international development agencies. Through the NEPAD framework, there is a new way of doing business in Africa. The NEPAD e-schools partnership model is working well and yielding results as manifested in the demonstration project.

The NEPAD e-schools initiative is a good example where 20 African governments have joined hands with over 40 private sector companies, and about a dozen development agencies and civil society organisations on a common ICT project. There is no doubt that, in terms of size and scope, the NEPAD e-schools initiative is the largest of its kind that has ever been tried anywhere in the world. It has already demonstrated some ingredients of success from the monitoring and evaluation process that was built in from the start and is continuing in step with the development of the business plan and other parallel activities.

It is a very ambitious initiative that is strategically planned and executed. It was in recognition of this approach that the NEPAD e-Africa Commission was accorded the 'visionary of the year award' at the Global Intelligent Community Forum held in New York, USA, in June 2005.

The public-private partnership model that has worked well at the continental level should be replicated at the regional and national levels and even down to the grassroots level, with civil society organisations playing their appropriate roles. The NEPAD Secretariat has created an Office of Gender and Civil Society Organisations, as a response to recommendations made by

different stakeholders and experts. The creation of this office reinforces the commitment by NEPAD to gender issues as well as a desire to actively involve civil society organisations in the implementation of the various programmes and projects. This will ensure that NEPAD initiatives and projects are all-inclusive and aligned with the needs and aspirations of the special groups. The NEPAD e-schools initiative, for example, will call for support from the local communities to provide the necessary security and maintenance of the facilities. In turn, the local communities will benefit from the information available through the Internet. The 'health point' at every NEPAD e-school, for example, will disseminate appropriate information related to health matters such as epidemics, nutrition and personal hygiene.

By combining the synergies of the NEPAD e-schools with those of community-based organisations, it should be possible to demonstrate that a viable platform can be created for rural communities, including women and youth, to interact among themselves in local languages, exchange news, knowledge and information at the local level, and use this knowledge to empower themselves at personal and community level, to fight poverty, ignorance and disease, and to create wealth.

What now remains is to build on the NEPAD e-schools and scale up their numbers and outreach in the rollout through broad-based ownership and management by the National Implementing Agencies described earlier.

Each country will therefore need to prepare a strategy for scaling up the investments in these technologies and for their effective management and sustainability. This process will be accelerated by bringing in lessons and experiences garnered from other similar initiatives such as the Schoolnet Africa and the UNESCO community multimedia centres (see UNESCO, 2005).

The NEPAD e-schools should ideally become community resources and focal points for growth and development, and thus support learning communities. These community resources will need to be well serviced and supported through repairs and maintenance as and when required. Technical and managerial support will need to be created and sustained at the local level. In turn, these community resources will be able to generate their own incomes to meet maintenance and replacement costs by providing services to the surrounding communities. Armed with such knowledge and skills, the new generation of young Africans will increasingly become job creators rather than job seekers.

In order to achieve the lofty goals of the initiatives to build ICT infrastructure and human skills, the NEPAD e-Africa Commission will require adequate human, financial, technological and material resources. Significant human capacity is required to successfully implement and sustain the projects already started, and to expand them substantially in order to benefit from economies of scale. The provision and management of ICT infrastructure, tools and skills will require that all partners in this venture work together to complement governments' efforts. The Commission recognises the importance of partnerships in mobilising skills and resources, including those from the African Diaspora. The African Diaspora has a great deal to contribute to the development of Africa in terms of advocacy, expertise and investment, and therefore, ways and means should be found to accommodate their contributions. To this end, NEPAD has established Africa Recruit as a joint



venture with the Commonwealth Business Council to interest Africans living abroad in job and investment opportunities in Africa, and in providing consultancy services to African governments and Africa-led initiatives. These opportunities should be pursued vigorously with all relevant institutions and organisations.

NEPAD offers a unique framework whereby African governments, the private sector and the civil society organisations can fast-track development. This partnership has demonstrated its effectiveness in fast-tracking implementation of the NEPAD e-schools programme. The challenges of scaling up, resourcing, monitoring and sustainability will require that this partnership is maintained, expanded and supported by all organisations, institutions and individuals that have a stake in Africa's future.

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## Biographical notes

**Professor Peter E Kinyanjui** joined NEPAD e-Africa Commission in 2004, and serves as Programme Commissioner and Coordinator for NEPAD e-Africa Commission in charge of Human Development. Before his current post, he had been working for the Commonwealth of Learning in Vancouver, Canada, for nearly 10 years as Principal Education Specialist. In July 2004, Peter was made Honorary Fellow of the Commonwealth of Learning in recognition of his contributions to the field of distance education, notably in Africa.