

# KNOWLEDGE MAP: POLICY ISSUES

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## GUIDING QUESTIONS:

- What do we know about which areas are of particular relevance for ICT use in the education sector?
- What do we know about effective policy frameworks for the uses of ICTs?
- What do we know about the role of ICTs in educational reform and change?
- What do we know about how ICTs can be used to enhance educational efficiency at the local, regional and national level?
- What do we know about how ICTs can be used to enhance educational planning?
- What do we know about the necessary enabling environment to support the introduction and on-going maintenance of ICTs in the education sector?
- What do we know about how to scale up and deliver national ICT for education programmes?
- What do we know about how ICTs can be used to combat corruption in the education sector?



This Knowledge Map is an excerpt from the publication, *Knowledge Maps: ICTs in Education: What Do We Know About the Effective Uses of Information and Communication Technologies in Education in Developing Countries?* produced by the Information for Development Program (*infoDev*).

## CURRENT KNOWLEDGEBASE

*What we know, what we believe — and what we don't*

### *General*

- **There is general agreement on the most important issues and best practices**  
There is general agreement on issues impacting ICT in education policy decisions, and the broad lessons learned from ICT in education initiatives in LDCs to date. Both the general issues and general lessons learned in this regard have been well documented. Case studies and specific best practices in policy formulation and delivery have not been well documented.
- **Introducing ICTs raises important equity issues**  
The use of ICTs in education is seen to have a great effect on equity issues in education. They are seen to preferentially advantage schools and learners in urban areas and in locations where existing infrastructure is the best in a country.
- **Changes and innovations in technology come much faster than changes in the education system**  
The product cycle of most ICT-related products is much faster than the 'life-cycle' of education change

and reform. This disconnect is important. Many studies cite the usefulness of ICTs to instigate and implement educational reform as a strong reason to undertake ICT investments in education in the first place. A lack of congruence between the timelines for roll out of educational reform efforts and the roll out of supporting ICT tools (hardware, software, training) is a potential area of great concern, as reform may be dependent on technologies that are no longer available (and/or supported). Even within a particular educational reform process, or indeed where no reform process is on-going, the pace of technological innovation outruns the pace of institutional innovation.

### *Existing policies*

- **Different parts of government are responsible for ICT in education policies in different countries**  
There does not appear to be a standard coordinating body responsible for the formulation of a country's ICTs in education policies. In some countries this is strictly the purview of the Ministry of Education (which may have a separate ICT in education policy, or fold ICTs strategies into existing education policies), while in others it is handled by the Ministry of Science/Technology (if such an institution exists) as part of a larger technology or information policy, although in most cases there is no national policy at all.
- **There is no database of existing policies**  
There is no standard repository for existing ICT in education-related national policies, although regionally the European Union has done a good job of collecting them for European countries, as has UNESCO-Bangkok in the Asia-Pacific region.
- **Successful policy requires consultation with a diverse group of stakeholders**  
It is believed that the formulation of successful policies related to ICTs in education must include not only the Ministry of Education, but also a variety of stakeholders from other government ministries, as appropriate (often this includes the Ministry of Finance, the PTT and ministries related to science/technology/IT, labor and rural development), communities and other civil society groups (including NGOs) and the private sector.

### *Scaling up*

- **Little is documented about the 'scaling up' of ICT in education initiatives in LDCs**  
Little documentation exists related to the "scaling up" of large scale ICT in education initiatives in developing countries, whether as expansion of pilot projects or from scratch.
- **Models for scaling up are quite varied**  
Models for large scale ICT in education initiatives are varied and appear to be specific to individual developing country circumstances. In some instances, these are purely government funded and directed initiatives (as in China), public-private partnerships (as in the Indian state of Karnataka), private sector initiatives directed by government (as in Malaysia), or non-governmental organizations, either affiliated with government at some point in their development (as in the cases of Chile and Thailand) or not (as is the case in the Philippines and Uganda).
- **Schoolnets are a useful tool**  
"Schoolnets" are seen useful mechanisms both for introducing pilot initiatives in ICTs in education and as vehicles for investments at scale. Issues and guidance on developing and maintaining schoolnets have been well documented.

### *Reform, organizational, management and efficiency issues*

- **ICTs can be important drivers for educational reform**  
Introducing ICTs in educational systems has been used as important mechanism and driver for educational reform efforts in some countries. In this context, ICTs can be utilized in many ways: as both a lever for organizational change, as a vehicle to introduce new teaching and learning practices and/or as an enabler of restructuring of the educational system.

### ■ **ICTs can help in anti-corruption efforts in the education sector**

ICTs may be useful tools in helping to combat corruption and leakage/shrinkage in the education sector. Wide dissemination of information about education budgets, objectives and priorities down to the village and school level using existing media (radio, television, print) and Internet-related technologies (web sites, discussion boards, e-mail, accessed in schools and/or at community telecenters).

### ■ **ICTs can aid decentralization**

ICTs may be useful tools in facilitating the process of decentralization that is occurring as part of, or concurrent with, the efforts of Ministries of Education to meet education-related MDGs.

### ■ **ICTs are vital for data collection and analysis**

ICTs can be used to facilitate education-related data collection and processing efforts in ways previously not possible. Pilot projects have shown installed basic IC infrastructure can be used to enable data collection efforts in remote areas more quickly, inexpensively and effectively than using tradition methods. One example: using handheld computers to collect EFA-related population data, which is uploaded to installed computers in schools and community telecentres, and then transmitted to central location for loading into the national EMIS.

## COMMENTS

### *General comments*

- Given the lessons learned from the explosion of pilot ICT in education initiatives in developing countries over the past decade, and the stated interest in many countries in exploring how/if such lessons may be relevant to the urgent needs to achieve education-related MDGs, the time appears ripe to include discussion of potential uses of ICTs in the education planning process in some countries, as relevant and desired.

### *Applicability to LDC/EFA context*

- Where countries are interested in learning from existing pilot initiatives in using ICTs in education to help meet education-related MDGS, and/or where government is interested in utilizing ICTs at scale to meet such goals, additional work in the policy arena would (obviously) be directly applicable to such countries.

### *Some areas for further investigation and research*

- How can/should EFA-related issues as they relate to the uses of ICTs be included in the decision-making processes of education officials?
- Existing knowledge and information on this topic needs to get into the hands of key decision makers.
- What ICT in education policies are currently in place, and how they address EFA-related issues?
- How can ICTs be used to facilitate the decentralization process underway or contemplated in many Ministries of Education?
- How can ICTs be used to combat corruption in the education sector?
- What are the best practices from implementing education management information systems (EMIS)?
- What regulatory issues exist related to connectivity and information access issues as they relate to the education sector, and what guidelines and best practices have emerged?

### *Some Recommended Resources*

*to learn more ....*

- *Emerging Trends in ICT and Challenges to Educational Planning* [Hernes 2001]
- *Fighting Corruption To Improve Schooling: Evidence From a Newspaper Campaign In Uganda* [Reinikka 2004]

- *A Framework for Understanding ICTs-related Innovations in Primary and Secondary Education & Policy Recommendations* [SEPRYDEM 2002]
- *ICT and Educational Reform in Developing and Developed Countries* [Kozma 2002]
- *ICT in Education Policy-Makers Toolkit* [UNESCO-Bangkok unpublished draft]
- *Masterplan II for IT in Education* [Ministry of Education, Singapore 2002]
- *A Retrospective on Twenty Years of Education Technology Policy* [Culp 2003]
- *Technology in American Schools—7 Dimensions for Gauging Progress—A Policymaker’s Guide* [Milken Exchange on Education Technology 1999]
- *Technology in Schools: Education, ICT and the Knowledge Society* [Hepp 2004]
- *Thwarted Innovation: What Happened to e-learning and Why* [Zemsky 2004]
- *Towards a Strategy on Developing African Teacher Capabilities in the Use of ICT* [Schoolnet Africa 2004]
- *The World of ICT in Education: A Seminar for Policymakers* [World Bank Institute 2002]

### About these Briefing Sheets:

*infoDev*’s Knowledge Maps on ICTs in education are intended to serve as quick snapshots of what the research literature reveals in a number of key areas. They are not meant to be an exhaustive catalog of everything that is known (or has been debated) about the use of ICTs in education in a particular topic; rather, taken together they are an attempt to summarize and give shape to a very large body of knowledge and to highlight certain issues in a format quickly accessible to busy policymakers. The *infoDev* knowledge mapping exercise is meant to identify key general assertions and gaps in the knowledge base of what is known about the use of ICTs in education, especially as such knowledge may relate to the education-related Millennium Development Goals (MDGs).