



Harnessing **Technologies** towards Quality **Education** for All in Asia and the Pacific



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Japanese Funds-in-Trust

Content

- 01 Introduction
- 02 UNESCO Vision and Programme
- 04 Strategies and Outputs
- 06 The Four Major Thrusts

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Harnessing Technologies towards Quality Education for All in Asia and the Pacific

Are we getting any closer to bringing quality education for all people in Asia and the Pacific?

The Education for All (EFA) Global Monitoring Report 2003/4 confirmed that despite significant progress since the commitments made in Dakar in 2000, there are still serious shortfalls, particularly in ensuring a basic education of good quality to all children, including those out of school, and in providing relevant literacy and continuing education for youth and adults. Clearly, this issue is especially pressing in Asia and the Pacific, with 625 million adult illiterates accounting for 71% of the world total. Of that number, 64% are reported to be girls and women. A large proportion of illiterate adults, youth and unschooled children of ethnic minorities and other disadvantaged groups live in rural and remote areas and in urban slums.

After more than a decade of EFA efforts, it has become clear that the mere extension of traditional education systems and methods will not reach those who remain excluded. While ICTs have shown much potential in reaching the most unreachable groups, to improve the quality, and, under certain conditions, to reduce the costs of education systems, the question remains under which conditions are they successfully used and

how. The UNESCO Meta-survey highlights many thriving ICT-in-education projects which meet educational needs in innovative ways in the Asia-Pacific Region. But there are also numerous examples worldwide where countries have wasted scarce resources on ICT hardware and on unsatisfactory training and software production, without achieving the targeted results.

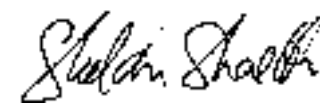
We are therefore confronted with a dual challenge: utilising the latest innovations to meet the EFA targets and translating the promises ICT offers into a reality for all, especially the most disadvantaged groups.

In direct response to these challenges, as detailed in the Dakar Framework of Action for Education for All (EFA) 2000 and the Kyushu-Okinawa Summit Charter, UNESCO launched the Asia-Pacific Programme on the Use of ICTs in Education, with the generous funding of Japanese Funds-in-Trust (JFIT).

The UNESCO programme is based on the fact that the rapid development of ICTs presents development agencies with a unique opportunity to make a major and multi-sectoral contribution to the expansion and reform of education in Asia and the Pacific and therefore help to achieve the overarching goals of EFA.

This programme shows how disparities in educational access and quality can be reduced with ICTs and how education systems can enhance the knowledge and skills of their learners, promoting creativity, critical thinking, decision making, team work and lifelong learning.

The capacity-building efforts, policies, models and materials, networks and indicators of this programme seek to realise this potential of ICTs to transform education, making the goals of Education for All in 2000 become the realities of 2015.



Sheldon Shaeffer
Director, UNESCO Bangkok
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UNESCO Vision and Programme - breaking down barriers, building bridges

The UNESCO vision is to empower learners, teachers and educators, and managers and leaders to effectively use ICTs for expanding learning opportunities, ensuring educational quality and relevance, and furthering the quest for equality.

Yet this is no simple endeavour. While many nations lack infrastructure, all the bandwidth and computers in the world can not engender the kind of revolutionary transformation we require of our educational systems, and ultimately, of our societies. Experience has shown that without integrated policy development, sustainable professional development, curriculum integration and close monitoring and evaluation, programmes can and will fail. For this reason, the UNESCO programme involves sustainable ICT integration at all levels of the educational process, with four major thrusts.

ICT in education programmes that are implemented without proper planning often increase rather than reduce disparities. The **policy** component of the UNESCO programme assists countries in the development of relevant ICT in education policies and strategies, through capacity-building initiatives and the development of policy tools.

But the most successful ICT in education policy means little without the support of those at the heart of education, and so at the core of our programme, the teachers. Four projects focus primarily on developing the **skills of teachers** towards integrating ICTs into the curriculum - an overall project for Asia and the Pacific and three projects that target the training needs in specific disadvantaged regions.

Also with a strong focus on capacity-building, the most recently launched project of the programme aims to improve the management and delivery of **technical and vocational education** through the application of ICTs.

The teacher-training components are supported by the **SchoolNet** Project, which focuses on ICT integration within schools and content development, while facilitating increased knowledge sharing through the SchoolNet network.

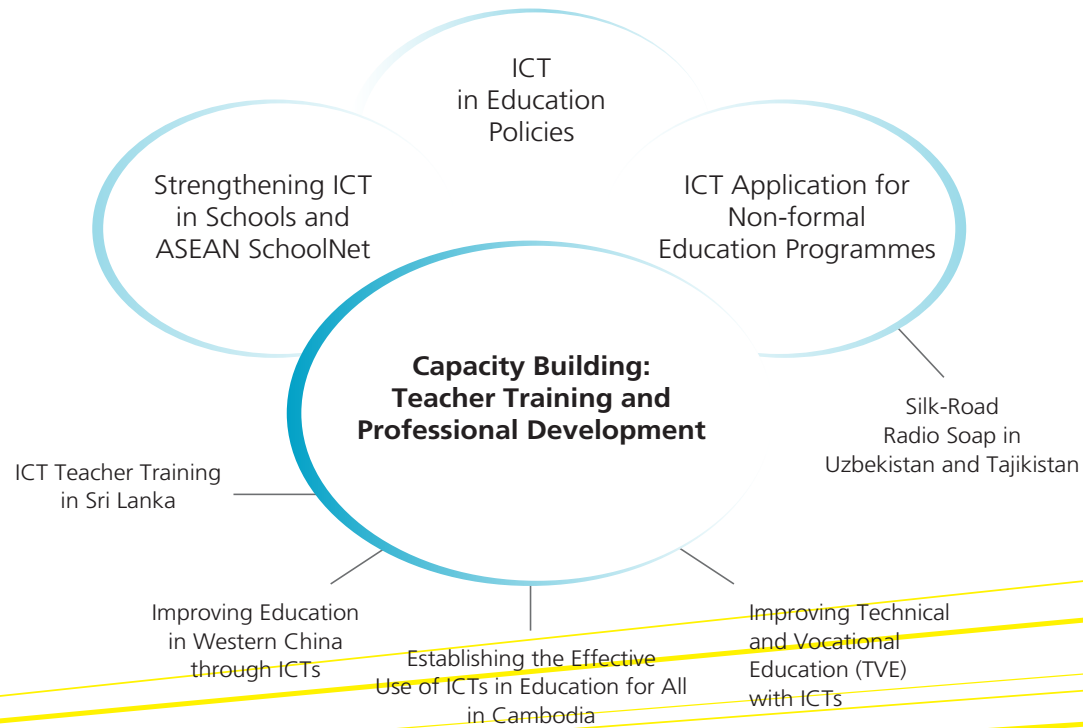
Yet as found in the Dakar framework, we must make provisions to reach those outside formal education, such as out-of-school youth and adults. The **non-formal education** project seeks to include this group, empowering rural populations through the use of ICTs, particularly in Community Learning Centres (CLCs).

Meanwhile, the Cambodia project combines all these elements -- policy, formal and non-formal education, teacher training, and curriculum development -- and draws from the other region-wide projects to develop a model of nation-wide educational reform through the use of ICTs.

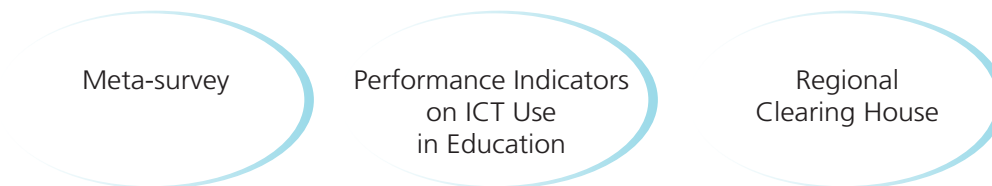
Finally, there are three supporting elements: a **meta-survey** providing invaluable data on ICTs within education; **indicators** development, which looks at establishing appropriate monitoring procedures; and a **clearing house**, which both disseminates information from the projects and provides databases of information to support them.

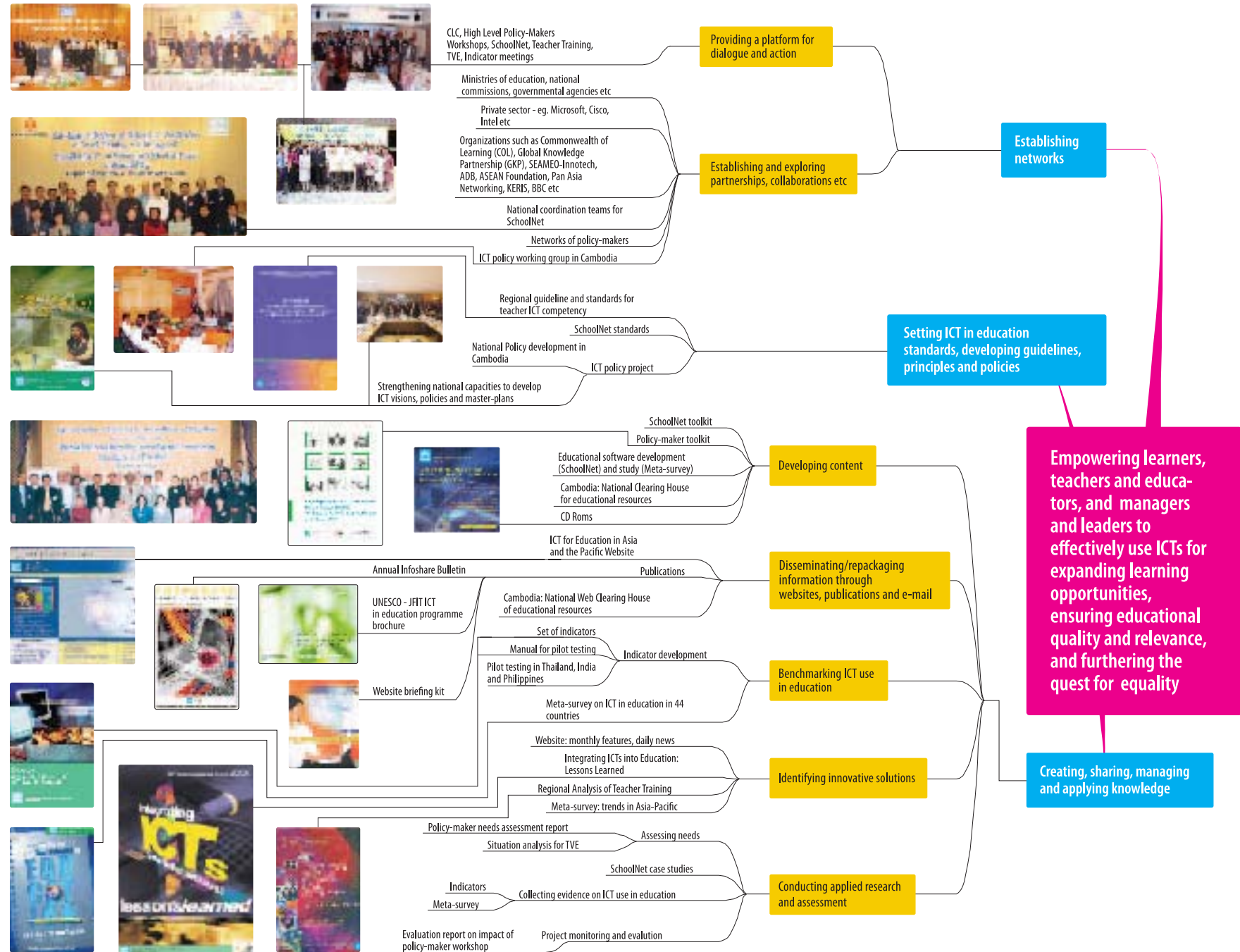
Project summaries are organised according to chief point of focus.

Major Thrusts



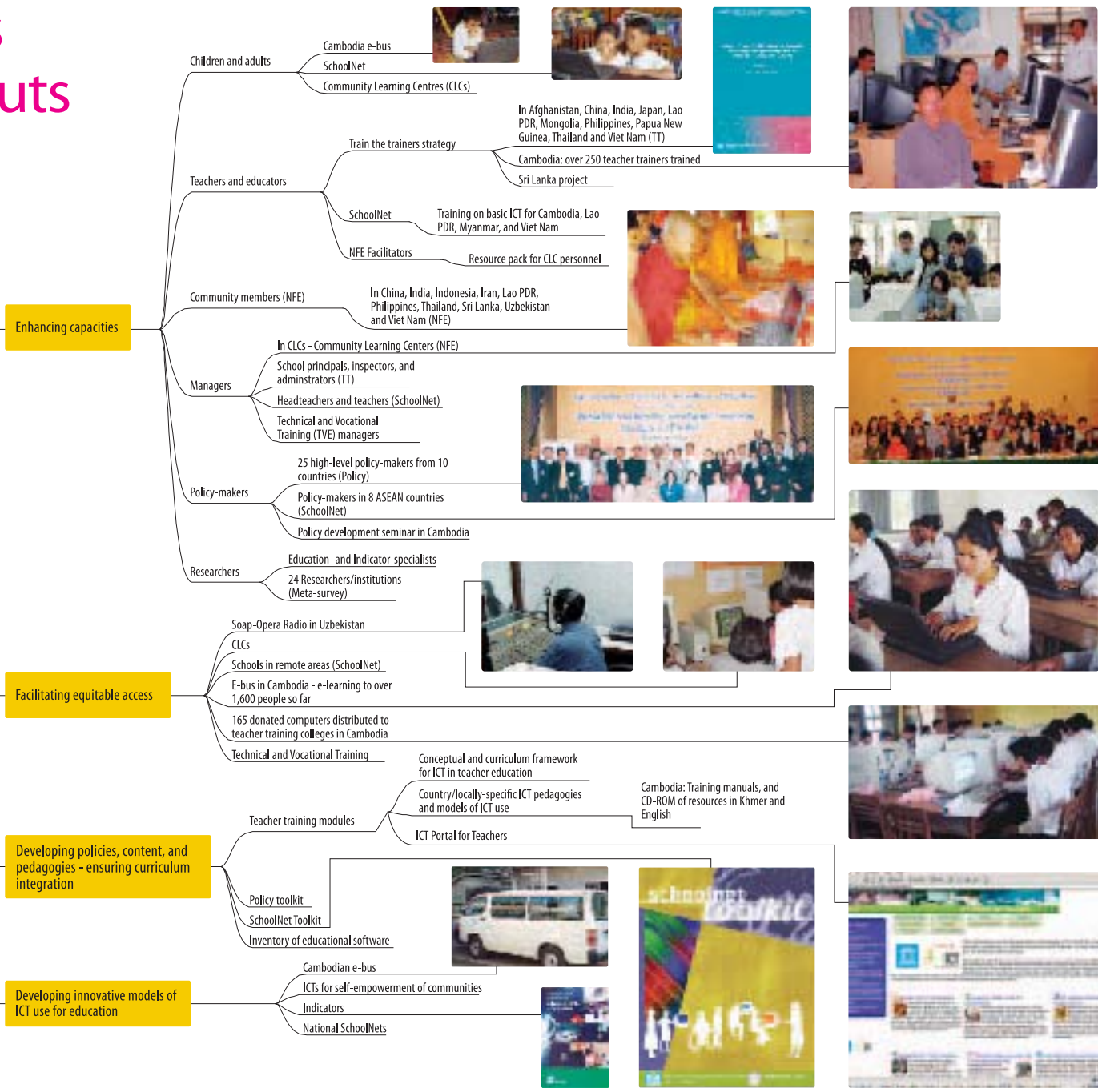
Supporting Elements





Strategies and Outputs

Using ICTs to upgrade the quality and reach of education



Integrated ICT in education policies

ICT in Education Policies

The **ICT in Education Policies** project promotes successful policy models and strategies of ICT integration, with special emphasis on removing barriers to participation and the learning of girls and women, out-of-school youth, the disadvantaged, those with special needs and the poor. The project aims at:

- Enhancing the awareness, vision and commitment of decision makers for the judicious use of ICT in education;
- Strengthening national capacities to develop appropriate ICT in education visions, realistic policies, strategies and master-plans;
- Facilitating the integration and implementation of other JFIT project components at a policy level; e.g., the professional development of teachers and educators in ICT integration into teaching and learning;
- Ensuring UNESCO's involvement in international policy discussion and the integration of this initiative into networks of policy planners.

Key results to date:

- **ICT in education policy and strategy development, awareness raising and capacity building**

Some 50 people benefited from the **High Level Policy-Makers Workshop**, which was held

from 18 February - 31 May 2003. Twenty-five Ministry of Education participants, including several Ministers and Vice Ministers of Education from 10 Member States attended this event. It was organized in four phases, comprised of two face-to-face meetings in Bangkok and two online phases.

A clear output of this meeting was a recommendation that tools be developed to help policy-makers integrate ICTs effectively in their education systems. It was agreed that a toolkit, translating the expertise of key specialists and organizations into guiding principles, but also providing evidence, examples and guidance for the policy development process, would be a valuable resource.

- **Evaluation**

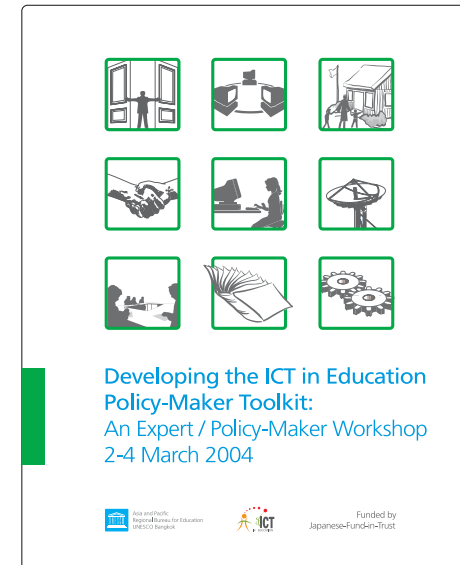
An external evaluation of the impact of the workshop in the countries was produced, which showed impressive results.

- **Needs assessment**

A needs assessment was conducted through a series of questionnaires and 14 interviews with policy-makers of Ministries of Education.

- **ICT in education policy-makers' toolkit content outline and blueprint produced**

The toolkit content outline and blueprint was finalized in a workshop in March 2003, incorporating the inputs of the fourteen experts from the Commonwealth of Learning, the Education Development Center, Knowledge Enterprises, the North Central Regional Education Laboratory, PRELSTAR, and the World Bank Institute, as well as policy-makers and practitioners from Cambodia, Indonesia, Pakistan, Samoa and Thailand.



The toolkit will now have seven tools instead of the three initially planned, as follows:

- The Decision Maker's Essentials
- Toolbox for Mapping of the Present Situation
- Tool for Identification and Analysis of Educational Areas for ICT Intervention
- Tool for Formulation of ICT Policy Intervention
- Toolbox for Planning for Implementation
- Tool for Evaluation of ICT Interventions
- Tool for Design of Master-plans for Scaling up ICT Interventions

The toolkit is currently being produced, and will be tested and used in 2005.

(For more, please see <http://www.unescobkk.org/education/ict/policy>)

Capacity building: Teacher training and professional development

Training and Professional Development of Teachers and Other Facilitators for Effective Use of ICTs in Improving Teaching and Learning

This project, run by the UNESCO-Asia-Pacific Programme of Educational Innovation for Development (APEID), aims at:

- Improving the capabilities of teachers/facilitators, through both pre-service education and in-service training, to integrate/infuse ICTs as pedagogical tools and educational resources and to facilitate interactive learning;
- Identifying, creating and disseminating country/locally-specific ICT pedagogies and models of ICT use in different learning environments and teacher-developed e-lesson plans and educational software;
- Developing and putting into operation a regional on-line teacher resource base and off-line network of teacher-training institutions to share teacher-developed education courseware and innovative practices.

Key results to date:



- **A conceptual and curriculum framework for the infusion of ICT in teacher education**
 - The Experts Meeting on Teachers/Facilitators Training in Technology-Pedagogy Integration: Building Capacity of Teachers/Facilitators in Technology-Pedagogy Integration for Improved Teaching and Learning was organised from 18-21 June 2003 in Bangkok, Thailand to initiate the development of this curriculum framework.
 - The Workshop on the Development of a Guideline on Teacher Training in ICT integration and Standards for Competency in ICT in September 2003 in Beijing, China, continued this development. During this latter Meeting, a regional guideline was developed and the conceptual curriculum framework for teachers was further enhanced to help teachers really integrate ICTs within education for improved teaching and learning.

- **Plan and contracted work for adaptation and development of teacher-training modules**

This plan was developed at the 2003 September Workshop in Beijing. The idea is that through a team approach the modules will be adapted for capacity building in technology-pedagogy integration through 'training of trainers' workshops at national and regional levels. Contracts have been made for modules on such cross-cutting themes as four pillars of learning through ICT application/integration. The development of materials will involve various stages, with phases to include analysis, design, development, implementation and evaluation.

- **Regional guideline and standards for teacher ICT competency**

The 2003 September Workshop also involved the outlining of competency-based standards which can be adapted to national contexts as references in ICT training modules.

These standards were developed further at the March 2004 **Workshop for Writing a Regional Guideline and Standards for Teacher ICT Competency**, to be used for recognition and certification of levels of teachers/facilitators' competency in technology-pedagogy integration at different stages. In addition, a regional guideline for teachers and other facilitators in integrating ICT in education was developed that is adaptable to the national/local contexts of Asia-Pacific countries.

- **A regional 'training of trainers' workshop for project country team leaders**, scheduled for 24-26 June 2004, will lead to a series of national/local training workshops for the capacity building of teacher educators and master teachers in ICT integration in teaching-learning processes.

Run as part of the larger project, **Bridging the Within-Country Digital Divide in Education: Improving Education in Western China through Innovative Use of ICTs** is a Joint Innovative Project (JIP) which aims at bridging the within-country 'digital divide' in education between the under-developed western and the developed eastern regions of China and at enhancing equal access to basic education by disadvantaged groups, as well as at improving the quality of education in poor and remote communities through capacity building, policy change and model development for the effective use of ICTs.

Project organisers are searching for innovative, practical models and pedagogies that will work in disadvantaged schools/communities where infrastructure for ICT application remains under-developed. The project is coordinated by the

Chinese National Commission for UNESCO through Gansu Provincial Education Commission. The main strategies for action are in six activity areas:

- In-service training for teachers and headmasters;
- The renewal of school curriculum and the development of innovative locally relevant textbooks and teaching-learning materials;
- Active community participation and support;
- Research-based advisory services and new

assessment of learning achievements in ICT-enabled environments;

- Dissemination of innovative experiences within and outside China; and
- Networking to share resources and expertise among schools in the project provinces and partner institutions in other regions.

(For more, please see <http://www.unescobkk.org/education/ict/teachers>)



Establishing the Effective Use of Information and Communication Technologies in Education for All in Cambodia

With high incidence of poverty, illiteracy and out-of-school youth in Cambodia, this project has the central aim of reducing poverty, bridging the digital divide and promoting digital inclusion through the use of ICTs in education. The project is striving to:

- Increase access to learning opportunities anytime, anywhere in the national language (Khmer) and other languages, including for educationally deprived groups;
- Improve the quality of education by developing innovative models of ICT use and of ICT-based education, teaching-learning methods, and curriculum/materials development, distance education and communication;
- Enhance indirectly freedom of expression, efficiency in communication and the knowledge-based economy of the country;
- Assist the government in developing a national policy and strategy on ICTs in education as an integral component of the national Poverty Reduction Strategy and EFA Plan of Action;
- Experiment and adopt the best practices for the integration of ICTs in both formal and non-formal education programmes;
- Strengthen the training and professional development of teacher trainers, teachers and non-formal education facilitators in the integration of ICTs in education;
- Establish a National Clearing House linked to UNESCO Bangkok's Clearing House.

Key results to date:

• Teacher training

The Teacher Training Dept (TTD) has continued

its training of teacher trainers in ICT using project resources and master trainers trained by the project staff. So far over 250 teacher trainers have received 96 hours of ICT training. The project provides technical support - scheme of work, training manuals, CD-ROM of resources - to the training. An outline curriculum for primary and lower secondary teacher training has been drafted, distributed to the colleges and amended using their feedback. 45 hours training in ICT in education has been given to 20 teacher trainers at the National Institute of Education, which trains teachers of upper secondary schools. Training manuals and a glossary of ICT terms for teachers have been developed in Khmer. A training CD-ROM containing learning resources - software, templates etc. has been put together and copies have been given to all teacher-training colleges.

• Computer donation

165 secondhand computers donated by Japan and Korea have been distributed to teacher-training colleges. These donations have been a crucial part of the project without which training of student teachers in ICT would have been able to take place in only a handful of colleges. Now, all but a few colleges have enough computers to equip a computer room. All computers are checked and have suitable software and Khmer fonts installed before they are sent to the colleges.

• E-learning bus

During the period from October 2003 - April 2004, over 1,600 people had access to the facilities either using laptops, digital cameras or watching educational videos. Eighteen out of 24 provinces have been visited. Over 30 educational VCDs have been put together in



Khmer on health and life skills. A wide range of disadvantaged groups have been served by the bus and all have requested repeat visits. The work of the bus was recently featured on national TV.

• Policy development

An ICT policy working group, comprising directors of various ministry education departments has been formed. The working group met to update each other on developments in ICT in their departments and to discuss the draft ICT policy. On 8th April 2004, an **ICT Policy Workshop** was held to allow a wide range of stakeholders to have an input. Support was given by ICT Policy expert, Cédric Wachholz, from UNESCO Bangkok. The workshops provided an opportunity for staff from different departments to liaise and discuss progress and future plans for using ICT. Input was collected from participants and will be used to amend the draft policy.

- **Content development**

Work to set up the National Clearing House Web server for educational resources is underway. As part of their ICT courses, teacher trainers produced teaching resources in Khmer and these will be uploaded to the Clearing House website when it is ready. Meantime, the local NGO 'Open Forum of Cambodia' (see <http://www.cambodiatic.org>) is translating information about ICT from UNESCO into Khmer for inclusion in their website. A workshop to develop learning resources is planned for July 2004

(For more, please see <http://www.unescobkk.org/education/ict/cambodia>)

Training of Teachers in Information Technology (IT) to Meet the Emerging Needs of the New Learning Environment in Sri Lanka

This project aims at helping to upgrade knowledge and skills of teachers and non-formal education facilitators in genuinely integrating educational technologies in their work. More broadly, it also aims at tapping the potential of new ICTs for more easily accessible and better teachers' education and professional development, reducing the gap between and within countries in terms of qualified teachers trained in new learning environments. Based in UNESCO New Delhi, the project is working towards:

- Identifying the most appropriate use of ICTs in teacher/facilitator education and professional development;

- Strengthening national capacity for developing and implementing policies and programmes in the use of ICT for such education and professional development;
- Enhancing the ability of teachers/facilitators in using ICT as a tool, as a subject, and as an educational resource; and
- Developing a national online teacher training programme, in support to UNESCO Bangkok's regional online teacher resource centre, and an offline network of centres of excellence in teacher training in the effective use of ICTs in education.

(For more, please see <http://www.unescobkk.org/education/ict/srilanka>)

Improving Management and Delivery of Technical and Vocational Education (TVE) through the Application of ICTs

TVE is concerned with the preparation of learners for employment, through the provision of knowledge, skills and attitudes desirable in the world of work. With our working world now being permeated with ICTs, it seems logical that TVE should inherently include training in ICT applications. The project **Improving Management and Delivery of Technical and Vocational Education (TVE) through the Application of Information and Communication Technologies (ICTs)** was launched at the end of 2003, with the following immediate objectives:

- Infrastructure - To supply and equip departments or commissions of TVE, vocational education and training institutions, curriculum development centres with suitable computer equipment, Internet and multi-media software;

- Capacity building - To provide training in their use to directors, principals, curriculum developers, vocational teacher trainers; and
- Access - To expand access to teaching and learning materials and to enrich delivery of TVE.

Key results to date:

- **Situation analysis conducted**

Since the official launching of the project in December 2003, a situation analysis of ICT infrastructure has been conducted, along with a planning meeting. The report of the situation analysis reviews the current status of ICT equipment and related infrastructure in TVE departments in the project countries, and presents the equipment needs.

- **Planning meeting held - February 2004**

Attended by 21 participants from the seven beneficiary countries, the meeting helped to familiarize the participants with the project, expectations and expected results. In addition, the participants were acquainted with several experiences of the application of ICT in the delivery of TVE. They pledged to select contact points for the project upon their return to their countries. The identification of training needs was initiated; and the equipments needs were confirmed. The participants left the planning meeting with an understanding of their roles and responsibilities in the satisfactory and timely implementation of the project.

(For more, please see <http://www.unescobkk.org/education/ict/tve>)

Integration of ICTs in the classroom

Strengthening ICT in Schools and SchoolNet Project in ASEAN Setting

Co-funded by the ASEAN Foundation and JFIT, the SchoolNet project is creating equal opportunities in education for the ASEAN countries by:

- Exploring and demonstrating how ICTs can be used in schools to improve the quality of education for all and better prepare youth for the demands of the Knowledge Society;
- Testing innovative models of ICT use and of ICT-based teacher education, teaching-learning methods, and curriculum/materials development in schools and in other places of learning;
- Improving connectivity and access to the wealth of educational resources through the establishment of SchoolNet in ASEAN countries.

Key results to date:

• Schoolnet Toolkit

Laid out in four substantive guidebooks, the kit is targeted towards policy- and decision-makers, school managers, practitioners, teachers and principals. Guidebook One provides a general overview and discusses how ICTs can improve the quality of education. Guidebook Two looks at planning a SchoolNet programme, in terms of infrastructure, training, online content, curriculum integration etc, as well as how to

integrate change management, the sustainability of SchoolNet activities and how to better institutionalize programmes. Guidebook Three is more hands-on and practical. It is targeted towards the people running the projects – focusing on creating online communities, technological components and professional development. Guidebook Four is a practitioners' guide, setting out the typical processes which they may follow.

• Case studies

The documentation of experiences through case studies on the integrated use of ICTs in education and SchoolNet operations of six countries, namely, Indonesia, Malaysia, Philippines, Thailand, Singapore and the Republic of Korea. The case studies are available online at <http://www.unescobkk.org/education/ict/v2/info.asp?id=15939>

• Memorandum of Agreement signed

The MOA for the pilot testing of the project was signed at the one-Day **South East Asian ICT Advocacy and Planning Workshop for Policy Makers and National ICT Coordinators** on 15 December 2003 by high officials of eight countries; Cambodia, Lao PDR, Indonesia, Myanmar, Malaysia, Philippines, Thailand, and Viet Nam.

• National Coordination Teams

Teams were established for each country. Master-plans and a framework identifying entry points in three subjects have been developed and workshops organised.

• 10 days Sub-Regional Training

A training course on Basic ICT was conducted for Cambodia, Lao PDR, Myanmar, and



Viet Nam; including identifying entry points for three subjects.

(For more, please see:
<http://www.unescobkk.org/education/ict/schoolnet>)

Empowered non-formal learning

ICT Application for Non-formal Education (NFE) Programmes

The project **ICT Application for Non-formal Education (NFE) Programmes** aims to improve quality of life and alleviate poverty among disadvantaged rural populations through greater access to context-specific education programmes using ICTs.

Run by the UNESCO Bangkok based Asia-Pacific Programme of Education for All (APPEAL), the project has two components. One is to use the potential of ICT to explore more effective use and delivery of existing resources and develop new resources to widen access to education, and improve the relevance and quality of learning through Community Learning Centres (CLCs) and other community-based learning mechanisms. The other is to explore effective development and uses of ICT for NFE to empower individual learners and also to assist community development. An **Expert Meeting** on the project was organized from 28 April - 2 May 2003 to finalize the project details and lay the ground for the following:

Key results to date:

- **Community empowerment through capacity building using ICT**
Through the project, APPEAL is supporting five

countries (Indonesia, Lao PDR, Thailand, Sri Lanka and Uzbekistan) which were able to provide suitable delivery mechanisms for ICT-based activities for community empowerment. Countries reported that ICT had proved useful in strengthening the effective planning and management of CLCs. In particular, ICT tools have mobilised the interests and participation of youths in CLC management and initiated new activities, for example Web-based marketing. More examples of project activities include:

- In Lao PDR, the project is focusing on improving village incomes amongst rural youth. The NFE Department is strengthening CLCs to serve as resource centres where ICT equipment is used to disseminate news and information in various areas, including life skills and income generation.
- In Sri Lanka, the Sarvodaya Shramadana Movement is establishing multi-purpose community telecentres for community



development. These community telecentres will serve village banks as well as six CLCs.

Community databases are being developed and information being disseminated to villagers and entrepreneurs through Sarvodaya's Mobile Multimedia Unit. There is also computer training for village bank staff, village volunteers and CLC officials.

- In Thailand, under the Northern Regional NFE Centre, the project is developing inter-village connectivity and shared learning, as well as empowering the members of rural communities, particularly youth, to use ICT as a tool for community development. The project shares learning experiences between villages through ICT labs.
- In Uzbekistan, the National Commission is helping to develop community databases and documentation for community planning and management. Other activities include establishing an ICT network among CLCs in the target areas and providing training to all personnel and community people at the project sites. Also, ICT materials are being developed for community empowerment, poverty alleviation and improving quality of life.
- In Indonesia, the Directorate General of NFE and Youth is planning to introduce an ICT-based learning model to CLCs. Planned activities include community data collection through CLCs and a programme using the Internet to enable greater access to data and improved information flows between local communities and the Government. Learning programmes relying on the Internet and cable TV access will also be set up under the project.

The outputs created during this first phase of the project will later be shared with five new countries (China, India, Iran, Philippines and Viet Nam) during the second regional workshop which is planned for June 2004 in Lao PDR.

- **NFE resource pack development for improving the planning and management of CLC personnel through ICT**

In follow-up to the recommendations of the Expert Meeting, APPEAL has compiled existing NFE and community development resource materials of UNESCO and other organizations. Based on these resource materials, APPEAL organized an **Expert Workshop on the Development of the Resource Pack on Literacy and Continuing Education** in Bangkok on 1-4 March 2004. As outputs of the workshop, APPEAL's existing NFE resource materials were compiled and a draft NFE Resource Pack was developed including the following contents:

Part 1: Literacy and Continuing Education: Policy, Planning and Management, Curriculum and Materials Development, Training, Monitoring and Evaluation and Research

Part 2: Further Reference Materials in Specific Content Areas: ICT, Gender, HIV/AIDS, Environment and Culture

The resource pack will be finalized in print, CD and on the Web by late 2004 and disseminated to planners, practitioners, researchers and other personnel working in literacy and continuing education. The pack is expected to be used as the basis for developing national resource materials in this area.

(For more, please see <http://www.unescobkk.org/education/ict/nfe>)

Tajikistan-Uzbekistan: Silk Road Radio Project

Using the more traditional technology of radio to reach large audiences in innovative and engaging ways, the **Silk Road Radio Project in Tajikistan-Uzbekistan** highlights contemporary issues and priorities through a twice-weekly radio drama series, produced and transmitted in both Uzbek and Tajik languages. Building on a centuries' old tradition of story-telling in the region, the themes dealt with in the radio dramas can be grouped in three categories in accordance with the priority areas of the main funding agencies: family and reproductive health, agricultural themes, and contemporary national issues such as humane and considerate treatment of displaced and underprivileged groups in society, ethnic harmony and tolerance in society and the trafficking of women. New themes are constantly surfacing in the light of ongoing needs assessment, consultation with stakeholders and audience research. These are incorporated in the radio drama storylines and scripts through existing and developing characters and scenarios. In this way, the Silk-Road Radio Project continues to be a medium for effective contemporary education, while also drawing attention to current, topical issues.

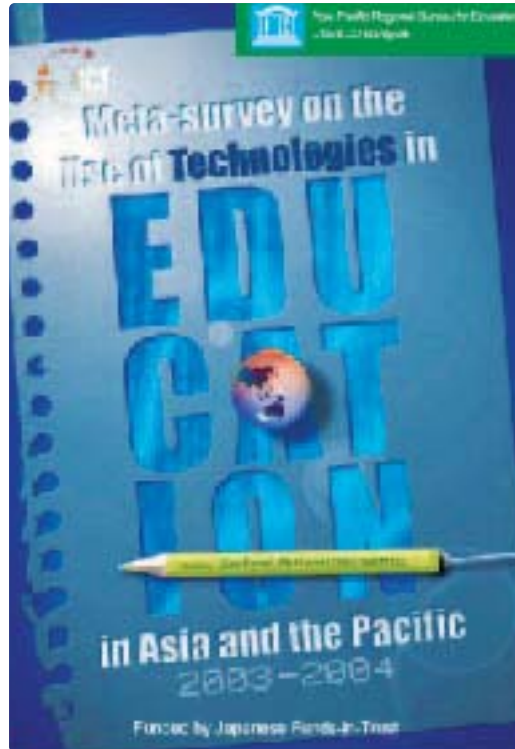
Supporting elements

Meta-survey on the Effective Use of ICT in Education

To obtain an accurate picture of the current state of ICT use in education in Asia and the Pacific, UNESCO launched a Meta-survey. The Meta-survey mapped and analyzed existing ICT initiatives in education, especially for disadvantaged groups and girls and women. The objective was to get information both on existing ICT applications and models that have proved to be efficient or promise to contribute substantially to achieving EFA goals, and on how these models can be adapted and improved for large-scale use. The survey covered national ICT policy environments, teacher and facilitator training initiatives, and educational software in order to understand and seize opportunities for change. Now complete, the survey helps to:

- Identify, analyse and summarise current applications and practices in the use of ICTs in formal and non-formal education;
- Provide valuable information for UNESCO's programme formulation, activity prioritization, training strategy and educational materials development;
- Begin or further the process of creating or strengthening regional networks on ICTs and education.

Key results to date:



• Meta-survey published and disseminated

This is the first survey of this kind that focuses exclusively on ICT in education in an entire region, and paints a broad picture of the programmes and initiatives that are aiming to reform education through ICT in countries as diverse as Afghanistan and Australia, Thailand and Vanuatu. Independent experts have written reports on the 44 UNESCO Member States in the region, which analyse how far these countries have progressed in formulating ICT in education policies, and to what extent they have developed national ICT infrastructures in education. The reports also describe innovative

models of ICT integration into school systems; local, national and regional initiatives in using ICTs for non-formal learning, and obstacles to greater equality of access to ICTs for education.

The first edition of the Meta-survey was presented and distributed at the World Summit on the Information Society (WSIS) in December 2003 and later disseminated broadly to researchers, governments and institutions in the Asia-Pacific region, and also to selected institutions worldwide. The survey was also presented to UNESCO HQ to feed into their sub-programme on ICT in education, and can be accessed online at the URL below.

• Inventory of educational software

An inventory was undertaken of educational software currently being used in the Asia-Pacific region, particularly in the following countries: Australia, India, Indonesia, Malaysia, Philippines and Thailand. Since the focus was put on the evaluation of the best educational software used in secondary schools for maths, science, and language teaching and learning, the evaluation results feed directly into the SchoolNet project. The searchable database is accessible on a CD-ROM and online.

(For more, please see <http://www.unescobkk.org/education/ict/metasurey>)

Regional Clearing House on ICT in Education for Asia and the Pacific

The Regional Clearing House promotes digital inclusion by creating, collecting, analysing, and providing fast, free and equitable access to knowledge and information to support policy formulation, management and monitoring,

teaching and learning, community outreach, networking, and programme implementation through a Web-based knowledge portal. Key results to date:

- **ICT for Education in Asia and the Pacific Website**

The ICT in Education in Asia and the Pacific website provides up-to-date information resources dealing with everything you need to know on the use of ICT in education in the region. Originally intended as an information services site for the JFIT project, the website has since evolved into a portal to information and resources, latest news, organizations, projects and discussions on various dimensions of ICT use in education.

The main target audience includes anyone involved in planning, organising, or implementing an ICT vision, policy or project, from high level policy-makers, educational managers and staff development teams, to curriculum and educational content developers, teachers and non-formal educators, educational researchers, evaluators and development workers.

Relaunched in October 2003, the website has been entirely renovated, replacing the old site with more user-friendly, easy to search re-organised and restructured databases and Web-pages, up-to-date content and new interactivity. You will find two main ways into the dynamic new site: either through the expansive databases, especially designed for those in a hurry, or through the thematic site sub-sites, which provide a deeper look into the key areas of ICT in education. (For more, please see: <http://www.unescobkk.org/education/ict>)

- **Integrating ICTs into Education: Lessons Learned**

This practical guide synthesizes and analyses countries efforts to integrate ICTs into their education systems, in connection with specific lessons learned, based on the experiences of six Asian countries, namely, Indonesia, Malaysia, Philippines, Singapore, The Republic of Korea and Thailand. Best practices are highlighted along with the need for further improvements. The distilled wisdom garnered here is aimed at providing a key foundation and framework for setting up ICT for education programmes, with lessons grouped into eight thematic sections: (i) broader environmental context, (ii) policy and regulatory environment, (iii) management and financing, (iv) ICT in schools - policy, vision and strategy, (v) technology infrastructure and connectivity, (vi) curriculum, pedagogy and content development, (vii) professional development, and (viii) monitoring and evaluation. These components can provide the basis for the development of tools and blueprints to guide policy formation and programme improvements. The publication also serves as an advocacy tool to gain the support of policy-makers and other stakeholders for the appropriate use of resources to support the integration of ICT in education.

- **Regional Analysis of Teacher Training Programmes in Asia and the Pacific**

To learn from the experiences of countries in our region and to benefit from existing training resources, UNESCO undertook an initial inventory of professional development and teacher-training programmes on ICT from selected countries in Asia and the Pacific. The inventory looked into the implementing bodies,



sponsorship, objectives, recipients of training, geographical coverage, scope and level of training, curriculum course contents, modules and training materials developed, methodologies, and mode of delivery.

- **ICT Portal for Teachers**

One of our most frequently visited sites at UNESCO Bangkok, this reworked portal provides a gateway to Internet resources and websites to help teachers utilize ICT to enhance their teaching. (For more, please see: <http://www.unescobkk.org/ips/ict/ict.htm>)

- **Infoshare Bulletin**

This yearly bulletin provides the latest trends and developments on the application of ICTs in UNESCO programmes and projects in the areas of education, social and human sciences, culture as well as development programmes implemented by other organizations in the Asia-Pacific region.

- **CD-ROMs of ICT in education resources**

Information resources uploaded on the website have been transformed into five CD-ROMs which were used during JFIT project meetings.

(For more, please see:

<http://www.unescobkk.org/education/ict/clearinghouse>)

Performance Indicators on ICT Use in Education

Under the Indicators project the development and use of appropriate performance indicators and monitoring procedures related to ICT use in education involves:

- Developing a structure of indicators to measure ICT use in education and provide a basis for policy planning and programme improvements, showing if and how ICTs are raising standards in education; serving as a catalyst for educational change; and empowering teachers and learners;
- Undertaking a situational analysis to determine what indicators have been used to measure ICT use and then develop a set of indicators that can be applied in the region;
- Pilot testing the set of indicators in selected countries and then creating a database for country use and inter-country comparisons;
- Promoting the institutionalization/mainstreaming of this indicators system into the national educational management information system and ensuring that data are used for policy and programme improvements through research utilization workshops; and
- Further disseminating information region-wide through the Clearing House repackaging programme, which generates fact sheets, policy briefs and ICT tools for policy-makers,

administrators and implementers both in hard copy and in electronic versions.

Key results to date:

- **Set of indicators developed**

The Consultative Workshop for Developing Performance Indicators for ICT in Education, from 28-30 August 2002 in the Philippines involved the development of a set of indicators to assess the impact of ICTs on education. The indicators cover the following areas: ICT-Based Policy and Strategy, ICT Infrastructure and Access, Curriculum/textbooks, Teaching Professionals Use and Teaching and Student Use and Learning.

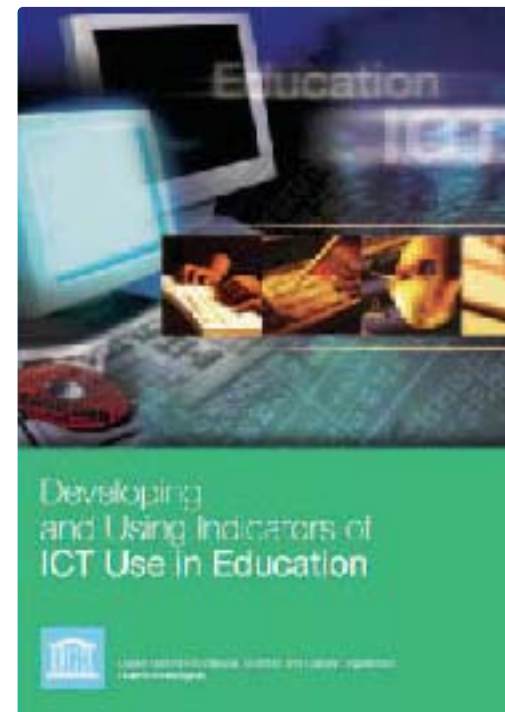
- **Manual for pilot testing**

This manual provides participants in the pilot testing of the indicators with information and guidelines in the pilot testing of ICT indicators. Specifically, the manual provides the following:

- Basic approaches and guidelines to developing indicators; criteria for assessing indicators; and methods for collecting indicators
- Set of core ICT indicators to be included in the pilot testing based on the output of the 2002 Consultative Workshop
- Sample ICT Survey Questionnaire
- Guidelines in the administration of the survey questionnaire
- Guidelines in data analysis
- Various software of database systems for storing indicators

- **Pilot testing of ICT indicators in three countries**

The Thai, Indian and Philippine Ministries of Education have launched their pilot testing and



have conducted national workshops for briefing data collectors. The process for data collection is now underway.

(For more, please see

<http://www.unescobkk.org/education/ict/indicators>)

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