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Innovative Information and Communication Technology in Education and Its Potential for Reducing Poverty in the Asia and Pacific Region: ICT Policy and Strategy Regional Report Overview “**From Policy to Pupil: How Governments Encourage ICT in Education**”

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Prepared by
Julian Watson
RTI International
3040 Cornwallis Road
Research Triangle Park, NC 27709-2194
USA

For
Asian Development Bank
ATTN: Jouko Sarvi
Principal Education Specialist
Capacity Development and Governance Division
Regional and Sustainable Development Department
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines

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From Policy to Pupil: How Governments Encourage ICT in Education

ICT Policy and Strategy Regional Report Overview

Watson, J.

I. BACKGROUND TO THE STUDY

1. With the aim to provide developing member countries (DMCs) with better guidance to use information and communication technology (ICT) effectively in education, the Asian Development Bank (ADB) funded a 21-month regional technical assistance (RETA) in Bangladesh, Nepal, Mongolia, and Samoa. Under the RETA, we researched approaches to using ICT in education, for improvements in teaching and learning that are not only successful but also feasible and sustainable given the region's development challenges. The study was implemented by RTI International in partnership with iEARN-USA. "Innovative Information and Communication Technology in Education and Its Potential for Reducing Poverty in Asia and the Pacific Region," commenced in April 2006.

2. Specifically, the study aimed at highlighting promising models of ICT integration and best practices; identifying drivers and barriers to successful ICT integration; and sharing lessons learned, with a specific focus on rural and remote areas. It combined policy analysis, program evaluation (mainly interviews and focus groups), and small-scale activities (professional development and provision of selected ICT resources). The study piggy-backed on existing projects in each of the four participating countries. In Bangladesh and Nepal, those were projects focused on the use of ICT for teacher training, in Mongolia and Samoa, the task was to focus on projects introducing e-Resources (electronic teaching and learning materials) to better reach remote and isolated areas of the country with up-to-date teaching materials. The RETA featured three technical components:

- Policy and Strategy (regional)
- e-Resources (Mongolia and Samoa)
- e-Teacher Training (Nepal and Bangladesh)

3. This brief summary introduces the study **Policy and Strategy component**, which was undertaken in parallel with the e-Resources and e-Teacher Training work. The component is grounded in the findings of these two other components and will draw on the unique opportunity provided by this conference to extend the policy dialogue with other Developing Member Country stakeholders.

II. COMPONENT OVERVIEW AND FINDINGS

4. The study is investigating some of the key policy and strategy dimensions that affect effective use of ICT to enhance the quality of education, including:

- National policies – overall and specific to education
- Integrated planning within total country needs
- Less tangible aspects enable ICT policy
- Aspects of government strategy that encourage innovative ICT in education
- The demand for innovative ICT in education
- The misconceptions of ICT
- Legal & regulatory issues: stability and predictability
- Independence of regulatory bodies and who do they report to?
- Regulatory lessons
- Intellectual Property Rights issues in ICT in education
- The will: how serious is the government in implement policies?
- Conditions controlled by government that have a positive effect on nurturing innovative ICT in education

5. To investigate those issues, the study featured formal missions to the four focus countries - Bangladesh, Nepal, Mongolia and Samoa - which were chosen for their geographic and demographic diversity. Cambodia, Indonesia, the Philippines, Singapore and Thailand were also visited informally to meet specific individuals or institutions that would add value to the desk research. Interviews as well as documented sources were used.

6. In addition to this study component brief, a full policy and strategy component report is available. The report: "From Policy to Pupil: How Governments Encourage ICT in Education"¹, provides detailed insight into the current situation and initiatives along those key areas of investigation in countries of the region and provides conclusions and recommendations as to possible government interventions that encourage effective use of ICT to improve access to and quality of education.

7. The research concluded that, despite the great diversity of DMCs in the Asia Pacific Region, there are common factors that are necessities if ICT is to be used as a major tool for change in the education sector. Countries throughout the region can very broadly be placed into four categories. None of the DMCs investigated appear in the fourth, however:

1. Those without cohesive planning for ICT in Education
2. Those that have paper plans but lack either structures, means or political will to implement
3. Those that have well defined objectives and interconnected plans that include time-based implementation strategies and are at least developing enforceable regulatory systems
4. Those where strategic planning, clear objectives, enforced and transparent regulatory frameworks supported by realistic funding are ubiquitous current practice.

8. Above all, the findings suggest that the nurturing of technology to improve education can not happen except within the context of a long term strategic national plan for ICT. The

¹ RTI International. 2007d. *From Policy to Pupil: How Governments Encourage ICT in Education*. Regional ICT Policy and Strategy Report. ADB TA6278-REG. Research Triangle Park.

demands of other sectors must be integrated to define the parameters of possibilities. ICT in education is to a large extent dependent on national infrastructure and therefore plans must recognize this. A further common factor uncovered by the report is that a sound technology in education policy is based on consultative research into demand, and more specifically, informed demand. Different groups – parents, students, teachers, principals, administrators, educators, politicians, donors and business – appeared in all countries to have different concepts and therefore expectations of technology in education. Misconceptions led to disappointment and therefore cynicism about the benefits of ICT in education. These social aspects have to be recognized, addressed and realistic outcomes agreed at planning stage.

9. The second necessity is a strong regulatory system. Since sector plans are long term there must be a stability and transparency of national regulation. If the national rules covering ICT (costs of licenses, allocation of wavebands, connection charges) are unjustly executed, then both internal and external investment will be driven away.

10. Regulation must not only be in place but imposed. The study concludes that enforcement is the third indispensable element. Enforcement needs to be considered at all levels from the international and national law, bi-lateral agreement, regulation by statute, by decree and on a voluntary industry basis. Piracy and poor enforcement of international Intellectual Property Rights (IPR) were found in all the focus countries. This has a damaging effect on the localization of software and content (particularly where scripts have to be developed). IPR protection enables the creative to choose how their intellectual properties are exploited – either by voluntarily contributing these properties to the pool of localized education assets in an open source licensing agreement or by opting to commercially license for financial reward. However, and here regulation again plays a part, countries must decide on clear rules for the reuse of content in the production of new teaching and learning materials.

11. A policy study would be incomplete in the current climate without visiting the question of open source and licensed software. The study points out the benefits of each but draws no universal conclusion on adoption preference, simply emphasizing the points that should be considered by policymakers. The study also looks at different regional approaches to 'affordable' computers and questions how affordable they are by comparing their costs with the education budgeting per child.

12. The full policy and strategy component report goes on to demonstrate that all governments have at their disposal a number of levers which they can, given the will, choose to apply for the more intangible advancement of technology in education. It is the willingness to use these levers to create an enabling backdrop that divides countries in categories 3 and 4 from 1 and 2, in the categorization presented above. The licensing of ISPs and the contractual concessions to service and infrastructure providers can be used to ensure that schools have reduced connection charges. Tax exemptions on equipment can further reduce the Total Cost of Ownership (TCO) of ICT in school. At the same time, there are conflicts of interest at ministry level in the use of tools such as taxation exemptions and voucher schemes. These must be resolved within a transparent regulated framework.

For more information, contact
Julian Watson
Study Team Leader
ict.education@virgin.net