

# Policy Coherence in the application of ICTs for Education in India & South Asia



11<sup>th</sup> September 2009, Paris

# Agenda



Proposed Survey

ICT for Education Ecosystem

Elements of ICT for Education Policy

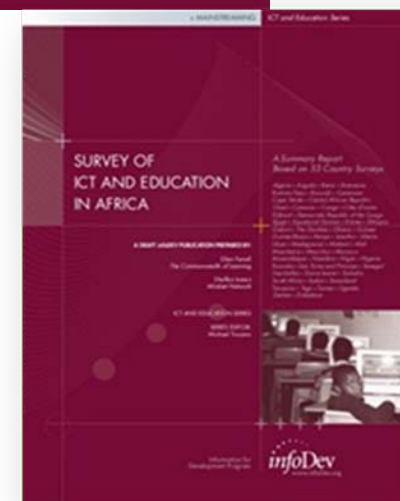
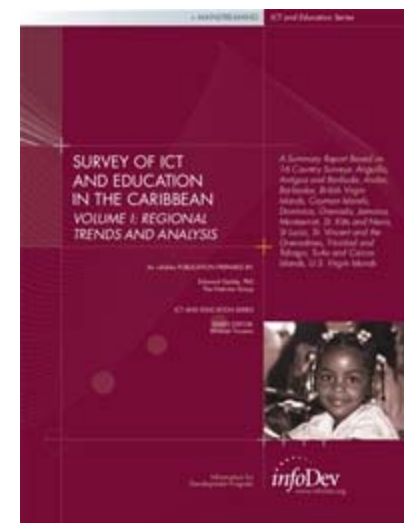
- Curriculum & Content Development
- Capacity Building
- Infrastructure
- Monitoring & Evaluation
- ICT in Education Management

Key Trends

# Context of the Survey

*infoDev* is facilitating a series of regional surveys on the use of ICTs for Education

- The regional study for Africa was completed in 2008 and for the Caribbean in 2009
- The proposed survey, of ICT for Education in India and South Asia, will be the third in the series. Focus countries:  
India, Pakistan, Maldives, SriLanka, Bangladesh, Bhutan, Nepal, Afghanistan





# Proposed Survey

# Survey of ICT for Education in India & South Asia



Two fold objective of the proposed Survey:

Repository of ICT Initiatives in Education

- To create a repository of major initiatives using ICT in Education in India & South Asia
- To analyze dominant trends and best practices

Framework for Policy Guidance

- Designing strategies for effective integration of ICT in Education



# Key Work Products

## Design

Project  
<http://wikieducator.org/ICT4SouthAsiaEd>

Inception Report

Detailed Work Plan

Interview Plan/  
Questionnaire  
Format for Key  
Persons

Stake Holder  
Database  
Developed  
Continuously

Bibliography  
of Resources

Profiling of  
Major Initiatives

General Policy  
Framework &  
Delivery  
Mechanism

## Execute

Essays on  
Different  
Themes

Socio Economic  
Background for each  
country including  
policy & delivery  
infrastructure

State case  
studies

Constraining &  
Enabling  
Features

## Report

Stakeholder  
Database

Report on Survey  
of ICT in  
Education, in  
India & South Asia

Country Reports

Bibliography of  
all Resources

Final Deliverables



# ICT for Education Ecosystem

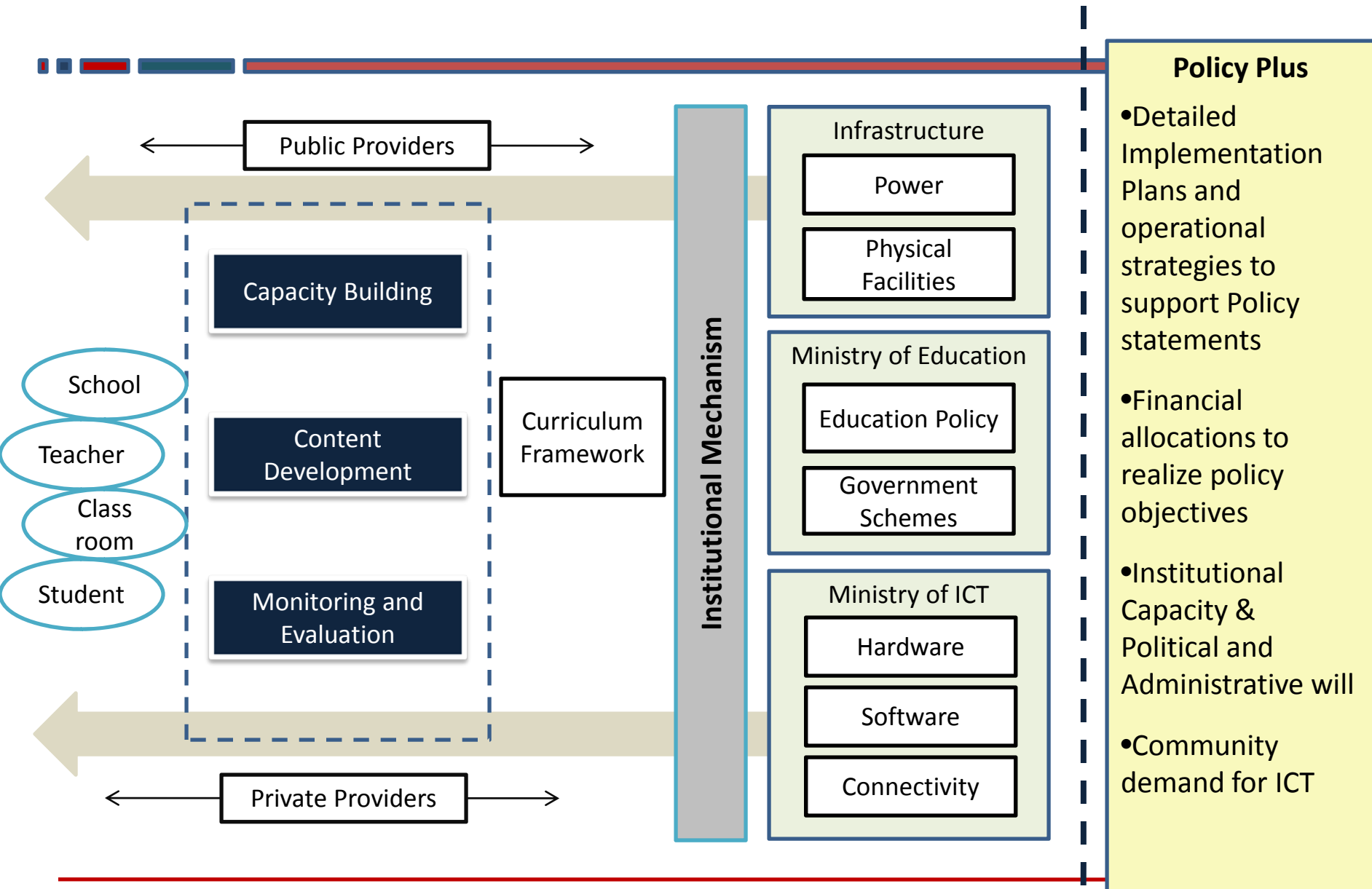
# Policy for ICT for Education

In most of the focus countries Policy articulations for ICT for Education are made in one of the following ways:





# ICT for Education Ecosystem



# Elements of a Policy for ICT for Education

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Curriculum

Content/Digital Resources

Infrastructure

Capacity Building

Monitoring & Evaluation Framework

ICT for Education Management

Policy Plus

- Implementation Plans
- Financial Allocations
- Political and Administrative will
- Community demand for ICT

# Curriculum & Content Development

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Curriculum for ICT as a subject is prescribed in almost all focus countries at the secondary level (India, Sri Lanka, Pakistan, Bhutan, Nepal, Bangladesh, Maldives, Afghanistan)

At the primary level curriculum focuses on general ICT literacy and improving facility with using technology

Use of ICT as an instructional aid is emphasized in the policies of some countries. (India, Pakistan, Bangladesh (2009), Sri Lanka )

Strategy for Content development articulated in very few countries.(India, Bhutan) Many countries though have specific initiatives focusing on content development, eg- Shilpa Sayura in Sri Lanka

NICTE Pakistan is the only policy that emphasizes clearly the need for overall curricular reform in light of tools and pedagogical techniques made available through ICT

# Curriculum & Content Development

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## Key constraints in developing relevant content:

- Lack of IT professionals in the country
- Lack of funding, infrastructure & resources
- Lack of local content development initiatives
- No clear defined standards for digital educational content
- No focus on digital content in traditional curriculum

# Capacity Building

Training of Teachers, School Leaders & Education Department Personnel

Role of ICT for professional development of teachers in pre service and in service training recognized by most countries

Strengthening of Teacher Training Institutes with multimedia resources highlighted in most focus countries

Training and orientation for School leaders recognized as important by some countries ( India, Pakistan)

Training for education department personnel in general ICT in day to day activities, as also distinct SEMIS tools has been emphasized in (India, Nepal, Sri Lanka, Bangladesh)

# Curriculum & Content Development

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Key constraints in effective use of ICT for professional development:

- Teacher attitudes towards ICT
- Lack of relevant content
- Lack of access to internet and computers after school
- Lack of adequate funding and resources
- Lack of training focusing on pedagogical innovation and learner centric strategies



# Infrastructure

Distinct articulation for making available basic ICT infrastructure for Schools and other Educational establishments articulated in the IT policies as well as Educational Policies of most countries

Most of the focus countries have plans to provide connectivity to schools and other educational institutions

Enabling infrastructure like electricity and physical facilities still a major constraint in almost all focus countries (Except Maldives, Sri Lanka)

Key constraints in developing adequate ICT infrastructure:

- Significant difference in access to connectivity & electricity between rural & urban areas
- Lack of resources for maintenance and upkeep
- High cost of connectivity
- Lack of institutional frameworks and robust implementation capacity

# Monitoring & Evaluation

Monitoring and Evaluation strategies very weakly articulated in most countries (Except India, Pakistan)

Existing monitoring and evaluation strategies in Education initiatives mostly focused on program evaluation and EMIS type tools, instead of based on evaluation of learning levels (India, Pakistan, Nepal)

Key constraints in developing monitoring & evaluation strategy:

- No standards based on which an evaluation of impact of ICT initiatives in Education can be done.
- Weak institutional structures and fragmentation of responsibility

# ICT in Education Management

Use of ICT in Education Management articulated distinctly in the policies of some focus countries (India, Afghanistan, Sri Lanka)

Emphasis on developing SEMIS in several focus countries.  
(India, Afghanistan, Nepal, Bangladesh)

GIS Mapping for planning is emphasized in (Afghanistan, Bangladesh)

Key constraints in using ICT in School Management:

- Lack of adequate infrastructure and connectivity at the school level
- Low motivation to use ICT in Education Management by teaching and administrative staff as well as department personnel. Fear of eroding of discretion and authority
- Weak institutional capacity to utilize SEMIS software

# Policy Plus

**Detailed Implementation Plans:** In almost all the focus area countries while the Policy clearly highlights the need to integrate ICT into Education, there are very few clear implementation plans

**Financial Allocation:** Financial allocation has to support distinct policy statements which in most of the focus countries has not been addressed. (Except Bhutan, BIPS 2004)


**Institutional Capacity & Political and Administrative will:** This is the most critical constraint in the South Asian region where there is little institutional and administrative capacity to translate good policies from paper to real initiatives on the ground. Eg. Bangladesh ICT Policy 2002, of the 103 Policy directives in 16 areas only 8 were fully or largely accomplished by 2008 when the review was conducted.

**Community Demand for ICT:** General ICT awareness and community participation were seen as critical in effectively integrating ICTs in Education. Very few Policy documents recognize the critical linkage with Education. (Bhutan, BIPS 2004. Bangladesh, National ICT Policy 2009)



# Preliminary Findings

# Key Trends

- ❖ Imperative for a policy for ICT for Education in this region largely has come from a recognition of the need to develop adequate human resources for being competitive in the Global ICT market. (Bangladesh, Nepal, Sri Lanka, Pakistan)
- ❖ Greater focus on incorporation of ICT as a subject in the curriculum than on using ICT as an instructional aid to improve overall education quality
- ❖ Only in Sri Lanka, Pakistan and India(Draft) is there a specific ICT in Education Policy. These policies focus both on ICT as a subject as well as use of ICT as an instructional aid. Of these Sri Lanka NAPITSE has been in operation since 2000, Pakistan's NICTE since 2005, and India Draft National ICT in School Education Policy is still under formulation, with the first draft having been published in 2009
- ❖ In Bangladesh, Bhutan, Nepal, & Afghanistan the ICT Policies have a section on Education, where they highlight the need for qualified manpower and work back to familiarizing the general population with ICT through the Education system
- ❖ Maldives does not yet have an ICT Policy, but with the basic IT infrastructure in place (relatively higher internet penetration, mobile network, TV and Radio penetration) as well as good educational indicators (near 100% literacy and high GERs at Primary as well as Secondary levels) it is in a good position to realize benefits from a dedicated ICT for Education Policy that focuses on quality content and delivery. 



# Key Trends

- ❖ Infrastructure remains a key bottleneck in most of the focus countries especially Afghanistan, Nepal, Bhutan and Bangladesh. ➡
- ❖ India and Pakistan have a certain amount of critical infrastructure in place and would have to focus on developing content and applications and leveraging the potential of ICT as a tool to strengthen the teaching learning process ➡
- ❖ Maldives and Sri Lanka have been relatively successful in putting the key infrastructure in place (with the exception the high cost of internet in Maldives), they would now need to focus on using ICT tools and content to improve the overall quality of Education and create access for those who have been excluded from their existing systems
- ❖ By and large administrative capacity to translate policies into actionable plans and then to have specific initiatives with financial allocation and institutional structures has been a bottleneck in all the focus countries.



*Thank You*

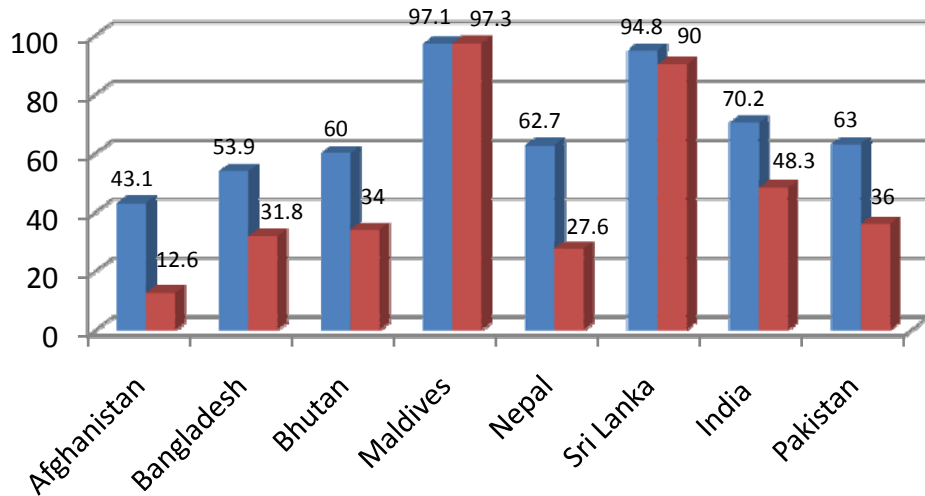


# Country Comparatives



## Education Parameters

# Literacy Rates



■ Literacy Rate Male ■ Literacy Rate Female

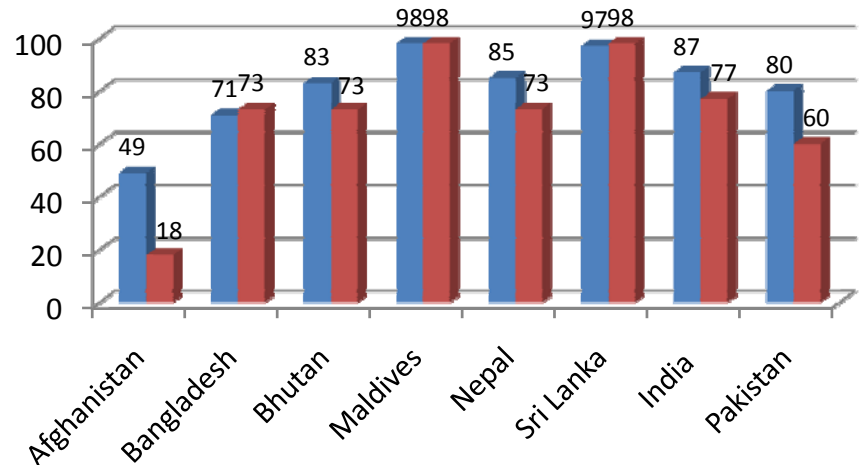
Youth Literacy levels in overall low literacy countries is relatively high except in Afghanistan.

Gender disparity is also much lower in the youth population. Esp in countries like Bangladesh, where infact more women are literate than men in this age group

Maldives & Sri Lanka have achieved near 100% literacy. Gender parity in literacy levels.

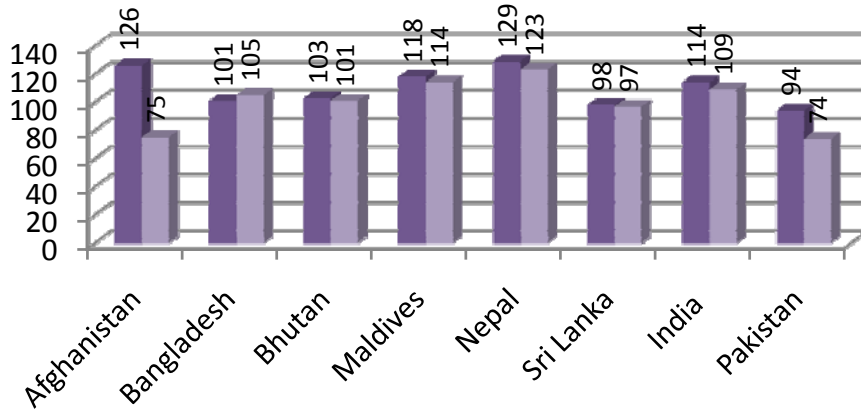
Afghanistan has the lowest literacy in the region with over a 30 % pt difference between male female literacy

India, Pakistan, Bhutan Nepal & Bangladesh have between approx 55- 65% of their population literate with strong gender disparity.



■ Youth Literacy Rate Male ■ Youth Literacy Rate Female

# Gross Enrolment Ratio



■ Gross Enrolment Ratio : Primary Male  
 ■ Gross Enrolment Ratio : Primary Female

In Afghanistan more than 70% children who enroll for Primary schooling do not enroll at the secondary level. Highest % drop

India shows nearly a 50% drop in GER at the Secondary level.

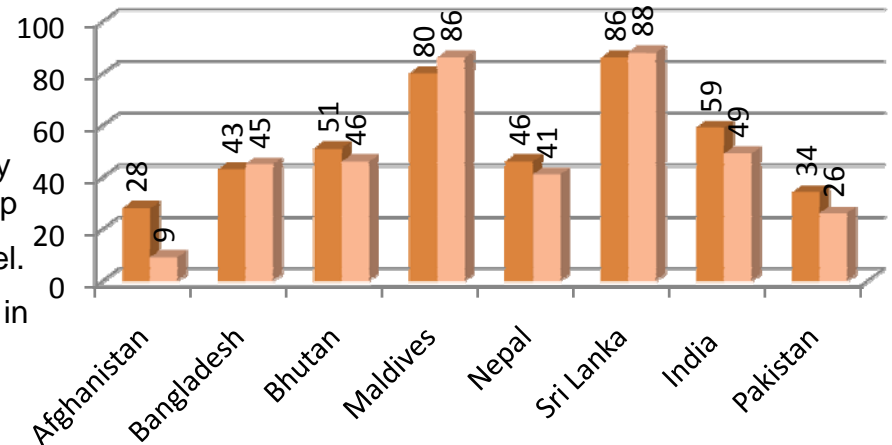
Greater disparity in male-female GER at the secondary level in all countries except Maldives, Sri Lanka, & Bangladesh (Slightly higher for females)

Only 9% women in the eligible population group enroll in Secondary School in Afghanistan

Uniformly high GER at the primary level in most focus countries over 100% except Bhutan, Pakistan & Bangladesh.

Except in Afghanistan & Pakistan male- female GER at the primary level is comparable.

Only in Maldives and Sri Lanka GER remains at over 80% at the secondary level.

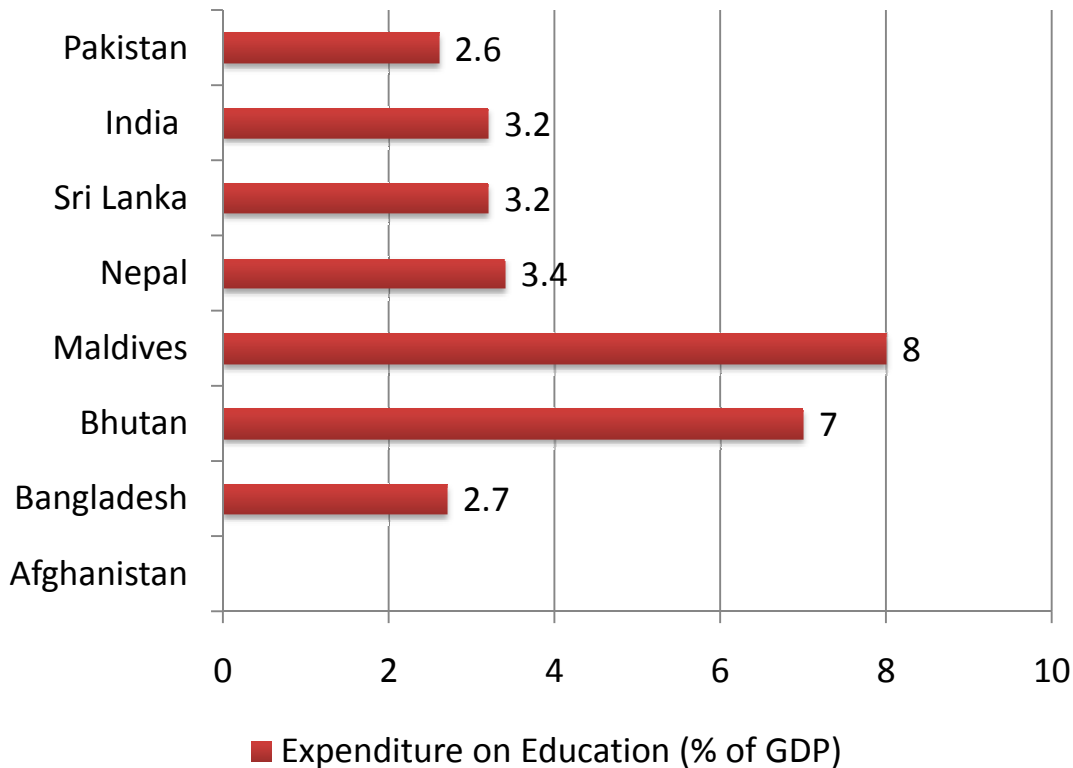


■ Gross Enrolment Ratio: Secondary Male  
 ■ Gross Enrolment Ratio: Secondary Female



# Expenditure on Education

Expenditure on Education (% of GDP)



Maldives and Bhutan spend 7-8% of GDP on Education

Pakistan and Bangladesh have less than 3% of GDP spent on Education



## ICT Parameters

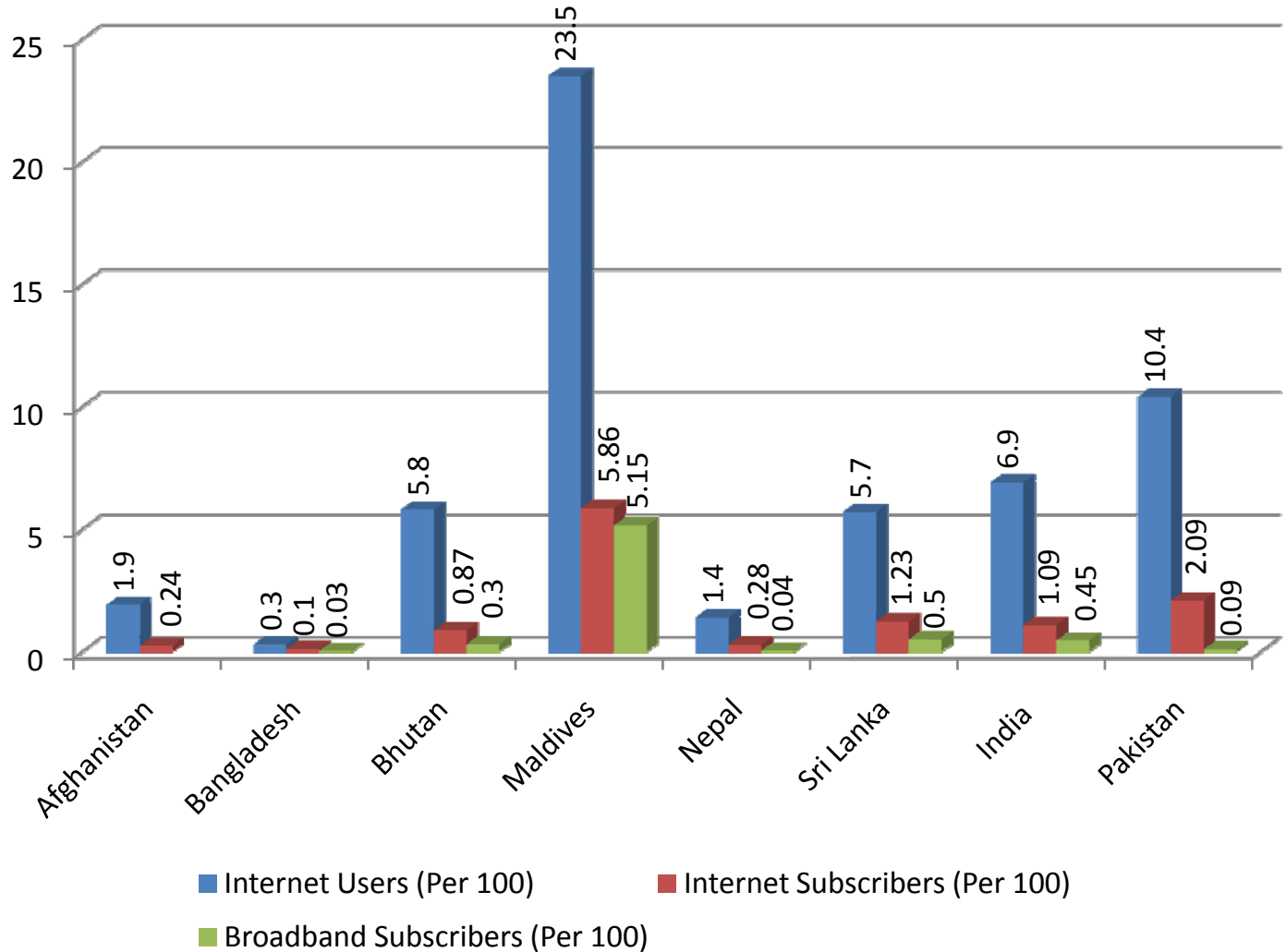
# Internet Users

Maldives has the highest percentage of Internet users amongst the focus countries.

Sri Lanka comparatively has a low internet penetration

In all focus countries internet users are significantly more than internet subscribers- it is evident therefore that a multiuser model, and not one to one pattern of internet usage is prevalent

Only Maldives has a significant Broadband availability, all other countries have extremely low broadband coverage

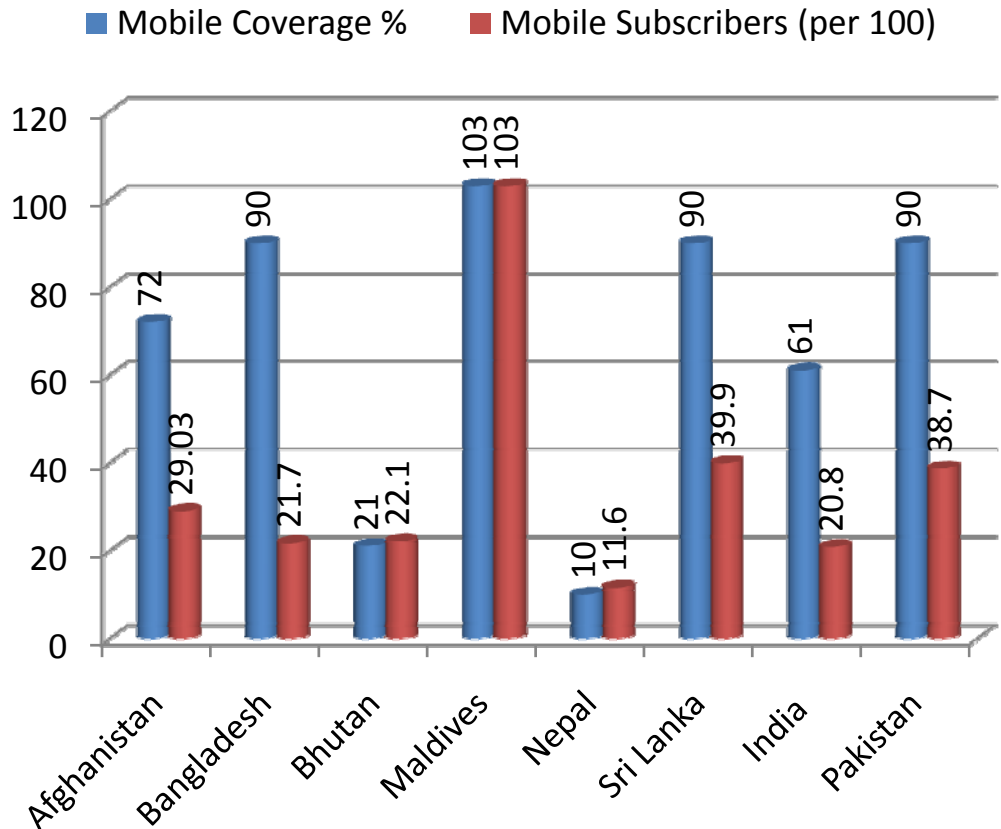


# Mobile Coverage & Users

Mobile coverage is over 90% in Maldives, Sri Lanka, Pakistan & Bangladesh

Bhutan & Nepal are the only two countries with very low mobile network coverage.

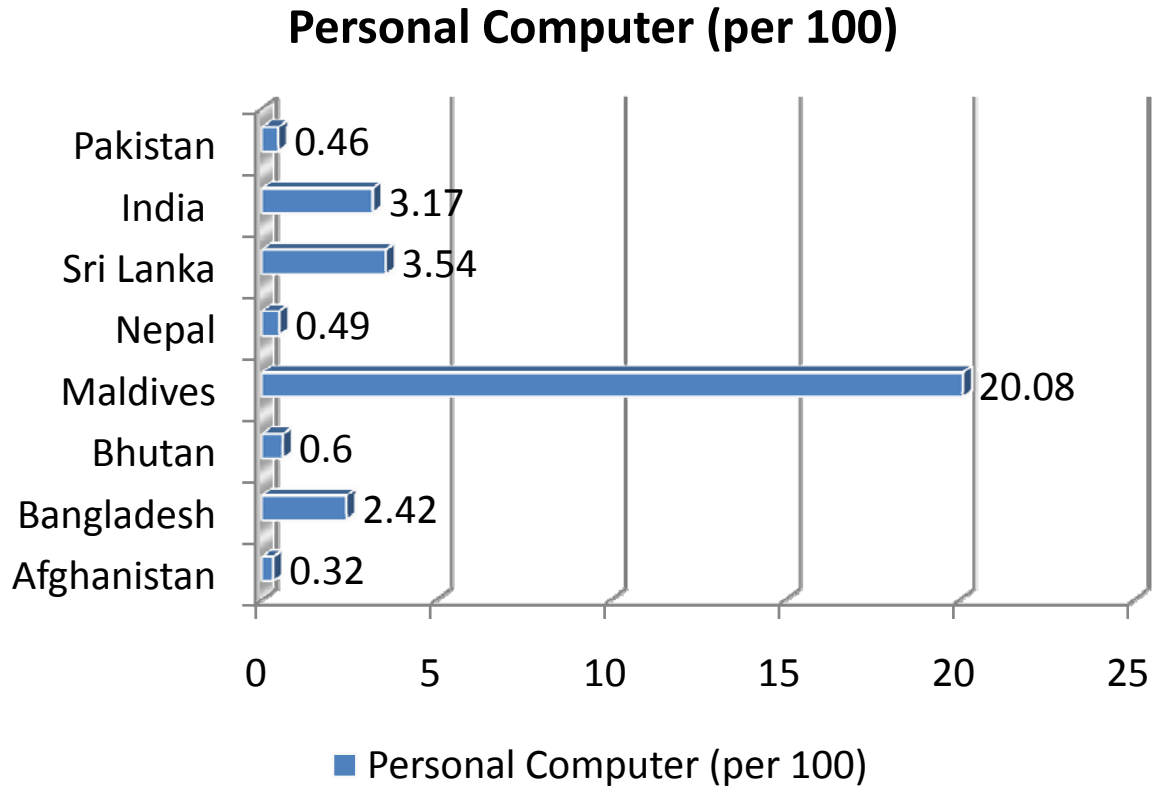
Bangladesh, Pakistan, Afghanistan and India have potential to increase mobile phone users significantly



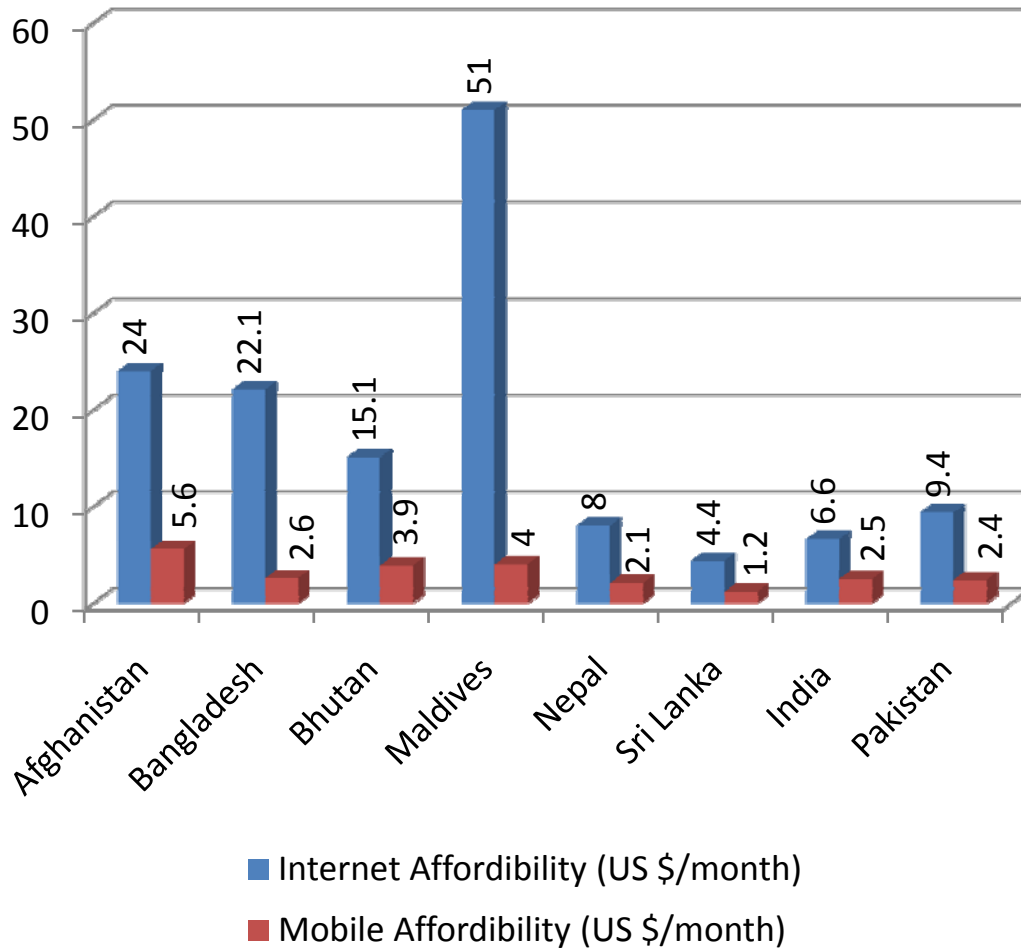
# PC Penetration

Significant PC penetration in Maldives alone amongst the focus countries

Very low PC ownership, therefore initiatives envisaging delivery to single users on their own exclusive PC might not work



# ICT Affordability



Internet usage extremely expensive in Maldives

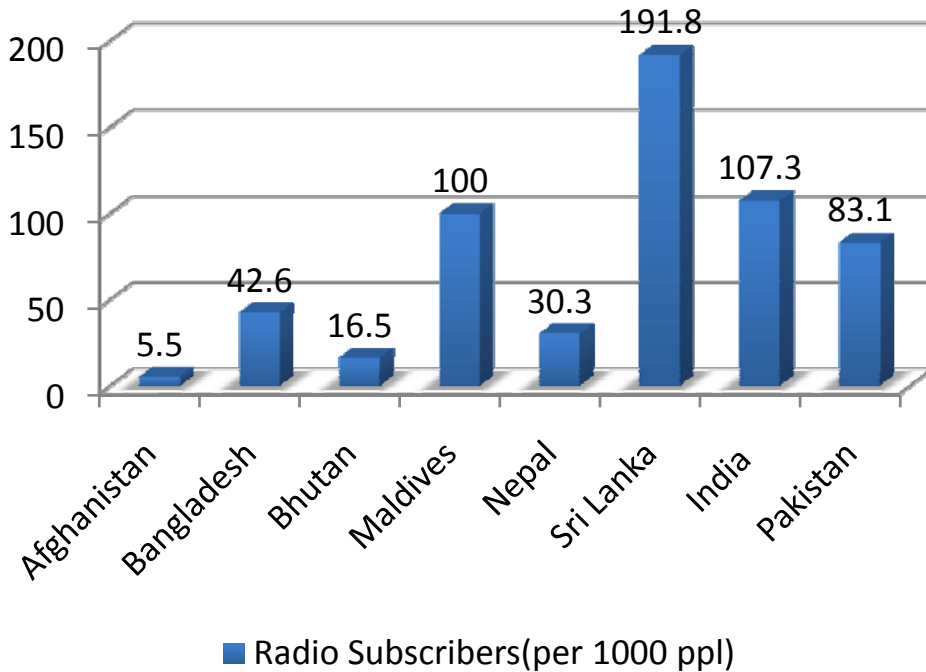
Bangladesh also has high internet cost, despite extremely affordable mobile services

Afghanistan, Bhutan also have high internet cost

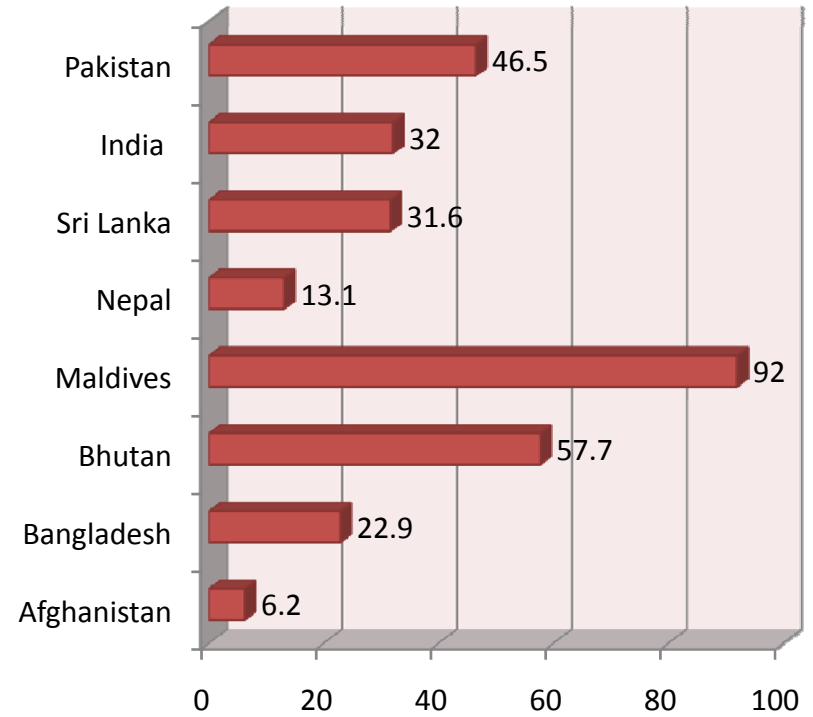
# Radio & TV Usage



### Radio Subscribers(per 1000 ppl)

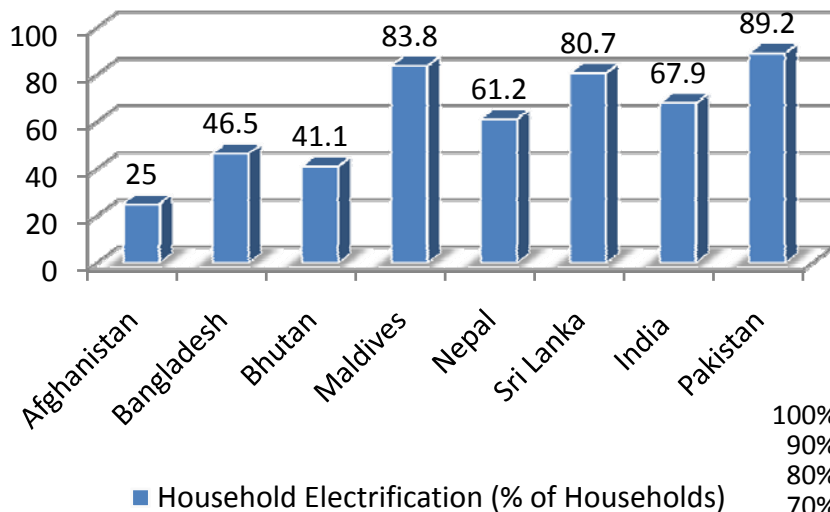


### % of Households with TV



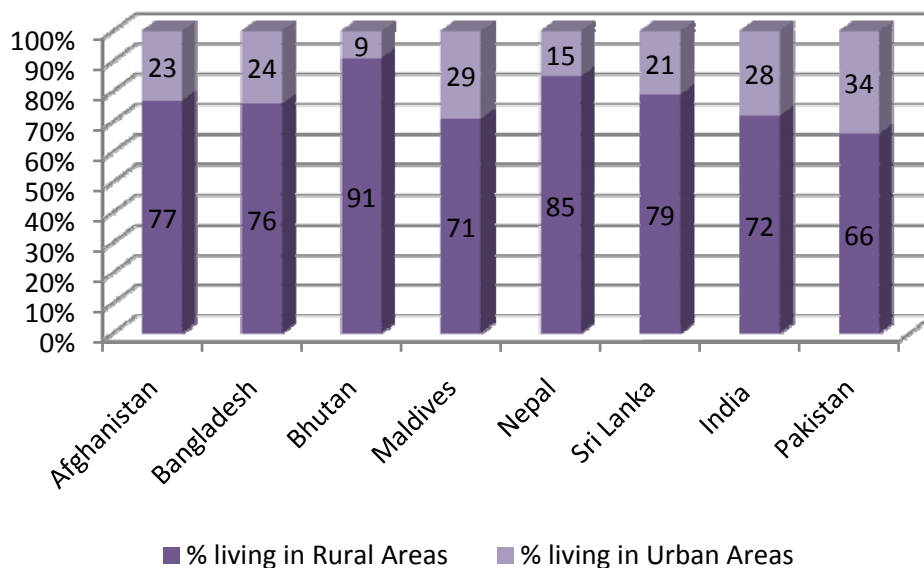
# Enabling Infrastructure

Household Electrification (% of Households)



Pakistan, Sri Lanka and Maldives have achieved over 80% household electrification

Afghanistan, Bhutan and Bangladesh have low coverage



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# Preliminary Observations

# Bangladesh



## Policy Framework

- ❖ Policy framework for ICT for Education is articulated mostly through the Bangladesh ICT Policy 2009, and before that the ICT Policy 2002
- ❖ MoE while referring to the significance of ICT in Education, does not have very clearly enunciated policies and strategies to integrate ICT in Education.
- ❖ The significance of ICT in Education stems from a recognition of need for trained IT personnel for the global ICT market
- ❖ Focus therefore is more on training student in IT skills, and less on using ICT to improve teaching learning at all levels in all disciplines. Focus on improving quality of Math, Science & English education, with the help of ICT tools in the 2009 Policy

## Preliminary Insights

- ❖ Need to ensure integration between stated policy objectives in the ICT Policy and initiatives and administrative capacity of Education departments
- ❖ While infrastructure such as connectivity, computers, electricity remains a bottleneck greater focus on strategies for development of relevant content and use of ICT as an instructional aid to ensure quality Education for all.
- ❖ Opportunity to leverage the high percentage of mobile network coverage and relative affordability of mobile services (very expensive internet) for designing innovative education delivery options.
- ❖ Greater utilization of TV and Radio networks to deliver educational content.

# Nepal



## Policy Framework

- ❖ Policy framework for ICT in Education is articulated mostly through the Nepal Information Technology Policy 2000, (Ministry of Environment, Science & Technology)
- ❖ Education Policies while recognizing the importance of ICT in the context of need of trained manpower do not have clearly enunciated ICT in education strategies.
- ❖ The significance of ICT in Education stems from a recognition of need for trained IT professionals
- ❖ Focus therefore is more on training student in IT skills, and less on using ICT to improve teaching learning at all levels in all disciplines

## Preliminary Insights

- ❖ Need to recognize the opportunity provided by ICT for improving Education at all levels by having Education policies with a clear focus on integration of ICT and use of ICT for improving quality of Education at all levels.
- ❖ Infrastructure such as connectivity, computers, electricity remains a bottleneck, inspite of the stated aim of providing internet connectivity throughout the country.

# Bhutan



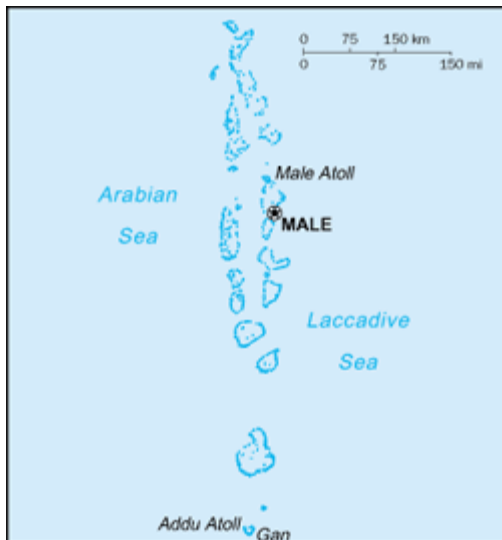
## Policy Framework

- ❖ Education Policies (Education Sector Strategy, Realizing Vision 2020, 26<sup>th</sup> Education Policy Guidelines & Instructions, EPGI 2007) as well as the Bhutan Information & Communications technology Policy & Strategies, BIPS 2004 clearly articulate the significance of ICT both as a subject and for improving the quality of Education
- ❖ Focus on creating access to infrastructure as well as content and applications
- ❖ CAPSD has developed a standard IT literacy framework, which schools are urged to use to initiate and carry out IT literacy programmes.

## Preliminary Insights

- ❖ Greater coordination between statements in Education and IT Policies. Financial commitments made against policy statements in BIPS, 2004.
- ❖ Even though there is a policy imperative to introduce ICT at secondary and primary levels infrastructure remains a key constraint- low computer penetration, internet penetration and high cost need to be addressed
- ❖ Government is focused on creating backbone infrastructure to provide connectivity till the lowest level
- ❖ Educational content maybe delivered via TV channels given the relatively high % of households with televisions

# Maldives



## Policy Framework

- ❖ No clear IT policy, the Ministry of Communication Science and Technology has been entrusted with the responsibility of evolving an ICT Policy
- ❖ The Seventh National Development Plan by the Ministry of Planning and National Development is dedicated entirely to expanding current ICT levels and it has made several provisions specific to Education including provision of access to computers for all students which emphasizes ICT as a subject as well as mainstreaming ICT in the curriculum of other subjects as a learning tool

## Preliminary Insights

- ❖ Relatively good Education indicators and ICT indicators, suggesting a comparatively strong infrastructure in the region
- ❖ High internet penetration but with prohibitively high cost, which makes large scale availability difficult
- ❖ Maldives can gain enormous benefits by focusing on content development and curricular reform for overall improvements in the quality of education since the basic infrastructure is already in place
- ❖ High TV and Mobile phone penetration, so innovative educational content could be delivered through these media

# Sri Lanka



- ❖ Clearly articulated National Policy for ICT in School Education (NAPITSE, 2000) which emphasizes both ICT as a subject and ICT in improving teaching learning
- ❖ NAPITSE supported by an implementation plan for realizing the objectives in a phased manner from 2000-2007
- ❖ E Sri Lanka provides a policy framework for making connectivity and other ICT infrastructure available throughout the country

## Preliminary Insights

- ❖ Though clear policies and operational plans exist, implementation has not been as desired
- ❖ Internet penetration is relatively low.
- ❖ Focus on quality content and digital resources could catalyze enormous benefits in improving quality of education given that basic ICT indicators and education indicators are in place.
- ❖ Opportunity to leverage the high mobile network coverage and affordability of mobile services for designing innovative education delivery options.
- ❖ Greater utilization of TV and Radio networks to deliver educational content.

# Afghanistan



❖ The National ICT Policy 2003 recognizes the need to integrate ICT into the school curriculum. The policies relating to ICT in Education focus on curriculum development, teacher training, research and development, distance education and public and private sector development.

❖ Use of ICT for capacity building of MoE, ie use of ICT in Education Management is clearly articulated with a plan for providing connectivity to the ministry and going down to the school level and developing an SEMIS

## Preliminary Insights

- ❖ Infrastructure remains a key bottleneck.
- ❖ Low literacy levels and GER at the primary level with extreme gender disparity
- ❖ Low TV, Radio, Computer and internet penetration ensures that the focus has to be on infrastructure and capacity building.

# Pakistan



- ❖ Clearly articulated National ICT Strategy for Education (NICTE, 2005) that emphasizes the introduction of ICT as a subject as well as a key instructional aid in improving the teaching learning process
- ❖ National IT policy articulates the need for a plan for providing low-priced computers and Internet connectivity to universities, colleges and schools through a public-private sector initiative.

## Preliminary Insights

- ❖ No detailed implementation plan is evident for operationalizing the ambitious statements in the NICTE and IT policies.
- ❖ Content development and operationalization of policy should be key focus areas
- ❖ Low levels of Literacy and poor GER ratios with male female disparity
- ❖ Opportunity to leverage the high percentage of mobile network coverage and relative affordability of mobile services (relatively expensive internet) for designing innovative education delivery options.
- ❖ Greater utilization of TV and Radio networks to deliver educational content.



# India



- ❖ National Policy for ICT in Education is under formulation highlighting the need to integrate ICT as a subject in the curriculum as well as to strengthen the overall teaching learning process
- ❖ Existing Open and distance education systems use different technology options for delivering content-EduSAT, other TV and Radio channels

## Preliminary Insights

- ❖ Greater focus on content development and application to ensure improvement in quality of education
- ❖ Need to coordinate the plethora of initiatives using ICT for Education under a clear framework and guidelines
- ❖ Infrastructure remains a key concern in rural areas especially- low internet penetration, low electrification
- ❖ Relatively higher radio, TV and mobile phone penetration indicates innovative content may be developed and delivered through these media

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