

# Implementing and Monitoring ICT in Education in the Developing World



## Agenda

### Background information

Introduce the education landscape in the developing world and information and communication technology

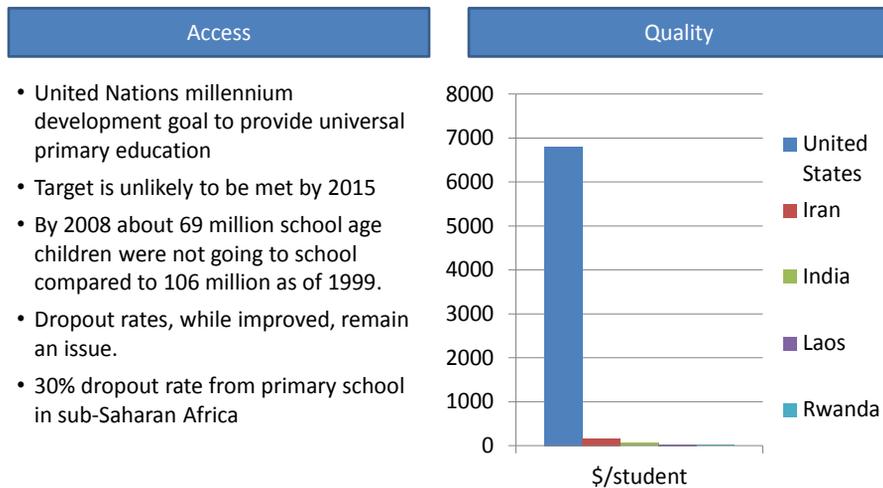
### Success Factors

Present the critical success factors I identified for implementing ICT in education in the developing world

### My Internship

Introduce the work I did with the American India Foundation, challenges, and how they measure up with the critical success factors

## Key issues in education in the developing world



Sources: 1. Goal 2 Fact Sheet. *We Can End Poverty 2015 Millennium Development Goals*. [Online] September 2010. [Cited: ] [http://www.un.org/millenniumgoals/pdf/MDG\\_FS\\_2\\_EN.pdf](http://www.un.org/millenniumgoals/pdf/MDG_FS_2_EN.pdf).  
 2. Education and the Developing World. *Center for Global Development*. [Online] [Cited: September 6, 2011.] <http://www.cgdev.org/content/publications/detail/2844>.

## Why is information and communication technology (ICT) a solution?

Key arguments in favor of ICT in education:

- 1 ICT is so essential in the world today, if students are not introduced to these tools then they will not be able to compete in the job market.
- 2 Those students with the least access to technology are often those that are the most impoverished and living in rural areas. Without promoting ICT in education for all, a further division between the classes will result.
- 3 ICT tools can be used to help explain difficult to understand concepts and to achieve greater student engagement in the learning process.
- 4 ICT can provide tools for teachers to continue their professional development and collaborate with other teachers locally or internationally

## Controversy surrounding ICT in education

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### Playground



Is ICT the **best use** of resources in this situation?

- Deworming pills, for instance, cost 50 cents per child per year and can increase student attendance by 25% due to decreased illness.
- Conclusion: ICT programs can be a good use of resources but only if done in the most efficient and effective manner as possible.
- Donors and governments should be proactively demanding true results.

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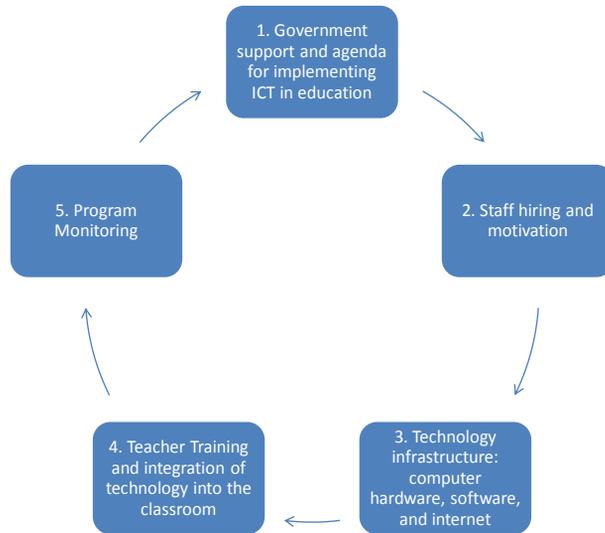
### Success Factors

Overview of the critical success factors I identified for implementing ICT in education in the developing world

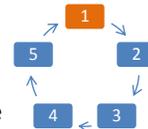
### My Internship

Introduce the work I did with the American India Foundation, challenges, and how they measure up with the critical success factors

## Critical components identified for implementing ICT in education



## Government support and agenda for implementing ICT in education



### Need

- To implement an ICT in education program, there must first be government support for ICT in education.
- Support needs to come from the Ministry of Education to be most successful and the responsibility of the initiative be undertaken by an internal team within the Ministry or an external NGO partner.

### India

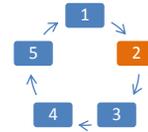
- No central policy in place for ICT in education initiatives. Most educational decisions happen at a state level.
- 28 states and 7 union territories with an incredible amount of diversity. 3 major political parties but numerous regional and smaller national parties.
- In addition to Hindi and English, India has 16 official languages.



- Each state is approaching ICT in education initiatives in different ways.
- It is difficult to create tools that can be used broadly across the country.

Source for stats on India: *U.S. Department of State online, Bureau of South and Central Asia Affairs*  
<http://www.state.gov/r/pa/ei/bgn/3454.htm>

## Staff hiring and motivation



### Challenges for nonprofits in general

- Lower wages offered for work responsibilities comparable to private sector jobs.
- Incentives for visionary leadership over quality management.

### Additional Challenges in Developing Countries

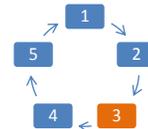
- People can be educated but still unemployable.
- Even in the field of engineering Pratik Kumar, executive vice president for human resources at the information-technology and outsourcing giant Wipro, says his company considers fewer than a quarter of them employable.

### Solutions

- Developing metrics that can keep everyone in the organization focused and help instill a results oriented culture amongst all staff
- Investing in human resources staff

Sources: **Lakshmi, Rama.** In India, Educated but Unemployable Youths. *The Washington Post*. Monday May 4th, 2009  
*Strongly Led, Under-managed.* **Daniel Stid, Jeff Bradach.** s.l. : The Bridgespan Group, June 2008.

## Technology infrastructure: computer hardware and software



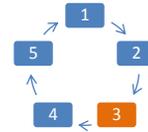
### Background

- The most significant financial investment for implementing ICT in education
- Core area of focus for programs instead of in other critical areas

### Cost-saving solutions

- Hardware can be purchased used or schools can use lower cost server based computing solutions which are also easier to maintain
- Software resources like SchoolForge.net have developed with the mission of providing a platform for open source software related to education
  - Includes network security, educational material that can be used in classes, and programs similar to the Microsoft Office suite.

## Technology infrastructure: internet



### Background

- Significant variation in access
- As of 2006, 62% of schools were online in Chile whereas only 7% of schools across 8 countries in sub-Saharan Africa have access to the internet

### Cost-saving solutions

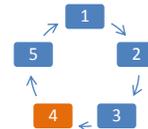
- Ministries of education pursuing partnerships with telecommunications companies to bridge the funding gap.
- In Chile a deal was arranged with the Compañía de Telecomunicaciones de Chile to provide free internet in 6,500 schools for ten years as well as a host of other web-based services

### Essential Consideration

How the internet is used: there needs to be monitoring systems in place to ensure educational use

Source: **World Economic Forum**. Ten Lessons for ICT and Education in the Developing World. *The Global Information Technology Report 2001-2002*. New York-Oxford : Oxford University Press, 2002.

## Teacher training and integration of technology into the classroom



“Educational technology is not, and never will be, transformative on its own – it requires teachers who can integrate technology into the curriculum and use it to improve student learning.”

-Sam Carlson, Co-Found of World Links

### Need

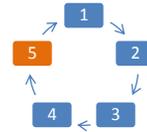
Teachers must be trained not just on how to use ICT but how to integrate these tools in the classroom in order to reach the ultimate beneficiary, the students

### Strategies

- NGOs go into the schools to train teachers
- Teachers come to a centralized location to be trained
- Teachers are trained through online resources
- Very little research on best training methods

Source: *The Missing Link in Educational Technology: Trained Teachers*. Carlson, Sam. s.l. : TechKnowLogia, , October-December 2002

## Program Monitoring



### Background

- Despite the importance of monitoring, monitoring and evaluation indicators have often focused on the easiest to collect data, indicators surrounding ICT hardware and software
- Resource strapped countries often see monitoring as less important

### What to monitor

Monitoring should involve tracking key inputs, activities, outputs and outcomes of programs

### Additional Considerations

- What is realistic for the organization
- Are there metrics that need to be included for purposes of reporting to the government?
- Time and place for discussing results and learning from them

Source: **Forti, Jeri Eckhart-Queenan and Matt.** Measurement as Learning: What Nonprofit CEOs, Board Members, and Philanthropists Need to Know to Keep Improving. *Bridgespan*

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## What is the Digital Equalizer program?

### Vision

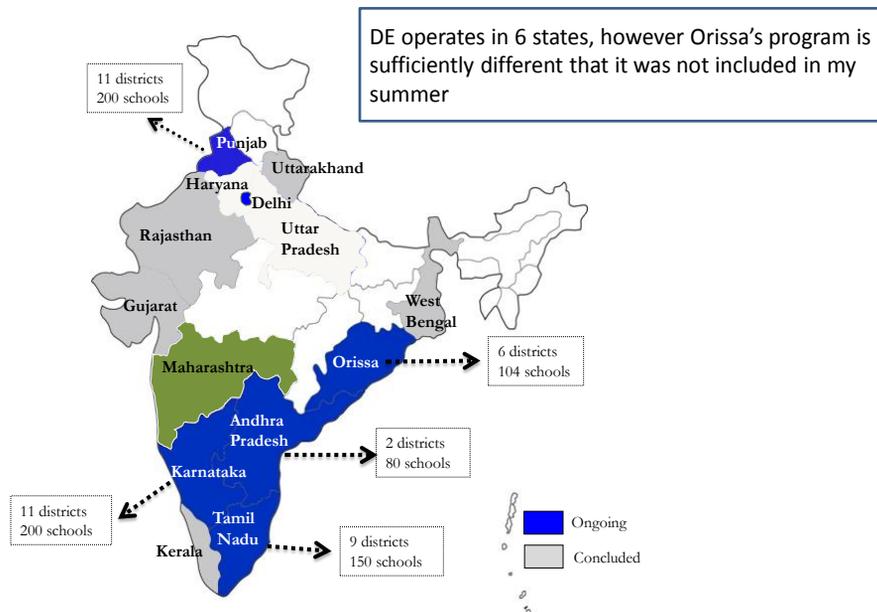
An India where ALL children have access to technology and information to prepare them for the emerging Digital Age

### Mission

To advance the use of technology to engage, educate, enrich and empower India's under-served children.



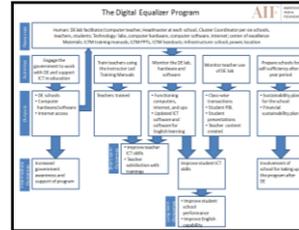
## Where the project operates



Summer objective: develop a uniform set of metrics to be incorporated into an online MIS



- 1 Map out the current reporting system and information flows for the program
- 2 Work with management to define the theory of change for the program. This identified the key resources, activities, outputs, and outcomes
- 3 Identified key metrics tied to the theory of change and developed dashboards for different levels of management
- 4 Developed new tools to allow AIF to collect these new metrics developed



Learning about the program via field visits



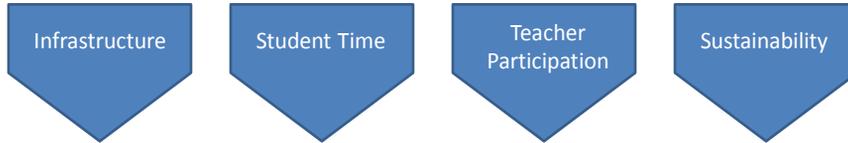
News of Visiting DCC school (GSS Manouli with Jennifer) in newspaper - ajit. Dated: 12th July'11

ਸਰਕਾਰੀ ਸੀਨੀਅਰ ਸੈਕੰਡਰੀ ਸਕੂਲ ਮਨੌਲੀ ਦੇ ਦੌਰੇ ਮੌਕੇ ਅਮਰੀਕਨ ਟੀਮ ਦੇ ਨੁਮਾਇੰਦੇ। ਤਸਵੀਰ : ਅਮਰਜੀਤ ਸਿੰਘ

**ਅਮਰੀਕਨ ਇੰਡੀਆ ਫਾਊਂਡੇਸ਼ਨ**  
**ਟੀਮ ਵੱਲੋਂ ਮਨੌਲੀ ਸਕੂਲ ਦਾ ਦੌਰਾ**

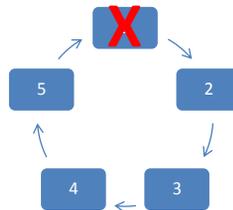
ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਮਨੌਲੀ ਵਿਖੇ ਚੱਲ ਰਹੇ ਸ਼ੱਪਰਕ ਸ਼੍ਰੇਣੀਆਂ

## AIF faced major challenges in program implementation



### Common Underlying Root Cause

These can all be attributed to a lack of adequate government support for AIF to run its programs



## What does this mean for my project?



While the critical components were not put in place in the ideal order, better monitoring systems should allow AIF to better understand and communicate its program needs to both donors and state and local governments and hopefully result in better support.