



USAID
FROM THE AMERICAN PEOPLE

ICT Applications to Enhance a Mission's Impact

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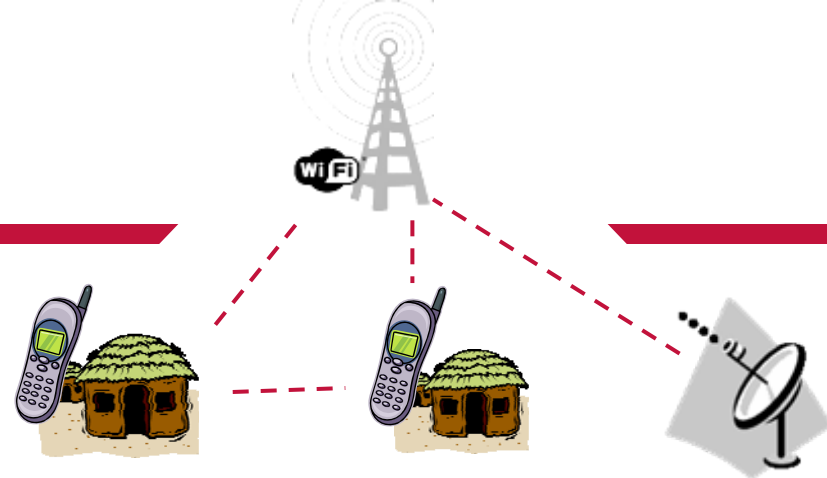
Outline

1. Looking back at the ICT Toolkit
2. When in project cycle to consider ICT
3. What works
4. What doesn't work
5. Post-conflict considerations
6. Case examples
7. Discussion



1. Your ICT Toolkit

... getting cheaper, more diverse



Cell phones more pervasive

- business models for sharing
- email & data applications

Internet access becoming easier, cheaper

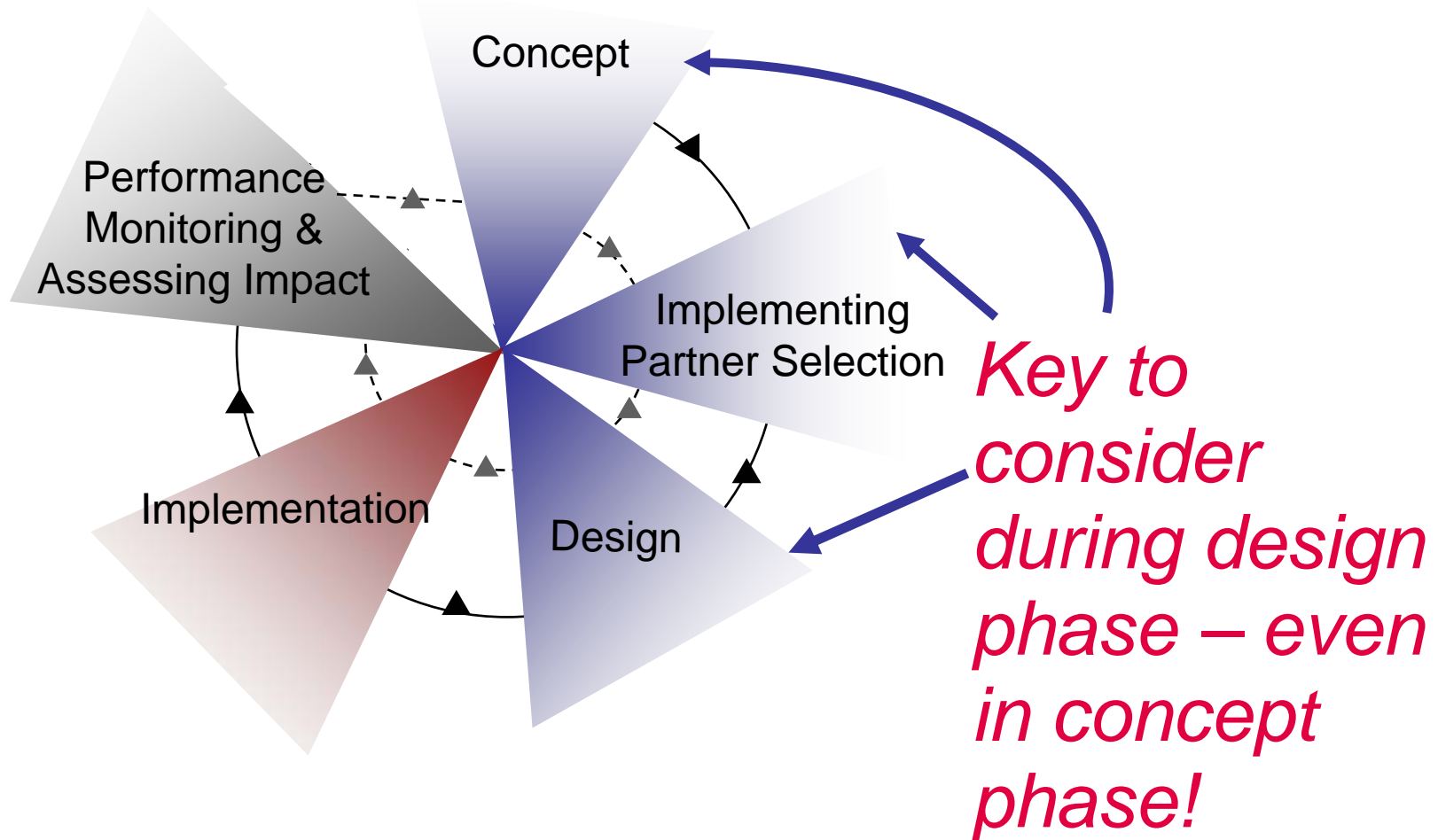
- wireless techniques
- New business models
- voice over IP
- pay-as-you-go applications

Devices for using ICT more effective

- smaller, sturdier, less power hungry
- power solutions available

... choose what works given your environment

2. Project Cycle: **Role for ICT**



Keep ICT in mind during Initial Analysis of any project – Example from Economic Growth Work

- **Questions to ask during value chain analysis**

- What types of ICT are VC actors already using – shared or not?
- What types do they have *access* to – how affordable?
- Sources of power – price, availability?
- Competition between providers you can leverage?
- Other donor projects using ICT to piggyback on?
- Universal service fund opportunities?

- **Questions for experts in target end market(s)**

- How does competition use ICT along its value chain?
- How do key end market customers use ICT today?
 - Internally
 - With other suppliers



3. What Works ...



Stick to minimum needed!

Cell Phone Networks – cheaper, powerful, more pervasive

E-Mail - still the killer application for most businesses

Who else wins when ICT access added?

GDA's with local or international firms

Can you share devices/applications across users?

3. What Works ...*continued*



Business approach for service delivery – local entrepreneurs

Plan exit strategy up-front – before spending \$\$\$

USAID \$ to pay for services - awarded via tenders

Sharing application development & maintenance
across users

Care about telecom legal & regulatory environment

Not re-inventing the wheel.

(Try to) keep rights to source code!

4. What Doesn't Work



- “Technology Push” (Coolness factor)
- Thinking mostly of the Web (access, presence)
- Full blown internet access points in rural areas (rarely unless VOIP)
- Compensating for poor competition in sector due to poor legal/regulatory environment
- Beware of “pilots”!
- Give-aways, one-time subsidies often have a down side...

*If it is not sustainable, it isn't scalable.
If it is sustainable, it still may not be scalable.*

5. Post-Conflict Considerations

Telecom often targeted during conflict (like other infrastructure)

Relief workers see telecom as essential (but have big budgets and little incentive to use sustainably)

Telecom comes back fast (unlike other infrastructure)

- Cell phones + wireless networks
- Private providers will come even with poor legal and regulatory environment

Implications for you:

- Concentrate on mobile networks – and wireless approaches
- Piggyback on other infrastructure projects
- Grab assets as you can!
- Look for (low cost) ways to set legal/regulatory environment
- Exploit GPS maps where available



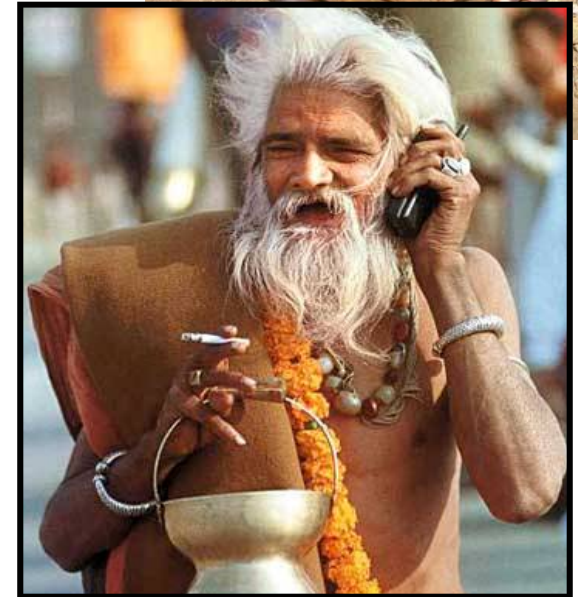
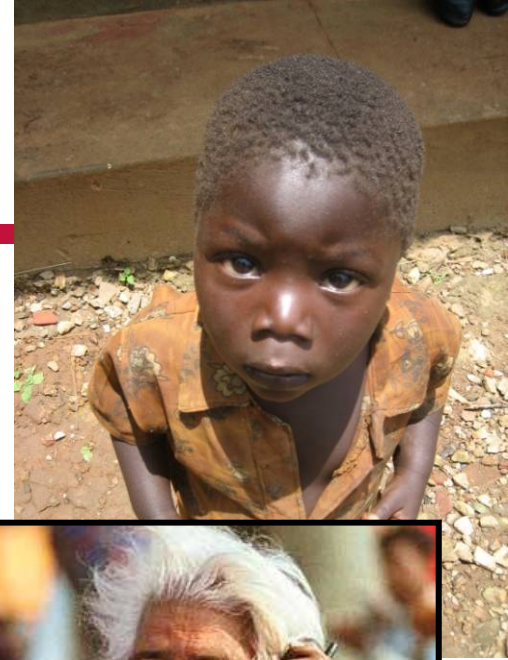
6. Case Examples

1. Economic Growth

2. Health

3. Education

4. Democracy and Governance



Economic Growth: Potential Solutions across the Value Chain



Where in VC	Key Constraint	ICT-enabled Solution
End Market	Fishermen don't know which port paying most for fish	<ul style="list-style-type: none"> • Cell phone calls to agents in ports
Vertical Linkages	Wholesale customers want closer relationships with "their" coffee co-ops	<ul style="list-style-type: none"> • Email for coffee coops via cell phone networks
Upgrading & Power Balances	Tropical fish catchers not gaining value from higher quality harvesting techniques	<ul style="list-style-type: none"> • Bar-coding enables end market to reward quality with better price
Support Markets, End Market, Power	Farmers don't know market prices, weather	<ul style="list-style-type: none"> • Farmers in Mali get weather, prices by radio • Indian farmers get prices, info on weather, inputs, more via PC
Support Markets	Finance: Farmers not making loan payments; banks can't monitor well	<ul style="list-style-type: none"> • Farmers use cell phones to pay loans; banks can selectively SMS reminders

Quick Look: Radio helps farmers in Mali



Constraint



- **Vertical Linkages:** Farmers unaware of market prices - don't know when to harvest, when and where to sell
- **Support Services:** Crops wiped out from rare but severe rain; Extension workers hampered by poor roads & huge territories

Solution

- Government extension service uses **community radio network**
 - provide **market prices**
 - provide key **weather warnings**
 - **services paid for by radio stations** - supporting sustainability

More

- Many farmers illiterate – not a big constraint
- Community radio stations widespread, provide variety of services (some paid for by donors)
- Power often not available so low-end battery radios best
- Radio stations have Internet access so can tap Web for farmers
- SMS / voice messages via cell phone work where cell phones used

Quick Look: Macedonian Apparel Sector Doomed

Constraint



- **End Market:** Chinese competition wiping out sector (cheaper prices) - so new market niche (quick-turnaround fashions)
- **Upgrading:** Factories using outdated technology - slowing processes, increasing costs

Solution



- 3rd party provider set up **CAD/CAM fee-for-service** - factories share upgraded technology that cannot afford alone
- USAID used tendering: provide up-front capital & management know-how to entrepreneur winner - with terms requiring *service offering to all that will pay and incentives to be profitable*

More

- Factory owners leery at first – so started with only “CAD” part
- Moved quickly to “CAM” due to entrepreneur’s marketing
- Brought in vocational schools so stream of pre-trained workers
- Model proven so private investors stepping in to scale, extend to Bosnia

Quick Look: Ghanaian Farmers Pineapples Spoil On Dock



Constraint



- **Vertical Linkages:** Ghanaian pineapples not bar coded - so last to move off docks
- **Upgrading:** Farmers have lower yields due to hit-or-miss processes. Burdened with traceability paperwork with no benefits

Solution

- **Bar-coded pallets – on flash drive to port**
- Traceability integrated with **packhouse-to-field PDA** application - to meet requirements and increase precision similar to plantation techniques

More

- Jury still out... being implemented now
- **Software will be available** for USAID-sponsored projects
- **Using cell phone** network, not Internet per se
- Leveraging Universal Service Fund investments in extended cell phone access

Quick Look: Rwandan Farmers Disconnected From Their “Relationship” Customers

Constraint



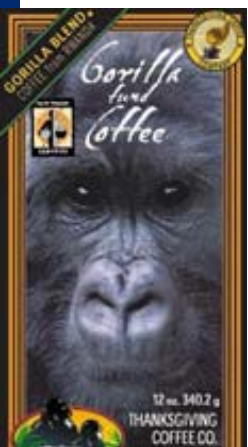
- **End Market:** Rwandan coffee farmers boosted earnings dramatically by moving into “relationship” coffee market niche
- **BUT requires tighter relationship with end market – and via web**
- Internet access not pervasive and expensive

Solution

- Farmers have **email link** to their customers **via cell phone network**

More

- Farmers needed to learn **business etiquette for email** use
- Donor project **pushed** (probably) too far to provide **expensive Internet access** to some cooperatives
- Lack of technical know-how to keep network running may be overcome by **link to nearby University’s** tech students



Quick Look: Small Hoteliers Lost In Web



Constraint



- **End Market:** Web necessary to reach tourist – but complex & consolidating / stand-alone / group sites not good enough
- **Upgrading:** Hoteliers **don't understand end market** and have **poor & expensive access to Internet**

Solution

- **Internet-based service for reservations / customer service – fee based**
- Includes web consolidation and visibility; coaching & feedback on meeting customer service expectations
- **Links hoteliers with other tourism service providers**

More

- Evolving business model – not quite sustainable
- Had financial “leg up” from IFC
- Small hoteliers apparently earning more





Constraint

- Banks' transaction costs too high to serve many rural clients.
- Rural micro enterprises had no way to build credit history, save.



Solution

- Took advantage of widespread use of cell phones (for SMS especially) & strong competition between 2 service providers.
- **G-cash** now used by 350+ rural banks and branches providing m-banking services to 450,000 micro borrowers and 457,000 depositors via 1800 cash in/cash out points.

More

- Cell phone provider led approach more difficult than having bank involved at outset
- Used widely for international, domestic remittances as well.
- Since 1998, some \$324M in loans have been disbursed.
- Large network of cash in/cash out points critical for success.
- Model now being adapted in other emerging markets.

Quick Look: In Post Disaster Pakistan, entrepreneurs help families re-unite

Constraint



- **End Market:** After earthquake, displaced families in remote areas needed phone service to re-unite
- Land-line phones not available; **cell phone services could be restored fairly fast**
- Widespread **unemployment**

Solution

- Cell phone company helped **entrepreneurs in affected areas provide shared cell phone service** to their communities

More

- Entrepreneurs in affected communities **earned income**
- **Tapped a program cell phone service** already offered in other rural areas
- Entrepreneurs rec'd **loans for equipment** and quick training for business skills



Quick Look: Avian Flu Reporting across Africa



Constraint

- Two cross-border African systems exist – without good data collection.



Solution

Health

: Ag and

- Building new application focusing on field data collection options.
- Building on functionality (but not code) of current systems.
- Must report up to International systems.

More

- Hand-set dilemma: PDA's versus cell phones
- Must have interface to many countries' own systems
- Cross-border university-based ICT team introduces own challenges.

Quick Look: National Multi-Use HIV/AIDS System



Constraint

- Critical to keep HIV/AIDS drugs in stock despite poor transportation system. far flung locations.
- Difficult to get required lab tests – and results.
- Key to track incidence for health (and funding) purposes.



Solution

- Proven, proprietary solution selected with multiple reporting “channels” (but mostly cell phone).
- Data visible at multiple levels – no gatekeepers..
- Works off-line on PC's; uses cell or Internet networks.

More

- ASP model works – but relatively pricey.
 - Platform can be used for other applications (crime reporting, other public health applications).
- Nigeria, Rwanda... and more.



Quick Look: Madagascar: Spread the Word, not the Disease!

- Over 75% live in rural areas
- Only 6% of households have a television
- 2/3 of young women (15-24) have no access to any form of mass media



Project Cinémobile effectively targets & brings health messages to remote rural areas.

- 3 teams tour the country in all-terrain vehicles showing “soap” episodes:
- on living with HIV/AIDS, responsible sexual behavior
 - safe drinking water practices
 - malaria prevention

ICTs Cover *All Aspects* of Education

Education

Are there

Can we improve science ?

Web research for scholarships

How can we incorporate ICT into the Classroom to improve Learning

Will my child be able to get a job after graduation

I'm interested in School to Career

Can we create a portal for educators ?

Photo Credit: AED

Nicaragua CFS Side-by-Side Methodologies

Paper/pencil interview & survey

- > 20,000 pieces of paper produced (surveys & interviews), 3,000 sharpened pencils distributed
- Data collectors hand wrote notes during collection phase then typed up for final files
- Paper shipped to home office for intake then shipped to off-site scanning company
- Steps: Printed...completed...shipped...scanned...coded...analyzed



Quick Look: **Democracy and Governance**



Key Constraint

ICT-enabled Solution

Voters not engaged in election processes, political parties weak

**Community radio
e-Journalism
Election monitoring**

Citizens poorly served by government – long queues, distrust

G2C e-government applications (cell phones, Internet): Serbia, Macedonia

Poor business enabling environment...

**G2B applications!
e-Customs**

Lack of transparency, distrust in government processes

G2C: e-Lottery for licenses, apartments, e-Applications

Inefficient government – low revenue collection

**No more queues: e-tax/fee collection; e-Revenue management
e-case management for courts**



Questions & Discussion

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