

The Mobile Web in Developing Countries

Keeping it relevant

kiwanja.net

where technology meets anthropology, conservation and development



Presentation outline

- kiwanja.net: An introduction
- Core values
- Defining our mobile web
- Knowing what people want
- A shortcut to failure?
- How to succeed
- The grassroots approach: A case study
- Conclusions

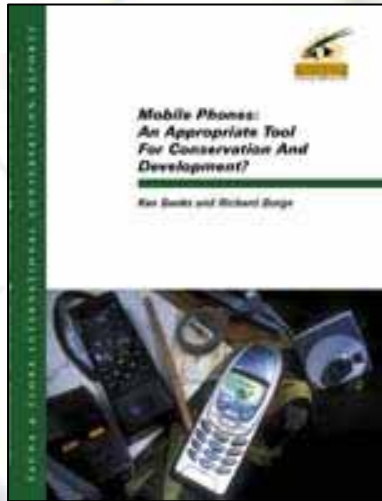
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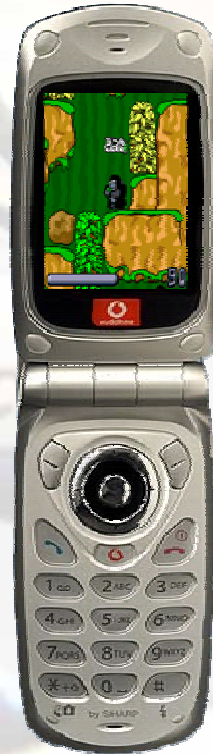
- 20 years IT experience within the private, public, non-profit and corporate sectors in the UK and overseas
- 13 years in international conservation and development
- Degree in Social Anthropology with Development Studies
- Field-based interventions and research across Africa in countries including Mozambique, South Africa, Nigeria, Cameroon, Zimbabwe, Uganda and Zambia
- Currently a Visiting Fellow at the Reuters Digital Vision Program at Stanford University working on ICT solutions to help “solve developing country problems”

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Report on ICT use
in conservation
and development
(2004)



wildlive! mobile
service



FrontlineSMS
text messaging
"hub"

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A core belief in *appropriate* technologies
which are primarily *needs-* or *people-*driven
rather than *technology-*driven

That we constantly *challenge* ourselves
ask *why* we're doing what we're doing
and *who* we're doing it for

Not just ask whether or not *a* particular technology is appropriate
but whether technology *itself* is appropriate

To work *together*, stop re-inventing wheels
and stop *competing* against each other

Defining our mobile web



Firstly, some critical questions (some of which may have already been answered):

Are we talking Web or WAP?

Are we talking Web2.0 or Web1.0?

Through 'phones' or 'smart phones'?

Walled or open garden? m-commerce?

Rural farmer or healthcare professional?

Single or multiple approaches?

Knowing what people want

The web is changing...

Four of the five fastest growing online brands in the UK this year

You 

Create and share

flickr GAMMA™

Create and share

 **myspace.com**

Connect

 **photobucket**
Video and Image Sharing

Create and share

Knowing what people want

But is the mobile web changing?

Top 5 types of web page accessed via mobile in the UK this July

Google[™]

Find

Chat sites

Connect

WAP directories

Find

Other search sites

Find

BBC

Inform

Knowing what people want

Internet use across Africa

Top five typical uses of the internet in Cybercafés are generally:

- > News/current affairs
- > Relationship building/networking
- > eGovernment (if and where provided)
- > Email/instant messaging
- > Career-based (job searches, applications)

A shortcut to failure?



The social, cultural and environmental context is key

A shortcut to failure?



Community health centre, Kisumu, Western Kenya

A shortcut to failure?



MERCK

**BILL & MELINDA
GATES *foundation***

Bill & Melinda Gates/Merck health centre, Botswana

A shortcut to failure?



Deforestation/firewood projects throughout Africa

A shortcut to failure?

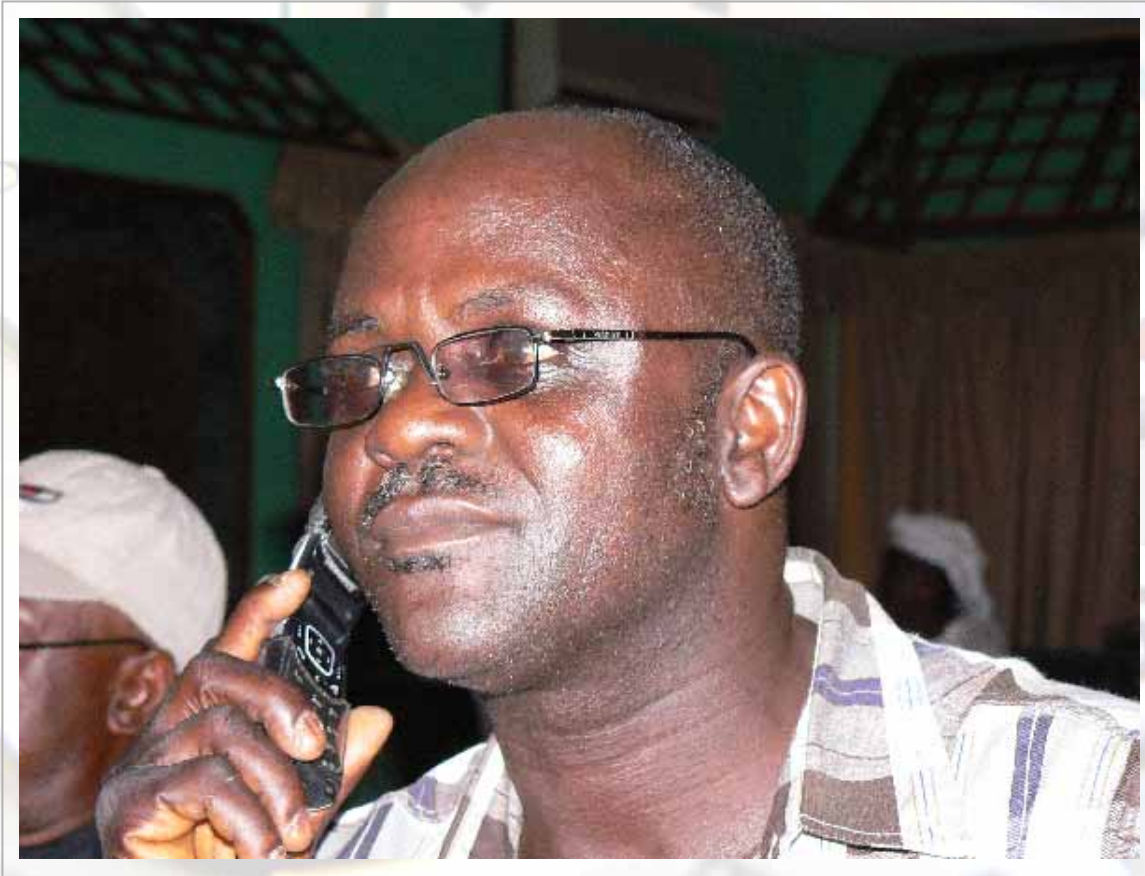
ICT projects are **not**
immune!

A shortcut to failure?



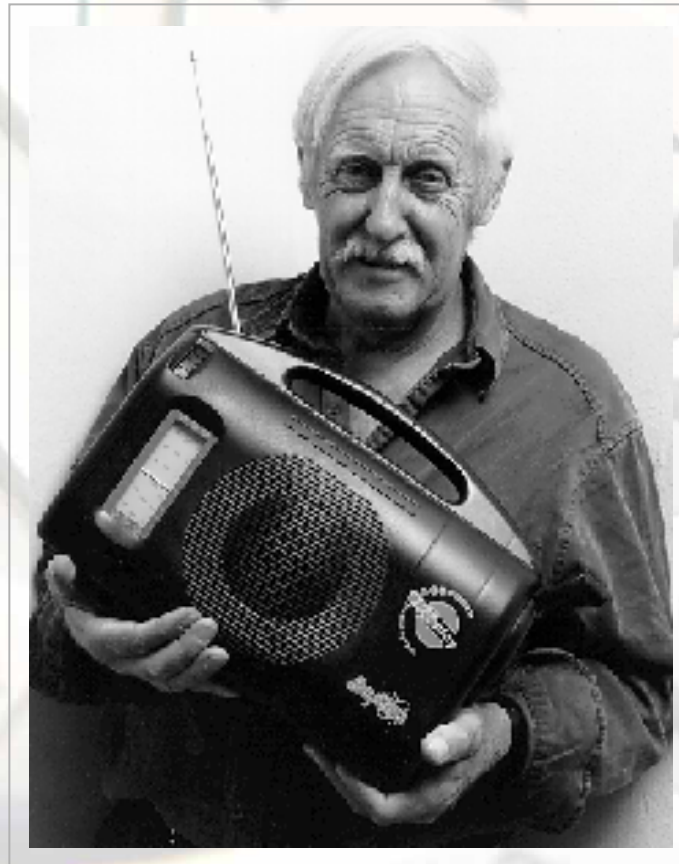
SMS alert system for communities “lacked trust”

A shortcut to failure?



IVR information service in Uganda “tanked badly”

Size does matter



Unnecessary effort reducing the size of the wind-up radio

One to watch?



The "One Laptop Per Child" or "\$100 laptop" project

How to succeed

Technology is a
tool
not a
solution



How to succeed

Technology is a **tool**
not a **solution**

“Technology is not a panacea to all our
problems, but it can help”

Clement Dzidonu, Presidential Advisor on Technology Policy, Ghana

How to succeed

Technology solutions need to be 'appropriate':

“small scale, energy efficient,
environmentally sound, labour-
intensive and controlled by
the local community”

“appropriate technology makes use of
skills and technology that are
available in the local community”

How to succeed

Communities emerge as key

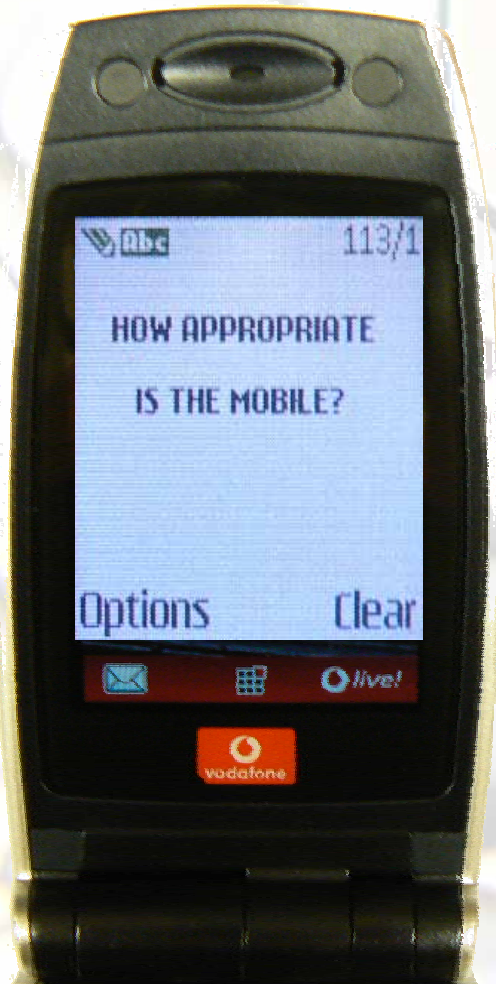
But they should not just be seen as **passive** users of technology

They are also **active** content providers in today's digital world

Remember:

The web has only recently gone from 1.0 to 2.0

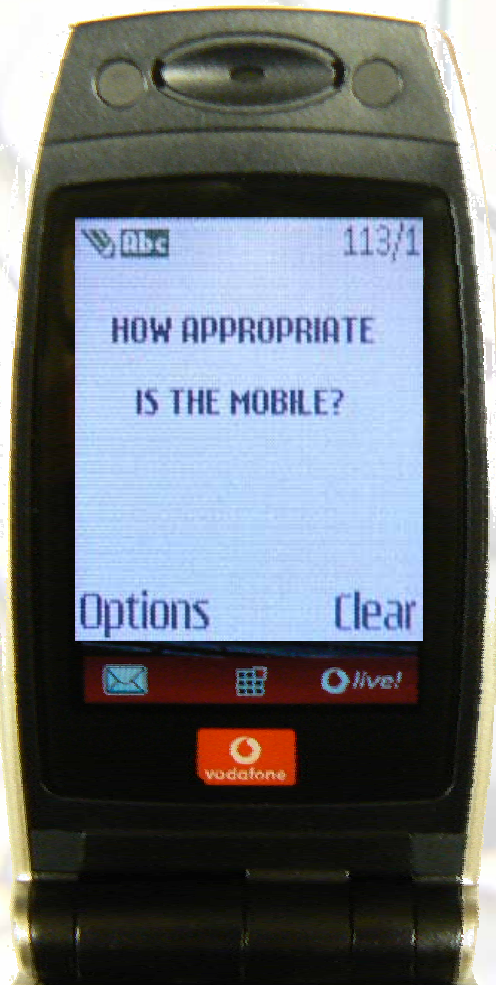
How to succeed



- ✓ High penetration rate
- ✓ Portable, shareable
- ✓ Affordable (generally)
- ✓ Strong recycling market
- ✓ Direct and instant
- ✓ Information services via SMS
- ✓ Only means of communication

- ✗ Small screen
- ✗ Awkward text input
- ✗ Slow for data, data cost
- ✗ Literacy issues
- ✗ Many use to receive only
- ✗ Many handsets still legacy
- ✗ Inappropriate content?

How to succeed



Depending on exactly what it is we're hoping to solve (or the kind of information we're looking to provide):

- > SMS may be the solution
- > MMS may be the solution
- > 'WAP' may be the solution
- > Cell broadcast may be the solution
- > Mobile Web may be the solution

How to succeed



... or a bunch of tin cans and some string may be the solution!

How to succeed

Be aware of/avoid:

Too much text

Literacy problems, issues with text entry/storage and display

Abstract navigation

Limited education causes difficulty with symbolic manipulation

Online interaction

There are connectivity issues if the user needs to remain online

Personal devices

Phones are often shared by the family or community

A grassroots approach



FrontlineSMS: "SMS hub in a box"

A grassroots approach

Technical: Which system is best for me ?

Knowledge: A reluctance to share experiences

Cost: The price to implement SMS services ?

Suitability: Few systems developed for NGOs

Simplicity: Solutions need to be low maintenance

Infrastructure: Needs to work in remote areas

A grassroots approach

Share: A place to talk about NGOs and SMS use

Cost: A low cost, works out-of-the-box solution

Suitability: Developed with NGO community in mind

Simplicity: Simple, intuitive, low maintenance

Independence: Using widely available GSM networks

Implementation: 'Top down' and 'Bottom up'

A grassroots approach



Laptop



Cable



Mobile



PCMCIA modem

SMS "hub in a box"



ContactManager

MessageTracker



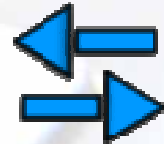
SurveyManager

ReceiveConsole



SurveyAnalyst

ReplyManager



SendConsole

TrafficMonitor



SMS “hub in a box”

“FrontlineSMS has opened up the seemingly complex world of automated SMS message handling to a novice SMS user like myself. Based in Africa in a country where broadcast technology is controlled by a dictatorial government, this software has enabled me to embrace SMS messaging as a means to communicate with the public at large. Since the software does not require me to set up any special relationships with carriers or internet service providers I am able to run my project without drawing unnecessary attention to myself - a good thing in this neck of the woods”

Anonymous FrontlineSMS user, **Africa**

Conclusions



Let's not lose sight of the users

Let's not lose sight of their reality



Let's not make this an entirely technical debate



Technically, we know **what** we can do - what we also need to think about is **what** we **should** do, and **how** we should do it...

Conclusions

// Ideally, technology, as a cultural product, should rise from the culture of a people, if it is to be directly accessible to a large section of the population and its nuances are to be fully appreciated by them **//**



Wim van Binsbergen, "Can ICT Belong In Africa?", 2004



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