

**Developing
appropriate mobile
solutions for
grassroots non-
profits in the
developing world**

**Ken Banks
Founder**

kiwanja.net



kiwanja.net

where technology meets anthropology, conservation and development



22 years IT experience within the private, public, non-profit and corporate sectors in the UK and overseas



15 years grassroots experience in international conservation and development



Lived and worked in numerous countries - Mozambique, South Africa, Nigeria, Cameroon, Zimbabwe, Uganda, Zambia



Degree in Social Anthropology with Development Studies from Sussex University, UK



Currently funded by the MacArthur Foundation developing the next release of FrontlineSMS at Stanford University

kiwanja.net

where technology meets anthropology, conservation and development

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

That we constantly **challenge** ourselves and 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

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Making life better



A group of young people, likely students, are shown in a classroom or community setting. They are focused on their mobile phones, illustrating the theme of mobile technology's impact. The background shows a room with windows and some furniture.

Mobiles
can save and
improve lives

South Africa



In South Africa a local doctor has developed a pill bottle that uses SMS technology to remind patients to take their medicines and warns them, and their doctor, if they are about to take an extra dose by mistake

Nigeria

Text messaging is being successfully used in countries such as Nigeria and South Africa to provide health information on disease and illnesses such as HIV/AIDS and tuberculosis



Uganda



SMS technology in Uganda and Aceh is helping farmers find out the real price of their crops – and avoid being cheated by unscrupulous middlemen...

Kenya

One World in Kenya provide a job information service aimed at blue-collar workers and employers offering details of jobs in more than 40 categories from carpenters to secretaries



Asia



At least five countries have begun developing an alert system using cell phone text messages, a response to the catastrophic Asian tsunami that exposed flaws in present-day early warning schemes

United Kingdom



“British mobile phone users have donated over £1m to the Disasters Emergency Committee tsunami appeal fund using text messages”

Computing Magazine, Jan 2005

“The impact that mobile phones have on the developing world is as revolutionary as roads, railways and ports, increasing social cohesion and releasing the entrepreneurial spirit that stimulates trade and creates jobs”

**Professor Leonard Waverman
London Business School
February 2007**

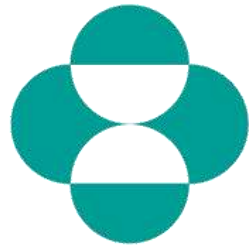


Great!

**So what was the
problem again?**



Community health centre, Kisumu, Western Kenya



MERCK

BILL & MELINDA
GATES *foundation*

Bill & Melinda Gates/Merck health centre, Botswana



Deforestation/firewood/stove projects throughout Africa

A photograph showing a group of people, primarily young men, in a community setting. They are all looking down at their mobile phones. The man in the center is wearing sunglasses and a white shirt. The woman on the left is wearing a yellow shirt. The background shows a simple building with a window and some outdoor items.

ICT

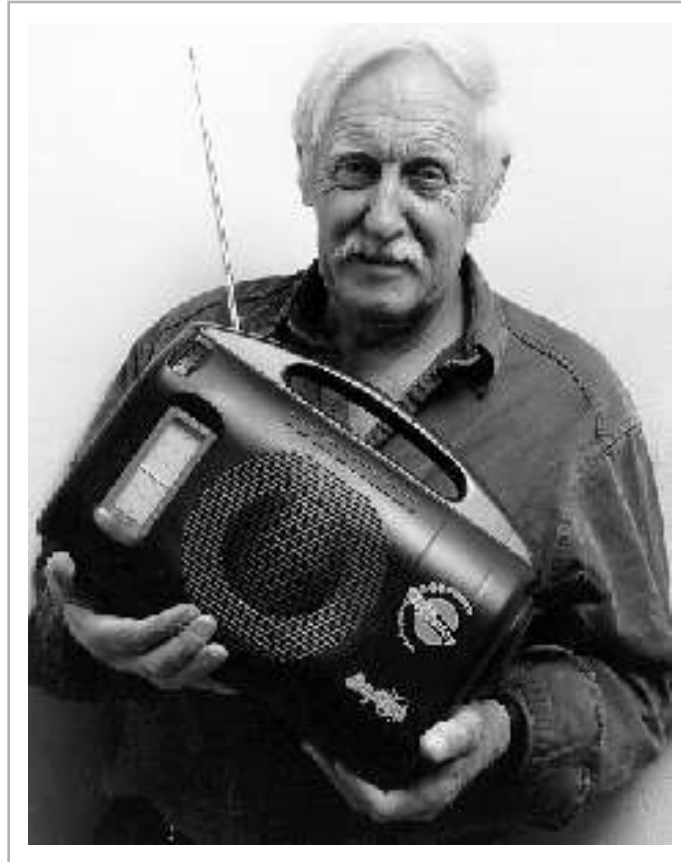
**projects are not
immune!**



SMS alert system for communities “lacked trust”



IVR information service in Uganda “tanked badly”



Unnecessary effort reducing the size of the wind-up radio



The “One Laptop Per Child” or “\$100 laptop” project



Who?

has

what?





Technology is a

tool

not a

solution

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

**“ICT is not for web access
(per se), but for health, education,
government, commerce –
the real problems”**

Eric A. Brewer, Director, Intel Research, UC Berkeley

“The Case for Technology for Developing Regions”

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”**



Consider all options!

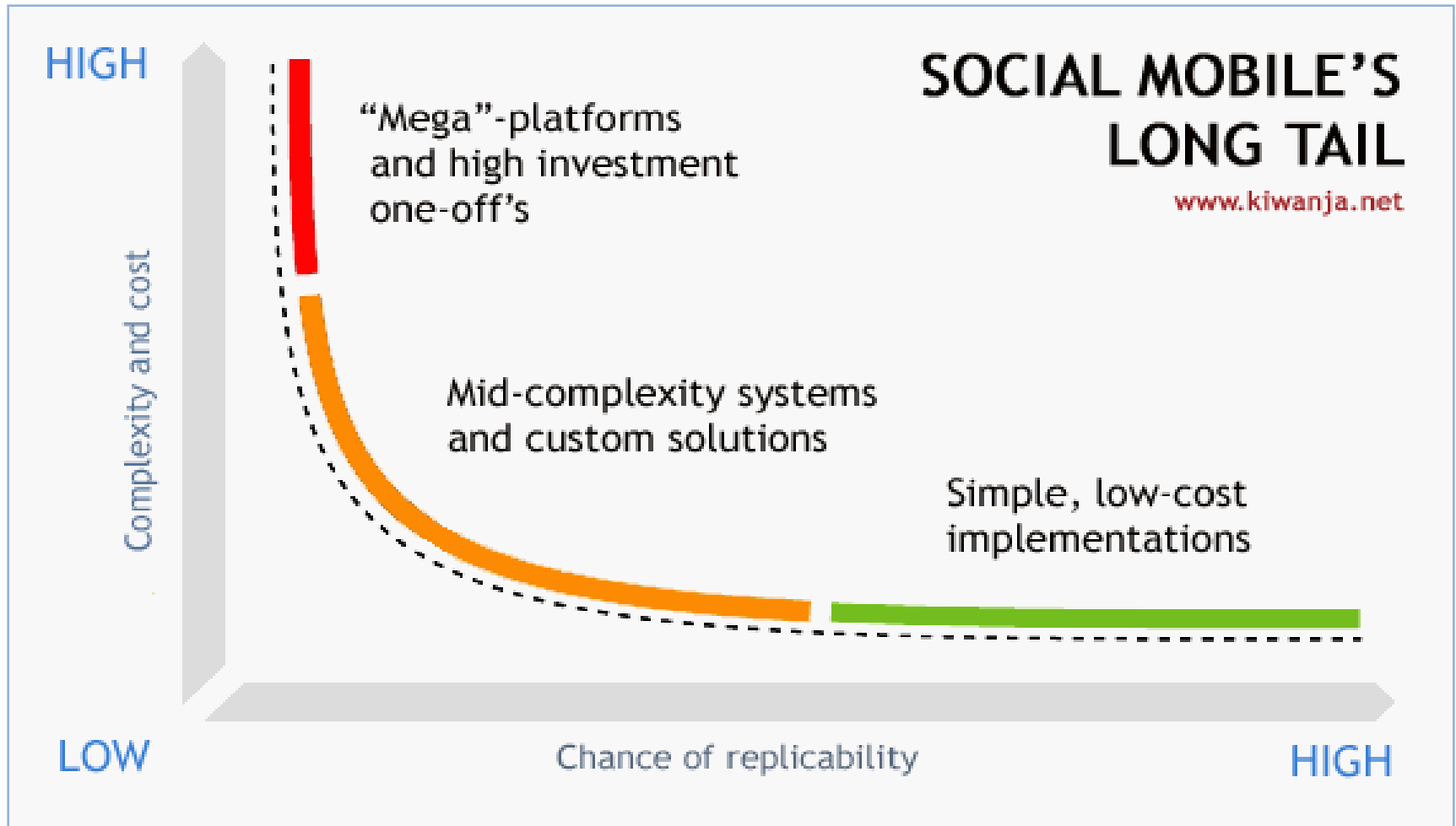


- ✓ High penetration rate
- ✓ Portable, shareable
- ✓ Affordable (generally)
- ✓ Strong recycling market
- ✓ Direct and instant
- ✓ Information services via SMS
- ✓ Only means of communication

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

Something **else** to consider

Focus!



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

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'



FRONTLINESMS



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ROOTS IN
CONSERVATION

NOT

ACTIVISM

(although the problems are not too dissimilar)

COMMUNICATION!



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Lebanon

Human rights through education

South Africa

Community radio stations

Albania

Fighting corruption in public services

Kenya

Information on sustainability to organic farmers

Liberia

Co-ordinating ICT training among youth

Aceh

Coffee prices to farmers



FRONTLINE SMS

Uganda

Community-based healthcare

France / Lebanon / Belgium

Emergency alerts for embassy staff

Botswana

Co-ordinating blood donor services

Afghanistan

Security alerts to NGO staff / fieldworkers

India / Pakistan

Control Arms Campaign lobbying

Tanzania

Water sanitation advice and community training



FRONTLINESMS

FRONTLINESMS IS USED AROUND THE WORLD.



Nigeria / Philippines



FRONTLINE SMS

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BBC NEWS **OPEN** The News in 2 minutes

News Front Page Last Updated: Friday, 20 April 2007, 12:17 GMT 13:17 UK

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Texts monitor Nigerian elections

Anyone trying to rig or tamper with Saturday's presidential elections in Nigeria could be caught out by a team of volunteers armed with mobile phones.

The Network of Mobile Election Monitors (NMEM) will use SMS to feedback their observations to a central computer hub.

The collected text messages will then be passed on to other monitoring groups and authorities including the EU.

NMEM hopes the system will stop fraud, especially in areas considered too dangerous for other groups to enter.

"We want to set a precedent," said Emauwa Nelson of the Human Emancipation Lead Project, a Nigerian NGO that helped set up the project.

"We want people to know that if they are trying to rig the election, there could be someone behind them and that person may send a text message saying what happened."



Voting will decide who will succeed Olusegun Obasanjo.

NIGERIA VOTES

KEY STORIES

- ▶ Could 'people power' work?
- ▶ Poll mired in controversy
- ▶ Monitors slam poll 'charade'
- ▶ Relief for those who vote
- ▶ At the polls: Reporters' log
- ▶ At the polls: Voters' log

PERSONAL STORIES

Voters' views: Nigerians reflect on their future after disputed elections

- ▶ A monitor's experience
- ▶ 'Against my wish'
- ▶ A barber's life
- ▶ Roadside chef

AROUND THE COUNTRY

Troubled heart

BACKGROUND

- ▶ Presidential possibles
- ▶ Obasanjo's legacy
- ▶ Facts and figures

RELATED BBC SITES: SPORT, WEATHER, ON THIS DAY

Zimbabwe



FRONTLINE SMS

Texting it in - what we want in a new Zimbabwe



In addition to inviting [email contributions](#), we also asked our many SMS subscribers what a new Zimbabwe looks like to them. Read some of their ideas below, and text your dreams for a new Zimbabwe to +263912452201

- I desire everything to be in order - no corruption
- Want stable currency and return to real money - not bearer cheques
- First essential is freedom of expression and assembly so we can tell government what the people want and don't want.
- To quickly remove POSA and AIPPA.
- Freedom of expression & association. Observation of human rights. Impartial judiciary, economic emancipation etc
- Transparency, health and education delivery, a new constitution, non-partisan police and army, accountable leadership and good economy
- We need fuel to be available in service stations, to access forex in the banks, free primary education, affordable health delivery system and cheap food for all
- Mainly I am concerned with return of the environment of happiness we used to have
- New Zimbabwe - new constitution by the people for the people.
- A new people driven constitution
- Good international relations then total globalization
- Well in free Zim fist we want e rule of law and availability of basic commodities inputs & jobs
- I wld want a new constitution that doesn't give 2 much political power to an individual. There should be guaranteed freedoms 4 citizens.
- Changes(1)Re-currency(coins¬es)(2)Stop paying war vets(3)Reduce gvt ministries(4) promote industrial &agric investment
- Reduced tax
- Racial integration - equal opportunities 4 blacks and whites etc eg cricket team, sustainable labour laws, respect 4 property rights, free market, free media, just want more!
- We should never again leave power in the hands of one man.
- In a new zim we want freedom to exercise our rights end police brutality stop corruption ban all the fake police (neighbourhood police)
- Want affordable tertiary education and respect of the rights of students and all citizens. Accommodation of youth in decision making

Pakistan



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Tue, 05 Feb 2008 02:39

Global analysis. Daily

International

Mobile phones and protest

Cats, mice and handsets

Nov 29th 2007 | SÃO PAULO
From *The Economist* print edition

Protesters and governments are mastering the tricks of the mobile trade

BACK in September, protesters from many parts of the United States poured into the small town of Jena, Louisiana, to express their anger over the over-zealous prosecution (as they saw it) of six young African-Americans on charges of assault. Mobile-phone text messages played an important role in pulling in the crowd.

AFP But for pioneers of mobile telephony and texts as tools of protest and dissent, simply summoning people to demonstrations—a technique first deployed in the Philippines as long ago as 2001—is old hat. The search is on for ever more creative ways to use this

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Witness has launched the Hub. Princeton posts a summary of the study on voting in the mid-term elections. See also [MobileActive](#) and [FrontLine SMS](#).

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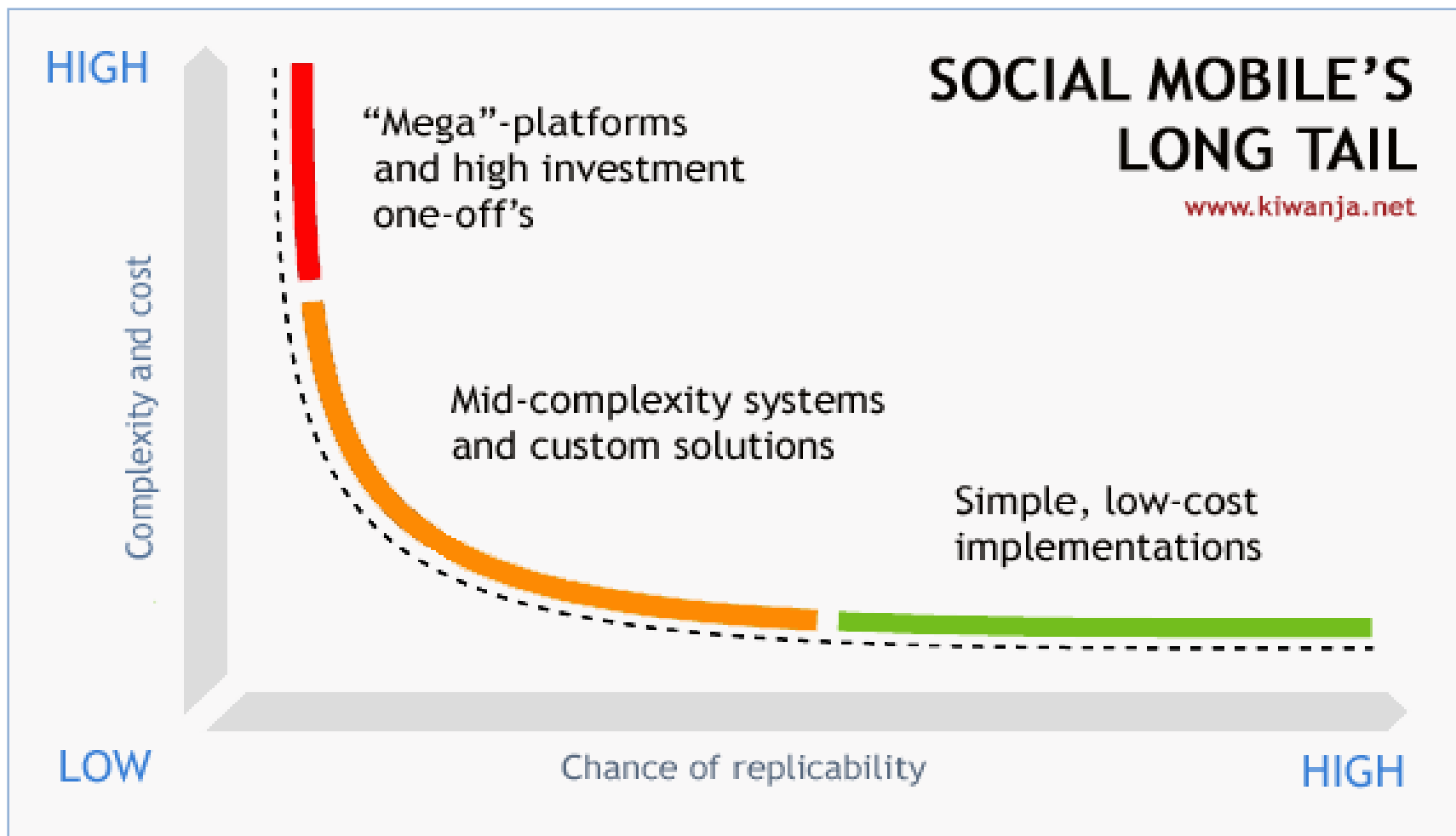
FRONTLINE SMS

Issues

Need to address the “social mobile long tail”



FRONTLINE SMS





FRONTLINES **SMS**



FRONTLINE SMS

Issues

Need to address the “social mobile long tail”

We need to address issues of access to equipment



“ nGOMobile is a text message-based competition aimed exclusively and unashamedly at grassroots non-profit organisations working for positive social and environmental change throughout the developing world ”

www.ngomobile.org



“Participatory rapid response forest management system”

Kenya



“Ask NETWAS a water, sanitation and hygiene question”

Uganda



“SMS for healthy forests, families and empowerment of women”

Mexico



“Count to 5!”

Azerbaijan



FRONTLINE SMS

Issues

Need to address the “social mobile long tail”

We need to address issues of access to equipment

NGOs need simple, replicable, shareable, affordable tools

ICT4D community needs to promote local, grassroots, bottom-up empowerment and not just “jobs for the boys”

Need to address the developer/practitioner divide

A need to educate, particularly around technology-use risks

“Consequences”



T H A N K Y O U

kiwanja.net

where technology meets anthropology, conservation and development



Since 2003, **kiwanja.net** has been helping local, national and international non-profit organisations make better use of information and communications technology in their work. Specialising in the application of mobile technology, it provides a wide range of ICT-related services drawing on over 22 years experience of its founder, Ken Banks. Non-profits in over forty countries have so far benefited from a range of kiwanja initiatives, including FrontlineSMS and nGOmobile