

REPORT

**ICT4D Tech Forum – ‘Eclipse Edition’
Knowledge Sharing on ICT4D from a Technology Perspective**
28 & 29 MARCH, 2006

Hosted by KNUST, Kumasi

The Kofi Annan Centre for Excellence in ICT (AITI-KACE), together with the International Institute for Communication and Development (IICD) and the Ghana Information Network for Knowledge Sharing (GINKS), brought together development practitioners using ICT technologies and ICT professionals to share their knowledge and network with each other. The Kwame Nkrumah University of Science and Technology (KNUST) Technology Consultancy Centre hosted the event and assisted with logistical arrangements.

Participants came together to exchange knowledge, share their experiences, appreciate the needs and opportunities available and network amongst each other for mutual growth – all around the theme of using Information and Communication Technologies (ICTs) to support development.

The **specific objectives** of the event were to:

- explore existing support structures for technical ICT champions in Ghana (especially outside Accra);
- investigate common challenges in administering ICT tools and systems for development projects/development organisations;
- explore interest in establishing a peer support group for technical ICT champions involved with ICT4Development (online community);

This report seeks to collect relevant information coming out of the event, the content shared by the participants, and suggestions for similar activities in the future.

For more information and references on specific items mentioned, please see the attached Annexes.

Methodology

The methodologies and facilitation techniques employed included: ‘SpeedGeeking’, Storytelling ‘Tech Stories’, Tech Demos, Open Space and Envisioning.

Facilitation Method ¹	Purpose
SpeedGeeking	To break the ice at the beginning of a session; to allow participants to find out more about each other and their work; To learn from each other while having fun;
(Tech) Storytelling	To introduce the participants to other participants’ work environments - to better understand the person, their work, what makes them tic, etc ‘in a flash’
Tech Demos	To showcase various technologies that participants have developed; to allow for one person to demonstrate their work to a small group at a time; to allow for questions and discussions specifically on the particular technology/application demonstrated
Open Space	To allow for an interactive process whereby participants meet in concurrent and overlapping mini-discussions around a theme or an issue, and are free to walk away to other groups as interests them; the cross-pollination of moving from group to group and topic to topic in a non-linear way allows participants to jump quickly from familiar ways of thinking into innovation and action.

¹ See Annex E for more resources on these techniques

Envisioning	To trigger participants to think to what they would like to see in the future, and how they can contribute to making it happen; Each participant has to complete the sentence 'My dream for....' Looking forward to end 2007;
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The materials used during these various sessions included flipcharts and stands, coloured cards, sticky notes, notepads, pens and markers, a laptop and an LCD projector and screen.

Participants

Twenty-five (25) participants from Northern, Brong Ahafo, Ashanti, Volta, Eastern and Greater-Accra regions took part in the event. There was an inspiring mix of participants which allowed for a demand and supply of information on many levels - ICT professionals being able to assist and advice development practitioners; development practitioners advising software developers on the contextual needs of development sectors and contexts (e.g. agricultural stakeholders and rural areas).

There was a mix of persons from the private sector, public/government institutions as well as NGOs/civil society institutions.

Through their storytelling, there were obviously different types of 'tech' participants in the groups, sometimes causing for some confusion, at other times providing for great complementarities in the discussions. Without wanting to create a new classification of ICT technical functions or job titles, the following distinctions were observable among the participants in the group:

People who analyse and engineer software systems
People who use different programming languages to develop software
People who use graphic design software to design and edit graphics and images
People who administer IT systems/networks (install server-side and client-side software), provide user support;
People who use application software to develop programmes, e.g. people who develop databases (access, spreadsheets) for store and forward to information officers;
People who use software applications to provide/channel information, e.g. websites;
Non technical development persons who use PC operating environments and office applications to provide information to audiences;

Knowledge Shared

The **tech stories** shared by the participants revealed some common themes of interest coming forward in more than one story. These themes could provide issues to be discussed in subsequent online follow-up, or be themes around which more knowledge sharing meetings could be convened.

Recurring themes identified in stories:

- Self-learning
- Economics & Business models of bringing and sustaining ICTs for Development
- Right technologies to reach intended audiences / down-streaming information to communities
- Organisation of ICT4D
- Training
- Translation & Localisation
- Open Source:
- Collaboration and Information Sharing

For more detail (key words) on each recurring theme, please see Annex B.



Some observations from the **tech stories** session....

Participation:

- It is good to bring private sector developers into such discussion for a, however they do require an understanding of the development framework;
- It is good to invite various categories of persons into such a tech forum, its leads to useful exchanges; it is then essential to have some 'bridge' persons among the participants who can translate some of the contributions from one category's specialist jargon into another's, for example relating purely technical stories to development practitioners' contexts; e.g. one participant spoke about non-used computers and networks for which no money was allocated – he set it up out of his own enthusiasm. He was able to link this experience back to development discussions, since he had observed that lecturers and senior staff at his employing institution, who are looked towards for devising solutions, have no idea about ICTs and therefore don't include them in their solutions thinking. This situation is similar to the case with (senior) management in agencies tasked with development work – if they don't know about the strategic benefits and issues surrounding ICTs, they will not include them in their thinking.
- Persons often focus on new technologies as the T in ICT, and disregard that old technologies also enable Information and Communication flows to improve. E.g. one participant claimed to not use ICTs, and then proceeded to tell a story about a mobile van with Public Announcement system; the group agreed that indeed that was an ICT!

Facilitation:

- facilitators must be able to link up what the technical people ('speaking in tongues') to the development practitioners' realities; if the facilitators are not able to do that, you end up with parallel discussions that diverge rather than convergence of ideas and thoughts;
- Facilitator also needs to be technical enough to comprehend the PHP/MySQL discussions
- Facilitator needs to make the connections visible immediately – if within the first half-day the participants don't see the link or the interface of their knowledge/skills, they will be lost to the programme.



The **tech demos** session used some principles similar to Open Space in that persons were free to walk around between the various corners where persons were demonstrating their project technologies, software applications and systems etc. Whereas at the start of the session it seemed as if all the interest went out to only a few of the demonstrators, throughout the course of the sessions participants moved around more and showed keen interest in learning from every presenter's demonstration.



Participants would have liked more time to go through the demos present and felt rushed sometimes by the limited time allocated. Some suggestions were made on how such tech demos could be arranged in the future:

- Have informal demo between session breaks
- Introduce demos in plenary session
- Briefs on the various demos should be shared before commencement of seminar
- Participants could be made to send their tech demo inputs before seminar, participants' profiles could then be mapped out to assess likely interest in the demos;
- Schedule interesting sessions next to breaks to allow spill over into break time;
- All participants should be encouraged to do a presentation or demo;

Session on Communities of Practice

Since the participants shared similarities in their daily practice concerns, the concept of Communities of Practice² was explored. Joitske Hulsebosch gave a short presentation on the use of a Communities of Practice approach to collaboration and knowledge sharing, which gave rise to some questions and discussions.

First, a definition³:

What are Communities of Practice (CoPs)?

COPs are a group of participants (community) with a commonality of interest and practice (focus), who come together to address a specific challenge, and further each others goals and objectives in a specific topic area (shared practice). Members of COPs share enthusiasm for the topic, ownership of the group, work products and ideas. COPs respond to professional demand and are results oriented. They can serve to develop and evolve knowledge, as well as develop innovative ideas.

Questions/issues raised by participants were:

1. What is the difference between Communities of Practice (CoPs) and Dgroups?
2. Looking at power relations with regard to being a custodian of information, how do communities of practice relate to this part of the world? – ICTs for democratizing information
3. Open versus closed membership structures
4. Can associations such as GNAFF be considered as a community of practice? I.e. formal structures versus learning objectives
5. Imposed standards vs. CoPs defining own standards based on shared practice, expertise

Participants offered suggestions of formal or informal Communities of Practice that exist in Ghana:

- Accra Linux User Group - people with an interest in the same thing come together voluntarily
- Informal women's groups – shea butter, micro-credit (informal networks, meet to discuss issues)

² For more information and training materials on Communities of Practice, see

³ This definition and more information on Communities here:

<http://www.km4dev.org/index.php/articles/c151/> or Joitske's blog on Communities for Development: <http://joitskehulsebosch.blogspot.com/>

- Ghana Agric Information network System (GAINS) - researchers sharing information on agriculture, open membership, voluntary, not just libraries;
- GINKS

The discussion showed that there seemingly were not yet Communities that dealt with the more technical aspects of ICT4D (whereas there were discussion groups that are/were more concerned with theoretical or sector-focused discussions). Having identified that keeping groups or communities actively sharing information and knowledge is challenging, the question arose “What makes Ghana groups work?” to which participants gave the following answers:

- Common goal exists
- Driven by a common interest
- Varied levels of experience at member’s disposal
- Willingness to share and learn – go out of your way to share
- Belief in what you are doing- I tried this and it worked, so why don’t you try?
- Linking to others that what you know can help
- Learning from masters of work- others can solve the same problem in a few minutes
- Ability to derive social or economic benefit from participation: social-identification/association with the group; economic: learning new skills enhance your economic outlook
- Identification of an issue that people have been struggling with- advocacy and campaigning together eg. linux as alternative to Microsoft
- Clear need to find innovative solutions to solve common pain

The **Open Space** session allowed participants to indicate which topics they found of interest or importance to discuss around ICT4D in Ghana, and then to gather with persons interested in the same topics to exchange views on what would need to be done.

For the details on the discussion points raised, please see Annex xx.



	Topics Raised	Topic Owner
a.	'Ghana needs an e-payment system'	Michael Ocansey
b.	'There should be affirmative action on the use of local software in government institutions – we have the local capacity'	Nii Okai Quaye
c.	'Tools to enable information & knowledge sharing'	Kwame Ahebinu
d.	'Accessibility of ICTs to the poor – What options exist?'	Mahmud Daud
e.	'Internet connectivity costs should go down'	Shafiu Shaibu
f.	'Let's have more of such conferences of this kind for the development of ICTs in our organisations'	Not available
g.	'The information centre at Hoe Hoe needs to be connected to the internet to enable us to source for current information on the net and also to send and share information'	Besa Akpalu
h.	'Relevance of Open Source for ICT4D'	Not available
i.	'Where will ICT take Ghana in the next 10 years?'	Eric
j.	'PCs should join a network of PCs, locally or on the internet'	Thomas Aquinas
k.	'Better database system for Ghana'	Pouza Gamaliel

The intention of the last session, **envisioning**, was to elicit participants' ideas on how to move forward with the need for sharing knowledge and information around technologies that are suitable for ICT4D in Ghana. Participants completed the sentence: "My dream for... ", as relates to what they would like to have seen happening after this first gathering by 2007.

Responses:

Sustaining the group to promote ICT4D.... Such forums should be held regularly..... The Tech Forum should be held nationwide to create awareness.... Regular fora on specific technical issues.... Regular face-to-face interactions of members..... The forum should be organised in other regions as well..... Reports from the forum should be made available to the public..... An online group (ICTG4D) should at all cost be formed..... The information acquired from this forum should be made available to non-participants..... The group becoming a dgroup..... Make this group a vibrant dgroup.... Develop into an ICT body for Ghana – capable of making certain major reviews or considerations regarding ICT in Ghana..... Expand the group beyond this meeting..... Effective moderator, facilitator, and administrator..... Getting everyone, whether educated or not, to access IT for their jobs (development management)..... Shouldn't end today but should continue..... A permanent technical forum to serve as an engine of ICT for Rural Development in Ghana..... Annual face-to-face boot camp;

The online discussion forum has been established to continue the sharing among the Forum participants as well as other relevant actors that deal with the technology side of ICT4D.

Name: **GINKS Tech Forum**

Where: <http://www.dgroups.org/groups/ginks-tech-forum>

How to join: send an email to the administrators of the group secretary@ginks.org or fillaconsult@yahoo.com

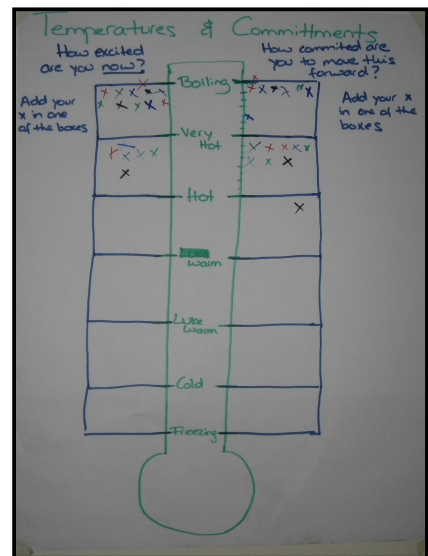
Evaluation

Session	Very Happy (😊)	Happy (😄)	Neutral (😐)	Slightly Sad (😞)	Sad (😞)
Geek Speed Dating					
Tech Stories					
Open Space					
Communities of Practice Presentation					
Tech Demos					
My Dream for ...					

In order to better understand which type of facilitation techniques spoke to this particular ICT4D audience - mainly composed of ICT specialists - we asked participants to rate the various sessions and the methodologies we employed to facilitate them.

Although all methodologies used were rated with a 'smiley face', perhaps unsurprisingly, it was the *Tech Stories* and *Tech Demos* that scored highest. The more traditional *Presentation & Discussion* session around Communities of Practice, and the *Envisioning* session where participants were asked to describe their hopes for the future, both received one 'unhappy' mention.

Three sessions received some marks as 'neither happy nor unhappy', namely the *Open Space*, *Presentation*, and *My Dream For...* sessions.



Participants were finally also asked to rate their temperatures on an improvised thermometer – a playful way of indicating how excited they were about the session and the prospects for follow-up, as well as how committed they felt to move what was achieved during the event forward. As you can see, the majority of participants were feeling 'Boiling Hot' at the closing of the event, with the rest feeling 'Very Hot'. In terms of commitment to move forward, a few more were feeling 'Very Hot' rather than 'Boiling', with one participant only feeling 'Hot'.

Annex A. Participants List

Name	Organisation	Area(s) of technical expertise
Adolphus Annang	Information Services Department, MoI	Graphics/Webdesign
Besa Akpalu Michael	MoFA Info Centre	Agric information
David Issaka	CITRED	Accounts & Capacity Development
Dono Thomas Aquinas	Eve-Asa Company Limited	System Administrator, Programmer, Linux Administration, Satellite Installation/Configuration
Doreen D. Buobu	Information Services Department	Computer Networking
Edwin Thompson	gains	Librarian, Agric Information Management & Access
Elijah Opoku	Digital Governance Initiative	Representative for Ghana
Eric Acquaye	CSIR-GAINS	Network Administrator and Technical Support
Frederick Yeboah	AITI-KACE	Software Engineering/Programming
Henry Addo	Linux Accra	FOSS
Humphrey Pufaa	MAPRONET - BIC	Business Information/Market Access/Fair Trade
Joitske Hulsebosch	IICD	Facilitation KS/KM, Communities of practice (http://joitskehulsebosch.blogspot.com)
Kwami Ahiabenu,II	GINKS	media, ICT4D and marketing
Mahmud Daud	CITRED	ICT4D Programme Management, Linux Windows Networking
michael kweku commeh	technology consultancy centre, knust	system applications for development management
michael ocansey	busylab, accra	web applications, Databases
Mumuni Mohammed	SEND Foundation of West Africa	Technical Information Officer
Natoma Awusi Mahama	MAPRONET-BIC	Business Information, Fair Trade
Nii Okai Quaye	Linux Accra	FOSS
Ofosu Dankyira John	MOFA -Techiman	information, farmers education
Peter Amoako-Yirekyi	Faculty of Distance Learning, KNUST	programming
Prince Deh	GINKS	Dgroups Administrator
Puoza Gamaliel	Busylab	Agricultural Market information
Saskia Harmsen	IICD, Capacity Development	Capacity Development, training
Shafiu Shaibu	SEND Foundation of West Africa	Information Management
William Sam	GINKS	Software Development
William Nsiah Asare	UDS / Filla Consult	

Annex B: Recurring themes in Tech Stories

Recurring themes identified in stories:

A. Self-learning:

learning by doing, trial and error + looking up information when needed (electronic and offline, Bulletin Boards and Books), reliance on internet for finding technical information;
Post my errors and get the answers;

B. Economics & Business models of bringing and sustaining ICTs for Development:

bringing ICTs and connectivity, how to sustain,
devising appropriate 'business models' for recurring costs (e.g. internet connectivity, maintenance costs), replacement costs, staff costs;

C. Right technologies to reach intended audiences / down-streaming information to communities;

Focus on internet if no access; uptake of SMS; are VSATs appropriate? Public Announcement systems on transport systems with loudspeakers; FM stations with phone-ins;

D. Organisation of ICT4D:

Who sets it up, who runs it and who runs it in the long run Community-managed vs NGO/private sector managed

The effectiveness of information? Just information vs. information to support 'integrated development';

E. Training

Training required for newbie OSS

Training farmers on basis of information

Training of users (community information officers → ministers)

Who to train in programming? Kids where and which level?

How to train? Learning from how others trained and made it work

F. Translation & Localisation

Localisation of hardware (touch screen keyboard) & software (Dagbani, culturally meaningful);
Literacy and ICTs;

Information searching by community groups on Google – Dagbani content? Putting local content online; having 'intermediaries' as bridge between non-English literate groups & ICTs;

G. Open Source:

websites with training on open source

use of open source;

interest in joining Linux groups; passion for OSS;

H. Collaboration and Information Sharing

sourcing agric information from other institutions (GAINS, MOFA, SEND ECAMIC, MISTOWA) and using it in one's own programmes/projects;

Annex C: Open Space Session

Topics raised, main points:

‘Ghana needs an e-payment system’: Michael Ocansey

Drawbacks:

- lack of perfect addressing systems nationwide. Our geographic locations are hard to physically trace, this will make delivery of packages tough;
- reluctance of banks/financial organisations to release data for validation purposes;
- most of the local banks don't trust programs developed by local developers and are unwilling to push any innovations we come out with;
- lack of internet connectivity nation-wide. This then means we ought to program for the media that is most widely used – cellphones, TVs. This will help urban folk take advantage of paying for things via mobile and/or maybe TV;

‘There should be affirmative action on the use of local software in government institutions – we have the local capacity’: Nii Okai Quaye

- government should have affirmative action on acquiring locally developed software solutions;
- would amount to government controlling quality (bad), industry should manage its own quality;
- best option would be for the government to identify software development houses
- government should help develop quality capacity of the development houses by bringing in experts;
- government should specify & publish standards of software products that they would be willing to acquire and are good quality;
- government should open the process to competitive bidding to provide a level playing field for all the developing houses (no preferred development houses);
- there should be an independent verifying authority

‘Tools to enable information & knowledge sharing’: Kwame Ahebinu

- Define what information are, what knowledge is, types of knowledge;
- Methods of knowledge sharing – online and offline (face2face)
- Data → information → knowledge (acquired over a period of time)

‘Accessibility of ICTs to the poor – What options exist?’ Mahmud Daud

- Hardware /Software
- used computers preloaded with software
- audio and others media for people who cannot read
- radio – FM
- Email – browsing
- Open Source

‘Internet connectivity costs should go down’ Shafiu Shaibu, Henry Adoo

Type of connectivity	Cost/month
Dial-up	Cedis 400,000
Broadband 4 U	Cedis 2.1 million for 40 persons
VSAT	Cedis 1.8 – 2.5 million

‘Let’s have more of such conferences of this kind for the development of ICTs in our organisations’:

- we need to have an online forum
- having one person to whom we send our opinions and delivered to the rest in a monthly newsletter (printed);
- need to appoint moderators;
- we need to have newsletters, mailing lists, face2face forum(regional, zonal);
- Southern part people meet
- Northern part people meet
- Twice national per year
- Forum is more participatory, setting up discussion in face2face for a is easy and can keep track of the trend in the forums;

‘The information centre at Hoe Hoe needs to be connected to the internet to enable us to source for current information on the net and also to send and share information’ Besa Akpalu

- other connectivity sources are to be looked at
- V-Sat although the most reliable, the cost (installation and running is high) hence other options are still opened
- Connectivity is still very vital for effective running of the centre

‘Relevance of Open Source for ICT4D’

- Open source is the way forward;
- Users should be involved in the development of the software;
- Source code helps to feel in control (no limitations);
- Frequent updates;
- Easy to use and adapt if you already know windows;
- Easy to create PDF from Open Office Writer;
- Cheaper;
- Easy links from OOWriter to OOBBase
- Let people see and feel the software and they can decide for themselves (not be revolutionary advocates for Open Source)
- Relatively safe to use
- Pegasus mail interesting to use;

‘Where will ICT take Ghana in the next 10 years?’: Eric

- we should be willing to spread our ideas or our new technologies
- not only by wireless or by radio transmission, but we should devote our time and money, go to the remote areas, train them and give them knowledge on ICT;
- ICTs must be introduced in ALL school in remote areas, by so doing the young ones or novices will be introduced to the ICT world and one can be assured of getting somewhere within the next ten years;

‘PCs should join a network of PCs, locally or on the internet’: Thomas Aquinas

- basic premise is that there should be no ‘stand alone’ computer. With or without internet a computer should be able to join a network, wither by wireless (preferred) or by cable;
- Advantages:
 - Capable of facilitating ICT;
 - Enhance communication & community of practice through computers, chat, etc.
 - Enhance information dissemination;
- Problems:
 - Who manages the community network?
 - Fear of threats on the network;
- Conclusion:
 - Would promote ICT through linking of members of the network and open up discussion and communication on the network;

‘Better database system for Ghana’: Pouza Gamaliel

- develop a common structure/format (standard) for capturing data;
- Use of institutions (hospitals, hotel, etc) as data collecting points;
- Use a governmental body (statistical department) to facilitate creating a standard for collecting data;
- Use of devices such as personal digital assistants (PDA), computer, paper etc. to collect data;

Annex D: My dream for...

Responses:

- Sustaining the group to promote ICT4D
- Such forums should be held regularly
- The Tech Forum should be held nationwide to create awareness
- Regular fora on specific technical issues
- Regular face-to-face interactions of members
- The forum should be organised in other regions as well
- Reports from the forum should be made available to the public
- An online group (ICTG4D) should at all cost be formed
- The information acquired from this forum should be made available to non-participants
- The group becoming a dgroup
- Make this group a vibrant dgroup
- Develop into an ICT body for Ghana – capable of making certain major reviews or considerations regarding ICT in Ghana
- Expand the group beyond this meeting
- Effective moderator, facilitator, and administrator
- Getting everyone, whether educated or not, to access IT for their jobs (development management)
- Shouldn't end today but should continue
- A permanent technical forum to serve as an engine of ICT for Rural Development in Ghana
- Annual face-to-face boot camp

Annex E: Links and References

SpeedGeeking:

<http://facilitation.aspirationtech.org/index.php/Facilitation:SpeedGeeking>

Storytelling:

http://www.storyatwork.com/why_story/why_story.html

<http://www.creatingthe21stcentury.org/Intro5-Why-storytelling.html>

http://www.sethkahan.com/Resources_0JumpStart.html

http://www.johnseelybrown.com/seth_int.html

Open Space:

http://en.wikipedia.org/wiki/Open_Space_Technology

<http://www.openingspace.net/openSpaceTechnology.shtml>