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Information for Development in a Post-Developmental Era: (Notes from the African Knowledge Infrastructures Project)

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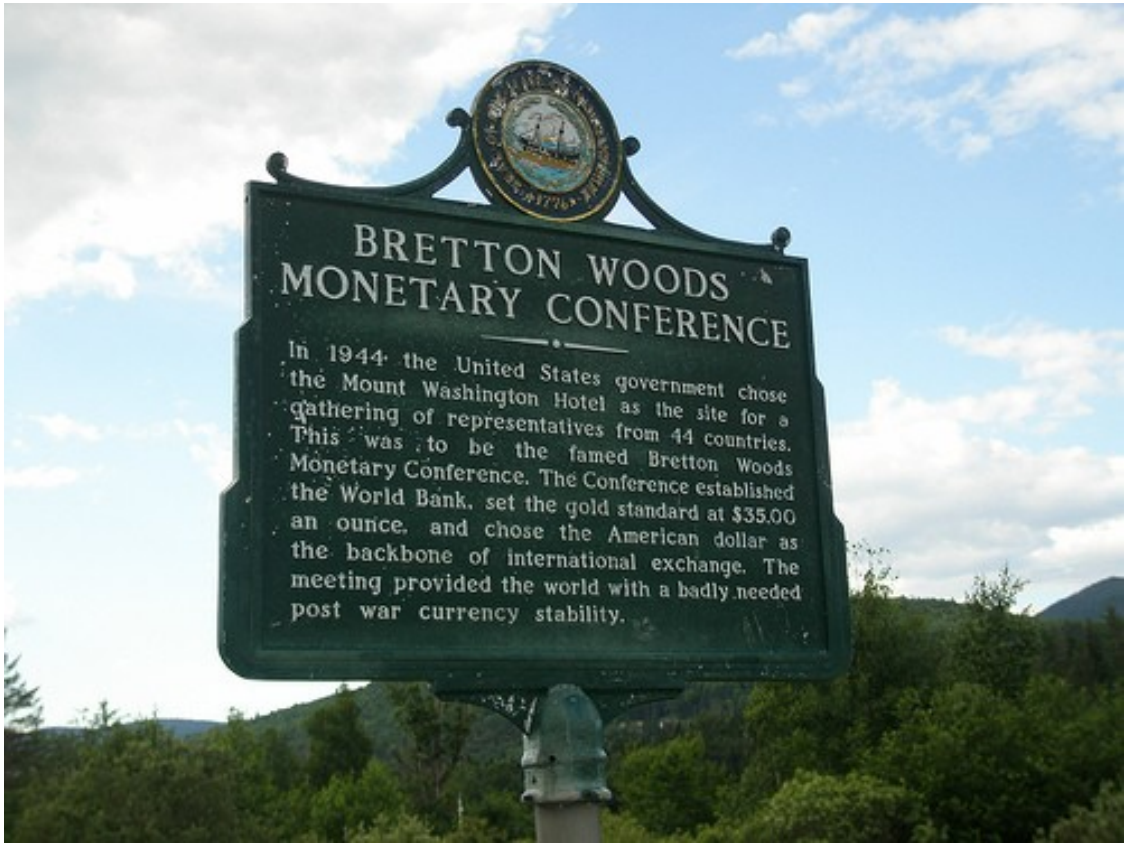
Community Informatics Seminar
31 October 2008

- *Post-developmentalism?* (or development, then and now)
- Technology and development, theory and practice
- the African Knowledge Infrastructures project

How might research and practice around ICT4D in an information school context *differ* from what's happening in other institutional or disciplinary locations?

(What are the unique opportunities and possibilities, but also distinctive challenges, of "doing" ICT4D in an iSchool world?)

Pt I: Development, then and now…



Bretton Woods, 1944

institutional accidents…

geopolitics of development (Cold War and colonial governance)

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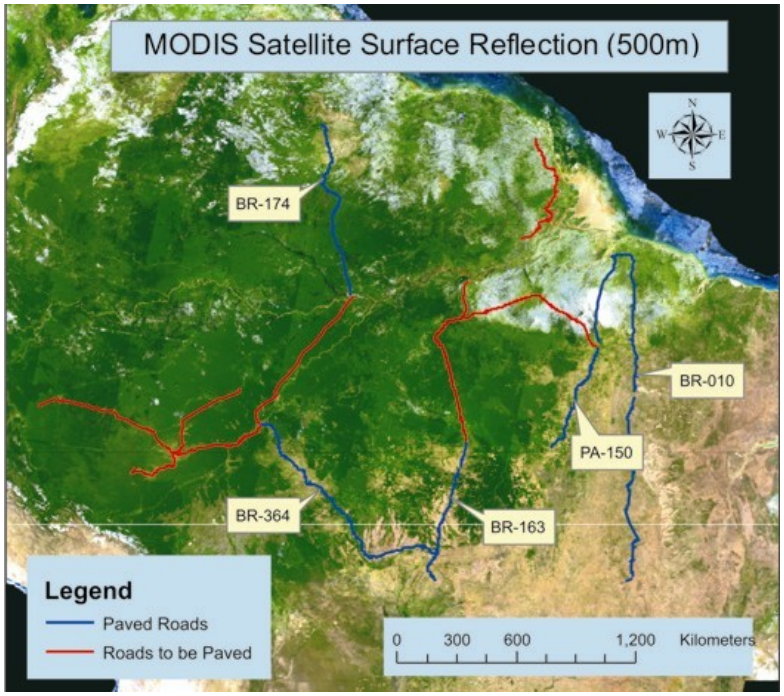
MODERNIZATION THEORY

- Walt Rostow, “stages of growth”

1. Traditional society
2. Preconditions to take-off
3. Take-off
4. Stabilization
5. Sustained (high mass-consumption) society

- capital and engineering intensive;
- directed to massive social and natural transformation ('big push' models);
- centrally / externally driven
- deficit model
- ahistorical ('greenfield fallacy') and teleological
- examples
    - Model transmigrasi settlement, West Papua, Indonesia
    - Singrauli energy and integrated development scheme, India
    - Polonoroeste Program, Brazi (pictured right)



Source: Undetermined

DEPENDENCY AND WORLD SYSTEMS THEORY

- Structural and historical assymetries in the world system (development and *under*development, declining terms of trade)
- National patterns of integration and exclusion ("transnational islands in a national space")
- 'strategic uncoupling' / autonomous development strategies (import substitution, South-South strategies, statist alternatives, etc.)

‘Post-developmentalism’: critical of the failings (but also putative *successes*) of postwar development projects of *many* stripes

Grounded in:

- Anthropology / sociology of development;
- Social histories of colonial and post-colonial rule (post-colonial and post-structural theory)
- Southern social movements (economic, environmental, etc.)

Pathologies of development: role(s) of development discourse and practice in:

- Simplistic gap or deficit models (the elusive magic bullet)
- Constructing, constraining, and homogenizing the subjects and objects of development (Arturo Escobar, Timothy Mitchell)
- Staging a passive and hierarchical relation between West and rest (Achille Mbembe, Dipesh Chakrabartty, William Easterly)
- Obscuring historical and enduring patterns of flow, material and otherwise (cf. dependency and world systems theory)
- Building and 'indigenizing' structures of power and oppression (Mahmoud Mamdani)
- Overestimating the capacities of development planning (e.g. William Easterly, 'planners' vs. 'seekers'

… ***openings*** and ***challenges*** for information and development work …

Pt II: Information Technology and Development (ICT4D, then and now)

ROOTS & PRECURSORS…

- 1950s/1960s: mass media and national development (e.g. Lerner's *Modernizing the Middle East*); psychology of development – empathy, aspiration, national unity, etc.)
- 1970s: dependency, unequal flow, and cultural imperialism (the NWICO debates)
- 1980s: telecommunications for development (e.g. ITU's 1985 'Missing Link' Report)
- Projects and campaigns: literacy, development education and extension (print, radio and TV-based)
- Mid-1990s: "ICT4D"

"ICT4D"

Iconic examples

- telecenters, cyber-cafes;
- village phone projects;
- low-cost devices (OLPC, GHI);
- wireless and mesh networks;
- community radio

Forms: government, donor, and entrepreneurially (BOP, social entrepreneurship, strategically) driven…

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VSAT: CC BY jaliyaj (flickr) http://creativecommons.org/licenses/by/2.0/
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Limits and problems:

- Historical learning (the "X4D" literature)
- Comparative learning (action vs. research)
- Tech-centric (to neglect of fit, uptake, appropriation)
- (Northern) donor-driven
- Isolated from key dev. sectors / programs / knowledge institutions

- ***Limited impact & weak sustainability.***

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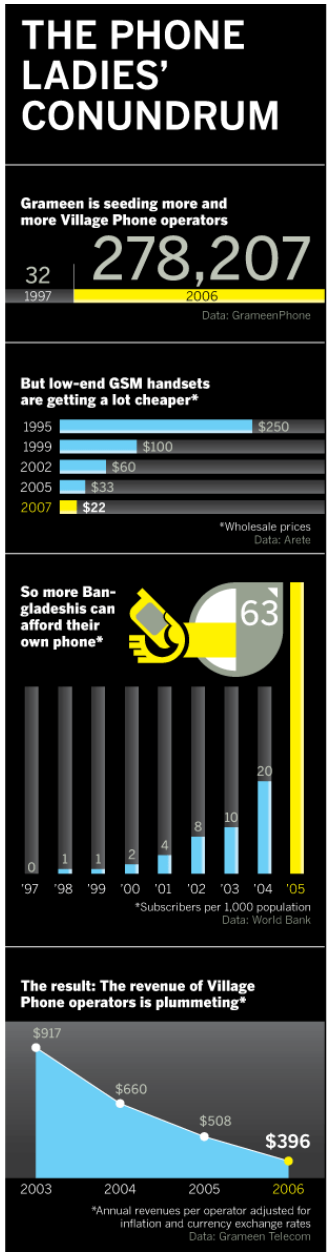
"A perceptive cartoon appeared in an Indian magazine some years ago. It showed an old man with a walking stick and bowl in hand. Facing him was a young man carrying a lap-top, mobile phone and mobile satellite station on his backpack, who was saying: 'No, I have no idea where your next meal is going to come from.'"

View the photo at
http://www.akuru.org/nalaka/ICT%20hype%20and%20IC

Source: Arthur C. Clarke. "Join The Planetary Conversation." *Forbes.* October 24, 2005.
Available: http://www.forbes.com/2005/10/19/clarke-arthur-communications_comm05_cx_ac_1024clarke.html



Source: Fast Company.com (September 2007)

Pt III – The African Knowledge Infrastructures Project

Extending African Knowledge Infrastructures: Sharing, Creating, Maintaining (March 2008)

http://hdl.handle.net/2027.42/61201

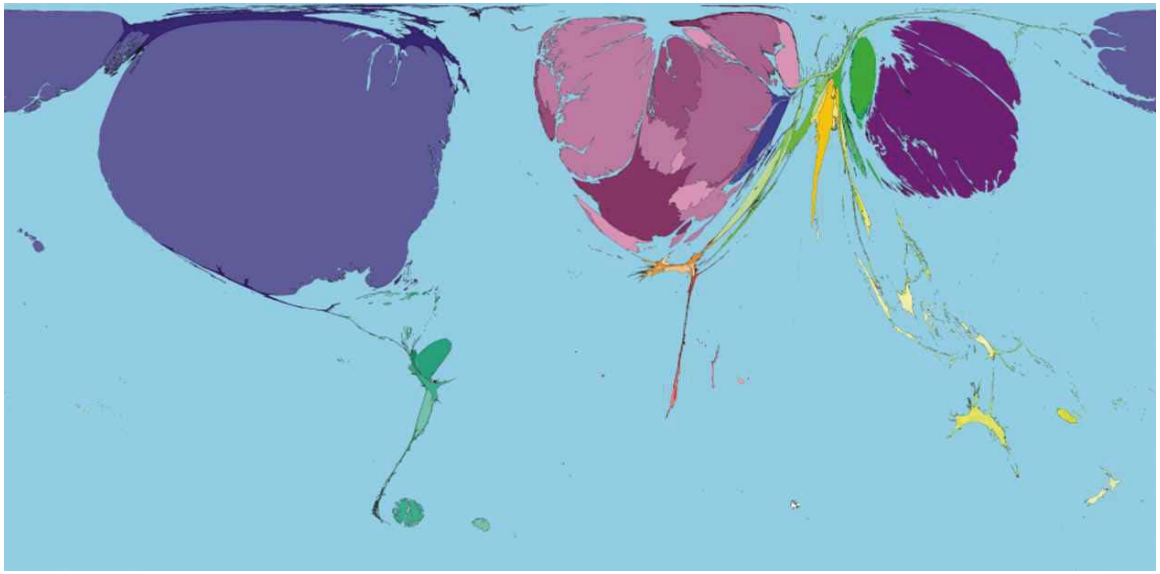
Steve Jackson, Archer Batcheller, Paul Edwards, Geof Bowker, Steve Cisler, Leigh Star (World Bank Knowledge for Development Program)

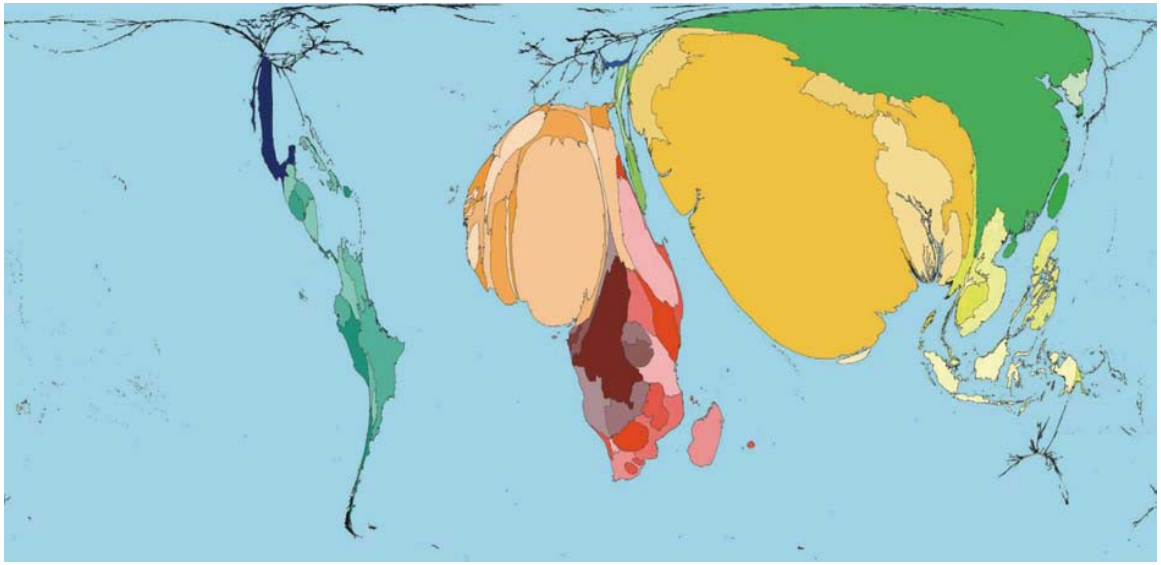
Diagram by Florence Millerand removed.

Description: Cyberinfrastructure as distributions along technical/social & global/local axes

Source: Edwards, P. N., S. J. Jackson, et al. (2007). Understanding Infrastructure: Dynamics, Tensions, and Design, Report of a Workshop on History & Theory of Infrastructure: Lessons for New Scientific Cyberinfrastructures. Page 6. Available http://deepblue.lib.umich.edu/handle/2027.42/49353

- Deep heterogeneity of infrastructure…
- Infrastructure is never purely an object of design (gateways, linkages, and legacies)
- The problem of reverse salients
- Infrastructure and contention (infrastructure is never politically simple)
- ‘Heterochronicity’ of infrastructure



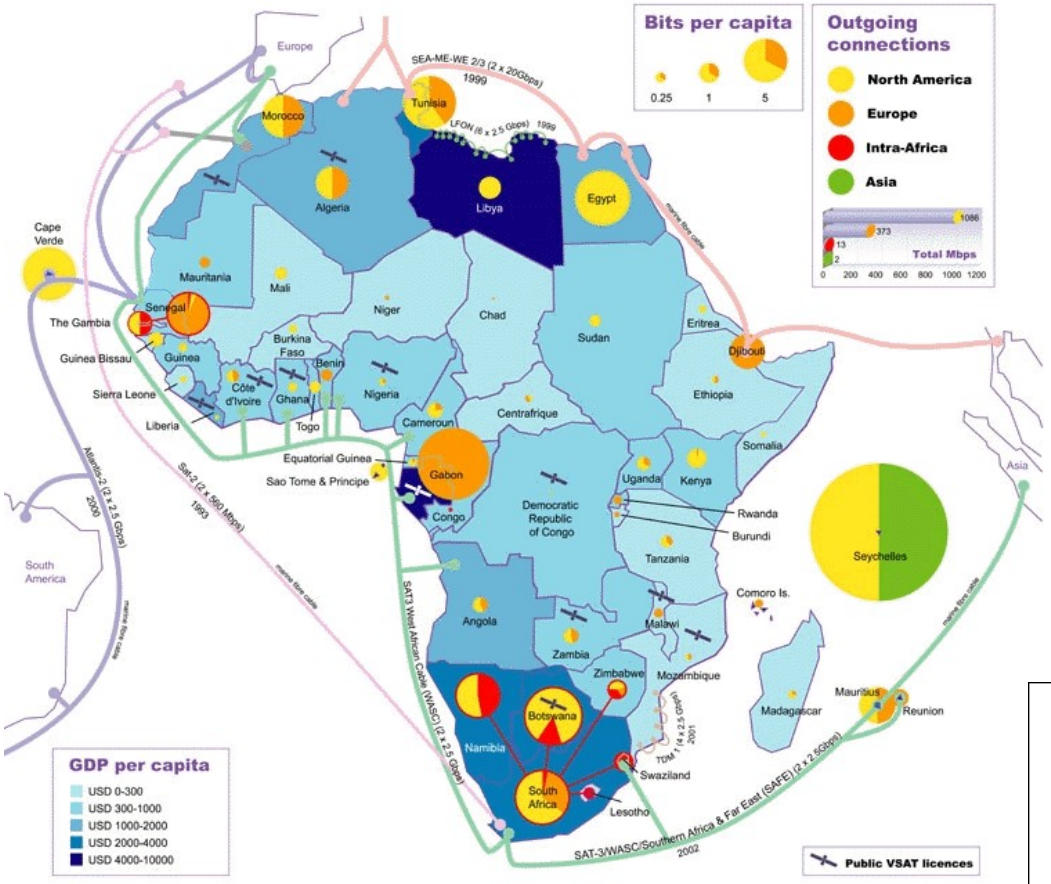


Source: UNCTAD. *The Least Developed Countries Report, 2007: Knowledge, Technological Learning and Innovation for Development.* Available: http://www.unapcict.org/ecohub/resources/the-least-developed-countries-report-2007.

"Contrary to frequent portrayals, we believe that the story of African knowledge infrastructures is a rich and dynamic one, marked by abundance, diversity, and often overlooked innovation. Present innovations in African knowledge infrastructures extend from the grassroots and local to the pan-continental. They can be found in sectors as varied as agriculture, health care, scientific research, and education. They are linked, though not always effectively, through a variety of networked forms, ranging from cell phone networks and the infrastructures of print, to formal and informal institutions in the market and educational sectors, to cultural patterns of authority, trust, cooperation, and competition. The report moves beyond a narrowly technical focus on connectivity and infrastructure that has sometimes limited development thinking. Instead, it advances a concept of knowledge infrastructures that is *dynamic*, *extensive*, *relational*, and *practically and socially embedded*."

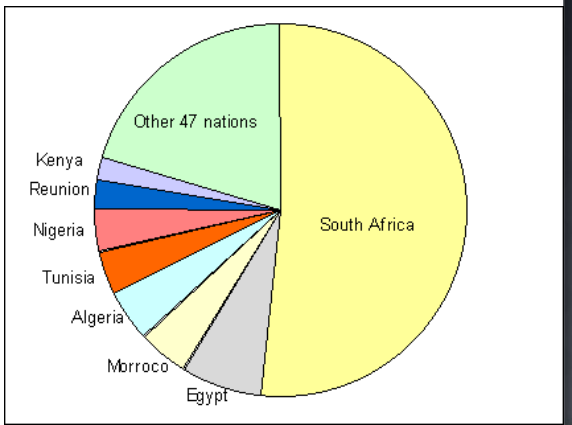
CC BY: Steve Jackson, Archer Batcheller, Paul Edwards, Geof Bowker, Steve Cisler, Leigh Star (World Bank Knowledge for Development Program). *Extending African Knowledge Infrastructures: Sharing, Creating, Maintaining* (March 2008). Page 3. Available: http://hdl.handle.net/2027.42/61201. License: http://creativecommons.org/licenses/by/3.0/

HOW TO THINK ABOUT AFRICAN CONNECTIVITY…



Map of major network connections in Africa, the number of bits transferred per person, and the destination of those bits

Source: International Development Research Centre: http://www.idrc.ca/en/ev-6568-201-1-DO_TOPIC.html



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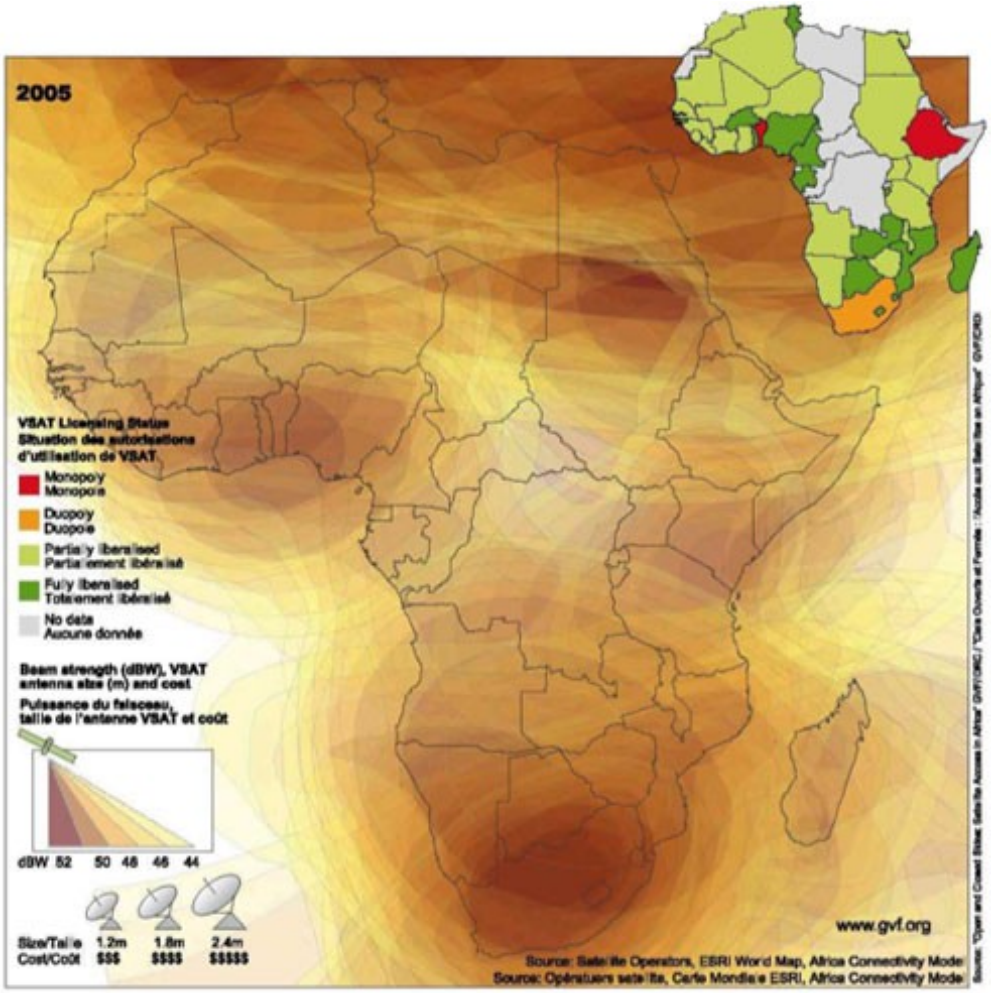

Source: IDRC. *Acacia Atlas 2005*. Page 27.
Available http://www.idrc.ca/en/ev-113486-201-1-DO_TOPIC.html

HOW (ELSE) TO THINK ABOUT AFRICAN CONNECTIVITY…

DISTRIBUTED ('THICK') INNOVATION:

"The majority of effective innovation in infrastructure cannot be 'localized' in networks, centers, or devices (however well designed) but lies in the adaptive responses of individuals, groups, and institutions to the changing landscape of possibility…"

- *Extending African Knowledge Infrastructures*, Jackson et. al. (in progress)

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HOW (ELSE) TO THINK ABOUT AFRICAN CONNECTIVITY…

N+1 CONNECTIVITY –

"We should be sensitive to proximal or 'n+1' connections, in which the effects of connectivity to infrastructure, good and ill, are experienced in a third, fourth, or fifth-hand way. Viewed from this perspective, regimes of connectivity (and knowledge infrastructures more generally) may appear both more extensive and deeply heterogeneous, stretching beyond and apart from 'pipes and wires'…"

- *EAKI*, Jackson et. al. (in progress)

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(Quote) CC BY: Steve Jackson, Archer Batcheller, Paul Edwards, Geof Bowker, Steve Cisler, Leigh Star (World Bank Knowledge for Development Program). *Extending African Knowledge Infrastructures: Sharing, Creating, Maintaining*
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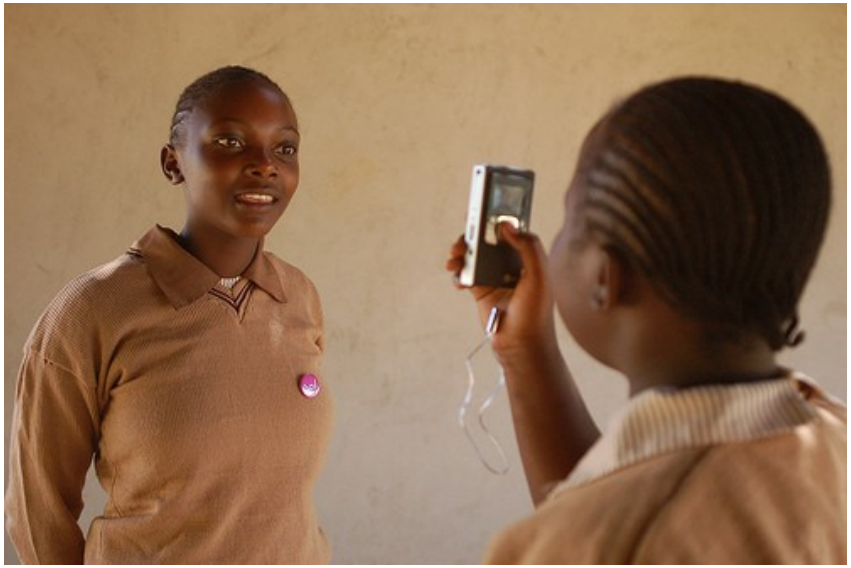
THIS IS 21ST-CENTURY KNOWLEDGE INFRASTRUCTURE…



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(Logo) Source: http://www.allafrica.com
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BUT SO IS THIS…

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CONCLUSION: AN AGENDA FOR ACTION AND RESEARCH: I-SCHOOL CONTRIBUTIONS???

- Innovations in critical development practice: collaborative tool development, participatory design, reflective practice, etc.
- Knowledge in a development context: **sharing**, **preservation**, **transmission**, **organization**, **generation**, **integration**, forms of **embodiment**, modes of **negotiation**, etc.

technical vs. social
modern vs. traditional
formal vs. informal
material vs. immaterial

What do you make of McNamara's evaluation of the track record of ICT4D work to date? Do you agree with his conclusions in The Way Forward and Priorities for Action sections? Are there things missing from this vision?

How might research and practice around ICT4D in an information school context *differ* from what's happening in other institutional or disciplinary locations? (i.e. what are distinctive strengths and weaknesses of 'doing' ICT4D in an iSchool context)?

Thank you – comments, questions, suggestions welcome…

Steven Jackson
UM School of Information

EXTRA STUFF…

ICT4D AND THE PATHOLOGIES OF DEVELOPMENT

- Role of IT for development (as a species of developmental discourse) in staging figures of its own (the telecenter user;
- Bureaucratic Authoritarian Informationalizing Regimes (BAIRs) (cf. O'Donnell, Cumings, et. al.) – linkage between information and control
- Resource distortions – digital tractors rusting in the field…
- Bottom-of-the-pyramid ???

Pathologies of development	ICT4D dangers
Interpollating subjects / objects	the telecenter operator; the social entrepreneur
Staging relation between West and rest	Passive recipients of technology; bottom of the pyramid?
Obscuring patterns of flow	
Constructing / 'indigenizing' power	Bureaucratic authoritarian informationalizing regimes? (cf. BAIR debates of 80s & 90s)