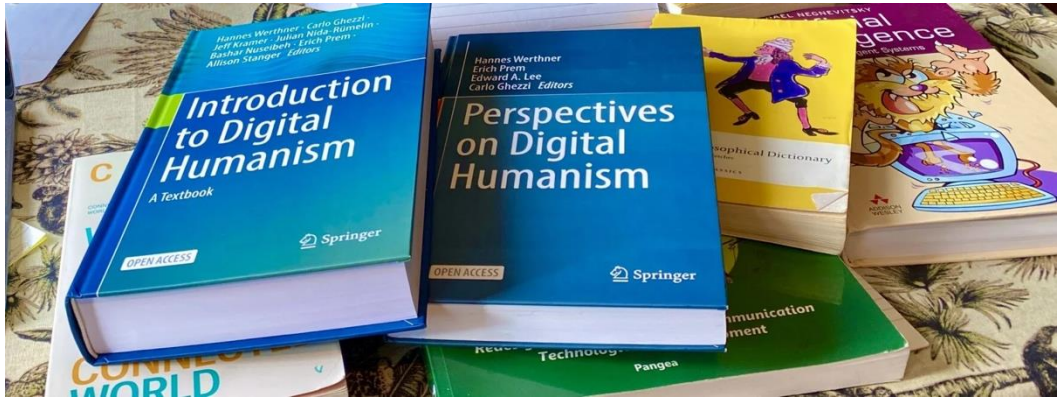
Sustainable Development Goals & Digital Humanism

Anna Bon

Lecture @DIGHUM Summerschool

About this lecture

This is a lecture based on the two chapters we contributed to the two books on Digital Humanism.



Bon, A., Dittoh, F., Lô, G., Pini, M., Bwana, R. M., Cheah, WaiShiang, Kulathuramaiyer & Baart, A. (2022). Decolonizing Technology and Society: A Perspective from the Global South. In: *Werthner et al. Perspectives on Digital Humanism.* 2022 Springer pp 61-67.

Bon, Anna, Francis Saa-Dittoh, and Hans Akkermans. "Bridging the digital divide." In: *Hannes Werthner· Carlo Ghezzi· Jeff Kramer· Julian Nida-Rümelin· Bashar Nuseibeh· Erich Prem·Introduction to Digital Humanism.* (2024) pp 283.

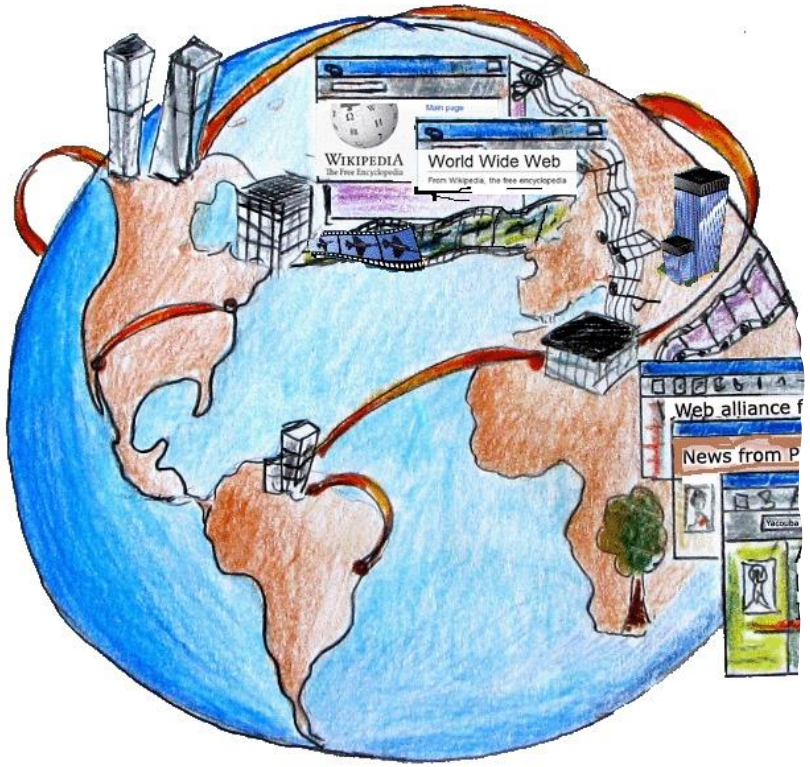
DIGITAL HUMANISM

https://w4ra.org https://euridice.eu https://tiballi.net

W4RA EURIDICE TIBALLI

Co-funded by the European Union

How inclusive, sustainable, fair is the Digital Society ?



- A few questions before we start:
- Where are **we** from?
- Who is familiar with the SDGs ?
- Which Grand Challenges do they address?

Sustainable Development Goals

- Sustainable Development Goals launched in 2015 by UN; endorsed by all member countries
- Goals and targets for People, Planet and Prosperity
- Follow up on the MDGs Millennium Development Goals
- Addresses Grand Global Challenges -
- Are they up to date?
- Are they internally consistent – are there trade-offs?
- How is the state of the achievements in 2024 ?
- Is there not something missing?
- …… ?

2024: SDGs are not on track

"Four years have passed since the 2019 Global Sustainable Development Report (GSDR) was published and even then, the world was not on track to achieving the Sustainable Development Goals (SDGs)..[..]..

Since 2019, challenges have multiplied and intensified..[..]..

Progress has been halted in many areas partly as a consequence of a confluence of crises. [..]

As a result, overall progress towards the 2030 Agenda and the SDGs has been severely disrupted in the last three years, yet every inch of progress matters and counts. "

Source: Global Sustainable Development Report Advance, Unedited Version 10, 14.06.2023

SDG: proposing a new Goal

What would be the targets?

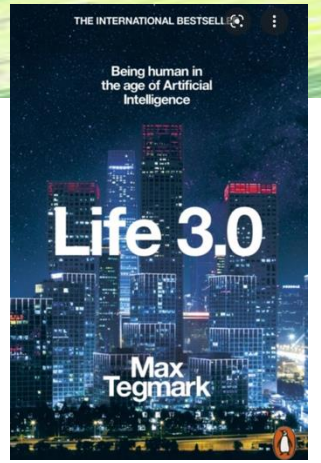
International Governance of AI

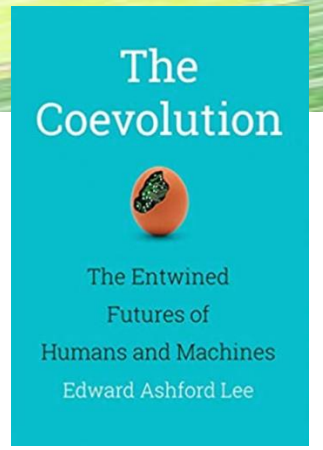
- Regulation of social media - globally
- Breaking Big Tech monopolies
- GDPR, DSA, MSA – human values implemented in regulation in and beyond Europe
- Protect digital identity of citizens
- Protection of children for digital
- Regulation of cryptocurrency, fintech
- Prohibition of autonomous weapons
- AI and Good Global Governance (UNDP)

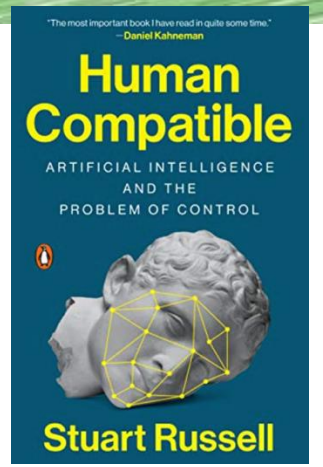
How about these targets and the Global South? *(Critical assessment using decolonial theory)*

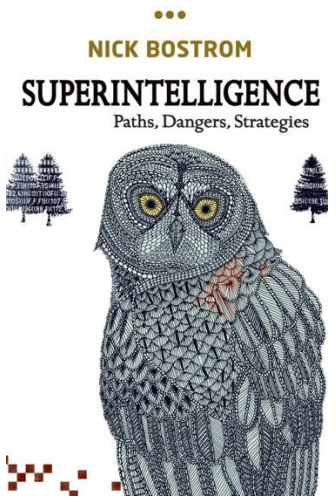
A blind spot: in the Digital Society
Who are "we"?

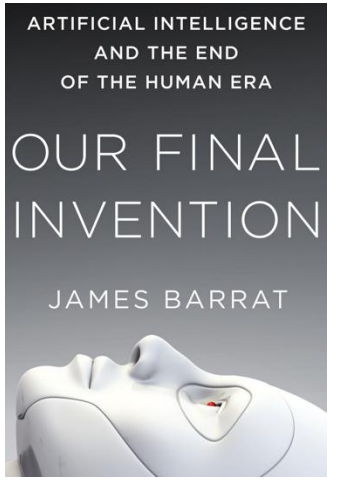
- "…are *we* humans defining technology or is technology defining *us*?" – Edward A. Lee
- *"We* humans have great influence over the outcome – influence that we exerted when we created the AI" – Max Tegmark
- "Perhaps, most important, AI, unlike aliens is something over which *we* have some say" – Stuart Russell
- When will the machines get this power and will they get with *our* compliance? – James Barrat
- In principle *we* could build a kind of superintelligence that would protect human values. *We* would have certainly strong reasons to do so. – Nick Boström











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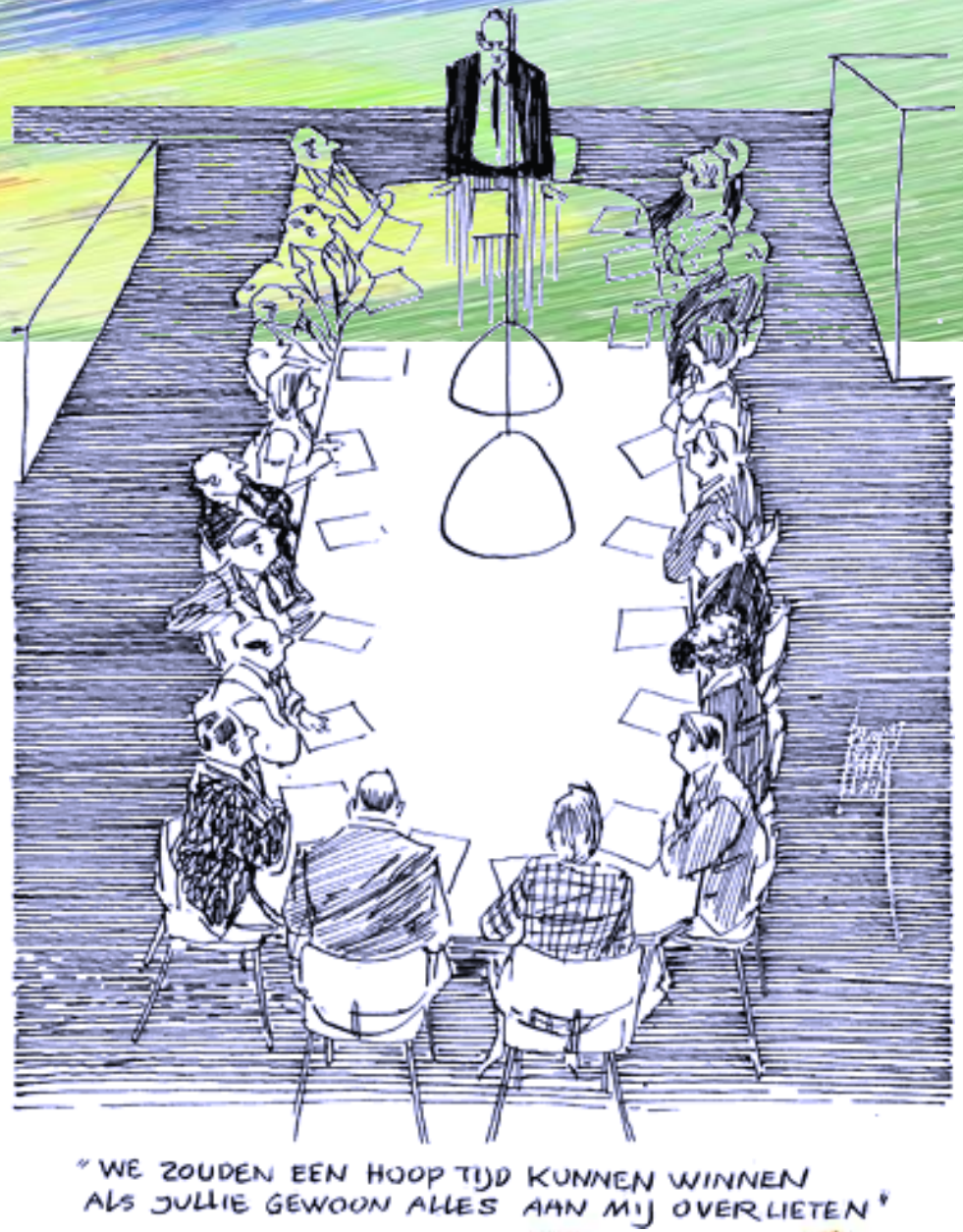
Who decides ? Who is in charge of the future of the Digital Society?

Despite the huge impact of digital technologies on the lives of *all* people on the planet, *many (peoples, communities, countries) are not included* in the debates about the future of the Digital Society.



"We could save a lot of time if you would just leave everythimg to me"

*) Quoting the cartoon by the famous late Dutch cartoonist Peter van Straaten

W4RA

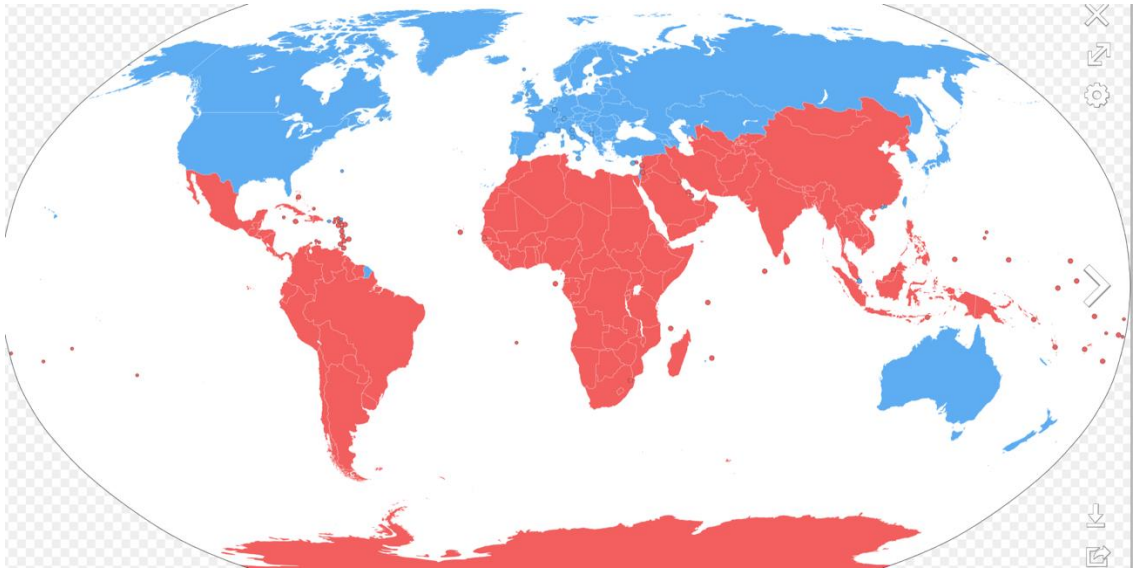
Grand global challenges and vulnerability: people in low resource environments

Assessing the Digital Society through the lens of Decolonial Theory

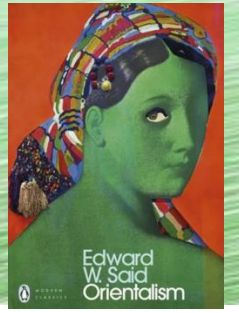
Historical patterns in the Digital Society

- Digital Society is a space of human interaction, the digital *Agora,* but not older than about three decades.
- It has inherited historical patterns of the "real" social world, while also introducing new ones.
- These are many positive social aspects but also *bias*, power structures and painful historical patterns such as discrimination and colonialism.

Let's now analyze the Digital Society and the Digital Divide through a decolonial lens



Some useful resources on decolonial theory

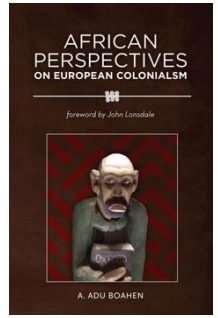


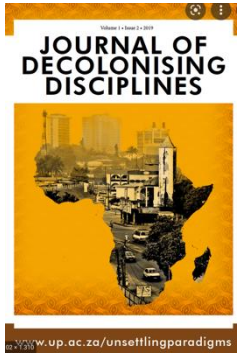
Mignolo, W.D. and Walsh, C.E. (2018) On Decoloniality: Concepts, Analytics, Praxis. Durham, NC, USA: Duke University Press.

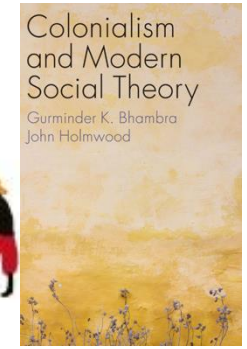
Mendoza, B. (2021) “Decolonial Theories in Comparison” in Shih S., Tsai, L. (eds) Indigenous Knowledge in Taiwan and Beyond. Sinophone and Taiwan Studies, Vol .1, pp. 249-271,Singapore: Springer.

Mohamed et al. (2022) Decolonial AI – Decolonial theory as Sociotechnical Foresight in Artificial Intelligence. Philosophy and Technology. Vol. 33 No. 4

Membe Achilles (2001) On the Postcolony. Studies on the History of Society and Culture, Vol. 41, Los Angeles, USA: University of California Press.







Digital Divide

originally referred to the gaps in access to information and communication technology (ICT), threating the ICT - "have-nots", whether individuals, groups or entire countries.

New issues of the "*Digital Divide*"

- Regulation, legal frameworks for Digital Society
- Share in the economy - production , local innovation
- Decision-making, governance
- Institutions able to enforce regulatory frameworks
- Decent work – ICT related – Workers' rights – (cf ChatGPT workers in Kenya)
- Protection of citizens, citizenship
- Quality education (incl. in ICT education)
- Loss of culture and tradition
- Ownership & governance of digital infrastructure
- Literacy, language

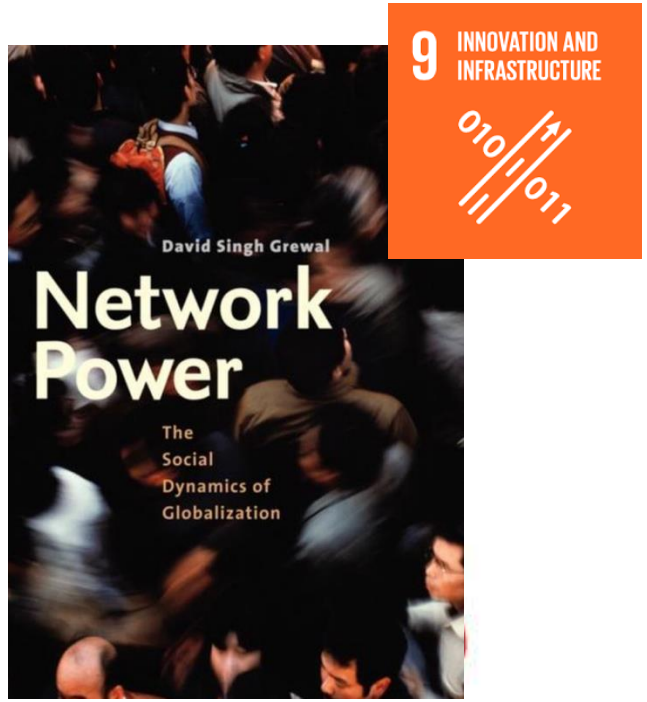
The Internet as a hegemonic system

Omnipresent Internet is seen as the solution for the Digital Divide (See SDGs. SDG-9)

The networked, omnipresent nature of Internet and Web hold a number of characteristics which make it into a hegemonic system.

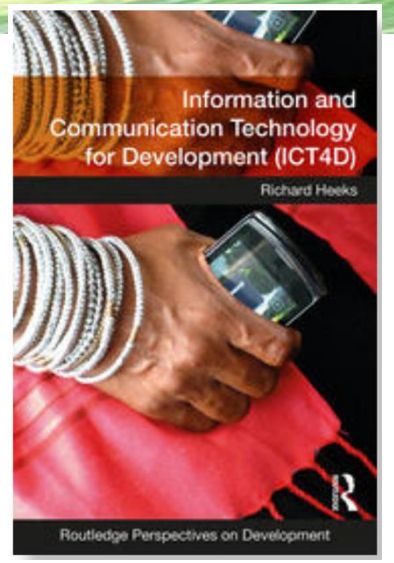
Hegemonic in the sense: joining it becomes unavoidable
As a successful innovation it expands exponentially
After a certain tipping point is reached it becomes a standard
There is no alternative
You cannot avoid it, if you try to avoid it you become excluded.

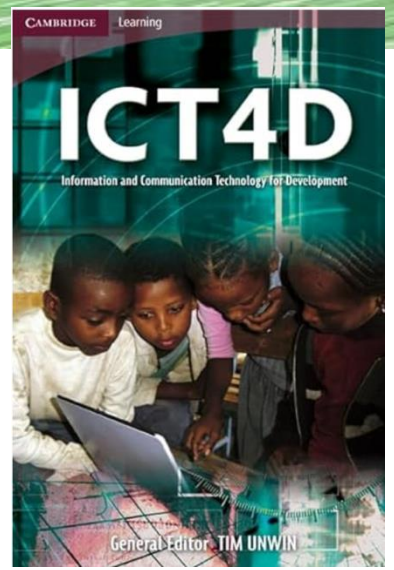
Other types of hegemonic systems: language (e.g. English), monetary system, network standards, software systems, communication systems, fashion, etc.



See also: David Singh Grewal 2009. Network Power, The Social Dynamics of Globalization. Yale University Press.

ICT for Development, a development endeavor or an evolving field of study?





ICT4D – international development programs
ICT4D as research topic, initially mainly in Social Sciences:
see two books on ICT4D as (European development) policy:

Early phase:
World Bank spent 2.9 billion US $ between 2003–2010
On ICTs for the poorest countries.
World Summit on the Information Society 2003-2005

2010 – 2020 : the “ICT4D Winter” - what was the reason?
Since 2020 – renewed interest: especially to in AI4Good
https://aiforgood.itu.int/summit24

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ICT4D early projects : the Case of OLPC

- Presented in 2005 at the WSIS by Nicholas Negroponte
- OLPC One Laptop per Child – every school child in the world a laptop
- Targeting developing countries
- 100 US$ per laptop
- Presented as an educational project –
- not a laptop project

Source image laptop: https://nl.wikipedia.org/wiki/OLPC_XO

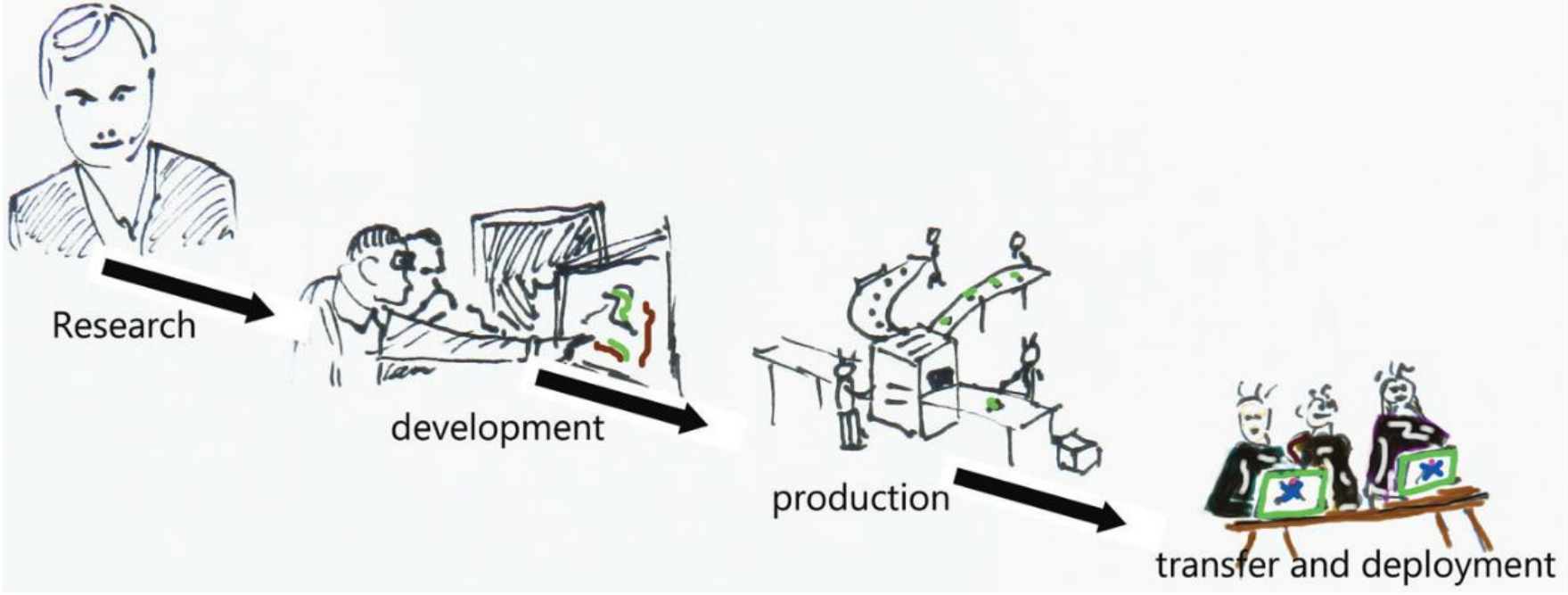
The Case of OLPC - II

- XO novel functions: power supply, energy consumption (solar battery) mash networking, keyboard, touchpad, Sugar Operating System
- Special software based on constructionist theory of learning by doing
- Minimum order 1.000.000 laptops – lowered to 250.000 laptops
- Expected to sell 150 M laptops by 2007
- Peru 225 million US$ spent on laptops
- Uruguay spent 395 million US$ on XO laptops delivered in 2300 schools.

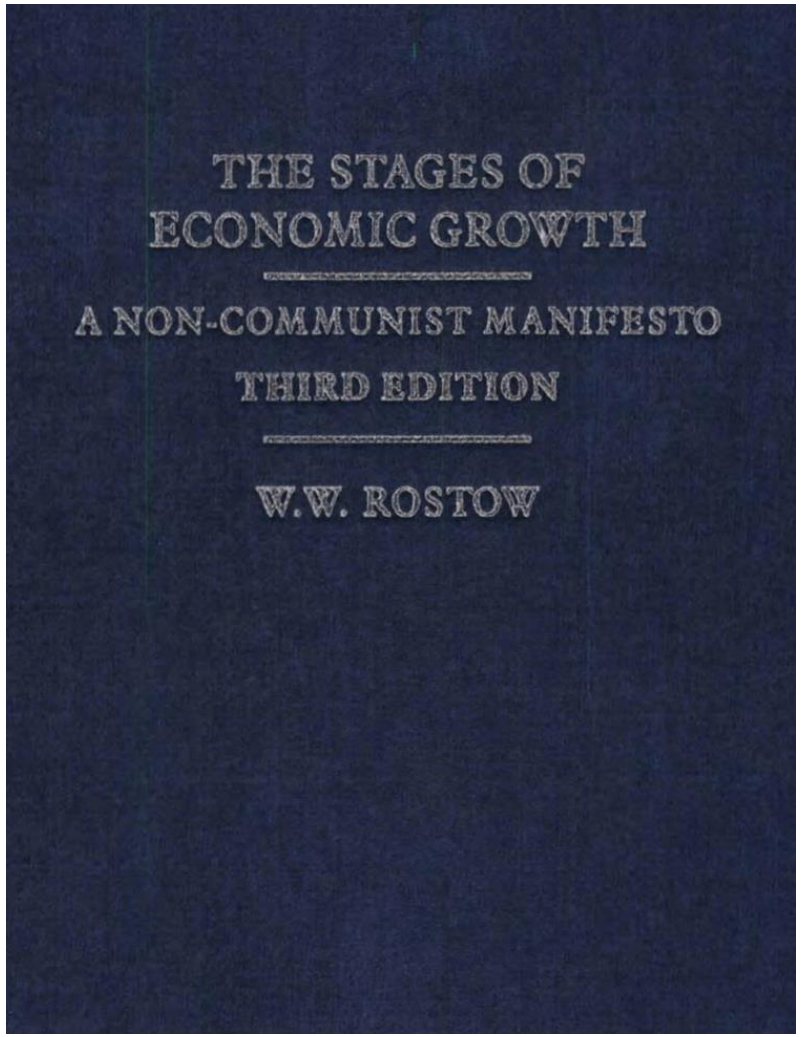
Theories behind ICT4D – e.g. OLPC case

- OLPC followed the logic of linear model of innovation (Schumpeter 1911, Usher 1954)
- Theories: Logical Framework Approach, Theory of Change
- These follow a cause – effect logics; evaluation studies monitor outcomes as

"attribution"



International Development is generally based on theory of modernization



- From “traditional societies” through several stages into societies of “high mass consumption” like the USA, China or Europe.
- This was the ideal of development for “underdeveloped regions” in the post WW-II era, spearheaded by the US (see maiden speech by President Truman, 1948).

Development through *modernization*: industrialization, automation

V4RA

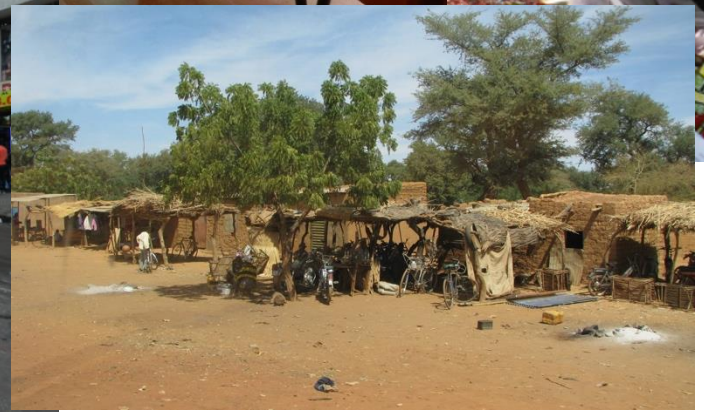
What can we learn about the Digital Society in the Global South?

- Innovation is not a blueprint – technology and society are entangled
- Interventions do not work out as we expect
- Linear approaches do not work
- Bias is in technology and in theory
  - What are the issues, especially in low-resource environments?
  - What can be done?

Alternative models for ICT4D, inspired by participatory action research

- User-centered design, collaboration, adaptation, iteration
  - Living labs, Agile development methods
- Action research/design science
- Local innovation, Participatory Technology Development
- Transdisciplinary action research

Alternative 2006 – present: a narrative of ICT4D research



ICT4D research and education in West Africa, Latin America, SE Asia
2006 - 2022

W4RA

Alternative ideas

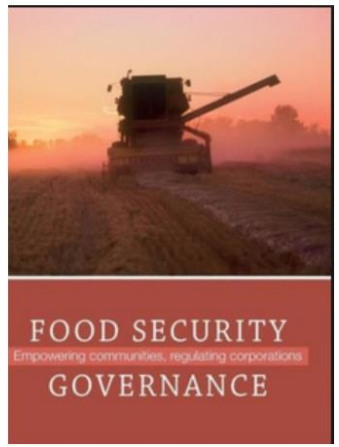
Nora Mckeon (2015)
Food Security Governance

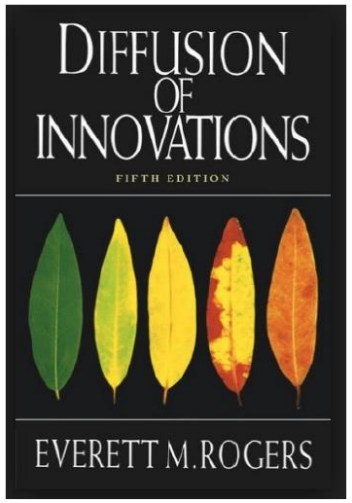
Chris Reij and Ann Waters-Bayer. Farmer innovation in Africa: a source of inspiration for agricultural development. Earthscan, 2001.

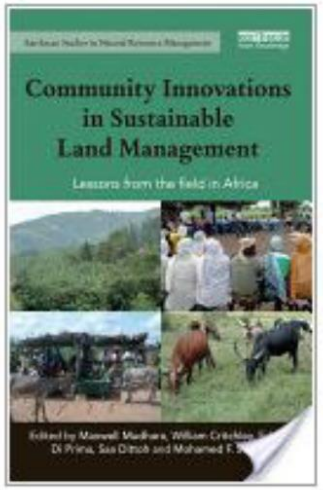
Mudhara, M., et al. (2016).
Community Innovations in Sustainable Land Management: Lessons from the Field in Africa. Routledge.
Yaneer Bar-Yam, Making Things Work ,
solving complex problems in a complex world.
Knowledge Industry. 2003

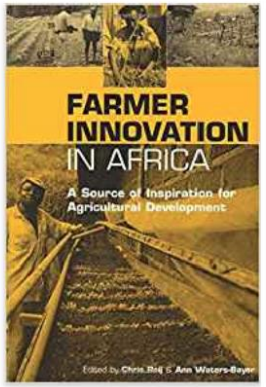
Rogers, E. M. (2010).
Diffusion of innovations.
Simon and Schuster.

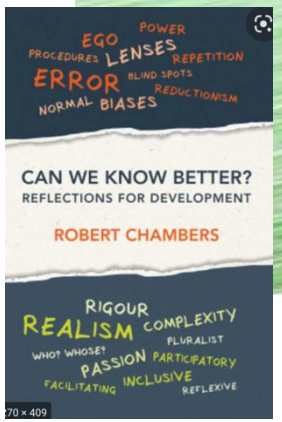
Ben Ramalingam (2013)
Aid at the Edge of Chaos

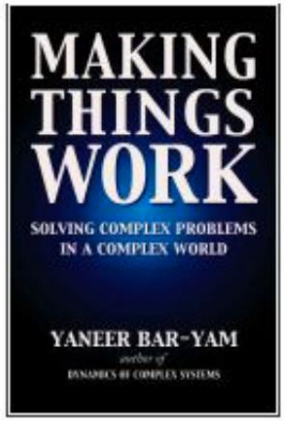


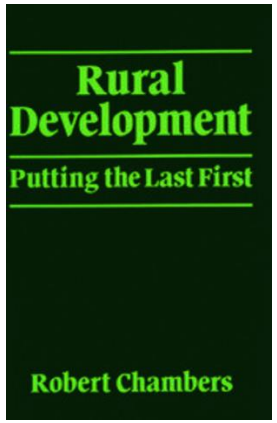


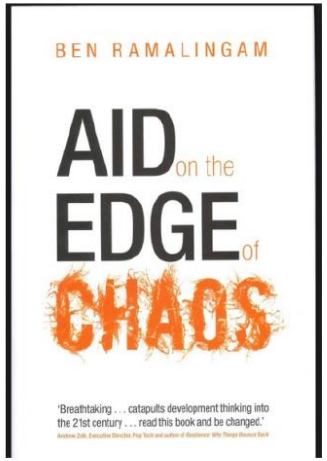




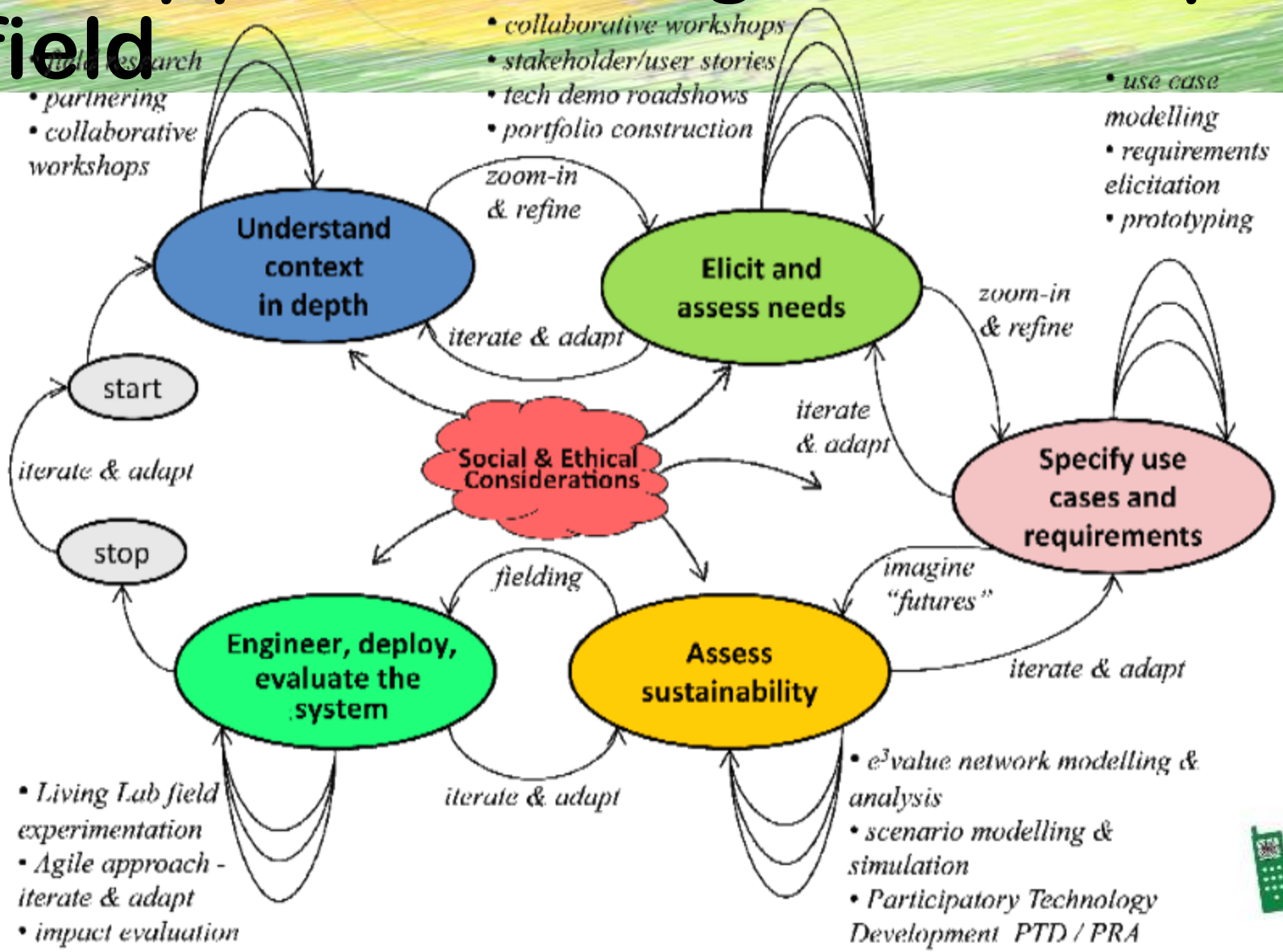






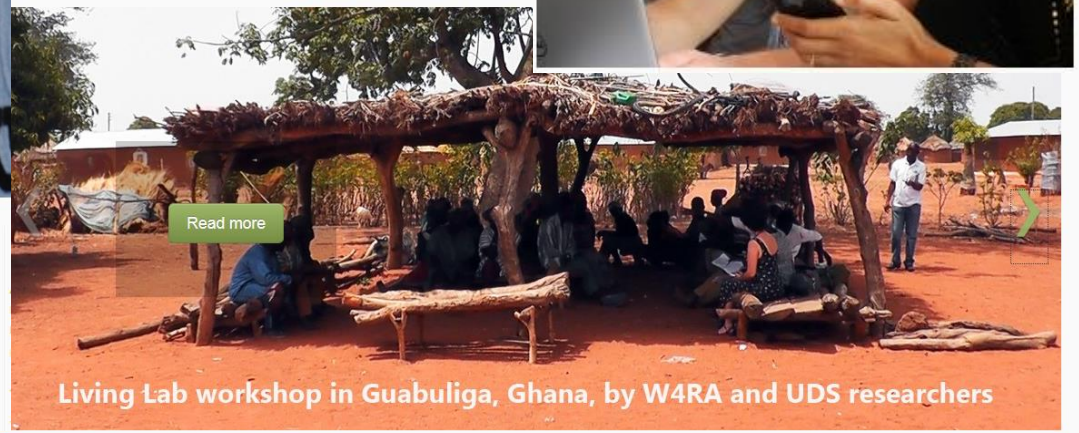


ICT4D: 3.0: collaborative, iterative adaptive approach to digital development in the field



W4RA

Since 2009 W4RA program – inspired by African Regreening Initiatives



Web alliance for greening in Africa

...rvices, especially mobile ones, ...he potential to play a major role in ...ing social and rural development in ...ping economies. Market penetration ...ral community adoption of basic ... telephony and services have been

Apps for Food Security in Mali – W4RA and AOPP team up

From 9 to 14 October 2015, W4RA team visited Mali, to kick-start a new research project to support farmers to improve resilience and food security. This project,

How does it work? ICT4D in a community approach (From real world use case to ICT4D artefact)

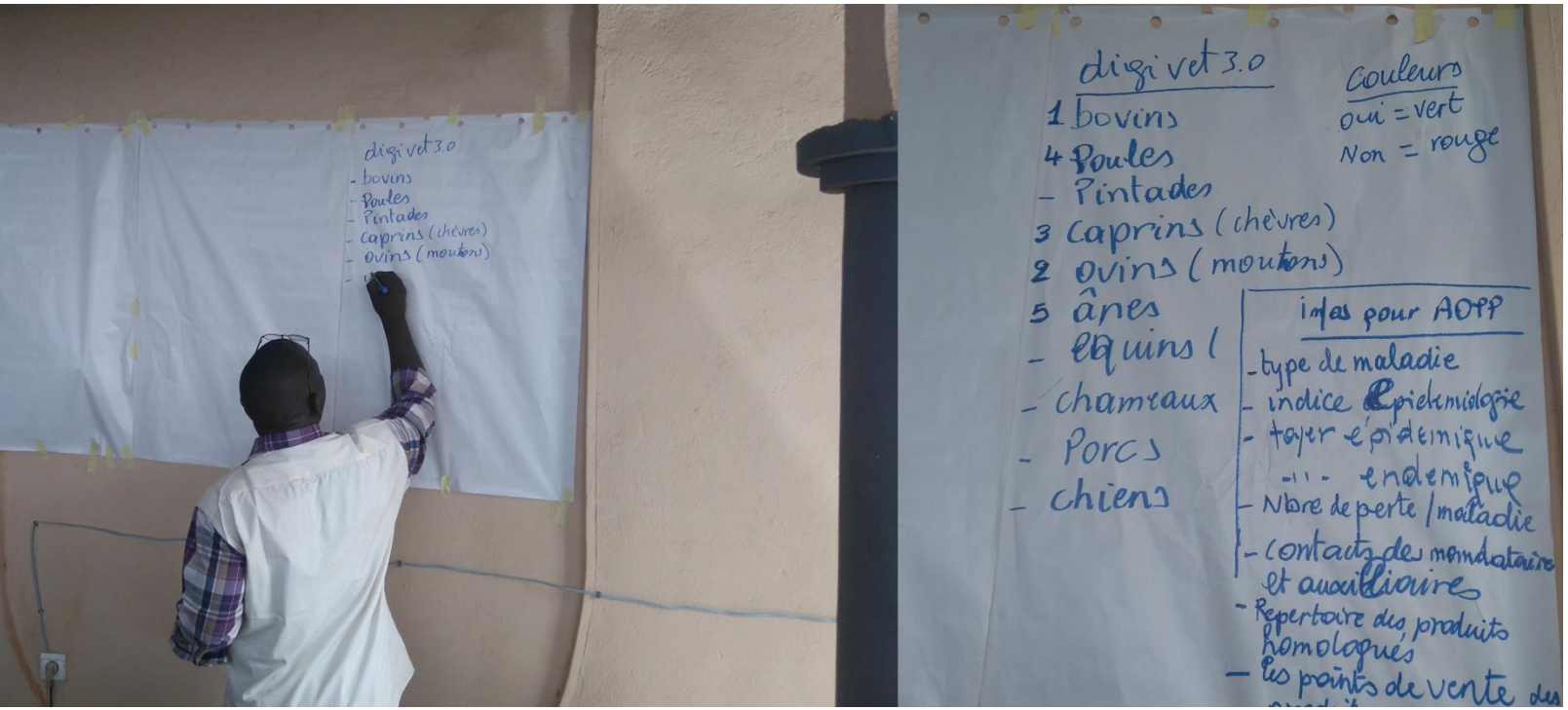
Iterative process
In which collaboration
and context analysis
Take place in a space of
Interaction, debate,
co-design.

Relationship is very
important for the successful
Deployment of ICT4D.

A structured
ICT
Artefact
Adapted to context

Needs assessment and *collaborative* goal construction, with the users

- Who are the users? What are their operational goals?



Example of collaborative workshop in Bamako, AOPP office, Mali, 2016, designing animal health application for farmers.

Example of collaborative workshop in Guabuliga, Ghana, exploring user goals for voice-based app

W4RA

ICT4D is genuinely collaborative and respectful of local agency

Examples of a collaborative workshop with seed cooperatives in Siby, rural Mali, April 2019.

Example of student research project, Ghana – Netherlands 2015

Kofi logs into the system and his language of choice is recognized. The voice guides him through the different questions.

"Welcome farmer Kofi, please select the species of your sick animal"

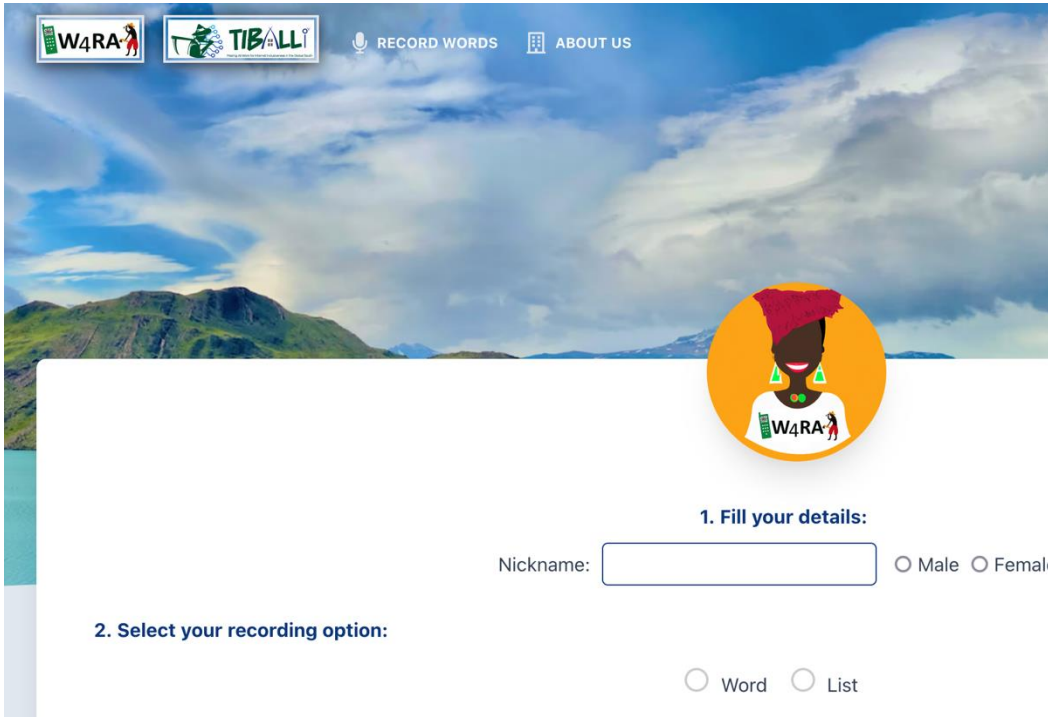
Cow

"Now enter whether the symptoms can be seen on the body or not. Red means no, green means yes"

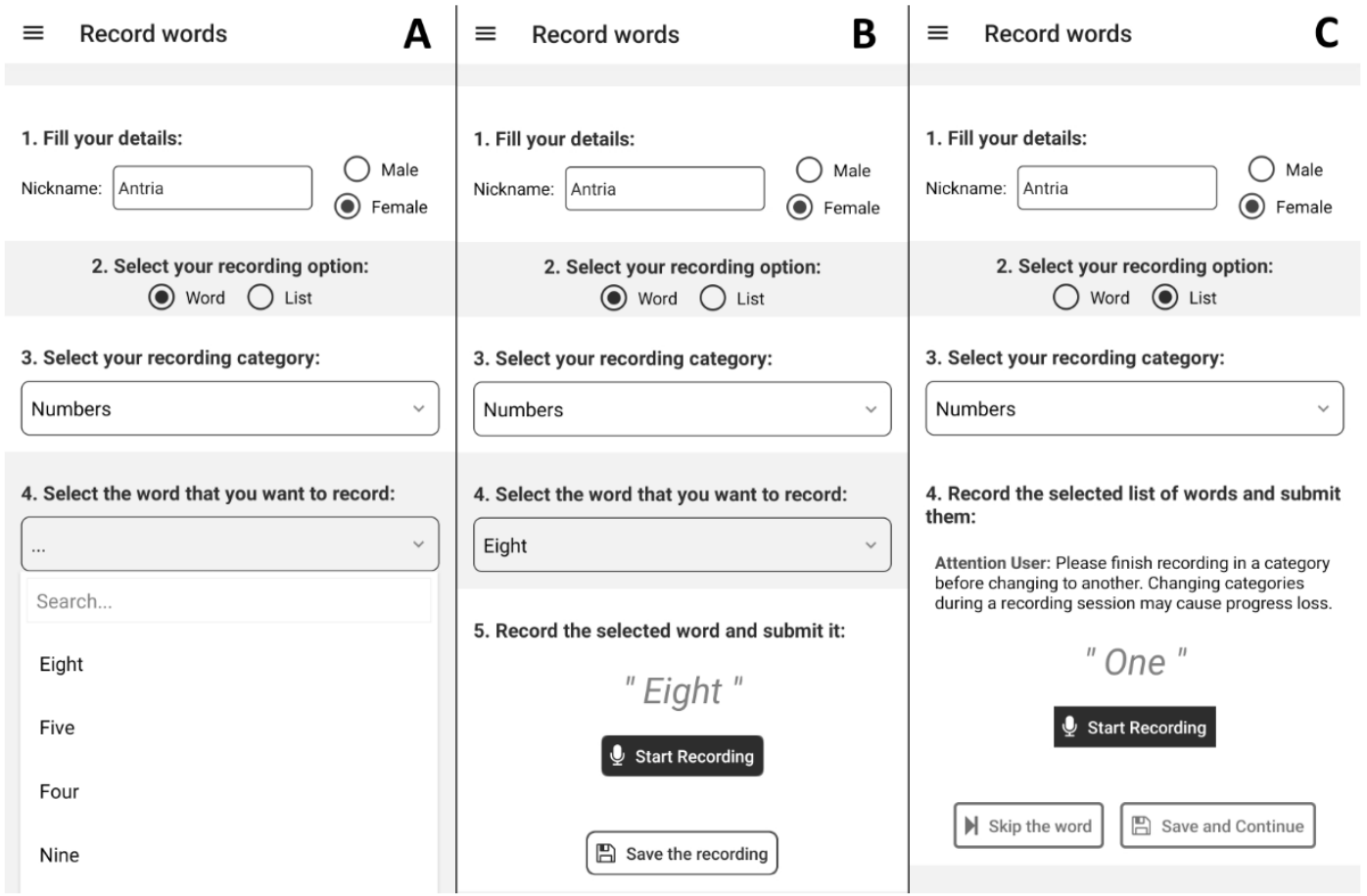
Yes

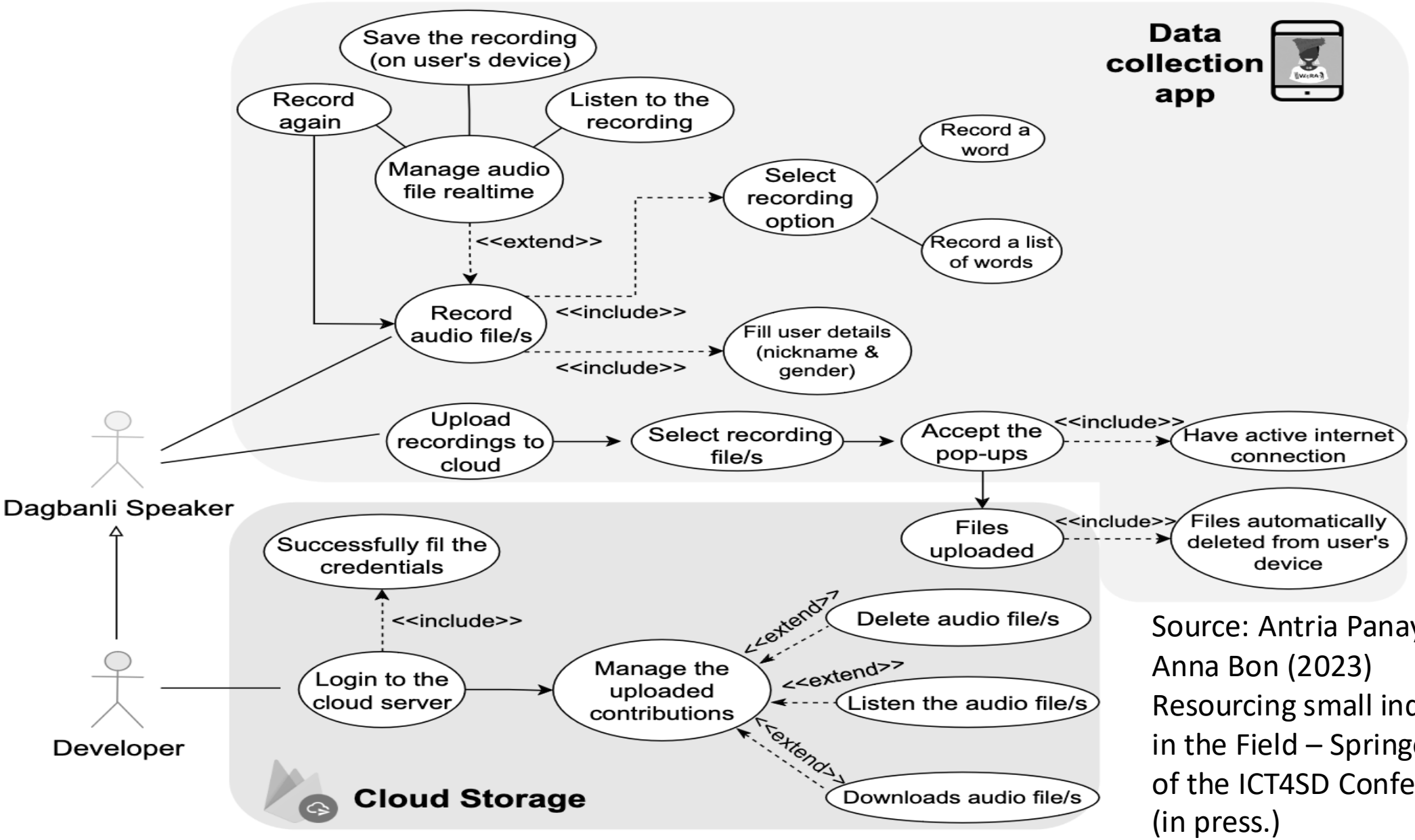
...etc

Antria Panayiotou. Overcoming Complex Speech Scenarios in Audio-Cleaning for Voice-to-Text. Short research project, as part of the Tiballi Project. Master Thesis Computer Science, Vrije Universiteit Amsterdam, June 2023.



Source: https://dagbani-speak.web.app/





Source: Antria Panayiotou, Francis Dittoh, Anna Bon (2023)
Resourcing small indigenous languages in the Field – Springer Proceedings of the ICT4SD Conference Aug 2023 (in press.)

Fig. 1. Use case scenarios for the personas.

ICT4D education as design science/ participatory action research

Education in the Global Digital Society

- Teaching the new generation of Digital Society/ICT4D Professionals – interdisciplinary approaches
- Building awareness of the complexity of the challenges in the Digital Society with special focus on the Global South
- Working with HEs in the Global South in education and research
- Co-designing curricula, co-teaching
- Bringing students together in joint ICT4D/ Digital Society programs
- Doing Community-oriented, practical education & research

Example: EURIDICE education on the Digital Society & Global Citizenship

- Funded by the EU Digital Europe Porgramme. (budget 9.6 M EUR)
- 22 partners from EU, HEs from all over EU, Africa and Asia
- Collaborating on Global Challenge: Digital Society
- Inclusive, collaborative, design-oriented, innovative education, covering Grand Challenges: Digital Society in all its aspects
- Global Citizenship: building the new generation of professionals
- Goal: innovative interdisciplinary education at various levels:
  - Master level, teacher training, professional life-long training
  - Topics: integrate different disciplines, AI, CS, Digital law, Philosophy, Ethics, Social Sciences, Economics, Educational Sciences etc.

Roadmap for Digital Humanism in the Global South?

- **Inviting people** from low resource environment to participate in the debate about the future of the Digital Society
- **Support/collaborate with HE institutions**/researchers in the Global South – ICT4D curriculum development in and for the Global South
- **Open Source**, independence of Big Tech, initiatives to give autonomy back to the user
- **Community-centered** ICT4D – focus on small data solutions, contextual solutions, local entrepreneurship, local solutions to local problems, work what is already there.
- ***Digital Sovereignty*** – small scale initiatives with small data, using what is already there.

Thank you !