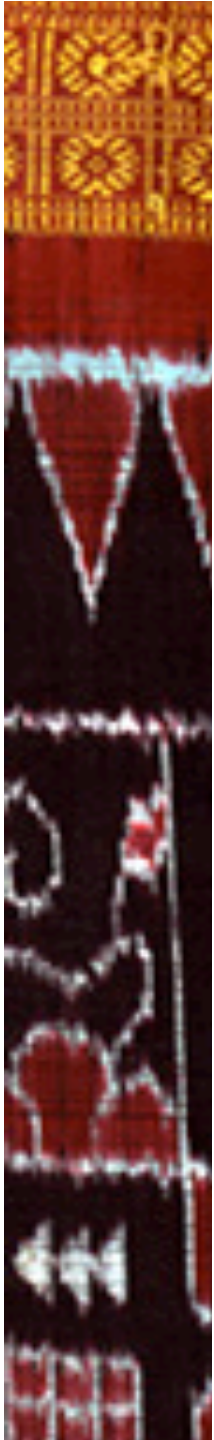




Digital Divide/Digital Inclusion: Gender, Technology and Development

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Definitions

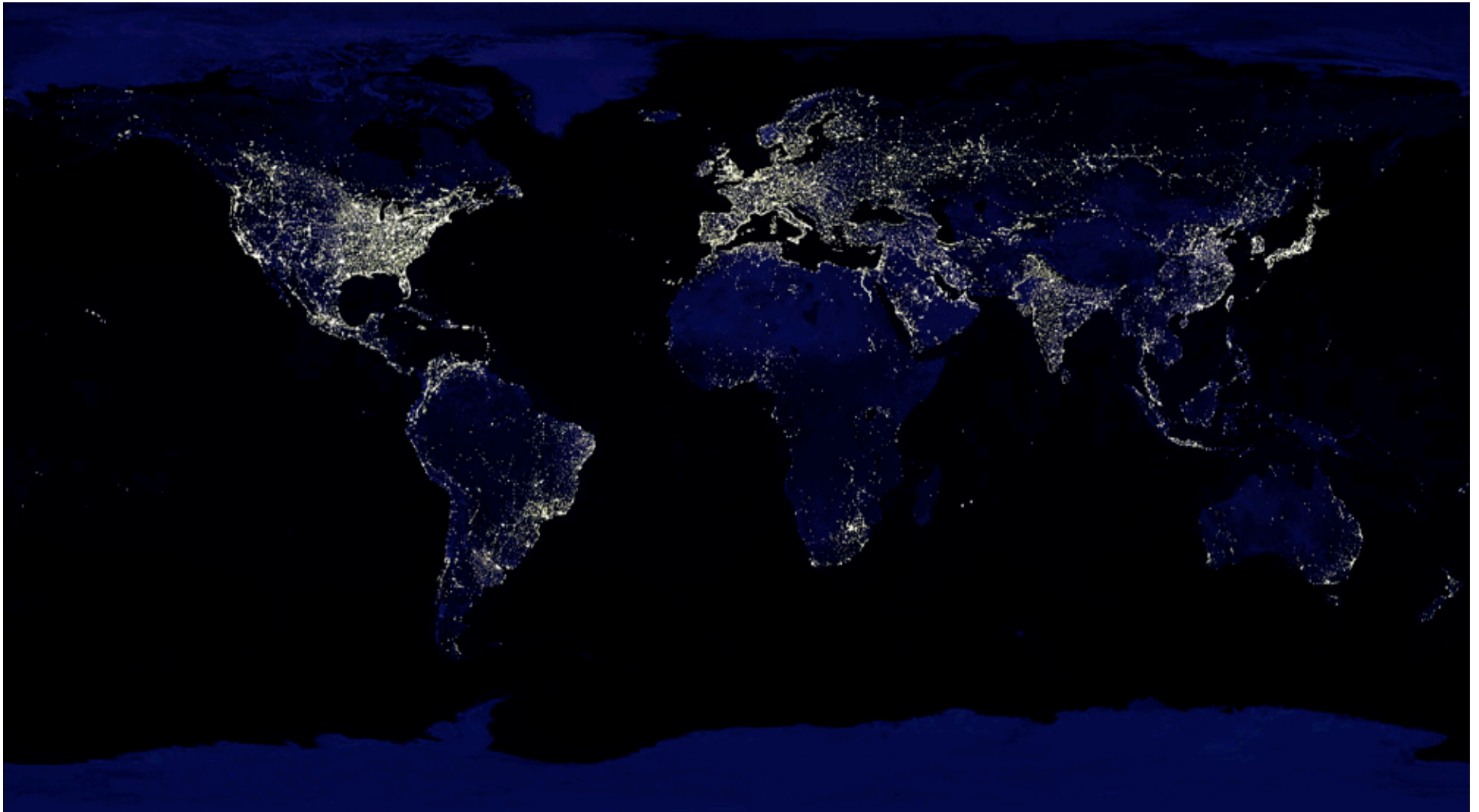
- ICT = Information and Communication Technology
- ICTD = “” + Development
- Development = “enlarging the pie” (*opportunities, resources, capacity building, social well-being, democratization... no one wants to give up their piece of pie, so we have to make a bigger one.*)

Agenda

- Part 1: A lot of ICTD and a little Gender
- Part 2: A lot of Gender and a little ICTD

The majority of the world's population does not have access to information or communication...

How can ICT be used to enable advancement in developing regions?





What is the Digital Divide?

- One part of the development puzzle
- Development/Underdevelopment
 - Poverty reduction in developing regions (3rd world)
 - Economics, Health, Education, Gov't reform
 - Big agencies, NGOs, Industry, Academy
 - UN Millennium Development Goals
- Technology's Role in Development
 - ICTD: application of ICT in underdeveloped countries
 - Infrastructure
 - Capacity building/training in ICT
 - Digital content and services

Addressing divides

“The so-called digital divide is actually several gaps in one. There is a technological divide – great gaps in infrastructure. There is a content divide. There is a gender divide, with women and girls enjoying less access to information technology than men and boys. This can be true of rich and poor countries alike.”



Some pitfalls of ICTD

- *NGO/Dev Agencies:*
Top-down approach
- *Academia:*
Theory-based, silos
- *High tech:*



Charity ↔ Customer

Biggest issues:

Leading with technical solutions, not human problems

Tech meritocracy outlook (wrt gender)

Little follow through/assessment



And yet...

- Billions spent every year by high-tech companies and development agencies and foundations
- Is ICT effective? Examples? Hype?
- Whose responsibility is ICT for Development?
- Where does it “fit?”

“ICT promises enormous benefits as part of the solution to economic and social problems by empowering people in developing countries to help themselves”





Doing ICTD right

Good ICTD:

- Appropriate
- Sustainable
- Gender Equitable

Equity: female participation

- Quantitative/Qualitative evidence (WB, UN, ITU)
- Degree to which women can advance = degree to which community can sustain development
- Women's barriers to tech access and use
- Can't balance the equation

Closing Divides

- Understand the complexities of doing development
- Technology is not a panacea – novelty factor
- The closer you are to a culture, the less objective you are and the more assumptions you hold
- This holds for sectors (i.e. high tech) as well
- Removing assumptions: fieldwork in other cultures, courses in sociology, development studies, qualitative methods
- The community knows what the community needs and doesn't need
- Access and devour the resources available (links)

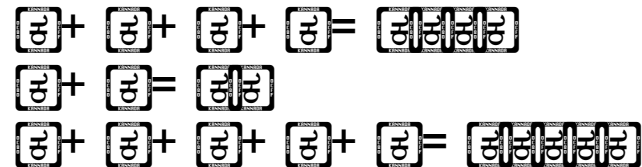


Encouragement

- This is not to say “Don’t do ICTD!”
- Primary – development
- Secondary – push IT and CS
 - Not discarded 1st world tech
 - New algorithms, power mgmt... etc

MOST NEEDED

Alternative inputs:
manual, gesture, voice
Delay-tolerant technologies
Localization
2-way tech







Gender Divides in ICTD

- Women are the key to sustainable development
- Women bear greatest brunt of poverty
- Women experience significant barriers to technology access and use
- High tech does not know much about gender
- Efforts to close the “digital divide” can exacerbate gender divides
- Gender-specific barriers to ICTD access:
literacy, training, cost, time, safety, gender, culture
- It's not getting better

AIR: ICTD to empower women

- “Advancement through Interactive Radio”
- Enable women to participate in development
- Let women decide what “empowerment” means
- Appropriate, sustainable, equitable
- Build on existing infrastructure and traditions
 - Community Radio
 - Oracy
 - Trusted medium
 - Intentionally low-tech
 - Women talk!



Motivation

Address women's information needs

- ICTD initiatives often exclude women
- Build on available infrastructure
- Facilitate participation
- Assess impact on women's development



Contribute to ICTD body of knowledge

- Bridge social and computer science
- Build tech that maps to human needs
- Appropriate, sustainable, equitable design



Why Community Radio?

- Radio networks reach over 60% of the population of sub-Saharan Africa
 - Kenya: 92% of the population is within radio coverage, 80% live in rural communities
- Number of CR stations in sub-Saharan Africa has grown from 10 to more than 800 in the past 2 decades
- Nearly ubiquitous appeal:
 - 91% (USAID 2005 study)
 - Local language
 - Batteries often high priority
 - Shared and mobile radios
 - Women (and men) act on CR content
- Renewed (and new) interest



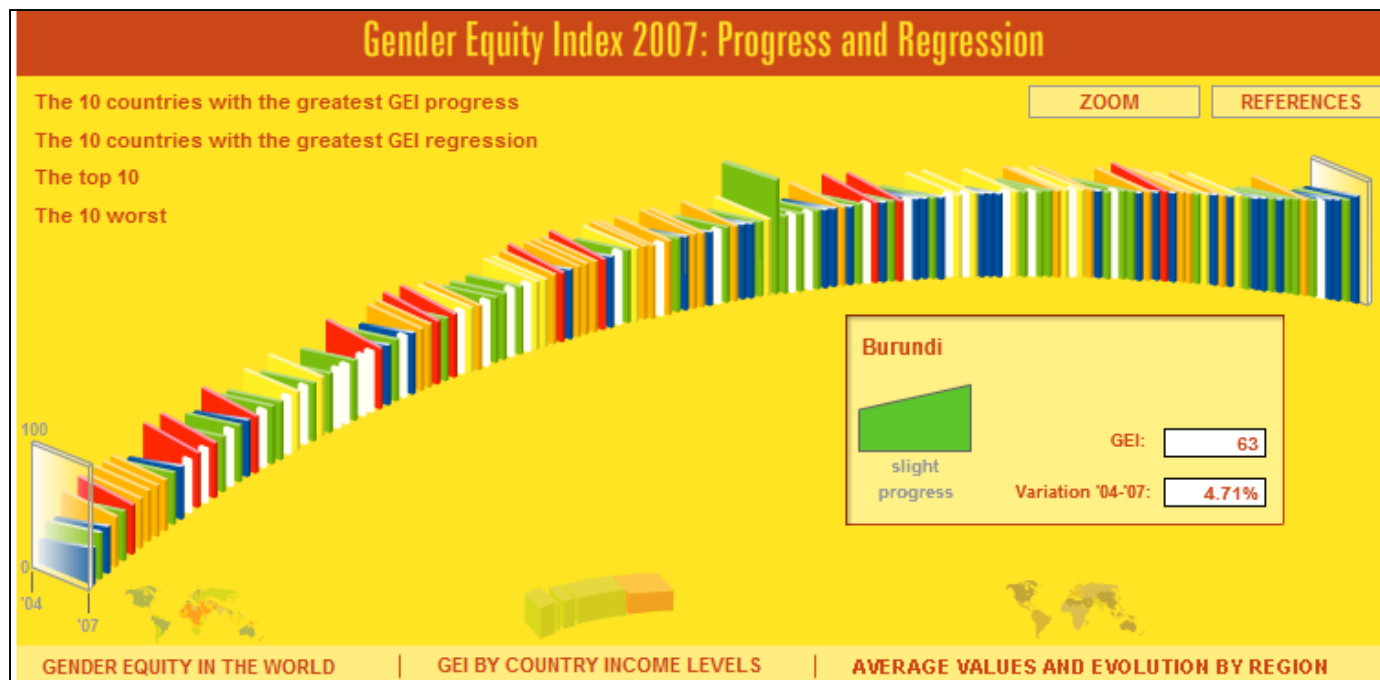
What AIR is

- A custom communications device to assist in women's, and thus community, advancement
- A mechanism that enables women to “talk back” on radio airwaves, giving radio limited interactivity
- Research that tests several social and development theories
- A system: handset, hardware, software, radio station
- Based on women's requirements
- An interim solution until:
 - Rural communities are on cellular and electrical grid
 - Women can afford cell phones
 - Women are permitted to be more active, vocal and mobile members of their communities

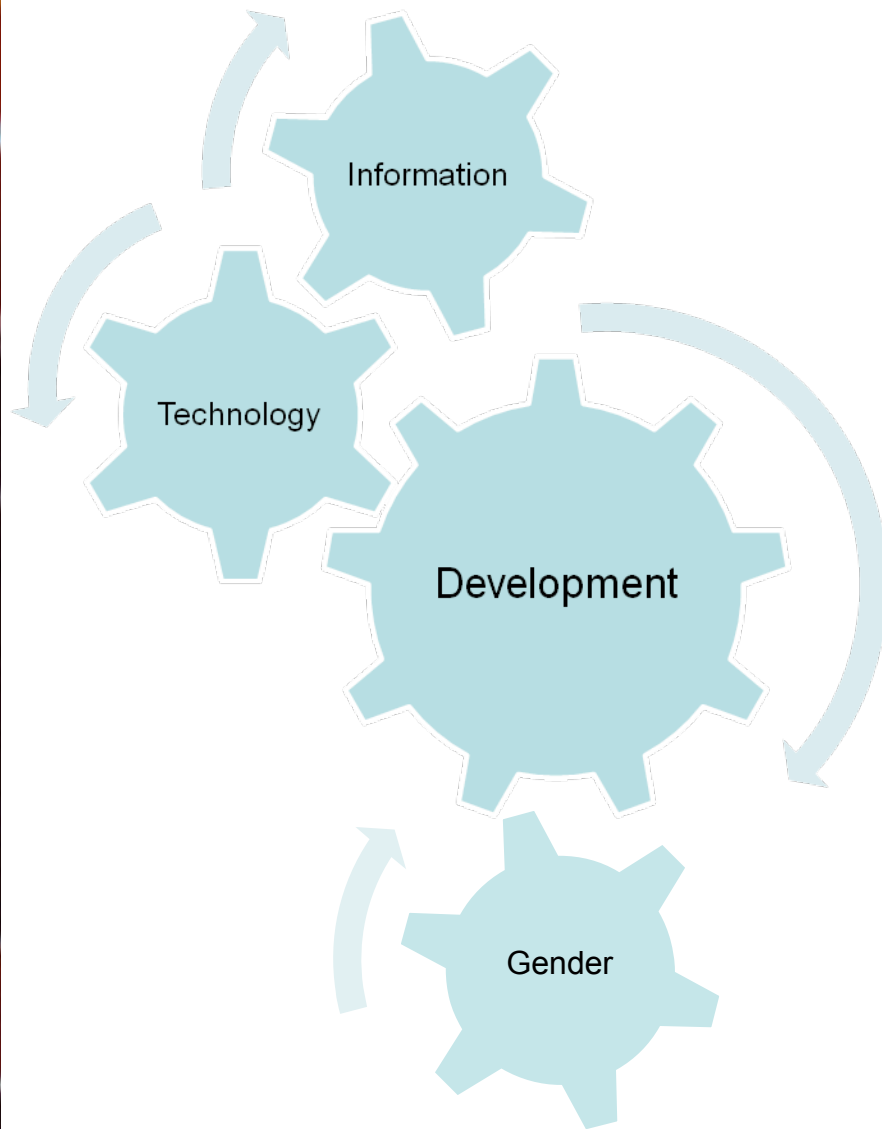


Research Hypotheses

1. Increasing interactivity in community radio will have a positive effect on the empowerment and status of women in the community – as *they* define empowerment and status.
2. Creating an interactive virtual “radio space” will provide a place to discuss and address issues that are considered “marginal” or “sensitive” – often the issues that can limit community advancement.



Example of new ICTD courses



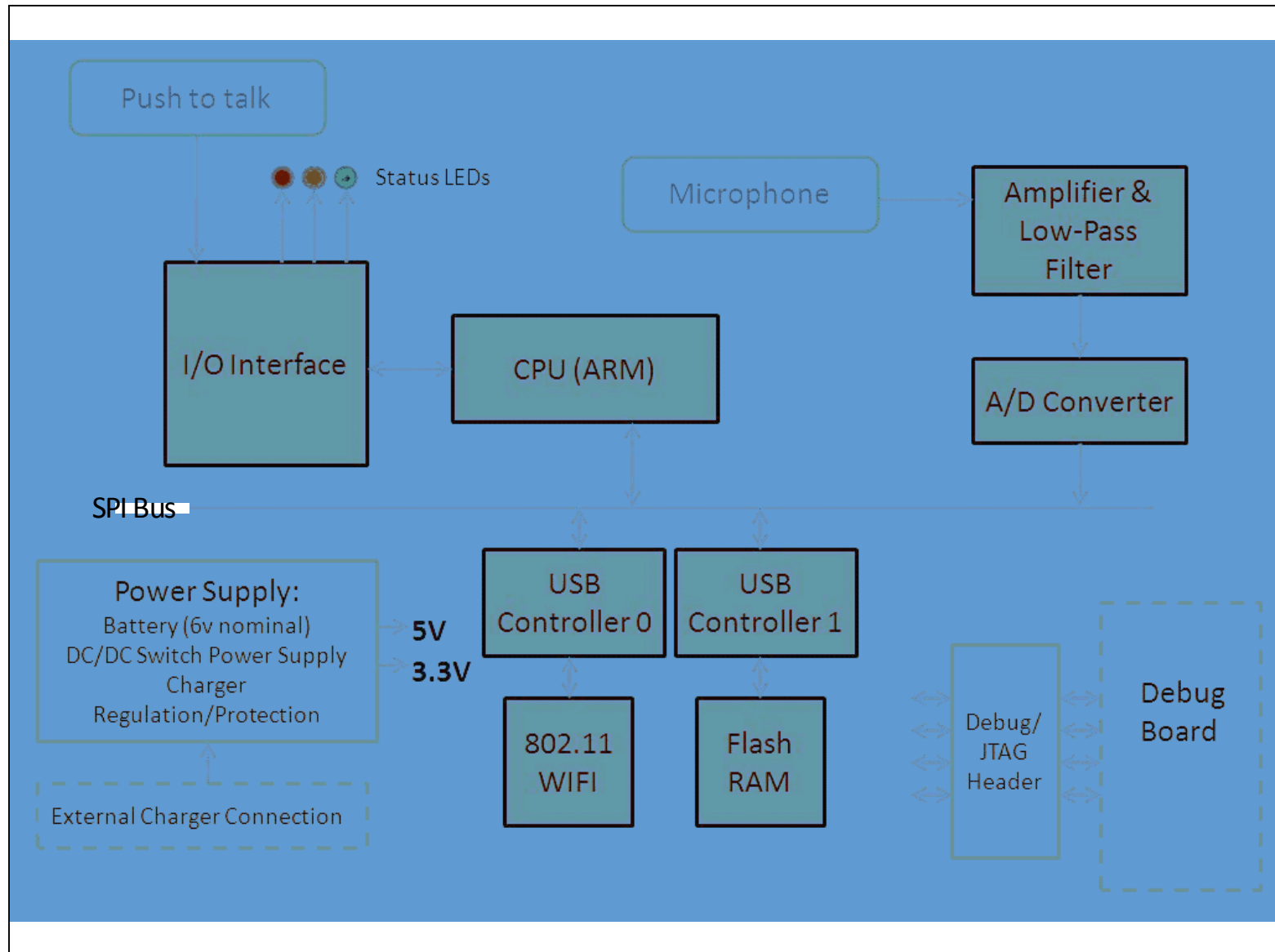
- **Information and Communication**
Communication theory
Development communications
Liberation theology
Feminist studies
- **Technology**
ICTD efforts
VSD/Human centric design
DTN/Mesh networking
- **Development**
Gender and development
Development theory
ICT efforts
- **Gender**
Feminist theory
Gender and computing

AIR Characteristics

- Voice-driven
- Rugged
- Portable
- Easy to use
- Inexpensive/free
- 1+ km
- Solar recharge
- Women-designed
- Targeted functionality
- Positive encounter



AIR Device Block Diagram



Resources:

www.developmentgateway.org

www.eldis.org

ictlogy.net

<http://www.socialwatch.org> (GEI)

Geekcorps - www.geekcorps.org

UN-GAID

UN Taskforce on ICT for D

ACM/IEEE conference on ICTD

2006:

<http://www.ischool.berkeley.edu/ictd2006/>

2007:

<http://research.microsoft.com/en-us/um/india/events/ictd2007/>