

WORKSHOP ON APPROPRIATE TECHNOLOGY FOR THE 21st CENTURY: SUSTAINABLE DEVELOPMENT in AFRICA



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**The International
Network on
Appropriate
Technology (INAT)**

ENGINEERS WITHOUT
BORDERS
HU CHAPTER



HOWARD
UNIVERSITY

Appropriate Technology

- Technology to **Empower Communities**
- Appropriate – Suitable, sustainable
- Empowerment:
 - Clean Air and Water
 - Nutritious Food
 - Adequate Shelter
 - Clean Energy and Clean Environment
 - Access to Good Health Care and wellbeing – physical, psychological
 - Access to Education and Information

Appropriate Technology Values

- We believe that **communities must be empowered to access and manage the resources** they need to be self-sufficient and sustainable.
- We trust and **value the ability of local communities to shape and create their own vision for their future**, as well as the path to move toward it.
- We believe that transparency and **participatory decision-making is central to the goal of social justice and sustainability**.
- We believe that **working toward ecological sustainability must be a priority for all societies** to ensure peace and prosperity for all peoples.
- We **appreciate and respect the diversity and differences** among our constituents and our collaborators.

Relevance of an Appropriate Technology?

- **First technologies developed to satisfy the needs of the community and enhance that community's capabilities to survive, endure and, if possible, prevail.**
- **Subsequent technological developments addressed other needs**
- **Shift from addressing human need to addressing the need solely for profit – hence needs began to be created as required by capital**
- **Incredible and amazing creativity and technological capabilities of humankind**

Relevance of an Appropriate Technology?

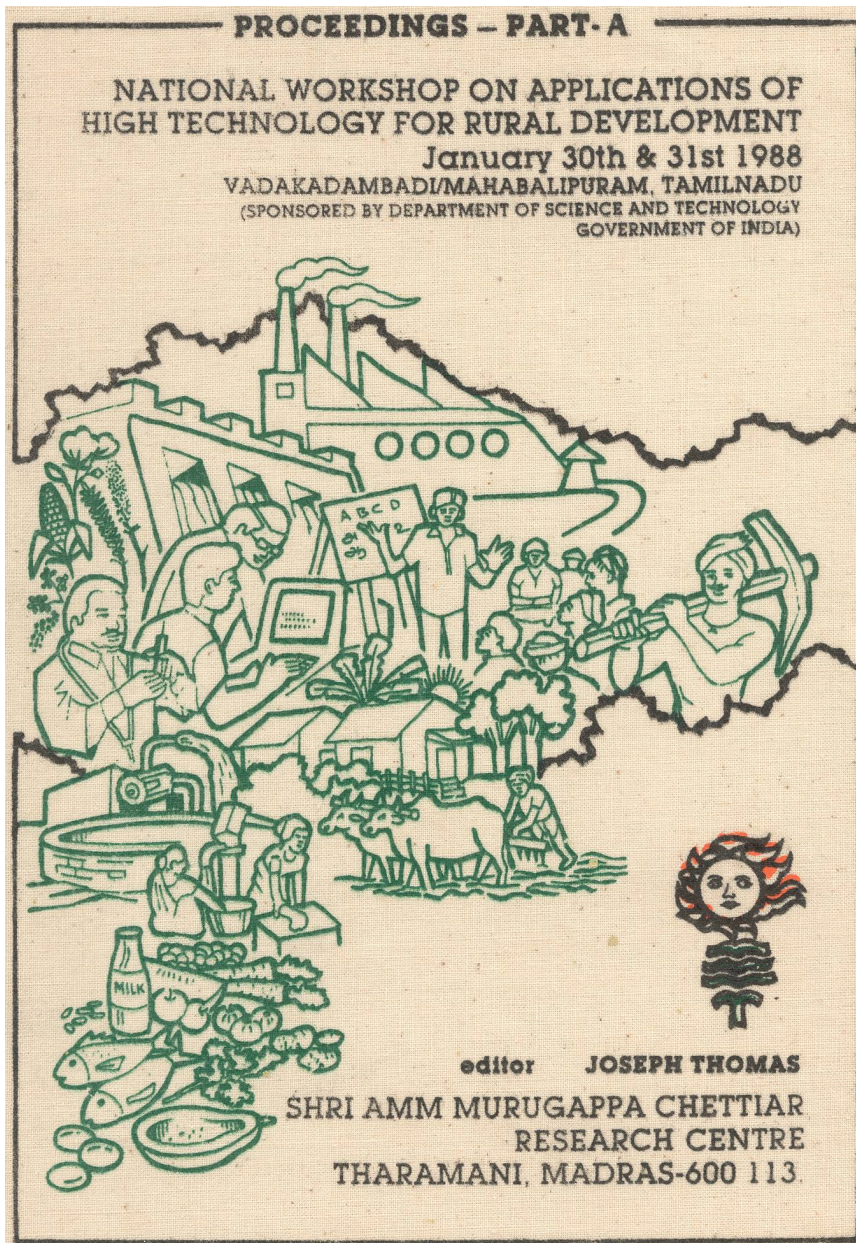
- **Nevertheless, of the 6.5 billion people on the planet:**
 - **Over 2 billion people lack clean, potable drinking water access**
 - **More have no access to sanitary waste disposal**
 - **More than half have no light**
 - **More than two-thirds have no access to web**
- **Need to refocus technological development and implementation**
- **Appropriate Technology becomes increasingly relevant for empowering these communities**
- **We must re-engineer the engineer and engineering and technology education.**
- **Critical in the global south**

Does Appropriate Technology mean “Low Tech”?

NO!

Some Example Projects:

- Energy
 - Solar Energy
 - Energy Consumption and Development
 - Biomass
- Technology Application
- Land and Water Management
 - Drinking Water
 - Dryland Farming
 - “New” Agriculture
- Food Preservation
- Information and Communication
 - Telecommunication
 - Rural wireless net



HISTORY OF ENGAGEMENT

- **International Conferences on Appropriate Technology (ICAT)**
 - 1st ICAT – National University of Science and Technology (NUST) in Bulawayo, Zimbabwe, July 2004 - **Land Management**
 - 2nd ICAT – NUST in Bulawayo, Zimbabwe, July 2006 – **Public Health**
 - 3rd ICAT – Kigali, Rwanda, November 2008 – **Energy**
 - 4th ICAT – Accra, Ghana, November 2010 – **Water and Sanitation**
 - 5th ICAT – Pretoria, Republic of South Africa, November 2012 – **Linking AT Research, Education and Practice to Policy**
 - **6th ICAT – TBD → November 2014 – Kenyatta University?**
- **Formation of International Network on Appropriate Technology (INAT)**
 - Linking up Barefoot College with INAT in Sudan and initiation of t College in Sudan



HISTORY OF ENGAGEMENT

- **Appropriate Technology Symposia at Howard University**
 - Spring 2009 – Engineers Without Borders
 - Spring 2010 – Bunker Roy and the Barefoot College
 - Fall 2011 – Gada Kadoda and the Barefoot College in Sudan
- **Appropriate Technology Workshops**
 - Howard University 1998-2000
 - University of Trinidad and Tobago, 2008, Port-of-Spain, T & T
 - **Kenyatta University, Nairobi, Kenya – May 2013**
- **Socially Relevant Computing Workshops**
 - November 2010, Accra, Ghana
 - August 2011, Pretoria, Republic of South Africa



International Network on Appropriate Technology

- **USA - Howard University, Jackson State, Northern California Council of Black Professional Engineers, University of Puerto Rico, Mayaguez**
- **Zimbabwe – NUST**
- **Republic of South Africa – Tshwane University of Technology, University of Pretoria**
- **Guayana – Commission of Mines and Geology**
- **Sudan – University of Khartoum, Garden City College of Science and Technology, Sudan Knowledge Society**
- **Ghana – KNUST, University of Ghana at Legon**
- **Rwanda**
- **Kenya – CleanAirKenya, Kenyatta University, JKUAT, University of Nairobi**
- **Tanzania – Kilimanaro School of Pharmacy**
- **Senegal - UCAD**