Side Event on South-South Cooperation on S&T to Addressing Climate Change, Durban, South Africa

Promoting South-South Cooperation to Addressing Climate Change through S&T

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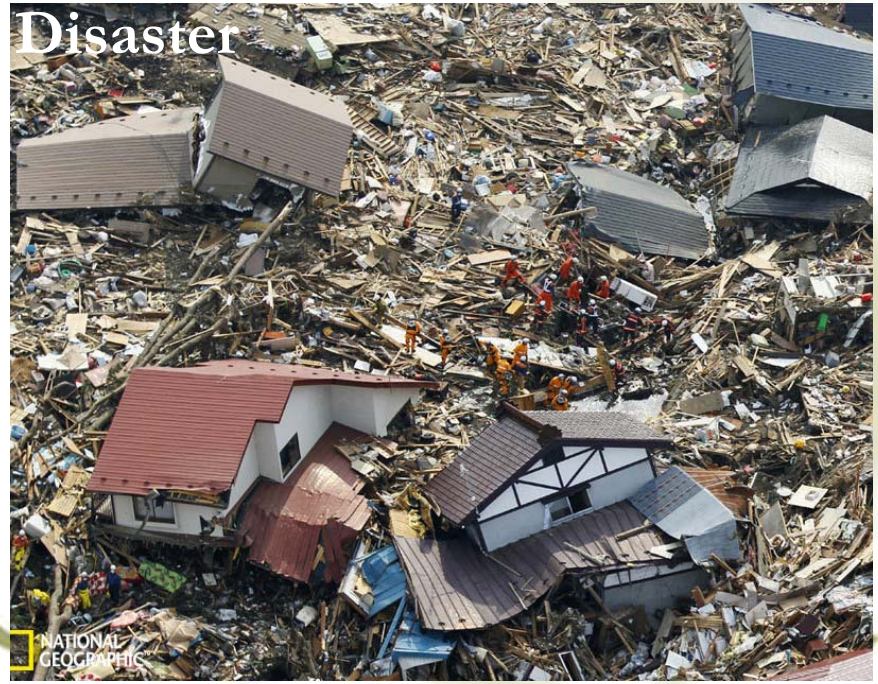
Convention says (UNFCCC)

- Economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.
- The developed countries shall provide new and additional financial resources to meet the agreed full costs incurred by developing countries in complying with their obligations.
- The developed countries shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other countries, particularly developing country Parties.
- The Parties shall support international and intergovernmental efforts to strengthen systematic observation and national scientific and technical research capacities and capabilities, particularly in developing countries.


Rising temperature


Sea level rise


Food crisis
When you're starving, anything looks appetising. A child dies of hunger-related causes every five seconds. Around the world, over 300 million children go hungry every night. Join the UN World Food Programme in the fight to end child hunger worldwide. To learn more, donate, or become a partner of WFP, go to www.wfp.org. Give a hungry child a future.
WFP
United Nations
World Food Programme


Disaster
NATIONAL GEOGRAPHIC

South-South cooperation

- People living in developing countries suffered from negative impacts of climate change.
- S&T is one of the most important way to address CC and plays key role in capacity building
- South-South Cooperation is a mechanism established amongst developing countries for exchanging experience, technology and knowledge towards sustainable development.
- South-South cooperation has scored remarkable achievements and could play an important role in addressing climate change.

Addressing CC by S&T

- **Technology needs of developing countries**
  - **Advanced technology: e.g. IGCC, CCS,**
  - **Cost-effective technology: e.g. Solar heater**
  - **More affordable, practicable, low-maintenance, effective and environment-friendly, cost-effective technologies are more applicable in developing countries**

Addressing CC by S&T through South-South cooperation

- Promote South-South cooperation in cost-effective technology R&D and technology transfer
- Challenges in south-south cooperation
  - Unknown demand and supply of cost-effective technology
  - Most assessment of technology needs may not meet the real demand of developing countries, overlook local capacities, more focused on mitigation than on adaptation
  - Lack of effective mechanism of south-south cooperation on knowledge diffusion, technology development and transfer, information sharing

Similarity of developing countries

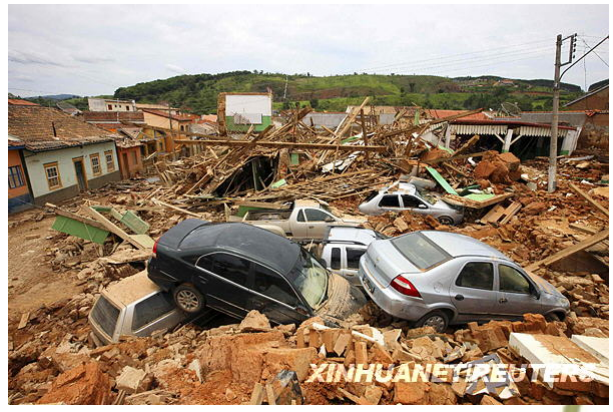
- Developing countries' challenges and situation are similar in the process of urbanization and industrialization.
  - Arid and semi-arid areas
  - Coastal areas and islands
  - Liable to drought, flood
  - Prone to natural disasters
  - Fragile ecosystem
- We have similar technology needs to address CC.

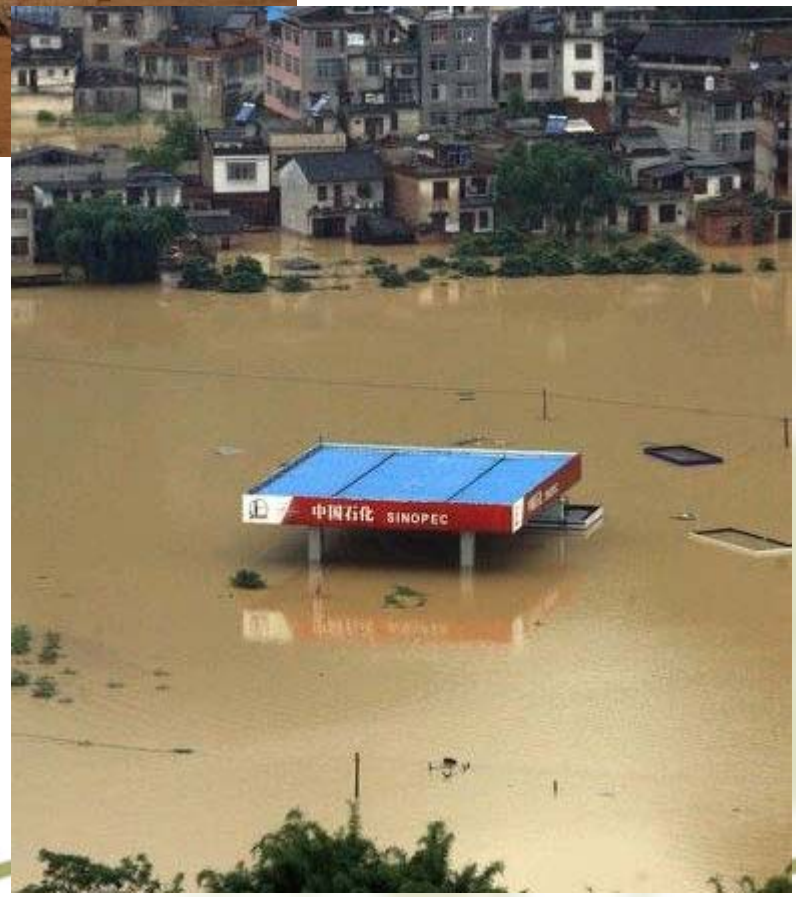
Estimated Tech. needs of developing countries

Countries	Description	Tech. needs
North Africa, Mid-Asia	Arid and semi-arid areas	•Rain utilization technology •water reuse technology •Prevention of desertification technology
East Africa, Mid-Asia	Liable to drought	•Water-saving technology •Improvements of crop yields
Small island countries, Countries with coastal areas	Low-lying coastal areas	•Seawalls and storm surge barriers •Technology against sea level rise and flooding
Southeast Asia, Countries with coastal areas	Prone to natural disasters	•Weather forecast technology •Early warning technology •Epidemic prevention after flood, drought and earthquake
Mid Africa, Mountainous countries	Fragile ecosystem	•Environmental protection technology
LDCs	poverty	•Safe water technology •Improvements of crop yields

Negative Impacts of CC on China

- China, with its large population and area, low GDP and income per capita, imbalances in socio-economic development, fragile eco-system, still a developing country.
- CC magnify disasters in China
  - Drought in the Southwestern China, spring 2010
    - 22 million people face difficulty in drinking
  - Heavy rain and flood in southern China, summer, 2011
  - Zhouqu mudslide induced by heavy rain and deforestation, summer 2010
    - 1467 death, 298 missed, 1 city ruined
  - Typhoon Neoguri(2008), Nida(2009), Fanapi(2010), Nanmadol(2011)
    - Thousands of houses collapsed, transportation grids halt in coastal areas


XINHUANETFREUTERS


中国石化 SINOPEC

China’s policy for international cooperation to address CC

- National Medium- and Long-term Science and Technology Development Plan
- 12th Five-Year Plan for China's Science and Technology
- China’s Sci-Tech Special Action on Climate Change
- 12th Five-Year Plan for China's Science and Technology Development Plan on Climate Change

China's policy for international cooperation to address CC

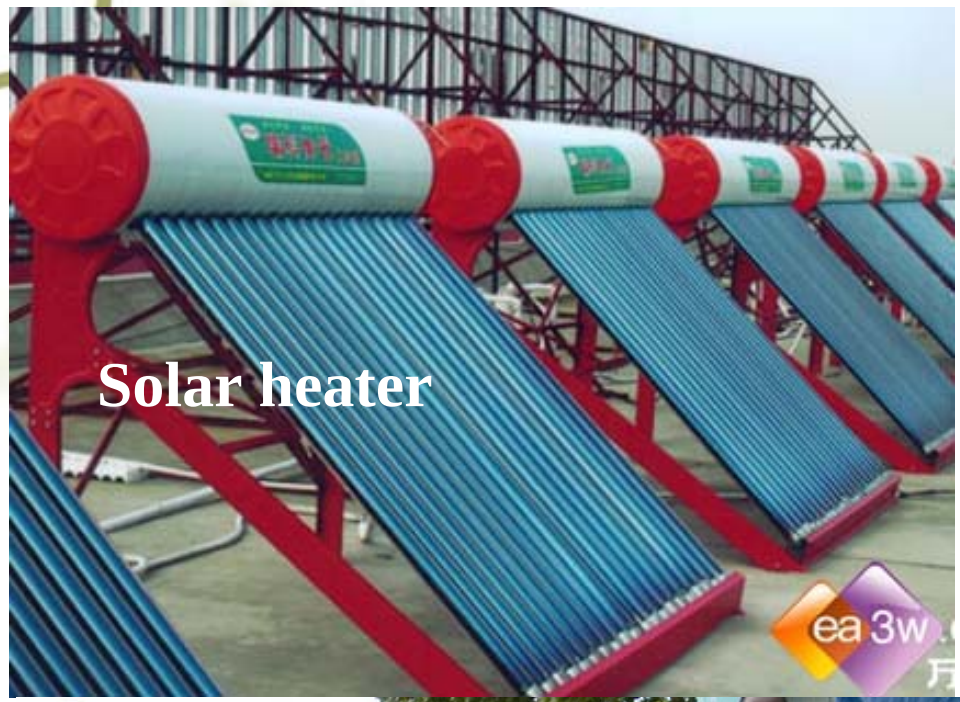
- Incorporate S&T cooperation on climate change into bilateral and multilateral intergovernmental S&T cooperation agreements.
- Promote and participate in establishment of effective international technology transfer mechanism for the affordable, applicable, advanced and environment-friendly technologies to address climate change.
- Encourage and support the Chinese scientists, research institutions and enterprises to initiate and participate in international and regional scientific research and technological development programs on climate change.

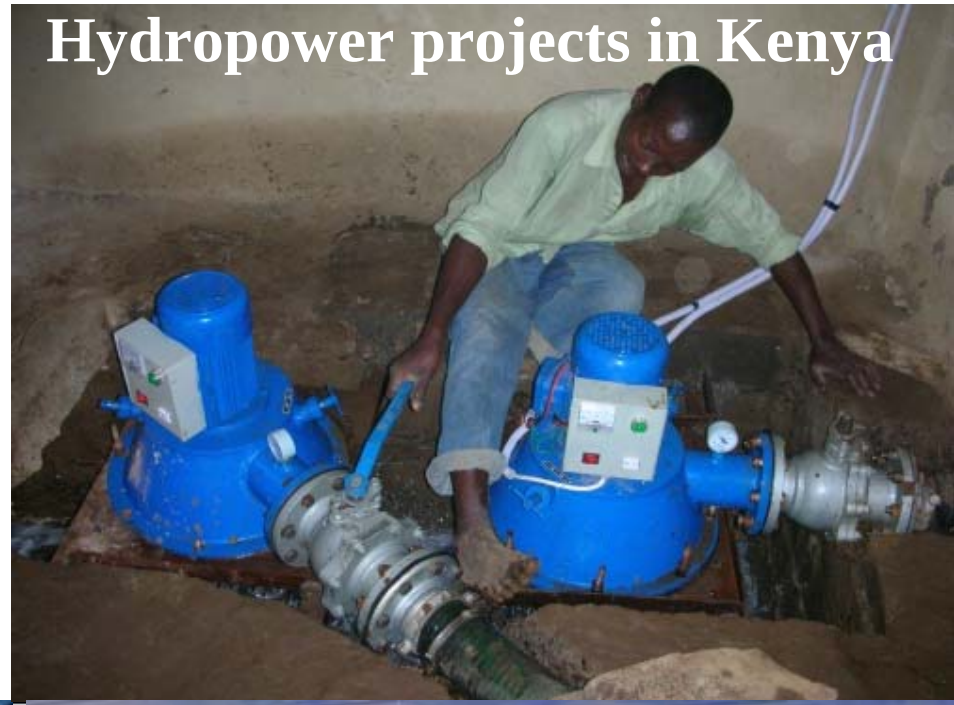
China's experience of addressing CC through S&T

- China has introduced and developed a lot of cost-effective technologies to address CC
  - Renewable energy
  - Water utilization
  - Agriculture
  - Building materials
- China has conducted fruitful cooperation with other developing countries.
- Cooperation has taken effects in addressing CC, reducing poverty and building local capacity

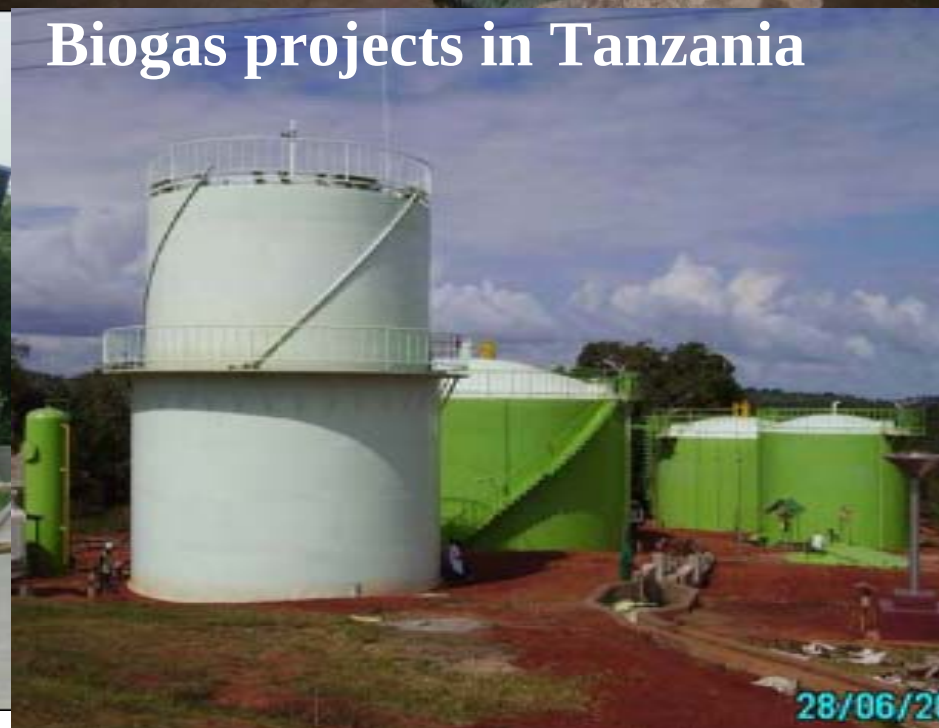
Renewable energy technology

- Cost-effective technology
  - Solar heater
  - Small hydropower
  - Biogas
- Cooperation with Vanuatu, Vietnam, Zambia, etc
- Reducing CO_2 emission and mitigating energy crisis.


Solar heater

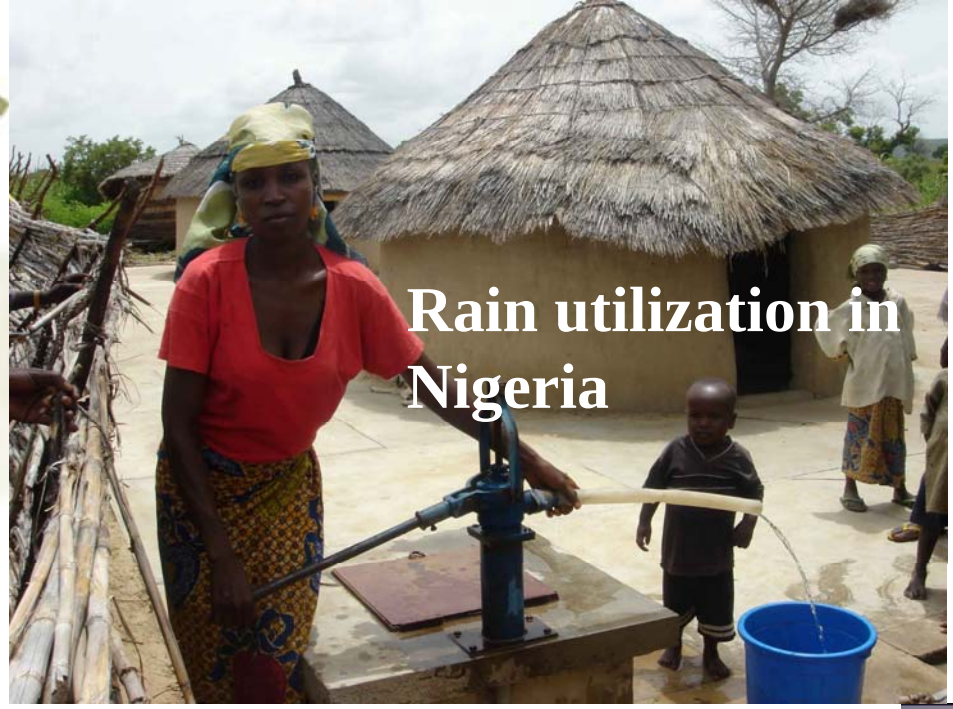

Hydropower projects in Kenya


Solar PV training for Africa

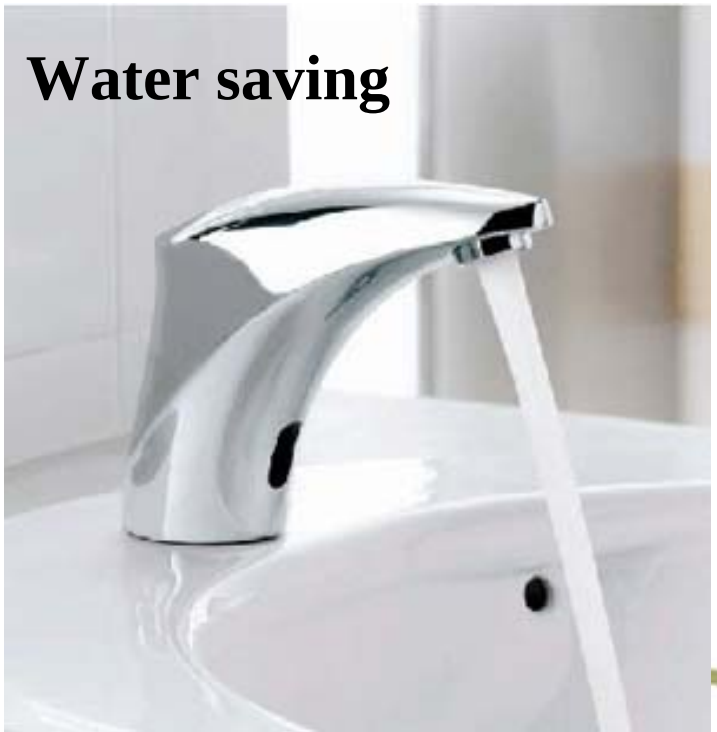

Biogas projects in Tanzania

Rain utilization and water-saving technology

- Cost-effective technology
  - Rain harvesting and utilization technology
  - Household water-saving technology
  - Water reuse technology
  - Safe drinking water technology
- Cooperation with Caribbean, Nigeria, Kenya, etc
- Adaptation to drought and solution to water shortage


Rain utilization in Nigeria


Water reuse


Water saving

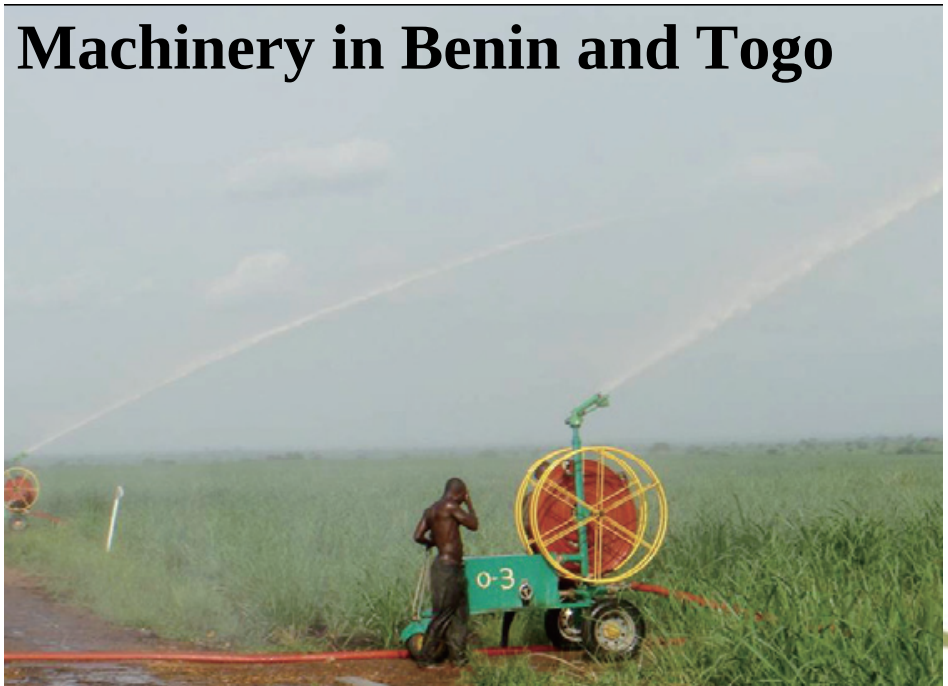

Drinking water agent used in Malaysia

Agriculture technology

- Cost-effective technology
  - Water-saving agriculture technology
  - Crop yields improvement technology
  - Agriculture machinery
- Cooperation with Kazakhstan, Angola, Sri Lanka, etc
- Adaptation to drought and solution to hunger


Drip irrigation in Thailand


Drought-resistant training


Machinery in Benin and Togo
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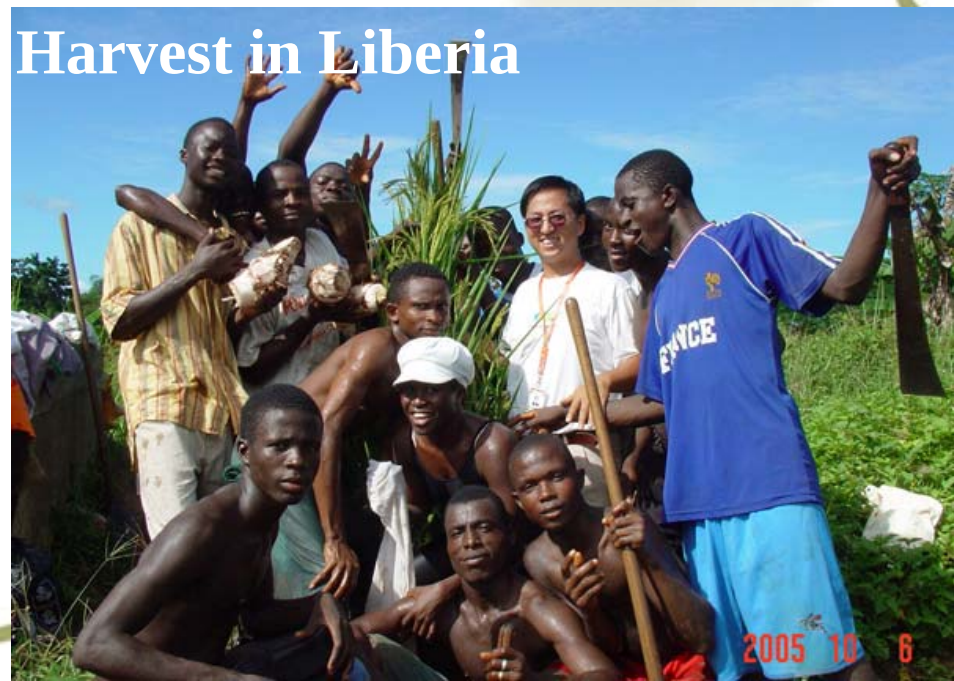

Harvest in Liberia
2005 10 6

Tri-party cooperation with International organization

- **MOST-UNEP cooperation in Africa**
  - **Phase I : environmental technology**
  - **Phase II: water resource technology**
- **MOST-UNESCO cooperation**
  - **UNESCO Category II Center on tech strategy- CASTED**
  - **Chair on CC-BIT： training course for developing countries**
- **MOST-UNDP**
  - **Agriculture, renewable energy**
- **Win-win in addressing CC**

UNDP

UNEP

United Nations Educational, Scientific and Cultural Organization

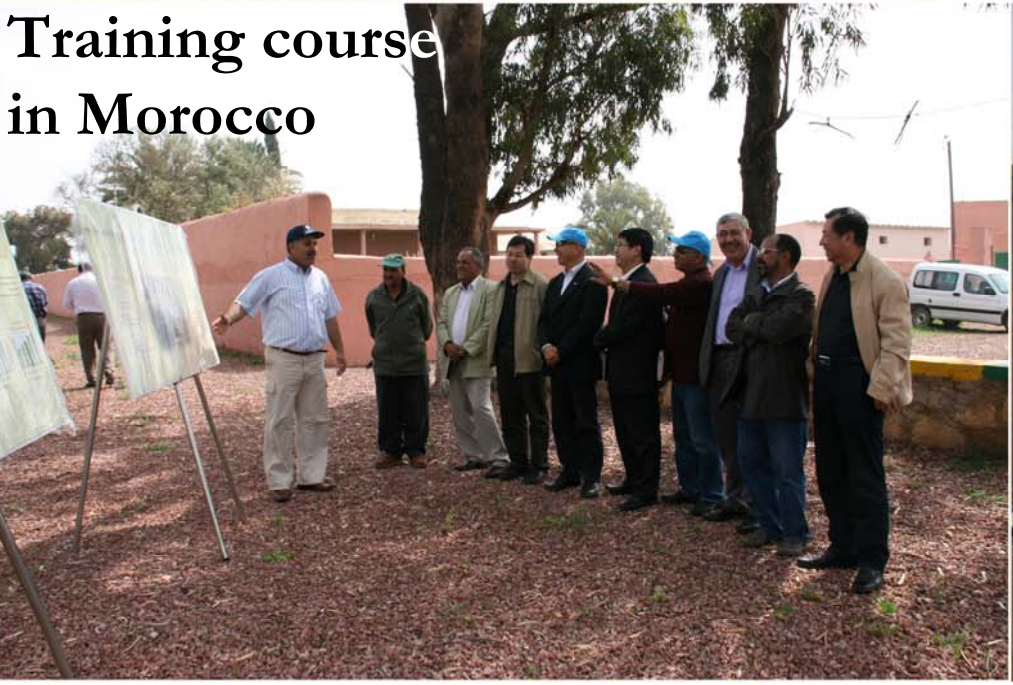
SOUTH CENTRE

TWN Third World Network

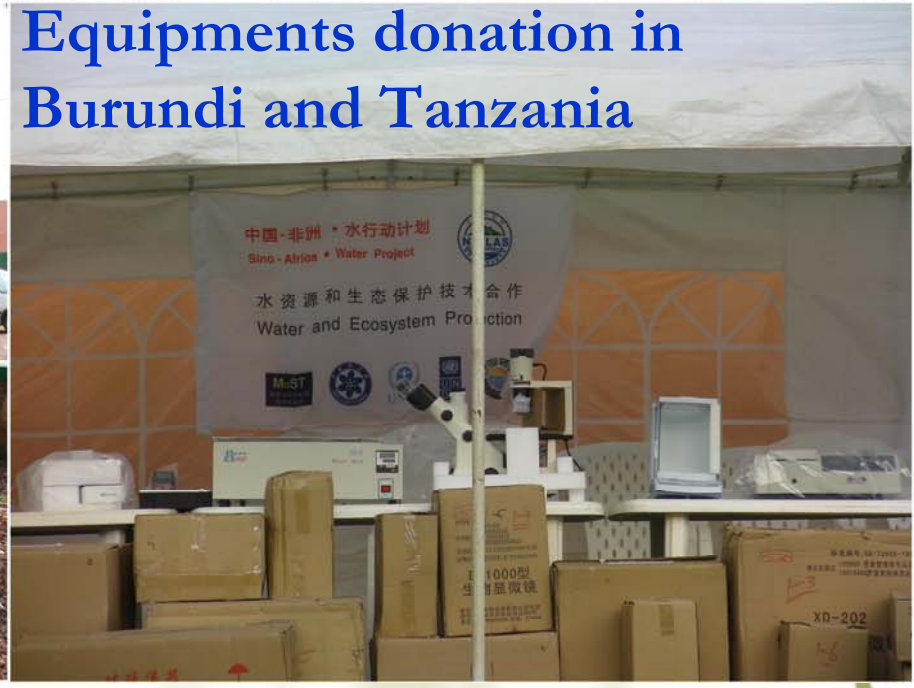
Field survey in Nigeria

Tech demonstration

Training course in Morocco



Equipments donation in Burundi and Tanzania



Conclusion

- Experience gained from efforts to addressing CC in developing countries
  - Identify real technology needs first
  - Technology is important while local capacity is more important
  - Cost-effective and more applicable technology will prevail
- Developing countries have huge demand of cooperation in technology R&D and transfer.
- Similarity in natural conditions and developing stages among many developing countries, so cooperation in technology development and transfer is possible, preferable, and could be effective.

Suggestions

- Addressing CC calls for international actions, including South-South, South-North, and tri-party/North-IO-South collaboration.
- As one of the most effective way to address CC, South-South cooperation is playing a vital role under the bi-lateral and multi-lateral framework
- Well defined developing country priorities and technology needs and establishing mechanism for south-south cooperation on technology development and transfer are top priorities for south-south cooperation.

Suggestions

- Build network of technology supply and demand in developing countries.
- South-South cooperation will add extra impetus to developed countries to abide by their obligations as identified in the UNFCCC, including providing funds and transferring technology to, and supporting capacity building in developing countries.

Thanks for your attention!