

# Mentoring to Empower African CDM Project Developers

Experience and current approach of the CBNNet team



## Topics

- A glimpse of the past: What doesn't work
  - Dr. Peter Pembleton
- Our new approach
  - Dr. Deborah Cornland
- Key enabling environment issues
  - MMag. Clemens Ploechl
- Perspective of a key African player
  - Prof. Felix Dayo
- The experiences of 4 participating organizations
  - Messrs Suresh Patel, Francis Nkuba, Alphonse Kyariga, Simon Ngure
- Future frameworks
  - Dr. Deborah Cornland



## What doesn't work

...in terms of getting African CDM projects into the pipeline

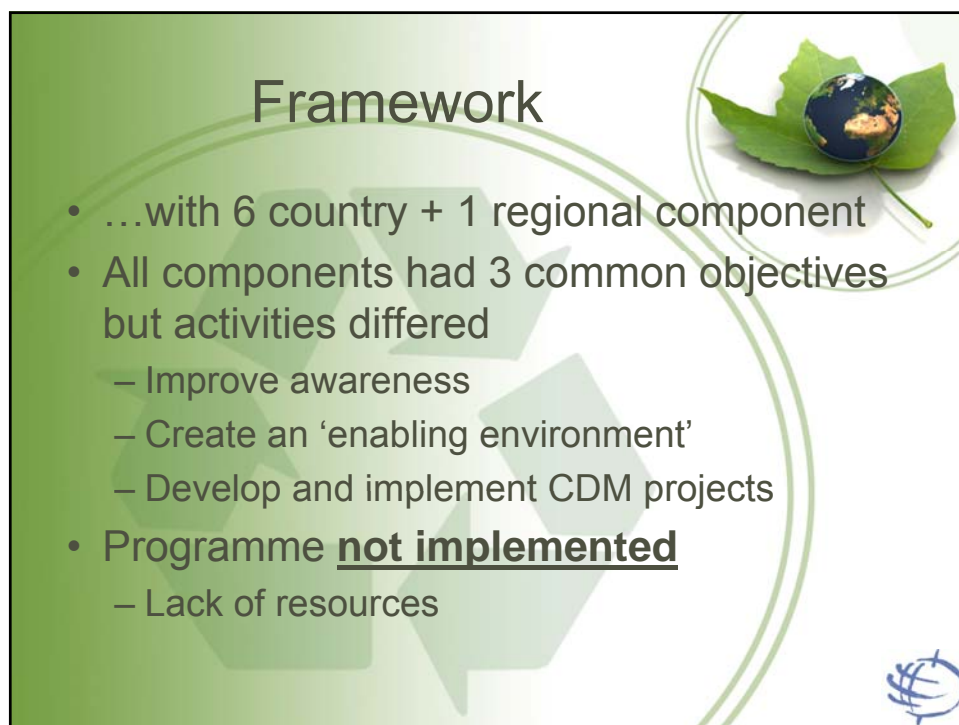
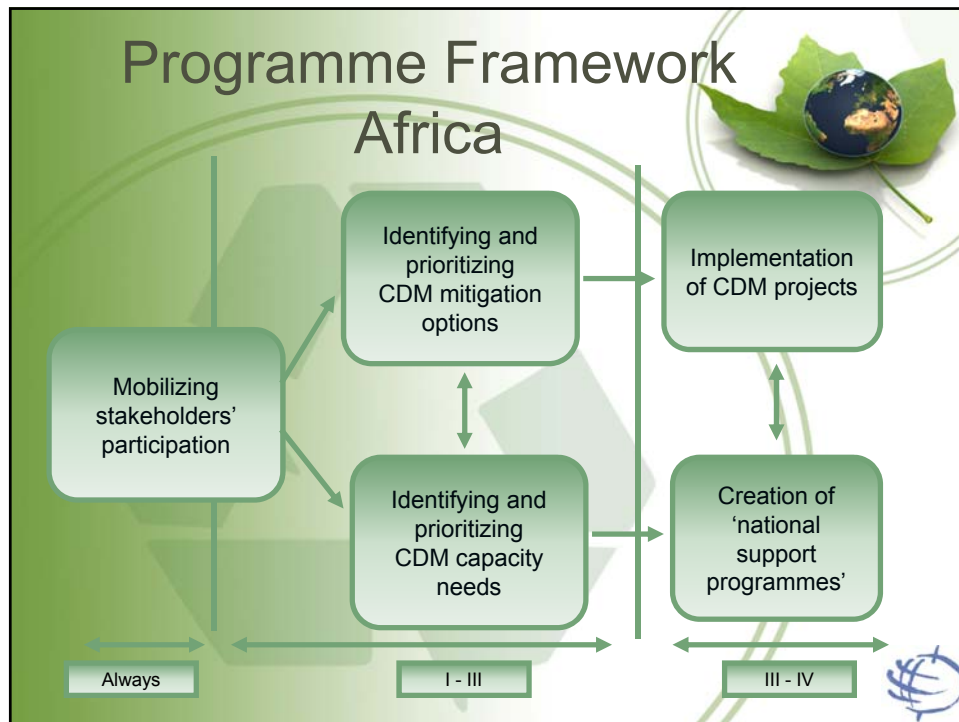
Dr. Peter Pembleton



## First Steps

- Under UNIDO-funded projects
  - National experts/ teams in 6 countries
    - Reviewed background, capacity, barriers & CB needs (focus industry)
      - Surveys
    - Raised awareness on CDM & related issues
      - Workshops, information provision
    - Dialogued with stakeholders
    - Identified industrial project opportunities
      - Developed project concepts
  - All fed into the next phase ...





## Next Steps

- Project for 11 Francophone African countries (2005)
  - Reduced trainees to private sector & DNAs
  - Training & advice around specific projects & the CDM processes (only up to PIN)
  - Included dialogue with technology suppliers, investors and buyers
- This & the African 'framework' project included seeds of a paradigm shift



## Lessons

- The approach (prior to framework) did not put African CDM projects 'on the table'
  - Was too theoretical
  - Concentrated on raising awareness
  - Focused on 'capacity building' for a wider 'enabling environment'
  - Worked with (some) wrong target groups
    - i.e. those that did not have significant role to play in the CDM market
- Decision not to develop CDM projects
- Hardly any donor funding mobilized



## The Current Programme

Dr. Deborah Cornland



## Our Current Approach

- Focus on training organizations with potential future role in – or in catalyzing access to – the carbon market
  - Primary focus future project developers
  - Overlap with project proponents
  - Overlap with enabling agencies
- Targeted efforts for other key actors on enabling environment issues



## Real Projects

- Guiding participants through the project cycle from idea to maneuvering in the market
- Developing close-knit participant groups, encouraging collaboration
- Stimulating local networks for support/dialogue/collaboration



## Substantive Mentoring

- Discussing, evaluating, screening and *adapting* ideas
- Working through and applying fundamental concepts
- Providing a structured process
- Working through the details:
  - CDM docs, underlying feasibility, meth issues, entering the market



## Final Portfolio

- Tanzania
  - Sisal CH<sub>4</sub> → biogas → electricity
  - Small-scale Hydro (2)
  - Institutional cookstoves (PoA)
- Kenya
  - Wind
  - Industrial switch from fossil fuel to biomass
- Others less developed



## Enabling Environment Issues

MMag. Clemens Ploechl



## Grid Emission Factor



- Grid Emission Factor according to ***Tool to calculate the emission factor for an electricity system*** is applied in almost 70% of methodologies
- Big CDM countries such as Brazil, China, India have institutionalized calculations and are publishing the GEF annually. Transaction costs can be reduced dramatically for project developers
- Challenge is not the calculation itself but chasing reliable, accurate up to date data due to lack of awareness, unclear institutional structures and lack of human resources
- Our suggestion: capacity building: calculation of emission factors including off grid capacities and setting up national institutional structures being able to update GEFs on their own



## Common Project Categories



- Countries face similar challenges, energy shortages and deforestation due to need of fire wood etc...
- Suggestion Set up a bundle of methodologies and country baselines for project categories such as efficient cook stoves, clean charcoal production and
- Build Capacity that such baselines can be maintained annually so that project developers can reduce transaction costs and credibility for DOEs/EB is given



## Institutional Framework

- Simple and clear approval procedures in host countries are necessary requiring a strengthened DNA with sufficient human resources, enabling a fruitful dialogue between DNA and project developers
- For any capacity building activity strong south-north partnership is relevant to combine national-international experience, know-how and cultural approaches



## African Perspectives

Prof. Felix Dayo



## THE STARTING POINT

- Trained formally as a Chemical Engineer, a Nuclear Engineer and a Public Policy Analyst
- Involved in Energy and Environmental Consulting
- Involved in Industrial Energy Efficiency Improvement Consulting
- Early Exposure to Climate Change Issues in 1999
- Served as a Nigerian Expert on the UNIDO funded Capacity Building for CDM in Africa



## UNIDO CDM CAPACITYBUILDING PROJECT

- Initial Stages: Capacity Building of Trainers on CDM
- Trainers from: Nigeria; Ghana; Senegal; Kenya; Zambia; and Zimbabwe
- Engaged Immediately in:
  - Identification of Potential CDM Project Ideas
  - Worked with Project Hosts to Develop PINs
  - 2 PINs Successfully Submitted to WB Prototype Carbon Fund
  - Worked on Understanding of NMs and AMs
- Developed Capacity of PP Personnel on CDM in Nigeria



## CDM MP, SSCWG & OTHER PROFESSIONAL DEVELOPMENTS

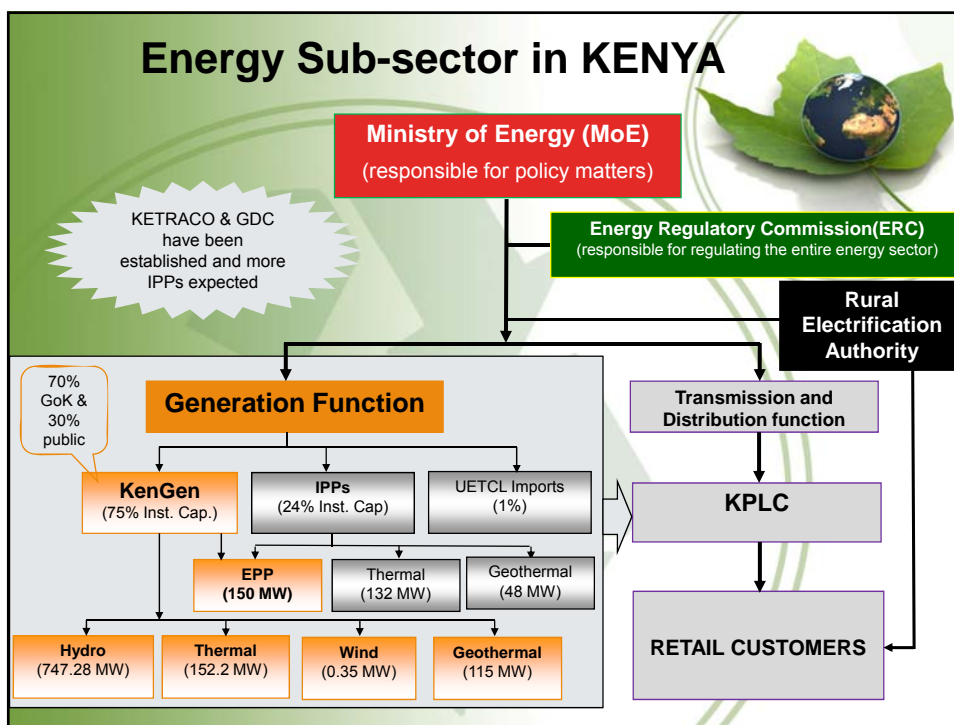
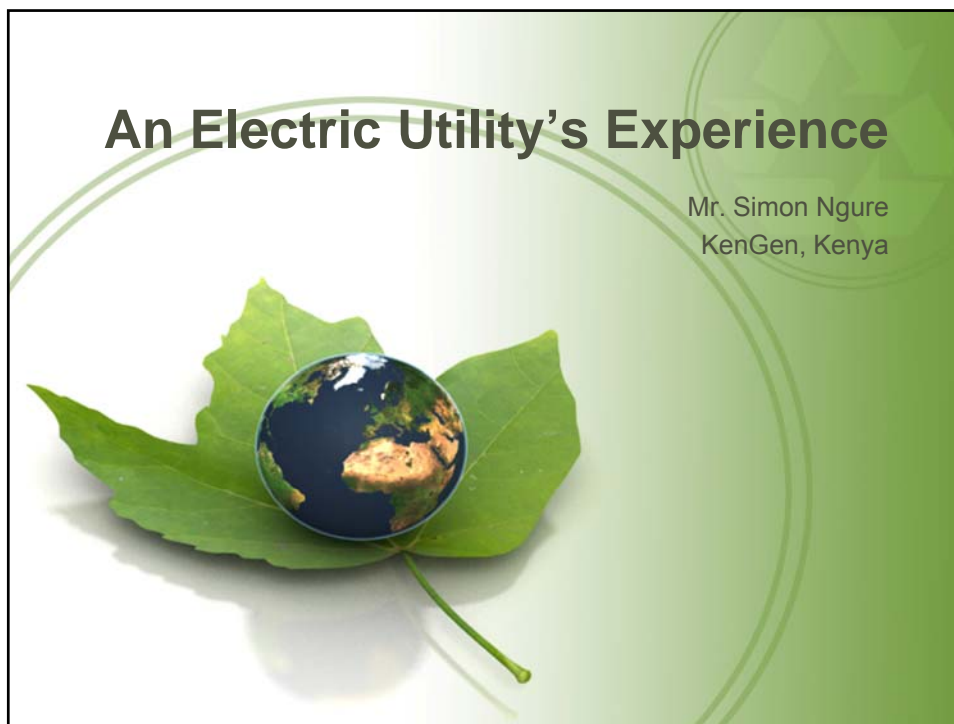
- Appointed Member MP in 2005
- Appointed from MP as a Member of the SSCWG in 2006
- Involved in the Development of a few New Methodologies over the Past Few Years
- Developed A Few CDM Projects from Identification to Registration
- Now Leads a Proactive Carbon Origination and development team at Triple E
- Currently Teach De-Carbonization Technology Subjects in a US University
- Currently Deeply Involved in Climate Change Vulnerability Studies



## THOUGHTS ON POTENTIALS FOR CDM IN AFRICA

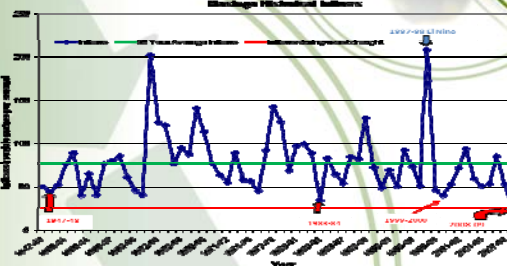
- About 2% of Global CDM in Africa
- An Indication that Africa Cannot Host CDM?
- A Recent WB Study (2008) identified:
  - The Potential for over 3,000 Projects in SSA
  - With a Potential CER Yield of over 740 mtCO<sub>2</sub>e
  - Barriers can be Removed Through Aggressive National Programs involving the Private and Public Sectors
  - The Capacity to Develop Local CDM Experts much Effective when “Learning by Doing” Approach is Utilized





## Background

- Hydropower is the main source of electric energy in Kenya.
- Critical drought in 2000 and 2009, the main reservoir Masinga Dam dropped below its minimum operating level.
- Consequently, the country had to rely on expensive fossil fuel to complete its generation capacity.



## KenGen's experience

- Training program under auspice of Swedish Energy Agency.
- PDD for Ngong Wind Project based on 'hands on' approach - training by doing.
- Very Useful – exposed KenGen staff who had no prior knowledge of CDM in preparing a draft PDD.



# Challenges



- **Grid emission factor** - The use of grid emission factor as it is punitive to countries with green dominated sources.
- **Additionality clause** – This is difficult argument for the country that is trying to develop geothermal sources. It is difficult to convince validators that a new geothermal power is additional.



# Way forward



- KenGen strategy for green energy – Geothermal focus.
- Planned projects to generate 5 million tonnes of CERs/year in 2019. The projects will be developed thru carbon financing.



## Acknowledgement

- KenGen's sincere appreciation to Swedish Energy Agency for sponsoring the training program.
- The trainers under the program (Felix, Deborah and Clemens) for their tireless and useful hands on approach.
- KenGen we are on the way to driving a green economy in Kenya.



## An Agricultural Entrepreneur's Experience

Mr. Francis Nkuba  
Katani Ltd, Tanzania



## BACKGROUND



- 80% of Tanzanians live on agriculture and there are serious power shortages
- Overall 10% have electricity but only 2% in rural areas. 90% use fuel wood causing desertification and health problems
- Increasing urbanization has made charcoal big business for cooking
- Kerosine used for lighting in rural areas
- Only 1 CDM project registered
- Enormous potential for CDM available



## KATANI LIMITED



- One of 28 companies engaged in sisal
- Willing to partner with other investors
- Owns 5 sisal estates 10 factories, a 20,000 ton capacity Spinning and Weaving Mill and Central Workshop
- Mkonge Energy Systems Co. Ltd formed Jan. 2008 to develop biogas, hydro, solar and wind power



## STEPS IN CDM

- ZERI by Gunter Pauli of UNU Tokyo Japan eye opener in 1996
- UNEP Risoe first initiative enabled Tanzanians to prepare PINs 2007-2008
- Swedish Energy Agency took over in August 2008.
- Cornland International and associates new approach very successful.
- Many trained to prepare PDDs, legal and financial aspects



## WAY FORWARD

- Good foundation, Management and Shareholders in full support
- 2 PDDs in development for run-of-river 3.2MW hydro plants and 5MW CSTR biogas plants
- Support from Tanzanian Government and DNA in Vice President's Office assured
- Potential for 15 more Katani PDDs exists
- Project finance is under negotiation
- Final Beneficiaries over 2.7 million people



## ACKNOWLEDGEMENT

- This project will make sisal and agriculture which is the main activity of the majority more competitive
  - On behalf of Katani Limited and the Agricultural Industry in Tanzania, I wish to thank:
    - UNFCCC
    - Swedish Energy Agency and consultants
    - UNEP Risoe
    - United Republic of Tanzania
- and all of you for giving agriculture a chance



## A Government Agency's Experience

Mr. Alphonse Kyariga  
Rural Energy Agency, Tanzania



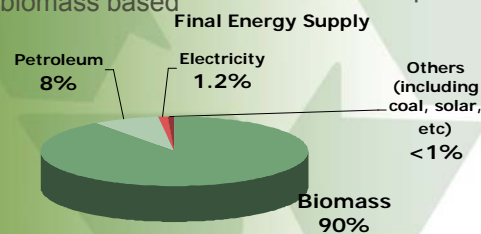
## Rural Energy Agency-Tanzania

- It is Government institution
- Established under the Rural Energy Act No.8 of 2005
- Started operations effectively in 2007.
- Responsible for promoting, coordinating and facilitating private sector initiatives and entrepreneurship in rural energy to improve **modern energy** access for social and productive use in rural areas



## Present Energy Situation

- Estimated national energy consumption is 22 Million tonnes of oil equivalent per annum
- Rural energy consumption accounts for 85% of total energy balance, 95% of which is biomass based
- Biomass fuels (I.e wood and charcoal) account for over 90% of primary energy supply
- Petroleum 8%
- Electricity 1.2%
- Coal, solar and wind <1% of primary energy



## CDM-Capacity building programme

- Supported with Swedish Energy Agency
- Started in 2007
- With the aim of engaging in CDM capacity building
- The approach has been; Hands-on/ on-the-job Training



## The project we are working on

- Mapembasi small hydro-electric project
- The project will supply electricity to 5 surrounding villages and the national grid,
- It is proposed to generate 10 MW of electricity when operating at full load.
- The project will reduce CO<sub>2</sub> by displacing electricity produced from fossil fuel of national grid.
- It is estimated to reduce approximately 39000 tCO<sub>2</sub>e per year

## Ruhudji River – Project site



## Major lessons so far...

- It is simple and effective
- Exchanging experience with local partners eg. Katani
- Effective sharing of know-how
- Practicing the skills directly
- Producing results in the process

» *Chinese Proverb*

*I hear and I forget  
I see and I remember  
I do and I understand*

## Remarks

- Hope the support will continue:
  - Take us through to ERPA arrangements
  - Do at least one PoA
- Broaden exchange of experience

Thank you



## An Industrial Entrepreneur's Experience

Mr. Suresh Patel  
Kridha Ltd.  
Kenya



## Historical Background



- COP 12 in Nairobi.
- Sensitization by Kenya Association of Manufacturers (KAM) and Kenya Private Sector Alliance (Kepsa) for participation.
- Carbon trading – Buzz word.
- Key focus appeared to solicit projects from existing CDM potential in Kenya.
- Presentation of information- Exercise was to fill PINs only.
- Deep Silence after end of the workshops!



## Historical Background



- In November 2008 – Swedish Energy Agency along with SIDA met Government of Kenya and Private Sector representatives.
- KAM advised the delegation not to hold any traditional CDM workshops.
- Instead look for idea to build capacity of Private sector participants and local CDM experts
- Delegation left – another window-shopping for CDM projects in Africa????



## Historical Background



- In January 2009 – Capacity Building training program in Nairobi.
- KAM was requested to mobilize participants with potential of the project - however ***small*** it was – and that made the difference!
- Kridha Limited picked a small Fuel switch project in collaboration with Kenafric Industries – who was to install biomass fired boiler replacing fossil fuel fired boiler.
- Now PDD is in advance stage for registration. CER will be around 2600.



## What was different with this Initiative?



- Message - CER earning required diligent efforts.
- CDM offers additional revenue stream which might have been lost without CDM consideration.
- Each participant was asked to prepare presentation for their CEO / Client to convince them to undertake CDM project. –This was not business as usual!!
- Co-operation agreement.



## What is making difference now



- Initially - weaknesses of the proposals, misconception about the projects and information gaps were identified.
- Experts had well organised calendar for training events
- A kind of Distance Learning Concept.
- Process of developing PDD was very 'Student Friendly'. No stories or thesis writing!
- We could easily analyse now PDD hosted on website.



## What is making difference now



- Continuous references to UNFCCC and CDM processes.
- Experts engaged were very knowledgeable, practical, professional and approachable.
- New proposals for CDM already forthcoming. POA for Fuel switch projects through Biomass Gasifier.
- Local CDM Fraternity Forum.
- Impacts on Kenyan private sector for CDM and similar mechanism will be certainly positive and long lasting.



## Looking Forward



- Market arrangement for small to medium size projects.
- Swedish Energy Agency to continue into second phase.
- Validation cost are high – support for validation and other registration costs.
- Capacity building as Validators ( Pre-Validators?) in Africa.
- Initiate Renewable Technology Exchange Centre.
- Assistance to create CDM forums.
- Initiative to create CDM projects catalogue.
- Launch initiative to build capacity for Climate Change negotiators from Private Sector.



## Future Frameworks

Dr. Deborah Cornland



## Key components

- Clear goals
- Commitment
- Getting the right people in the room
- Flexibility



## Performance Indicators

- Training people
- Increasing the capacity of organizations
- Registering projects



## Commitment

- Funder
- Participants
- Training team



## The Participants

- Range of orgs with different roles
- Ability to embrace a vision and invest in it
- Ability to maintain and allocate staff
- Strong relationship to and involvement of project proponent: trust
- Stamina



## Flexibility

- Ability and willingness to adjust along the way
  - Changes in participant base
  - Shift in balance – offsite vs onsite training
  - Shifting mentoring roles & responsibilities
  - Evolutional increase in focus on specific projects



## Current Status





Contact:  
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**THANK YOU!**