Carbon Finance
Toolkit for Community Development

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4th March 2010
Nairobi – Africa Carbon Forum
Structure

- Modular
- Accessible
- Different audiences:
  - Communities
  - Local Governments
  - Aid Agency Team Leaders (e.g. WB TTLs)
- Each module is independent
- Each complements the others – a package
- Simplest to more detailed
- Technology Reference Manual
COMMUNITY Module
Objectives

- Supports communities (achieve benefits)
- Supports those working with them
  - A framework and reference
  - Introduces concepts
    - Pictures and checklists
    - Examples of community projects
- Empowers community to make their own choices
Content

Question format for each audience

- Climate change
  - What is it? How does it affect us?
  - Who most affected, most vulnerable?
- Carbon finance
  - CDM
- How can carbon market help us?
- Developing a carbon project
  - What are the steps? How to go about it?
LOCAL GOVERNMENT Module

- Target audience:
  - local government leadership
  - those working with local government

- Different perspective from Community Module
  - same ultimate goal of benefitting communities

- Similar content as Community Module
  - more details, e.g. on suitable technologies and role of local govt.
Relevance of carbon funds to local government

- Impact of climate change on development programs
  - Need to take this into account:
    - Slow down development
    - Financial drain
    - Reduce tax base
    - Impact on services, infrastructure and resources
  - Poorer and marginal most affected
    - Need to build to withstand impacts
    - Need for early warning systems
    - Create alternative livelihoods (costs more)
  - Access carbon funds
To participate effectively

- Policies should promote sustainable development
- Need for a favourable investment climate
  - Clear regulations
  - Security of property tenure
  - Role of tariffs and concessions
- Capacity needs:
  - Government, community and CBOs
  - Awareness of opportunities and risks
  - Skills development to develop and implement projects
Roles, challenges and opportunities

- Local government plays different roles
  - Developer, facilitator (partnerships), stakeholder
- Challenges:
  - Time-scale (compare period in office)
  - Carbon finance only pays small part of project costs
  - Complexity of projects increases with many units
- Opportunities
  - Support communities (avoid raising expectations)
  - Bundle projects/PoAs
  - Benefits of gaining experience
WB and other AID AGENCY TASK Team Leaders Module

- Many regular activities of Aid agencies offer opportunities to build in emissions reduction activities.
  - Teams need to know opportunities
  - Help empower communities
- Lending and development is threatened by climate impacts
  - Infrastructure
    - Need for strengthening – e.g. bridges
  - Low-lying projects at risk
  - Increased costs
- Advantage of tapping carbon finance
  - Improve project cash flow
  - Help energy, sanitation, heating, water and/or transport needs
TECHNOLOGY Reference Module

- Supports other Modules – real examples
  - Tried and tested technologies
  - Provide finance for poor communities
  - Provide sustainable energy
  - Economically and environmentally sustainable
  - Small in scale, not complex
  - Not harmful and improve air/water quality
Importance of Technology

- Technology is vital:
  - Enables development
  - Uplifts communities
  - Saves money
  - Reduces emissions (replace, reduce, efficiency)
  - Helps deal with climate impacts

- Technology not just hardware
  - Processes and skills
Appropriate

- Correct choice
  - Considerations for making an appropriate choice.
  - Pros and Cons of various technologies.
- Consider circumstances
  - Local needs
  - Local environment and weather conditions
  - Local resources
  - Local capacity
- Training and maintenance
Is there a medium to large landfill site?
  - How is it managed – smell, soil quality, vermin, rehabilitated?

Bio wastes rot and give off Methane
  - Much more harmful than CO₂

Flare or Extract?
  - Is there a need for energy close to the site?
  - Needs much more landfill than fossils

More reliable than wind/sun
Modern landfill site

- METHANE GAS RECOVERY SYSTEM
- CLAY CAP
- LEACHATE COLLECTOR
- LEACHATE TREATMENT SYSTEM
- TRASH
- WELL TO MONITOR GROUND WATER
- LANDFILL LINER
- AQUIFER
Biogas digesters (small-scale)

- Wastes available? A nuisance?
- Simple to build locally and more reliable than wind or sun
- Saves firewood and kerosene
- Reduces smoke from cooking
- Sludge, a by-product, good fertilizer
- Reduces transport of waste
- Separates bio-waste from other garbage – hygienic
- But
  - Needs a lot of water.
  - Community must be willing to participate
  - Methane is explosive if not careful.
Fixed dome biogas plant
Solar (small-scale)

- Photovoltaic cells provide electricity for community/small business
  - Useful off-grid
  - Social and educational advantages
  - Suitable for small enterprises to install and maintain
- But
  - Needs reliable sunshine
  - Costs of cells is high
  - Needs micro-finance
  - Batteries need replacement
Solar Home System

SPV MODULE 12V/40 WP
(MOUNTED ON A LEAD TABLE)

CHARGE CONTROLLER
(FIXED ON THE SIDE OF THE BATTERY BOX)

LIGHTING LUMINARIES
(EACH FITTED WITH 9W CFL
(CAN BE FITTED IN DIFFERENT ROOMS)

12V 40AH
TUBULAR LEAD ACID TYPE OR MAINTENANCE FREE TYPE
Micro-hydro (medium scale)

- An adjunct to grid – provides electricity: good for enterprises
- Potential for more power than solar or wind energy
- Simple technology, cheap and sustainable
- Social, educational and entrepreneurial advantages
- Provides job opportunities
- But
  - Requires sufficient running water near community
    - (Does not pollute water)
  - Flow is not always reliable
  - Large-scale plants not environmentally friendly
Micro-hydro
## Considerations

<table>
<thead>
<tr>
<th>Techn</th>
<th>R/E</th>
<th>Size and Scale</th>
<th>Resources</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bio digester</td>
<td>gas</td>
<td>Many (small)</td>
<td>Waste (household and farmyard)</td>
<td>No open fires; clears waste, hygienic. Cheap and easy tech.</td>
</tr>
<tr>
<td>Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micro-hydro</td>
<td>elec</td>
<td>1/more (medium)</td>
<td>Running water that is nearby.</td>
<td>Helps community and business. Reliable.</td>
</tr>
</tbody>
</table>
Thank you

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