

# Carbon Finance and community development Learning from CDCF

Muyeye Chambwera
International Institute for Environment and
Development
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# **Toolkit development**



- Learning from CDCF experiences in several countries
- Written by:
  - SouthSouthNorth (SSN)
  - International Institute for Environment and Development
- Supported by:
  - World Bank



# **Purpose of toolkit**



•To enable users to identify opportunities for developing carbon finance projects while pursuing community development, and vice versa



# Distinguishing CDCF from typical CDM projects ited

- Extending benefits of carbon finance to the poorest countries and poor communities
- Focus on small projects
  - 40,000 1 million tCOe
  - Opportunities for bundling
- Measurable community benefits in addition to Kyoto-compliant emission reductions



### **Benefit characterisation**



### Direct benefits

 Nature of technology meeting existing needs of communities e.g. small scale biogas stoves, solar home systems

### Indirect benefits

- Additional community benefit plan drawn up in consultation with communities to meet their own needs
- Benefit plan needs not be related to emission reductions
- Benefit plan financed through premium paid by CDCF on emission reductions

### Benefit assurance

- Community benefits questionnaire
- Benefit monitoring plan



# Target audiences of toolkit



- Communities
  - Directly and through local leaders, CBOs etc
- Local government
- Aid agencies





# What community development carbon finance projects could look like CDCF Case Studies

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### **Fal-G Brick Plants: India**

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- Replace burnt clay bricks with fly-ash bricks
- Demand from growing housing and urbanization
- •Fly ash bricks: waste product from thermal power plants
- No use of energy GHGs avoided
- Project bundles 200 small units





- Insurance
- Non-seasonal work
- Improved air quality
- Top-soil protection
- •Benefits budget:
  - \$42,000/year

# **Municipal Waste Compost Project: Uganda**



- Recovery of organic matter from municipal waste for humus
- Avoids methane emissions and supports organic agriculture
- CDM Program of Activities
- Facilities sustained by selling compost and emission reductions

### **Project bundle:**

- •9 Municipalities:
  - Lira, Soroti, Mbale, Mukono, Jinja,
     Fort Portal, Kasese, Mbarara,
     Kabake

### **Uganda:**

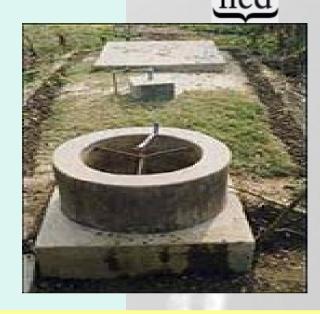
- Rapid urbanization
- •Solid waste management major environmental concern
- •80% of waste is organic
- •Current management practices contaminate ground and surface water near landfills

- Targets communities around each plant
- School construction
- Latrine pits
- Health centres
- Roads
- Water etc

# Biogas program: Nepal

- Fuelwood and dung common energy sources in rural areas
  - Deforestation, erosion
- •Treatment of animal and human waste and production of organic fertiliser
- Program aim: commercially viable, marketoriented industry
- Target: 162,000 small-sized biogas plants
- CDCF revenue reduces dependency
  - Government and donor subsidies





- Health
  - Latrines
  - Pollution reduction
- Agricultural yields
- Employment
- Timesaving
- •Improved energy access

# Solar Home Systems: Bangladesh (GRAMEEN)

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- Provision of solar electricity to rural households off grid supply
- •Target: 199,000 solar home systems by 2015
- Reduces GHG emissions
  - Displaces kerosene for lighting
  - Displaces diesel for off-grid electricity generation
- Model: Micro-financing by Grameen
- •3 year free operation & maint, services



- Direct
- Household lighting
- Reduced energy expenditure
- Employment
- Rural economic activity
- Access to modern technology

# Bagasse Cogeneration: Skeldon, Guyana



- •Use of bagasse to generate electricity for internal sugar factory use
  - Surplus for export to national grid
  - Bagasse by-product of sugar factory

### Emission reduction sources:

- Displacement of electricity from diesel generators operated by national utility
- Internal use of clean energy by factory

### Centrality of sugar industry:

- Most important traditional sector product
- Export revenue (23%),employment (10%), GDP (16%)



- Direct and additional to project
- \$454,000
- Regional electricity service
- Jobs created in sugar industry
  - Expanded mill capacity
- Stakeholder coordination
- •Support to community centre, hospital, maintenance of amenities

## KenGen projects bundle: Kenya

- Increasing power demand in Kenya
- •Recent severe droughts reducing power generation
- Increasing capacity of existingGeothermal Power and hydro plants
- Displaces electricity from fossil fuelpowered plants

### **Project bundle**

- Olkaria Geothermal Power Plant
  - 650,000 tCOe reduction by 2014
- Kiambere Hydropower Station
  - 162,720 tCOe reduction by 2014
- Tana Power Station
  - 170,160 tCOe reduction by 2014





### **Community benefits**

- Health services & facilities
- Water supply
- Schools
- Benefits budget

Olkaria: \$225,000

Kiambere: \$215,000

- Tana: \$226,000