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# **Adopting Clean Development Mechanism for Sustainable Development and Economic Growth in Bangladesh**

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# Presentation Outline

1. CDM and its Mechanism ?
2. Objective of Research
3. Potential Sectors for CDM in Bangladesh
4. Approach and Methodology
5. Current Issues with CDM in Bangladesh
6. Future Plan

# What is CDM?



- CDM is one of the market based emissions trading mechanisms under Kyoto Protocol.
- A vehicle for investment and technology transfer into developing countries.
- Have to achieve ‘sustainable development’.
- Have to reduce GHG emissions on global level.



# How CDM Works



- **Art. 12 of the KP**
  - the CDM is to assist Non-Annex I Parties in achieving SD, and to assist Annex I Parties in achieving compliance under Art. 3.
  - the CDM could stimulate international investment and provide the essential resources for cleaner economic growth.
  - the basic principle is: developed countries can invest in low-cost abatement opportunities in developing countries and receive credit for the resulting emissions reductions, thus reducing the cutbacks needed within their borders.
  
- **Eligibility Criteria for Participation**
  - voluntary
  - the establishment of a national CDM authority
  - the ratification of the Kyoto Protocol
  - additional criteria for Annex I countries: establishment of assigned amount under Art. 3 of the KP; a national system for the estimation of GHGs; a national registry, an annual inventory, and an accounting system for the sale and purchase of emission reductions.



# How CDM Works



- **The Executive Board**
  - the supervisory board for the CDM (operated under the COP)
  - accrediting Operational Entities
  - maintenance of a CDM registry
  - setting rules and modalities of the CDM
  - manage account for CERs levied for adaptation and administrative expenses
  - maintain a CER account for each non-Annex I Party hosting a CDM project.
  
- **Finance**
  - no diversion from ODA
  - subject to “share of proceeds”: 2% of CERs for adaptation fund
  - levy for the CDM’s administrative costs
  - projects in LDCs are exempted from the levy for adaptation and administrative costs







# How CDM Mechanism Works

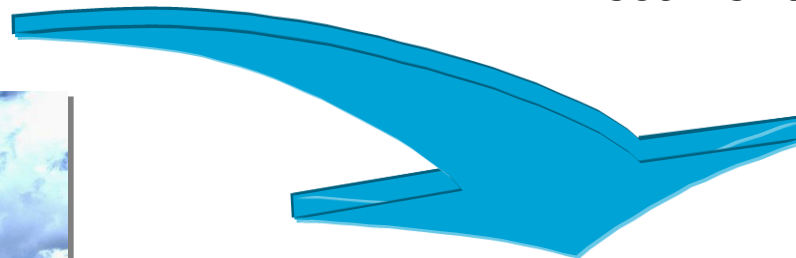
## Project based carbon trading (CER/VER) between industrialized and developing countries

Investment \$

**Industrialized**



Emission  
reduction  
credits  
(cer/ver)



**Project Reducing  
GHG emissions in  
developing  
country**



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# Processes to take a CDM project



- **Project Identification and Formulation**
  - the first step is to identify and formulate potential CDM projects which will bring real, measurable, additional emission reduction.
  - a monitoring plan by either a project developer or a specialized agent
- **National Approval**
  - DNA screening by SD goals and policies
- **Validation & Registration**
  - OE validates the project as a CDM.
  - once validated, OE forward it to the EB for formal registration
- **Monitoring, Verification & Certification**
  - a monitoring report by a project developer
  - verification & certification by OE
  - issuance of CERs by the CDM registry



# National Value and Benefits from the CDM



- **Benefits from the CDM**
  - for developed countries: reducing abatement costs
  - for developing countries: contributing to SD through new investments and TT
  - global benefits: contributing to slowing down global warming and changing the development path in a more environment-friendly way
- **The CDM will contribute to a developing country's SD through**
  - transfer of technology and financial resources
  - sustainable ways of energy production
  - increasing energy efficiency & conservation
  - poverty alleviation through income and employment generation
  - local environmental ancillary benefits
- **Therefore, carbon abatement and sustainable development goals can be simultaneously pursued.**



# Objective of Research



- To enhance awareness of stakeholders regarding CDM
- To identify economic opportunities in Sectors that will be beneficial to the country for CDM projects.
- To identify and implement achievable and practical actions for short term and long term.

# CDM and Sustainable Development



- **Two things are important in CDM:**

**1) The project proponent from developing country must prove that the GHG reduction would not have occurred in the absence of the project**

**2) The project must promote sustainable development**

Dimension	Global	National	Local (Project)
Economic	GDP GDP/capita	Trade Tax	Employment
Environmental	GHG emissions Biodiversity	Bio diversity Air quality Water quality	Local air quality Local water quality
Social	HDI	Employment Poverty reduction	Health/Capacity Building Community Participation



# How can CDM Help private sector in Bangladesh



Through CDM an entrepreneur can:

- Opt for a better technology resulting in cost savings;
- Have a safer and cleaner plant; and
- Contribute to national sustainable development and to global environmental protection.



# Potential CDM projects in Different Sectors

Sectors	Potential projects/activities
Waste	<ul style="list-style-type: none"><li>• Composting from municipal organic waste.</li><li>• Landfill gas recovery and use for electricity generation.</li><li>• Waste-to-energy conversion activities (e.g. biogas, biogasification).</li></ul>
Energy	<ul style="list-style-type: none"><li>• Development of renewable energy sources (hydro, solar, wind and biomass).</li><li>• Clean coal technologies</li><li>• Fuel substitution measures.</li><li>• Improvement in electricity transmission and distribution network.</li><li>• Reduction of leakage in transport, handling and distribution of oil and gas.</li></ul>
Buildings (residential, commercial and govrnment)	<ul style="list-style-type: none"><li>• Energy-efficient design of buildings including cogeneration.</li><li>• Energy-efficient appliances.</li><li>• Energy conservation measures.</li><li>• Reuse of waste water</li><li>• Use of renewable energy sources.</li></ul>



# Potential CDM projects in Different Sectors



Agriculture	<ul style="list-style-type: none"><li>• Solar and wind pumping</li><li>• Improvement in use of agrochemicals (fertilizers and pesticides).</li><li>• Reduction of energy use for irrigation through efficient pumps and demand-side management.</li><li>• Improvement in cultivation practices to reduce methane emissions.</li></ul>
Forests	<ul style="list-style-type: none"><li>• Afforestation and reforestation.</li></ul>
Industry and Manufacturing	<ul style="list-style-type: none"><li>• Cogeneration</li><li>• Energy conversion and energy-efficiency measures.</li><li>• Process modifications in order to lower emissions.</li><li>• Change of feedstock in boilers (e.g. oil to gas).</li></ul>
Transport	<ul style="list-style-type: none"><li>• Introduction of alternate fuels (e.g. biofuel).</li><li>• Fuel-efficiency measures.</li></ul>



# SUMMARY OF THE CURRENT CDM PROJECT PORTFOLIO

Sl	Name	Estimated Emission Reduction Tons of CO2e/ Yr.	Estimated Emission Reduction Tons of CO2e/ 10 Yr.
1	<b>REGISTERED PROJECTS (2)</b>		
	<ul style="list-style-type: none"> <li>• Composting of Organic Waste in Dhaka (700 tons/day)</li> <li>• Landfill Gas Extraction and Utilization at Matuail Landfill Site, Dhaka</li> </ul>	89,259 80,000	892,590 800,000
2	<b>UNDER VALIDATION (2)</b>		
	<ul style="list-style-type: none"> <li>• 30,000 Solar Home Systems in Non-Grid Areas</li> <li>• Promotion of 1,00,000 Compact Fluorescent Lamps in Rural Areas</li> </ul>	10,000 5,000	100,000 50,000





## SUMMARY OF THE CURRENT CDM PROJECT PORTFOLIO

SI	Name	Estimated Emission Reduction Tons of CO <sub>2</sub> e/ Yr.	Estimated Emission Reduction Tons of CO <sub>2</sub> e/ 10 Yr.
3	<b>PIPELINE PROJECTS (7)</b>		
	•Bundled Co-composting Projects in Eight Secondary Towns of Bangladesh	13,500	135,000
	•Bundled Efficient Brick Klin Project (Energy Efficiency)	32,200	3,22,000
	•Bundled Efficient Steel Re-rolling Mills Project (Energy Efficiency)	11,000	1,10,000
	•Use of SPV Pumps for Irrigation (2,000 Pumps) Replacing Diesel Pumps	5,000	50,000
	•Bundled Biogas projects in Rural Areas	8,000	80,000
	•Bundled 50,000 Solar Home System in Rural Areas	16,500	1,65,000
	•Bundled Rural Composting Project	30,400	3,04,000



# SUMMARY OF THE CURRENT CDM PROJECT PORTFOLIO

Sl	Name	Estimated Emission Reduction Tons of CO <sub>2</sub> e/ Yr.	Estimated Emission Reduction Tons of CO <sub>2</sub> e/ 10 Yr.
4	PROJECTS IN CONCEPT STAGE (1)		
	Poultry Waste Management Project (Waste Sector)		
	Total Emission Reduction from Current 11 Projects	300,859	3,008,590



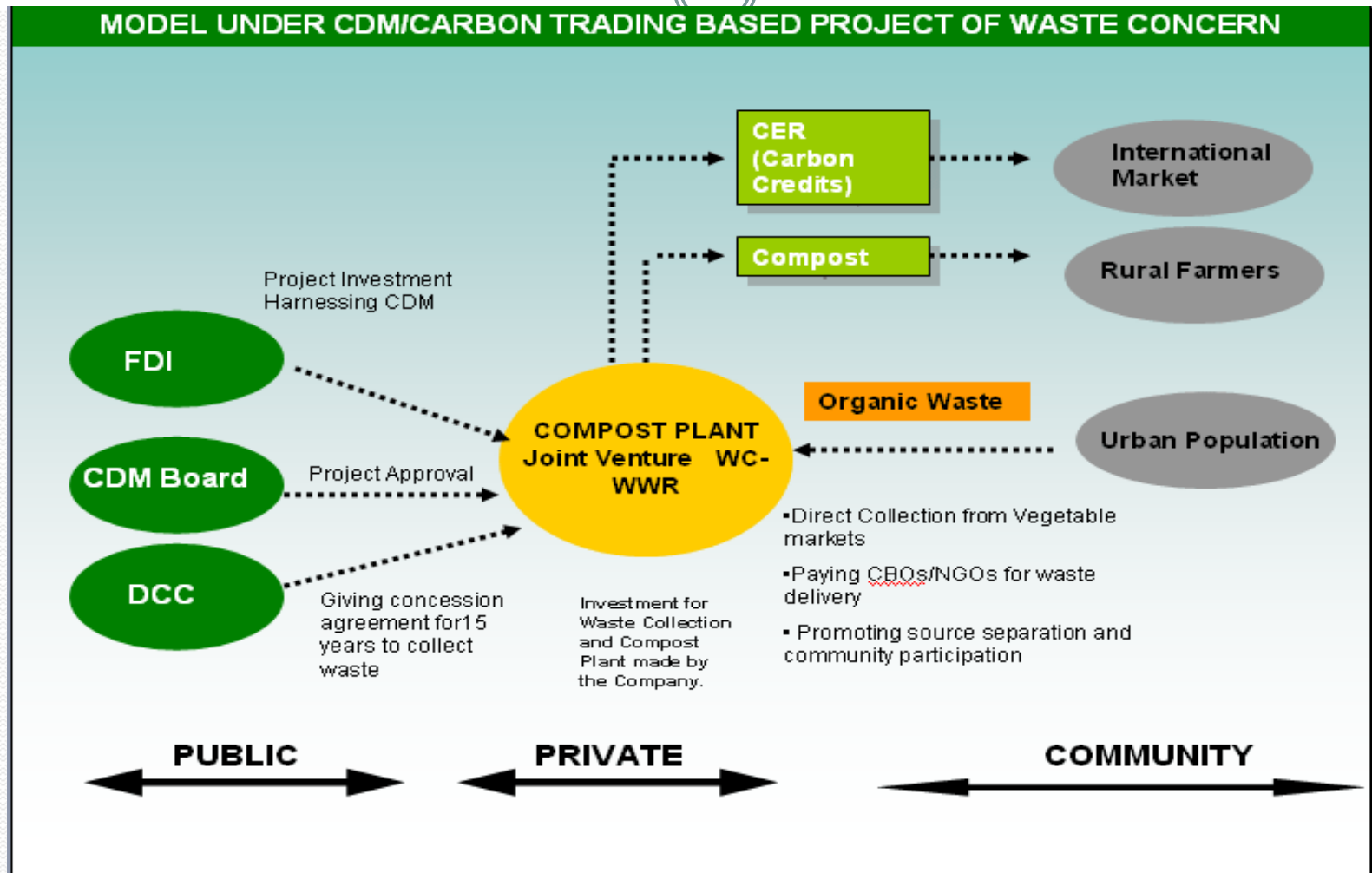
## Potential Sectors for CDM Project in Bangladesh

**Waste**

**Energy**



# Model example: A project of waste concern



# Approach and Methodology



- Selection and analysis of pilot projects;  
(Organic waste composting at the Matuail landfill site  
Dhaka, Bangladesh.)
- Selection of internationally recognized indicators,  
development and testing of measurement methods and  
elaboration of strategies for successful implementation;
- Wide dissemination of the results.



## Current Issues with CDM in Bangladesh

- ❑ Low level of awareness and capacity amongst the public, private and financial sectors about CDM opportunities.
- ❑ Several time consuming permissions/clearance required to implement CDM projects in Bangladesh.
- ❑ Lack of financial and technological resources to implement CDM projects.
- ❑ Transaction cost is high specially for small projects.
- ❑ Lack of enough baseline data.



# Discussion points and Future Task



- Analysis the selected CDM Project
- Evaluate the success of the Brazil, China and India on CDM projects
- Understand and examine the Bilateral Offset Credit Mechanism (BOCM) offered by Japan after post Kyoto.





Thank you for your kind attention

