

Community Based



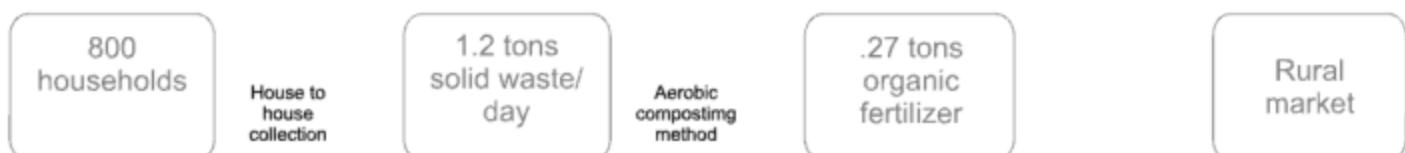
A Project of UNDP under Sustainable Environment Management Program



main goals

- To demonstrate a model of municipal-community-private sector partnership in waste management;
- To demonstrate a low cost technology of organic waste recycling through composting in a decentralized manner; and
- To promote the concept of "waste is a resource".

work process



Income from Waste Recycling Using Waste as Resource Concept

- The project annually produces about 100 tons of organic fertilizer by treating 430 tons of solid waste. The product (compost) is sold to fertilizer companies at Tk. 2500/ton.
- For house-to-house waste collection service the community pays between Tk. 5-10/household/month depending upon income level. Income from house-to-house waste collection fee on average is about Tk 5000 per month.

Cost Comparison of Conventional System of Waste Management and The Project Model

- At present, DCC spends Tk. 2000 to manage per ton of solid waste (this includes the collection, transportation and disposal cost). In order to manage 430 tons of waste from the 800 households (which is now being managed by the project) works at Tk.860, 000/year.

Cost of construction of the recycling/compost plant is Tk. 900,000 (excluding the land cost since it was provided by the DCC)

Total tangible benefits

Considering the life of this pilot project of six years,

By investing US \$ 1 per beneficiary, we are getting environmental & social benefit worth

US \$ 8.9
(US \$ 24/US\$ 2.67).
Note US \$ 1 = Tk. 70

Tangible Social & Environmental Return in Economic Terms of UNDP Investment in Dholpur Pilot Project

Items	Details	Summary
Total Investment	Tk. 900,000 (US \$ 12,860)	Tk. 900,000 (US \$ 12,860)
Total Beneficiaries	800 families = 4,800 person	= 4,800 person
Investment Per Beneficiary	US\$ 12,860/4800= US \$ 2.67	US \$ 2.67
Compost Produced from the Collected Waste	100 tons/year	100 tons/year
Compost Produced by Each Beneficiary	100,000 kg/4800 = 21 kg/year	21 kg/year
Value of compost produced per beneficiary	21kg @ Tk. 2.5/kg=Tk. 52.5 = US \$ 0.75	US \$ 0.75
By composting 430 tons of organic waste per year, green house gas reduced (carbon dioxide equivalent)	215 tons or 215,000 kg per year	215 tons
Green House Gas Reduced by Each Beneficiary	215,000kg /4800 = 44 kg/year	44 kg/year
Value of Green House Gas Reduction	As per Current Carbon Price @ US \$ 15/ton = US \$ 0.7/ year/beneficiary	US \$ 0.7/ year/beneficiary
Amount of waste managed by this project	DCC Expenditure to manage per ton of waste is Tk. 2000. This project is managing 430 tons of waste per year.	430 tons/per year
Saving of DCC Expenditure by the project	Per year expenditure saved by this project is Tk. 2000/tons X 430 Tons = Tk. 860,000	Tk.860,000
Saving of DCC Expenditure Per Beneficiary	Tk. 860,000/4800 = Tk. 179/year or US \$ 2.56 Beneficiary/Year	Tk. 179/year or US \$ 2.56 Beneficiary/ Year

$$\begin{array}{c}
 \text{Total benefits} \\
 \text{per} \\
 \text{beneficiary} \\
 \text{per yr,} \\
 \text{US \$ 4} \\
 \hline \hline
 \end{array}
 \quad
 \begin{array}{c}
 \text{Value of} \\
 \text{Compost,} \\
 \text{+} \\
 \text{US\$ 0.75} \\
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 \end{array}
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 \begin{array}{c}
 \text{Value of} \\
 \text{GHG} \\
 \text{reduced,} \\
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 \text{US\$ 0.7} \\
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 \begin{array}{c}
 \text{Saving of} \\
 \text{DCC} \\
 \text{expenditure,} \\
 \text{+} \\
 \text{US\$ 2.56} \\
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 \end{array}$$

key features

- Treating 430 tons of solid waste per year.
- Produces 100 tons of compost/yr.
- Reduced 215 tons of CO₂ / yr.
- Serving 4800 people.
- Saving DCC expenditure of Tk. 860,000 per year.
- Saving 473 cubic meter of scarce land area by avoiding dumping of waste.
- Generated employment for six person of which 60% is women

