

## Project References

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**Name of the Project:** *Development Partnership Program for South Asia: Best Practices for MSWM in South Asia- A Knowledge Product*

**Client:** Asian Development Bank, Philippines

**Description of work:**

The primary objective of this assignment is to facilitate regional learning in organic waste management, a sub-area of municipal solid waste management, by documenting innovative and successful technological and management practices that are feasible for the South Asian context. The purpose is to help overcome municipal solid waste challenges by determining ways to scale up efforts in organic waste management in the four selected countries of South Asia. As more than 70 percent of municipal solid waste in this region is biodegradable (organic), an enormous potential exists to improve existing operations and to provide positive economic and environmental benefits, including increased revenue generation through carbon co-financing and Clean Development Mechanism.

**Location:** Bangladesh, India, Sri Lanka and Nepal

**Period:** January 2010 to May 2010

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**Name of the Project:** *Pro-poor and Sustainable Solid Waste Management in Secondary Cities and Small Towns*

**Client:** UNESCAP, Thailand, Bangkok

**Description of work:**

- a) Provide advice/guidance in participating towns in refining and operationalizing Integrated Resource Recovery Center (IRRC) approach.
- b) Provide advice/guidance in participating cities on developing town wide strategy on municipal solid waste management based on up-scaling of IRRC, recover capital costs through carbon credits

**Location:** Vietnam, Sri Lanka, Nepal, Thailand, Philippines, Thailand and Indonesia

**Period:** November 2009 to September 2010

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**Name of the Project:** *Preparation of Solid Waste Management Plan for 19 towns of Bangladesh*

**Client:** UNICEF and Department of Public Health Engineering, Govt of Bangladesh

**Description of work:**

Preparation of Action Plan for solid waste management in 19 towns of Bangladesh based on 3R principle and carbon financing.

**Location:** Bangladesh

**Period:** November 2009 to June 2011

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**Name of the Project:** *Assessment of Green Jobs in Bangladesh*

**Client:** ILO

**Description of work:**

Detailed assessment of Green Jobs in three sectors, i.e., waste management, renewable energy and construction to identify intervention points of promoting green jobs

**Location:** Bangladesh

**Period:** May 2009 to December 2010

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**Name of the Project:** *Preparation 3R Manuals for Selected Sectors*

**Client:** UNCRD and IGES, Japan

**Description of work:** Preparation of 3R Modules on 5 (five) key sectors funded by UNCRD. The 5 (five) sectors are, 1. Municipal Waste, 2. Business and SMEs, 3. Hospital and Medical Sectors, 4. Agricultural Waste and 5. Hotel and Tourism

**Location:** Bangladesh

**Period:** July 2008 to March 2010

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**Name of the Project:** *Preparation National 3 R Strategy for Waste Management in Bangladesh*

**Client:** UNCRD and IGES, Japan; Department of Environment, Govt. of Bangladesh

**Description of work:** **Serving as National Collaborating Center for** formulation of the National 3R Strategy of Bangladesh for waste sector.

**Location:** Bangladesh

**Period:** March 2008 to July 2010

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**Name of the Project:** *Inventory of Green Jobs in Selected Sectors*

**Client:** ILO

**Description of work:** Preparation of An Inventory Documenting Who Is Doing What in terms of Existing Green Jobs Initiatives in Renewable Energy, Waste Management and Construction Sector in Bangladesh.

**Location:** Bangladesh

**Period:** December 2008 to February 2009

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**Name of the Project:** *Environmental Plan for Selected Industries*

**Client:** Local Enterprise Investment Center(LEIC) under IDLC Finance Ltd

**Description of work:** Preparation of environmental plan for 10 industries which includes waste management plans for the industries.

**Location:** Bangladesh

**Period:** September 2008 to December 2008

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**Name of the Project:** *Waste Recycling in American International School (AISD), in Dhaka*

**Client:** AISD, Dhaka, Bangladesh

**Description of work:**

- a) Conducted Waste Audit
  - b)Detail architectural and engineering design drawing for the compost plant.
  - c)Construction supervision.
  - d)Awareness training for the AIS/D staff and students for successful operation of the plant.
  - e)Hands on training for the in house plant operators.
  - f) Monitoring of green house gas emission reduction through composting at AISD
- Prepared waste management plan for the AISD

**Location:** Dhaka

**Period:** November May 2008 to May 2009

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**Name of the Project:** *Capacity Development for the Clean Development Mechanism*

**Client:** UNEP Risoe Centre, Risø National Laboratory, Technical University of Denmark.

**Description of work:**

- a)Improving Bangladesh's institutional preparedness for hosting CDM projects, including capacity building of the Designated National Authority (DNA) able to efficiently approve CDM projects consistent with the country's sustainable development priorities.
- b. Building the capacity of local experts in key sectors in the identification, design, and implementation of CDM projects.
- c. Building the capacity of relevant institutions in appraising, funding, and promoting CDM projects and carbon offset investments in Bangladesh.
- d. Promoting Bangladesh as a CDM investment destination.
- e. Supporting the development of a pipeline of actual CDM projects ( 4 PINs and 2 PDDs)

**Location:** Bangladesh

**Period:** April 2008 to December 2009

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**Name of the Project:** *Environmental Plan for Tabani Beverage Company Limited*

**Client:** Coca Cola, South Asia

**Description of work:**

- Waste Water: Collection of Waste Water Flow data for
- identification of EPIs
- Hazardous Waste:
  - Collection of data regarding sludge generation as well as
- non hazardous waste generation;
  - Development of sludge disposal system;
  - Development of septic tank cleaning system using vaccu-tag
- and proper disposal of faecal sludge from septic tanks;
  - Development of waste disposal system of used oil and paint;
  - Development of waste recycling system for broken glass and
- bottles;
  - Development of proper signage system for containers with
- hazardous materials;
  - Development of asbestos management system.
- Inspection of Pressure Vessels and Safety Valves
  - Development of annual inspection procedure as well as
- emergency response plan;
  - Collection and maintenance of data; and
  - Inspection of pressure vessels;
- Emergency Response Procedure (ERP) For the Ammonia
- Refrigeration System
  - Development of ERP for refrigeration system;
  - Development of asbestos management system; and
  - Development of annual inspection procedure system.
- Legal Compliance
  - Assist TBCL to prepare all necessary documents for
- Environmental/legal compliance;
  - Preparation of Environmental Management Plan (EMP) for Tabani Beverage Company Limited

**Location:** Dhaka

**Period:** January 2008- May 2008

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**Name of the Project:** *Technical Advisory Services for the Implementation of the Community based Composting Project in Bangladesh*

**Client:** Institute for Global Environmental Strategies (IGES)

**Description of work:** Construction of one community-based composting plant (1.5 ton capacity) in Kushtia Municipality in Bangladesh integrated with house-to-house waste collection. Green house gas emission reduction from the project will also be evaluated along with promotion of source separation of waste in the municipality. Waste Concern shall carry out a baseline study, prepare IEE report as well as technical design and drawings along with cost estimate and tender documents. Moreover, a publication on the project will also be prepared by Waste Concern.

**Location:** Kushtia Municipality

**Period:** October 2007 to June 2008

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**Name of the Project:** *Promotion of Organic Cotton in Bangladesh*

**Partners:** *Bangladesh Cotton Development Board, Government of Bangladesh: Waste Concern - Baraka Agro Products, Bangladesh, and a social business enterprise: Waste Concern, Bangladesh, a not for profit research organization: People Tree UK, a social business enterprise: Mohipur Agriculture Training Institute (MATI), Bogra, Bangladesh:*

**Description of work:** Waste Concern, for the first time in Bangladesh took an initiative to promote sustainable organic cotton production and marketing in Bangladesh with minimum green house gas emission. Using the concept of public-private partnership, Waste Concern brought Cotton Development Board of the Government of Bangladesh along with a number of national and international (both private and research bodies) organizations to a common platform to start organic cotton production.

In order to test the feasibility of growing organic cotton commercially in Bangladesh, a pilot project has been initiated. The project will be implemented using public-private partnership approach. The basis of partnership is that "all the risks and benefits of the project will be shared by all the partners". The roles and responsibilities of the project partners are as follows:

**Location:** Bangladesh

**Description of work:**

- ✦ *Bangladesh Cotton Development Board, Government of Bangladesh:* They will provide land, good quality cotton seed as well as required manpower for the pilot project. They will also monitor results of the crop yield during the period.
- ✦ *Waste Concern - Baraka Agro Products, Bangladesh, and a social business enterprise:* They will partially bear the cost of the pilot project and will invest in commercial production using Fair Trade Standards and contract farming approach.
- ✦ *Waste Concern, Bangladesh, a not for profit research organization:* They will provide compost to the pilot project; also develop a CDM project and bring carbon investors for the project.
- ✦ *People Tree UK, a social business enterprise:* They will provide technical assistance in growing organic cotton by providing/arranging training and will ensure purchasing the cotton products at a premium price under an exclusive agreement with Waste Concern-Baraka Agro Products. They will also assist in implementing Fair Trade standards in cotton production.
- ✦ *Mohipur Agriculture Training Institute (MATI), Bogra, Bangladesh:* Mohipur Agriculture Training Institute (MATI) founded in 1996 at Mohipur, under Sherpur Upazilla, Bogra. The Institute is also linked with farmer's community and other organizations under its Farmers' support Service and Research and Development Division.

**Period:** August 2007 to August 2008

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**Name of the Project:** *Managing Hazardous Waste*

**Location:** Bangladesh

**Name of Client:** Asian Development Bank (ADB), Manila, Philippines

**Project Background:** In many developing countries, including Bhutan, Bangladesh, Nepal, and India, increased economic activity causes negative impacts on the environment. Economic activities associated with industry, agriculture, health services, and other service sectors generate chemical and hazardous wastes, which if left unmanaged, can lead to serious environmental problems that threaten public health and endanger economic sustainability.

In this backdrop, Regional Technical Assistance (RETA) on Managing Hazardous Wastes, previously known as Review of Regulation on Hazardous Wastes for Bangladesh, Bhutan, India, and Nepal (BBIN), was proposed by the Environmental Working Group of South Asia Sub-regional Economic Cooperation (SASEC) at its special meeting in 2002, and endorsed at the Country Advisors Meeting in 2005. RETA is included in the regional cooperation strategy and program (RCSP) for 2006–2008. Considering the range of issues, problems, degrees of effort, and the immediate needs for managing hazardous wastes, RETA will serve as a basis for strengthening cooperation among the four countries.

**Objectives of the Project:**

1. To carry out inventory of hazardous wastes
2. The consultant will work closely with the international consultant in developing guidelines for management of hazardous wastes and undertake inventory of wastes

**Tasks Under the Project:**

- Assisting Department of Environment (DOE) to update the inventory of hazardous wastes, as a basis to formulate the hazardous wastes management regulation;
- Reviewing the present studies on hospital wastes and lead batteries, as well as POP;
- Identifying key industries to be included in the survey; preparing an approach and
- designing a survey for collecting primary data;
- Assisting the DOE in conducting workshops with the Chamber of Commerce and Industry
- and other relevant sectors to test the survey tools; and
- Undertaking the survey; and analyzing the results of the survey and making predictions about waste generation for the next 5 to 10 years.

**Duration of the Project:** August 15, 2007 to August 31, 2008

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**Name of the Project:** *Prepare Interactive User's Manual on Decentralized Composting and Paper on Financing, Up-scaling & Replication of Community-based Solid Waste Management*

**Location:** Bangladesh, Vietnam and Sri Lanka

**Name of Client:** United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), Bangkok, Thailand

**Project Background:** The UNESCAP project on Solid Waste Management, under the supervision of the Chief of the Poverty Reduction Section (Poverty and Development Division), has adapted the innovative community-based composting model of Waste Concern (Bangladesh), and is currently testing it in two pilot schemes in Quy Nhon, Vietnam and Matale, Sri Lanka. The aim of the project is to provide towns across the Asia-Pacific region with an innovative, replicable model of community-based solid waste management, as well as with financing options for the model's implementation, replication and up-scaling using carbon trade.

**Objectives of the Project:**

The objectives of the consultancy are twofold.

**Firstly**, it aims to provide stakeholders in towns across the UNESCAP region with an interactive user's manual on community-based solid waste management which portrays step-by-step this innovative, environmentally friendly, socially beneficial and cost-effective approach currently piloted by UNESCAP.

**Secondly**, it aims to produce a research paper on the potential of carbon trading to finance the implementation, replication and up-scaling of this community based solid waste management approach enabling towns across the region to derive benefit from the best practice.

**Tasks Under the Project:**

- Prepare an "Interactive User's Manual on Decentralized Composting for Cities of Low-and Middle-Income Countries" in the format of a camera-ready CD-ROM; and
- Prepare a research paper on "Financing, Up-scaling and Replication of Community-based Solid Waste Management Using Carbon Trading" as an input to a policy seminar
- on innovative financing for community-based solid waste management, scheduled to be held in the last quarter of 2007.

**Duration of the Project:** August 1, 2007 to October 12, 2007

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**Name of the Project:** *Initial Environmental Examination (IEE) Report for CDM Based Compost Project located at Roopganj, Bulta, Dhaka*

**Client:** WWR Bio Fertilizer Bangladesh Ltd., a Dutch-Bangladesh Joint Venture company

**Description of work:** The CDM based 700 ton/day capacity compost project aims at establishment of a number of composting plants near the capital city of Dhaka in the Peoples Republic of Bangladesh. The current IEE deals with the first stage of the first composting plant with a capacity of maximum 130 ton/day. Here compost will be produced from the organic component of municipal waste collected mainly from vegetable markets of Dhaka city. This project has been approved by the National CDM Committee and CDM Board of the Government of Bangladesh and already registered with as a CDM project with the UNFCCC. A number of tasks carried out during this examination.

**Tasks Under the Project:** A number of activities were carried out during the study, such as: Screening was done, existing environmental conditions (land-use, water quality, noise, climatic condition, terrestrial flora and fauna, aquatic flora and fauna, traffic volume) determined, identification and evaluation of potential impacts, disaster management plan and monitoring scheme has been developed.

**Location:** Roopganj, Bulta, Dhaka, Bangladesh

**Period:** June 2007 to July 2007

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**Name of the Project:** *Initial Environmental Examination (IEE) Report for CDM Based Compost Project located at Roopganj, Bulta, Dhaka*

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**Description of work:** The CDM based 700 ton/day capacity project aims at establishment of a number of composting plants near the capital city of Dhaka in the Peoples Republic of Bangladesh. The current assessment deals with the first stage of the first composting plant with a capacity of maximum 130 ton/day. Here compost will be produced from the organic component of municipal waste collected mainly from vegetable markets of Dhaka city. The compost will be sold to the private sector for mainly agricultural use. The project has been approved by the National

CDM Committee and CDM Board of the Government of Bangladesh and already registered with as a CDM project with the UNFCCC. A number of tasks carried out during this examination.

**Tasks Under the Project:** A number of activities were carried out during the study, such as: Screening was done, existing environmental conditions (land-use, water quality, noise, climatic condition, terrestrial flora and fauna, aquatic flora and fauna, traffic volume) determined, identification and evaluation of potential impacts, disaster management plan and monitoring scheme has been developed.

**Location:** Roopganj, Bulta, Dhaka, Bangladesh

**Period:** June 2007 to July 2007

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**Name of the Project:** *Technical Support to the Staffs of Better Business to Improve Physical & Environmental Condition of Small and Medium Size Enterprises (SMEs)*

**Client:** Swisscontact- Katalyst

**Objectives of the Project:** The main objective of this assignment is to provide technical support for improvement of the working condition of SMEs located at old part of Dhaka

**Description of work:** Most of the time SMEs in Bangladesh do not comply with healthy and environmental-friendly practices in their workplaces. The hazardous and risky operational practices not only higher the health risks of workers but at the same time reduces productivity of the workplace. There is a need to improve the present Safety, Health and Environment (SHE) condition of SMEs. To improve this situation

**Tasks Under the Project:** Improvement of SHE condition of SMEs in Bangladesh. So far, 2 (two) small manufacturing industries and 1 (one) multi-purpose buildings located in Dhaka were taken under the project.

**Location:** Dhaka, Bangladesh

**Duration of the Project:** April 2007 and April 2011

**Name of the Project:** *Feasibility Study on Scaling-up of Compost Production and Distribution in Rangpur and Dinajpur District of Bangladesh*

**Location:** Rangpur and Dinajpur, Bangladesh

**Name of Client:** Swisscontact-Katalyst

**Objectives of the Project:** The broad goal of this study is to come with two major outputs, one is to get an actual overall picture of raw material supply for composting and demand for compost in the Rangpur and Dinajpur and the other one is to prepare an effective business plan to promote sustainable agriculture in Bangladesh. This study will enable to assess the feasibility of compost production, marketing and its use in agriculture in urban and peri-urban areas of greater Rangpur region.

**Duration of the Project:** November 2006 to March 2007

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**Name:** *Preparation of Environmental Plan for CAD Production Ltd.*

**Client:** Andersen Consult, Denmark

**Tasks Under the Project:**

- Identify local environmental rules and regulations applicable to the operations of CAD;
- Identify environmental aspects related to the proposed operations of CAD;
- Identify proper mitigation plan of environmental aspects;
- Prepare a tentative budget for implementation of environmental aspects;
- Identify training needs to implement the environmental plan; and
- Prepare an Environmental Plan for CAD in line with ISO-14001

**Location:** Dhaka, Bangladesh

**Period:** September 15, 2006 to October 7, 2006.

**Name** Intervention on Promoting Sustainable and Efficient Waste Recycling

**Client:** Swisscontact

**Description of work:**

- Creating awareness among plastic pallets' and goods' manufacturers for cleaner production by establishing Environmental Management System (EMS) in their facilities.
- Promoting awareness on source separation of waste to make plastic recyclables cleaner and un-soiled.
- Demonstrating source-separation of waste by piloting waste segregation activity within a community in DCC area.
  - Providing input for policy reform to improve the plastic waste recycling industry

**Location:** Bangladesh

**Period:** May 2006 and March 2008

**Name:** *Study on Composition of Plastic Waste and Market Assessment of the Plastic Recycling Sector in Dhaka City*

**Client:** Swisscontact- Katalyst

**Description of work:**

- Conduct waste generation and physical composition survey in the high, medium and low income group of households of Dhaka City.
- Conduct physical and questionnaire survey in the waste collection points in high, medium and low income areas and market areas.
- Conduct survey among different actors involved in the waste recycling trade chain.
- Data analysis and preparation of report based on the survey.

**Location:** Bangladesh

**Period:** August 15, 2005 - December 31, 2005

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**Name:** : *Capacity Building for Composting Activities under Special Programme for*

*Food Security Project in Chak Singa, Bagha, Rajshahi*

**Client:** FAO

**Description of work:**

The main objectives of the project are to provide following services:

- Conducting training sessions (compost unit construction, compost process control);
- Conducting field survey on availability of biomass for composting as well as soil quality;
- Providing periodical supervisions to ensure quality output;
- Preparation of following materials:

- i) Script for capacity building of trainers and farmers, based on which PMU will prepare a Video-CD;
- ii) Written manual for farmers;
- iii) Written manual for trainers, describing how to facilitate farmers to process composting and utilize the produced compost; and
- iv) Posters, particularly on raw material selection and process control.

**Location:** Rajshahi, Bangladesh

**Period:** October 2005 and July 2006

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**Name:** *Feasibility Study for Employment Generation Activity Through Solid Waste Collection, Composting and Recycling*

**Client:** UNCHS- UNDP

**Description of work:** This study was carried out under the project entitled Local Partnerships for Urban Poverty Reduction Project UNDP/UN-HABITAT/LGED PROJECT BGD/98/006. The executing agent is the Local Government Division of the Bangladesh Ministry of Local Government, Rural Development and Cooperatives and the Government implementing agency is the Local Government Engineering Department (LGED). The major output of the study was to come up with a economic feasibility study for a business based on solid waste management in three community cluster of three wards in three towns.

**Tasks Under the Project:**

- Conduct Physical and questionnaire survey among households to estimate the composition and quantity of waste generation on a daily basis.
- Estimation of cost of collection, sorting and processing of waste including the cost of equipment required;
- Estimation of expected profit from sale of compost and recyclables and house to house waste collection fee
- Identification of site required for composting and recycling waste.
- Development of management and business plan of the waste collection, composting and recycling scheme in three towns.

**Location:** Narayangang Municipality, Mymensingh Pourashava and Bogra Pourashava of Bangladesh.

**Period:** June 1 to July 31, 2005

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**Name:** *Replication of Barrel Type Composting System in Slums Located in Dhaka City*

**Client:** Probono Service provided to Dushtha Syasthya Kendra (DSK)

**Tasks Under the Project:**

- ✦ Waste Concern will assist DSK to replicate Waste Concern's Community Based Composting model with necessary technical supports in the slums of Dhaka city.
- ✦ Waste Concern will provide software and hardware trainings on Waste Concern's model to DSK in mutually agreed dates.

**Location:** Dhaka, Bangladesh

**Period:** March 2005 to March 2006

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**Name:** *Training Manual on Environment Friendly Poultry Waste Management for Small, Medium Sized Poultry Farm Owners.*

**Client:** Pro bono service provided to Agriteam Canada Consulting Ltd.

**Description of work:** Agriteam Canada Consulting Ltd. with Bangladesh Poultry Sector Development Project of the Government of Bangladesh in partnership with Waste Concern took the initiative to develop training manuals that would help small and medium poultry producers to develop sound environmental management practices.

**Tasks Under the Project:**

- ✦ Preparation of 2 (two) four colored training manuals on composting poultry waste in Bengali language. Technology and management practices used in these manuals are suitable and affordable for small scale producers and the approach is appropriate for women. Presentation materials are specially designed to be easily understood by illiterate or semi-literate farmers.

**Location:** Bangladesh

**Period:** November 2004 to December 2004

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**Name:** *Assist Qui Nhon City of Vietnam and Matale city of Sri Lanka in adapting the Waste Concern model of solid waste management including CDM*

**Client:** UN-ESCAP, Bangkok, Thailand

**Description of work:**

Prepare detailed work plan for providing advisory services to the two participating towns

- ✦ Visit Qui Nhon City and Matale to prepare pre-feasibility report on community based solid waste management and small-scale CDM projects on waste sector (landfill gas recovery, composting, biomethanation etc)
- ✦ Assist in developing a preliminary planning and implementation schedule for each demonstration project in consultation with each participating town.
- ✦ Indicate possible sites for the demonstration project.
- ✦ Identify possible private sector partners.
- ✦ Recommend approximate dates for implementation of each demonstration project.
- ✦ Assist each town in estimating the inputs that they could provide and specify inputs, both financial and technical needed from ESCAP and other technical assistance providers.
- ✦ Outline possibilities for using CDM for financing solid waste management in each town.

**Location:** Vietnam and Sri Lanka

**No. Of person-months provided by Waste Concern:** 1 man-months

**Period:** November 2004- January 2005

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**Name:** *Preparation of Sanitation Master Plan for Eight Towns in Bangladesh*

**Client:** Asian Development Bank (ADB), Philippines

**Description of work:**

Action Plans for sanitation to build upon detailed identification and evaluation options undertaken during review and strategic planning stages and requirements of the agreed strategy are to include but not be limited to:

- Institutional strengthening Action Program addressing responsibilities and arrangements for all bodies involved in sanitation, private sector involvement, detailed capacity building requirements, arrangements for licensing etc.
- Evaluate legal and regulatory requirements at various Government levels;
- Economic assessment of alternative strategies, indicative investment plan, indicative recurrent funding plan, sources and uses of funds (cash flow analysis during implementation and initial years of operation), proposals for physical and financial indicators to measure performances during and after strategy implementation.
- Propose detailed program for public awareness and education program and implementation schedule, where the main objectives are to inform the public of hygienic sanitation methods and requirements, gain public support for initiatives and improve sanitation profile.

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 4 man-months

**Period:** November 2004 – March 2005

**Name:** *Preparation of Solid Waste Management Master Plan for Eight Towns in Bangladesh*

**Client:** Asian Development Bank (ADB), Philippines

**Description of work:**

Develop detailed Action Plans for solid waste management (SWM) setting out measures to be taken over a short term (2 to 3 years) and a medium term (7 to 10 year) period. The Action Plans are to build upon detailed identification and evaluation options undertaken during review and strategic planning stages and requirements of the agreed strategy are to include but not be limited to:

- Detailed technical action program: to include service coverage and site selection, detailed plans for SWM –e.g. waste storage and primary collection, street sweeping and bulk waste clearance, secondary collection, transfer stations, transport systems, treatment disposal and vehicle maintenance, etc

- Institutional strengthening Action Program addressing responsibilities and arrangements for all bodies involved in SWM, private sector involvement, detailed capacity building requirements, arrangements for licensing etc.
- Evaluate legal and regulatory requirements at various Government levels; explore mechanisms to formalize solid waste segregation and recycling practices.
- Economic assessment of alternative strategies, indicative investment plan, indicative recurrent funding plan, sources and uses of funds (cash flow analysis during implementation and initial years of operation), proposals for physical and financial indicators to measure performances during and after strategy implementation.
- Propose detailed program for public awareness and education program and implementation schedule, where the main objectives are to inform the public of waste management methods and requirements, gain public support for initiatives and improve SWM profile.

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 4 man-months

**Period:** November 2004 – March 2005

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**Project Name:** *Intervention to Improve Existing Composting Technology of a Local Compost Producer "Annapurna Agro Service" Based at Domar, Nilphamari, Bangladesh*

**Location within country:** Dinajpur, Bangladesh

**Name of client:** Winrock International, Business Development Service (BDS).

**Duration of the Project:** September 2004 to December, 2004

**Narrative description of project and services provided**

- Assess the facilities, raw material and process analysis of a compost fertilizer producer in the greater Rangpur area;
  - Analysis of raw materials and present compost produced by them;
  - Facilitate to improve/develop the composting technology for good quality compost production;
  - Prepare an economic analysis on the cost and benefit of using identified appropriate and affordable composting technology;
  - Analysis of finished compost produced by the semi aerobic composting technology;
  - Recommendation of compost use in agriculture;
  - Build up capacity of the local service provider to produce quality compost followed by appropriate composting technology to cater the need of the farmers;
  - Prepare on economic analysis on the cost and benefit of using the identified appropriate and affordable technology of composting; and
  - Recommend application dose of compost along with other chemical fertilizers for maize production in greater Rangpur.
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**Name:** *Preparation of Case Study on the Experience of Waste Concern with Community Based Decentralized Solid Waste Management in Dhaka, Bangladesh.*

**Client:** UNESCAP Bangkok, Thailand

**Description of work:** Preparation of best practice documentation of Waste Concern's model of Solid Waste Management.

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 1 man-months

**Period:** July 2004 - August, 2004

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**Name:** *Implementation of Two CDM projects (landfill gas recovery with power generation and composting of organic waste) in Dhaka, Bangladesh.*

**Client:** World Wide Recycling (WWR), Netherlands

**Description of work:**

Providing technical assistance in design implementation of landfill gas recovery project including height increase of landfill site, leachate treatment and composting of organic waste. Also providing assistance in preparation of methodology for the meth panel of UNFCCC.

**Location:** Dhaka, Bangladesh

**No. of person-months provided by Waste Concern:** 4 man-months

**Period:** March 2004 – December 2004

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**Name:** *Promote and Support ISO 14001 (EMS) Among Business Sector in Bangladesh*

**Client:** British High Commission in Dhaka

**Description of work:**

- Preparation of information resources on ISO 14001.
- Acting as Resource Person in the workshops for business groups interested in ISO 14001 certification.
- Assessment of industries interested in ISO 14001.
- Development of environmental management systems (EMS) for selected industries.

**Location:** Bangladesh

**Period:** August 2003-July 2005

**No. of person-months provided by Waste Concern:** 24 man-months

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**Name:** *Enriched Compost Demonstration on Different Crops Production in Eco-villages of Tangail under Ecological Village Development Component of Tangail Infrastructure Development Project (TIDP) Phase-III*

**Client:** GITEC CONSULTANT, Germany

**Description of work:**

- Demonstrated to farmers in five eco-villages on 19 demonstration plots the technique of applying enriched compost.
- Carried out field visits to all demonstration plots and documented the intermediate results.
- Organized farmers meetings in all the villages and practically demonstrated the difference between farmers' practice and enriched compost plots, and to motivated them to switch over to enriched compost in future.
- Prepared a photo-illustrated report on all findings of the assignment, including methodological aspects and possible shortcomings.

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 2 man-months

**Period:** November 2002-May 2003

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**Name:** *Capacity Building Training for the elected Municipal Officials of Punjab Province of Pakistan at Lahore on Solid Waste Management with Emphasis on Recycling and Composting.*

**Client:** UNESCAP Bangkok, Thailand

**Description of work:** Preparation of training material on waste management and delivery of lectures on the subject.

**Location:** Pakistan

**No. of person-months provided by Waste Concern:** 1 man-months

**Period:** October 2002- December 2002

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**Name:** *Capacity Development for Clean Development Mechanism (CDM) in Bangladesh, under Sustainable Environment Management Program (SEMP)*

**Client:** Ministry of Environment and Forest, Govt. of Bangladesh and UNDP

**Description of work:**

- Developed policy guideline and institutional framework for implementation of CDM in Bangladesh;
- Developed the structure of designated national authority (DNA) for CDM projects in Bangladesh
- Developed CDM project approval process as well as sustainable development criteria for project evaluation and CDM strategy
- Organized training programs on CDM for government and private sectors on potential CDM projects.
- Assisted international expert in development of baseline and preparation of business plan for Landfill Gas Recovery (LFG) project. in Dhaka .
- Developed awareness raising materials on CDM in Bangladesh

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 12 man-months

**Period:** October 2002-September 2003

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**Name:** *Pilot Projects on Solid Waste Management of Environmental Sanitation, Hygiene and Water Supply in Urban Slums and Fringes*

**Client:** UNICEF Dhaka, Bangladesh

**Description of work:**

- Baseline survey and research on waste generation rates in 14 municipalities ;

- Development of training manual on community mobilization on solid waste management;
- Training of local NGOs and municipal staff on proper disposal of waste, recycling and involvement informal sector on waste management;
- Supervising and providing on-job training to local GO/NGO staff on community mobilization for proper solid waste management;
- Preparation of engineering design of community based solid waste recycling and composting plant for 14 municipalities;
- Preparation of engineering design of composting toilet, rainwater collection and wastewater recycling system for the composting plants;
- Promotion and marketing of compost; and
- Monitoring performance of composting units

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 27 man-months

**Period:** August 2002-September 2005

**Name:** *Rural Waste Recycling and Industrial Pollution Mitigation under Eco-villages Ecological Village Development Component of Tangail Infrastructure Development Project (TIDP) Phase-III*

**Client:** GITEC CONSULTANT, Germany

**Description of work:**

- Evaluated existing database of five ecological villages with regard to waste and industrial pollution related issues
- Analyzed and classified different types of waste produced in their villages and the ways of disposal
- Carried surveys in five villages to identify current waste generation
- Identified ways and means to reduce waste production, to recycle or re-use waste or to improve disposal practices
- Identified technologies, techniques and practices suitable to maintain or improve the waste balance in the villages and prepared detailed proposals for implementation under TIDP
- Prepared proposals for improving environmental awareness of villagers regarding waste
- Prepared detailed analysis of the ten most polluting industries in villages
- Prepared recommendations for mitigation of environmental pollution.
- Participated in village meetings to present and discuss the proposals with the industry representatives and villagers

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 4 man-months

**Period:** August 2002-October 2002

**Name:** *Assessing the Feasibility of Composting of Poultry Manure*

**Client:** CIDA, Canada

**Description of work:**

- Carried out research trials to determine best practices for composting of poultry manure
- Analyzed the final nutrient value of poultry compost
- Determined market potential of poultry compost

- Recommended appropriate method for composting of poultry manure.

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 4 man-months

**Period:** July 2002 - February 2003

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**Name:** *Develop a comprehensive Gender Strategy and Action Plan for Bangladesh*

**Client:** Royal Netherlands Embassy, Dhaka.

**Description of work:**

- Liaison with LGED and other key stakeholders
- Provided data related to rural and urban infrastructure and water resources development and identified areas for involvement of women in these infrastructure developments.
- Co-facilitated for national workshop and some local workshops
- Contributed to all consultancy outputs (gender strategy and action plan)

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 2 man-months

**Period:** April 2002-May 2002

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**Name:** *Conceptual Design and Operationalization of WasteNet, Bangladesh*

**Client:** WSP-South Asia Dhaka, Bangladesh

**Description of work:** Responsible for identification of stakeholders working in the field of solid waste management. Prepared newsletter and leaflets organized training programs as well as disseminated information on waste management to the WasteNet members.

**Location:** Bangladesh

**Period:** May 2001- February 2002

**No. of person-months provided by Waste Concern:** 3 man-months

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**Name:** *5926-REG/ Public-Private-Community Partnership in Urban Services for the Poor.*

**Client:** Asian Development Bank Manila, Philippines

**Description of work:**

- Analyzed the current development patterns, future trends, and strategic focus in water supply, sanitation, and solid waste management sub sectors in Bangladesh. Reviewed the national and local policies and plans for private sector participation in the provision of urban services, particularly with regard to the urban poor;
- Reviewed overall the status of privatization programs and related laws and regulations in Bangladesh. Examined the funding mechanisms for urban infrastructure and proportion of financial participation by the private sector;

- Examined the modalities and contractual arrangements for private sector participation in water supply, sanitation and solid waste management. In particular assessed the contracts relating to public-private-community arrangements designed to make services available to the poor communities;
- Recommended institutional and contractual arrangements likely to enhance private sector participation in urban services;
- Consulted with relevant government officials, investors, private companies, NGOs, CBOs in Bangladesh to assess the benefits and problems concerning private sector participation in urban services for the urban poor; and
- Participated in the inception workshop and regional forum as a Resource Person.

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 1 man-months

**Period:** January 2001-June 2001

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**Name:** *Community Based Solid Waste Management in Bangladesh*

**Client:** RUDO/USAID- South Asia, India

**Description of work:** preparation of training modules and designing and delivering twelve training programs on solid waste management, composting and recycling for municipal officials, NGOs, CBOs in different cities and towns of Bangladesh.

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 4 man-months

**Period:** October 2000- December 2001

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**Name:** *Composting Techniques in Khulna City*

**Client:** SDC, Switzerland

**Description of work:**

- Test technical and commercial viability of composting and to demonstrate model and process of decentralized composting in Khulna and elsewhere in Bangladesh. As part of the assignment:
- Prepared a detailed engineering design (structural) for the pilot composting plant at the landfill site.
- Supervised the installation of the composting plant
- Advised and provided hands on training and guided Prodiapon (an NGO) and municipal staff to operate the composting plant.
- Advised on marketing strategy of compost.

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 2 man-months

**Period:** January 2001-June 2001

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**Name:** *Low Cost Pilot Solid Waste Management Program in Two Slums of Dhaka city.*

**Client:** Oxfam-UK

**Description of work:** Design and implementation of low-cost and environmentally sound solid waste management system with focus on resource recovery in two slums of Dhaka.

**Location:** Dhaka

**No. of person-months provided by Waste Concern:** 4 man-months

**Period:** April 2000- March 2001

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**Name:** *Resource Recovery from Solid Waste in Khulna City of Bangladesh*

**Client:** Water and Sanitation Program South Asia - The World Bank

**Description of work:**

- Assessed the waste generation rate of Khulna city and potential of resource recovery;
- Conducted a pre-feasibility of composting; and
- Designed a pilot composting plant.

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 3 man-months

**Period:** January 2000 – March 2000

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**Name:** *International Workshop on Community Based Solid Waste Management.*

**Client:** RUDO/USAID South Asia

**Description of work:** Organizing international workshop on solid waste management in Bangladesh as well as preparation of seminar proceedings.

**Location:** Dhaka

**Period:** December 1999 - February 2000

**No. of person-months provided by Waste Concern:** 2 man-months

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**Name:** *Identification of Potential Sites for Community Based Composting in Dhaka*

**Client:** RUDO/USAID, South Asia

**Description of work:** Prepared a report on potential sites for community based composting in Dhaka, Bangladesh.

**Location:** Dhaka

**No. of person-months provided by Waste Concern:** 3 man-months

**Period:** April 1999 – August 1999

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**Name:** *Barrel Type Composting in Two Slums of Dhaka city*

**Client:** LIFE-UNDP

**Description of work:** Design and implementation of barrel type composting technology in two slums of Dhaka. The assignment also included community mobilization, capacity building of community groups on environmental issues as well as operation and maintenance of composting barrels.

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 6 man-months

**Period:** November 1998 - February 2001

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**Name:** *Community Based Urban Solid Waste Management in Dhaka, under Sustainable Environment Management Program (SEMP)*

**Client:** Ministry of Environment & Forest, Government of Bangladesh supported by UNDP.

**Description of work:**

- ✦ Carrying out base line survey to determine the quality of waste being generated by the communities and to also determine the quantity of waste being improperly disposed;
- ✦ Forming and organizing community groups. These groups are being provided with adequate training to carry out proper segregation of solid waste in order to carry recycling and resource recovery of waste;
- ✦ Designing and setting up decentralized composting units in the selected communities involving Public-Private-Community partnership;
- ✦ Negotiation and preparation of partnership agreement between the stakeholders for implementation of the project in selected communities;
- ✦ Training the communities specially the women in operation and maintenance of the composting units;
- ✦ Establishment of outlets for marketing of the compost and other recyclable material by involving private sector;
- ✦ Establishment of monitoring and evaluation system to check performance of the composting units and evaluate the overall income generation activities;
- ✦ Preparation of training manual on bio-medical waste management and to conduct training program on pilot basis in hospitals of Dhaka;
- ✦ Establishment of network on solid waste management in Bangladesh;
- ✦ Conducting research on use of compost and enriched compost for urban and peri-urban agriculture;
- ✦ Preparation of fact sheets, educational material on solid waste management, community involvement and technical papers on different activities of the project;
- ✦ Preparation of draft national policy on waste management;
- ✦ Disseminating the results of the project through electronic and print media;
- ✦ Preparation of baseline for solid waste composting project using CDM;
- ✦ Evaluation of alternative options for poultry waste management using CDM financing;
- ✦ Collection of baseline data for potential biomass CDM project in Bangladesh;
- ✦ Study on lead acid battery management in Bangladesh and preparation draft policy on management of lead acid battery; and
- ✦ Establishment of Recycling Training Center in Dhaka.

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 120 man-months (professional staff only)

**Period:** September 1998 – December 2006

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**Name:** *Study of Potential of Waste Recycling, Composting in the city of Jessore, Bangladesh.*

**Client:** UNIDO & UNDP

**Description of work:**

- Assessed the volume of rubbish collected and collectable by the Municipality of Jessore and convertible into compost & dry fertilizer;
- Studied the state of art of waste composting in Dhaka;
- Obtained from Jessore the basic statistics on current rubbish disposal practices & volumes; and
- Prepared a brief pre- feasibility report of waste conversion into compost for the area of Jessore.

**Location:** Bangladesh

**No. of person-months provided by Waste Concern:** 1 man-months

**Period:** April 1, 1997 – April 30, 1997

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