



PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Full-sized Project

THE GEF TRUST FUND

Submission Date: 11 September 2008

Resubmission: 24 November 2008

7 April 2009, 29 April 2010

PART I: PROJECT IDENTIFICATION

GEF PROJECT ID¹: 3803 PROJECT DURATION: 60 months

GEF AGENCY PROJECT ID: XX/IND/08/X08

COUNTRY(IES): India

PROJECT TITLE: Environmentally Sound Management of Medical Wastes in India

GEF AGENCY(IES): UNIDO

OTHER EXECUTING PARTNER(S): Ministry of Environment and Forest (MOEF), India

GEF FOCAL AREA (S)²: Persistent Organic Pollutants

GEF-4 STRATEGIC PROGRAM(S): POPs SP1, SP2 & SP3 (see preparation guidelines section on exactly what to write)

NAME OF PARENT PROGRAM/UMBRELLA PROJECT (if applicable):

INDICATIVE CALENDAR*	
Milestones	Expected Dates mm/dd/yyyy
Work Program (for FSP)	June 2010
CEO Endorsement/Approval	October 2010
Agency Approval Date	November 2010
Implementation Start	December 2010
Mid-term Evaluation (if planned)	June 2013
Project Closing Date	December 2015

* See guidelines for definition of milestones.

A. PROJECT FRAMEWORK

Project Objective: To reduce and ultimately eliminate the releases of unintentionally produced POPs and other globally harmful pollutants into the environment, and assist India in implementing its relevant obligations under the Stockholm Convention. The proposed project will promote the country-wide adoption of BAT/BEP in the health care institutions of widely differing in their complexity and size as well as in the evolving medical waste management infrastructure and industry in a manner that reduces adverse environmental impacts and protects human health. The project objective will be achieved through PPPs covering but not limited to the following approaches: Segregation, decontaminating and compacting of the medical wastes and thus reducing its volume to be disposed of; enhancing and optimisation of incineration technologies; introduction of alternative technologies; raising of awareness and dissemination of know-how; incorporation of management systems; innovation and adaptation of appropriate and affordable technologies and techniques; introduction of participatory funding systems; and enhancement of relevant existing laws and regulations.

Project Components	Indicate whether Investment, TA, or STA ^b	Expected Outcomes	Expected Outputs	Indicative GEF Financing ^a		Indicative Co-Financing ^a		Total (\$) c = a + b
				(\$ a)	%	(\$ b)	%	
1. Enhancement of existing enabling and harmonized environmental and health-care policy and regulatory instruments through networking	TA	Enabling and harmonized environmental and health-care policy and regulatory instruments through appropriate networking for creation and promotion of environmentally sound management of medical waste, disposal sector and market	1.1 Established inter-ministerial network for Ministries of Environment and Forest, and Health for harmonizing environmental and health-care policy and regulatory instruments 1.2 Regulatory, economic and market incentives introduced for creation and promotion of environmentally sound management of medical waste, disposal sector and market 1.3 Policy and regulatory enforcement mechanisms are in place	1,000,000	27	2,650,000	73	3,650,000
2. Strengthened institutional capacity, in particular in medium and small health-care facilities and for the public at large	TA	Institutional capacity for environmentally sound management (ESM) of medical waste strengthened, in particular in medium and small	2.1 Enhancement of existing institutional and technical capacity in 4 large health-care facilities in each of the 5 selected states namely Gujarat, Karnataka, Maharashtra, Orissa and Punjab	2,000,000	25	5,850,000	75	7,850,000

¹ Project ID number will be assigned by GEFSEC.

² Select only those focal areas from which GEF financing is requested.

			<p>2.2 Institutional capacity building in 8 medium and 16 small health-care facilities in each of 5 selected states</p> <p>2.3 Strengthened technical capabilities for ESM of medical wastes in 8 medium and 16 small health-care facilities in each of 5 selected states</p> <p>2.4 Five (5) targeted awareness raising campaigns for most vulnerable segments of public at large in 5 selected states</p>					
3. Public-private partnerships (PPP) to improve support and supply capacities in medical waste management in health-care facilities	TA / investment	Facilitating and promoting PPP to improve support and supply capacities in medical waste management within the health-care facility perimeter	<p>3.1 Specific training curriculum on medical wastes management for 150,000 medical students of 297 medical colleges spread over 4.5 years of the course</p> <p>3.2 Enhanced effectiveness and efficiency of segregation of medical wastes at source</p> <p>3.3 Established protocols for medical waste movement in health-care facilities from source to collection points</p> <p>3.4 Five (5) PPPs (one in each selected states) promoted to provide uninterrupted services and supplies, supporting and meeting demands of medical waste management in health-care facilities</p> <p>3.5 Significant reduction of volume of medical wastes at source by introducing alternative techniques</p>	2,000,000	23	6,800,000	77	8,800,000
4. PPP to improve local technological and manufacturing capacities in medical wastes transport and disposal sectors	TA	Facilitating and promoting PPP to improve local technological and manufacturing capacities in medical waste transport and disposal sectors with specific reference to avoid generation of PCDD/PCDF and other unintentionally produced POPs releases by applying BAT/BEP measures	<p>4.1 Five (5) PPPs promoted (one in each selected states) to enhance new domestic technological and manufacturing capacities in medical waste transport and disposal sectors</p> <p>4.2 Enhanced environmental protection standards for medical waste disposal technologies complying with BAT/BEP requirements</p> <p>4.3 Established achievable release limits of PCDD/PCDF in respect of medical waste disposal technologies</p> <p>4.4 Significant reduction of volume of medical wastes by introducing alternative BAT/BEP compliance technologies</p>	2,000,000	27	5,400,000	73	7,400,000
5. Participatory funded and integrated systems for medical waste management and disposal	TA / investment	Demonstration of participatory funded and integrated systems for medical waste management and disposal in 5 selected states	<p>5.1 Established participatory funding system for medical waste management and disposal</p> <p>5.2 Established integrated system for medical waste management and disposal</p>	2,500,000	24	7,800,000	76	10,300,000

			5.3 Guidance manual developed for district administrators on integrated system for medical waste management and disposal 5.4 Demonstration of participatory funded and integrated system for medical waste management and disposal in 5 selected states 5.5 Country-wide dissemination of experience gained and lessons learned through extensive communication and demonstration programme					
6. Project management and monitoring & evaluation				500,000	25	1,600,000	75	2,000,000
Total project costs				10,000,000		30,100,000		40,100,000

^a List the \$ by project components. The percentage is the share of GEF and Co-financing respectively of the total amount for the component.

^b TA = Technical Assistance; STA = Scientific & Technical Analysis.

B. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE and by NAME (in parenthesis) if available, (\$)

Sources of Co-financing	Type of Co-financing	Project
Project Government Contribution (MOEF)	In-kind	8,000,000
State governments	In-kind	8,600,000
GEF Agency(ies): UNIDO	In-kind	100,000
Bilateral Aid Agency(ies)	(select)	
Multilateral Agency(ies)	(select)	
Private Sector/Participatory funding (PPP)	cash	5,000,000
NGO	(select)	
Other Donors	In-kind	8,400,000
Total co-financing		30,100,000

C. INDICATIVE FINANCING PLAN SUMMARY FOR THE PROJECT (\$)

	Previous Project Preparation Amount (a) ³	Project (b)	Total c = a + b	Agency Fee
GEF financing		10,000,000	10,000,000	1,000,000
Co-financing		30,100,000	30,100,000	
Total	0	40,100,000	40,100,000	1,000,000

D. GEF RESOURCES REQUESTED BY AGENCY (IES), FOCAL AREA(S) AND COUNTRY(IES)¹

GEF Agency	Focal Area	Country Name/ Global	(in \$)		
			Project (a)	Agency Fee (b) ²	Total c=a+b
(select)	(select)				
Total GEF Resources			0	0	0

¹ No need to provide information for this table if it is a single focal area, single country and single GEF Agency project.

² Relates to the project and any previous project preparation funding that have been provided and for which no Agency fee has been requested from Trustee.

³ Include project preparation funds that were previously approved but exclude PPGs that are awaiting for approval.

PART II: PROJECT JUSTIFICATION

A. STATE THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND THE EXPECTED GLOBAL ENVIRONMENTAL BENEFITS TO BE DELIVERED:

1. According to statistical data, India produces some 330,000 tons of health-care waste per year, which is 904 tons per day. As it is not segregated at source, all of it is to be considered hazardous despite the fact that only 10 to 20 percent is infectious in nature. The quantum of medical waste that is generated in India is estimated to be 1-2 kg per bed per day in a hospital and 600 gm per day per bed in a general practitioner's clinic. e.g. a 100 bedded hospital will generate 100 – 200 kgs of hospital waste/day. It is estimated that only 5 – 10% of this comprises of hazardous/infectious waste (5 – 10kgs/day). Though country-wide data are not available, there are 13 common treatment facilities (CTFs) in Karnataka state, who collect 6 rupees daily per bed (irrespective that the beds are occupied or not) from the hospitals.
2. Mismanagement of medical waste poses risk of contamination of water, air, soil and sediments. It poses risk of infections especially HIV/Aids and Hepatitis B apart from skin infections, respiratory and gastrointestinal infections.
3. Analysis of existing barriers for safe and sound management of health care waste management reveals several issues:

Issues	How the project seeks to approach the same
Medical Waste (Health care waste management) systems are still evolving at different levels and under multiple organizations. Existing rules and regulations under environmental protection legislations, especially BMW rules of 1998 require proper review and enforcement.	The project seeks to address this issue by networking and capacity building through symposia, workshops, written communications, films and documentaries. A guidance manual on appropriate and effective medical waste management for developing national and state medical waste management plan will be prepared.
Existing opportunities for training and capacity building in health care waste management are few & the same are under utilized.	Strengthening health professional curriculum, distance learning programs, in-service training programs and establishment of nodal training centres. Design and development of training manuals for policy makers, managers, doctors, nurses, health workers, CTF operators and others.
Common treatment facilities (CTF) existing are inadequate, hence need upgrading and review for alternate cost effective and efficient technologies. System of monitoring CTFs and parallel transportation systems need to be developed.	Networking common treatment facilities, upgrading existing facilities, supporting and developing one or two CTFs as eco-friendly models for the country, supporting training and capacity building. Objective monitoring protocols with achievable standards for CTFs.
Budget allocation for Medical Waste management is inadequate	Enforcement of Polluter pays principle - fee for services with co-financing and contribution for CTFs will be supported.
Waste generated during Immunization and during domiciliary management of chronic diseases forms a significant quantity and needs to be taken care of.	Promotion of policies and practices towards safe management of domiciliary and immunization waste and awareness in the community at large.

Expected global environmental benefits

4. Project aims at reduction of POPs especially PCDD/PCDF by ensuring best practices and effective monitoring mechanisms thereby reducing the risk of pollution of water, air, soil and sediments to ensure a safe environment.

B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL/REGIONAL PRIORITIES/PLANS:

5. **Under article 48A of Indian Constitution**, it is stated that the State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country. The areas covered under this Act include apart from other subjects, Water Pollution, Air Pollution, Environment protection, Hazardous waste substances, and Ozone layer depletion. In the context of management of hazardous waste substances, **the Biomedical Waste Management and Handling Rules (1998)** are framed under the law and that lays under various schedules as to what constitutes a biomedical waste, how it is to be managed, the responsibility and legal framework for the same. India is a signatory to the **Stockholm Convention on POPs** and is committed to the successful implementation of the same. Also, India is a signatory to **Basel Convention**, which observes Medical Waste as second most hazardous waste. Current project objectives, approaches, outcomes, output and impact is consistent with policies, strategies and programmes of the Country. **The National Health Policy** states under Environmental and Occupational Health that

the ambient environmental conditions are significant determinant of health risks to which a community is exposed. The Policy further observes and guides the policy initiatives and the efficient implementation of linked programmes in the health sector would succeed only to the extent that they are complemented by appropriate policies and programmes in other environment related sectors. **The National Rural Health Mission (NRHM)** makes specific reference to Medical Waste management and suggests inclusion of the component in the preparation of District Plans. Immunisation programme makes specific efforts to address the issue of medical waste due to immunization programmes. Out of ten (10) **Millennium Development Goals** to be attained by 2015, achievement of following MDGs includes aspects of Medical waste management: MDG 4- Reducing child mortality to half of what it is currently; MDG 6- Containment of HIV infection; and MDG 7- To promote sustainable development.

C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH GEF STRATEGIES AND STRATEGIC PROGRAMS:

6. The project is consistent with the GEF Strategic Program 1: “Strengthening Capacities for NIP implementation”, with the objective to strengthen and/or build the capacity required to implement the Stockholm Convention NIP in a sustainable, effective and comprehensive manner, while building upon and contributing to strengthening the country’s foundational capacities for sound management of chemicals more generally.
7. The project is consistent with GEF Strategic Program 2: “Partnering in Investment on NIP implementation”, with the objective to partner with investments needed for NIP implementation to achieve impacts in the reduction of POPs production, use and releases and reduce the stress on human health and environment caused by POPs, including through promoting the use of substitute products or alternative practices that prevent or reduce the generation and/or release of POPs.
8. The project is also consistent with GEF Strategic Program 3: “Partnering in the demonstration of feasible, innovative technologies and best practices for POPs reduction and substitution”, with an objective to meet the future challenges that lay ahead in the implementation of the Stockholm Convention, to demonstrate and promote the replication of environmentally sound, alternative products to POPs, or the substitution of materials and processes to prevent POPs formation.

D. JUSTIFY THE TYPE OF FINANCING SUPPORT PROVIDED WITH THE GEF RESOURCES:

9. The GEF resources will address the priority POPs issues targeting to reduce PCDD/PCDFs emissions from the unsustainable disposal technologies currently used in 1,500 application sites in healthcare facilities nationwide. The preventive scope of the project will enable India to avoid outbreaks of viral nature such as SARS and would protect the global health from these. After very comprehensive analysis and after having considered the urgency and needs of the health sector, substantial co-financing was guaranteed by the government and the Stakeholder States and Centres, because it was felt by all that this is one of the top priority issues of the sector.

E. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:

10. The proposed project will cover 5 states and 140 demonstration sites and more than 1500 application sites and has potential for larger impact synergizing with efforts of both NIP and GEF/UNDP project. It is designed to be a model for the country and has potential to develop as a model for low resource settings in developing countries. GEF/UNDP Global project on “*Demonstrating and Promoting Best techniques and practices for reducing Health Waste to Avoid Environmental releases of Dioxins and Mercury*” is under consideration of the Ministry of Environment, Government of India. However, it is a small proposal covering only two states Tamil Nadu and Uttar Pradesh. The GEF/UNDP project outputs will feed into the proposed project of UNIDO as agreed by the Ministry of Environment and Forests, Government of India. There are other efforts in the country towards developing systems for safe and sound management of medical waste in the Government, Private and NGO sectors. The Project envisages avoiding duplication of efforts and strives to complement the current efforts with other initiatives/partners in the country. Major efforts in the country include:

Agency/Organization	Current area of work in India
Government of India: Department of Environment and Forests	<ul style="list-style-type: none"> - Biomedical Waste Management Rules (1998) - Promotion of development of common treatment facilities in the country - Environmental Training Institutes and Training on Biomedical Waste Management
GTZ, Bangalore/Delhi	<ul style="list-style-type: none"> - Efforts in Karnataka with Ramky common treatment facilities - Hazardous waste management facility
WASTE, Netherlands	<ul style="list-style-type: none"> - Collaborative efforts with HCWM Cell, Dept. of Community Medicine, MS Ramaiah Medical College

WHO India and SEARO Offices	- Distance learning program on Health care waste management - Regional Training Institute of WHO – SEARO (Collaborative efforts with HCWM Cell, Dept. of Community Medicine, MS Ramaiah Medical College)
Indira Gandhi National Open University	- Distance learning program on Health-care Waste Management
National Disaster Management Authority	- Development of National Guidelines and Minimum Standards for Sanitation in disaster situations
Indian Society of Hospital Waste Management	- Information dissemination, advocacy, capacity building and training nationally
Centre for Environment Education	- Information dissemination - Demonstration Project at Gulbarga
National Environmental Engineering Research Institute (NEERI), Nagpur	- Available technical expertise on Hazardous waste management
Babha Atomic Research Centre	- Management of Radioactive waste
Central Pollution Control Board, Environment Departments and State Pollution Control Boards, leading NGOs of Gujarat, Karnataka, Maharashtra, Orissa and Punjab	- Ensuring compliance to Biomedical Waste Management Rules - Use of “ Information & learning units for safe management of HCW ” developed by HCWM cell, Dept. of Community Medicine, MSRMC with the support of the Department of Environment, GOK & WASTE, Netherlands.

F. DISCUSS THE VALUE-ADDED OF GEF INVOLVEMENT IN THE PROJECT DEMONSTRATED THROUGH INCREMENTAL REASONING :

11. Currently it is estimated that in India 904 tons of medical wastes are generated daily, which with the current incineration practices produces 225g TEQ/year of PCDD/PCDF according to the UNEP Toolkit estimation methodology. With proper segregation at site followed by decontamination of medical wastes by using alternative techniques, the volume of medical wastes could be reduced to about 5% of its original weight. It translates to avoiding the generation and releases of 213.75 gTEQ PCDD/PCDF per annum. As a very conservative estimate, the successful implementation of the project outputs in the 5 selected demonstration states will result in about 50g TEQ/year reduction of PCDD/PCDF releases. Further reduction of PCDD/PCDF releases to reach 213.75g TEQ PCDD/PCDF will be achieved in the sustainability phase after project completion during the dissemination of its results country-wide in India.

G. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED, AND IF POSSIBLE INCLUDING RISK MITIGATION MEASURES THAT WILL BE TAKEN:

POSSIBLE RISKS	LEVEL	MITIGATION MEASURES
1. Laws and regulations are not communicated properly among stakeholders at central government and state level to appropriate authorities or the enforcement mechanisms are not effective	Low	Ensure laws and regulations are reasonable, sound, enforceable and supported with institutional capacity building and training
2. Level of capacity at institutional level is underestimated or lack of institutional commitment	Low	Focus on targeted awareness raising of stakeholders as a priority
3. Lack of infrastructure and geographical remoteness coupled with human resources pressure impede the efficiency of PPP	Moderate	Develop specific plans and methodologies that take into account these challenges by bringing in the concept of ownership of the program
4. Conflicting stakeholder issues compounded with conflicting industrial sector interests and possible low interest level because of uncertainty about commercial and investment parameters	Low	Government generates incentives that promotes interest in alternative technologies with particular reference to technologies in compliance with BAT/BEP
5. Inability to collect participatory funding and lack of motivation at level of health-care institutions to operate hospital waste management system effectively and efficiently	Moderate	Targeted training programs designed to identify weaknesses and improve effectiveness and efficiency

H. DESCRIBE, IF POSSIBLE, THE EXPECTED COST-EFFECTIVENESS OF THE PROJECT:

12. At the preparatory phase of GEF/UNIDO project on “*Environmental Sustainable Management of Medical Wastes in China*” an estimate for cost-effectiveness based on the data obtained from the Sino-Italian Environment Program (a component to the UNIDO led international program to prepare the NIP) was US\$ 150,000 for reduction or avoiding the generation and release of one gTEQ PCDD/PCDF. As no similar information has been available in India, it has been decided that this figure could be used as a benchmark. Taking it into consideration in the 5 demonstration states it would result in a figure of US\$ 7.5 million to reduce 50 gTEQ PCDD/PCDF releases. If extrapolating this benchmark figure country-wide in India it gives a figure of US\$ 32 million, which shows an expected high cost-effectiveness.

I. JUSTIFY THE COMPARATIVE ADVANTAGE OF GEF AGENCY:

13. The project is focusing on technological solutions to environment and health problems within Operational Program 14, where UNIDO has clear comparative advantages. UNIDO is mandated to support developing countries and countries with economy in transition to achieve sustainable industrial development. UNIDO has also developed and implemented a large number of GEF funded NIPs and post-NIP projects and contributed to the efforts made in sound management of chemicals. This project will integrate both aspects of technology transfer and investment, which are clearly falling in the comparative advantage domain of UNIDO. In addition UNIDO implemented several medical waste management projects before the era of the Stockholm Convention and currently is implementing a FSP in China.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)


A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

(Please attach the [country endorsement letter\(s\)](#) or [regional endorsement letter\(s\)](#) with this template).

NAME	POSITION	MINISTRY	DATE (Month, day, year)
Mr. Sudhir Mital	Joint Secretary & GEF Operational Focal Point	Ministry of Environment and Forests	September 10, 2008

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for project identification and preparation.

Agency Coordinator, Agency name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Mr. Dmitri Piskounov Managing Director GEF Agency Coordinator		September 11, 2008	Mr. M. Eisa Chief & Dep. to Director	+43 1 26026 4261	m.eisa@unido.org