

PROPOSAL FOR FUNDING SUPPORT UNDER POVERTY AND ENVIRONMENT PROGRAM
(Submitted by Infrastructure and Environment Unit, India Resident Mission)
Blacksmith Institute /Polluted Places India

A. Basic Data

1. Activity title:	Polluted Places India
2. ADB Project Officer:	Albab Akanda, Head Infrastructure and Environment, INRM
3. Request date:	September 30, 2004
4. Implementing organization:	Blacksmith Institute, New York USA
5. Types of interventions:	Financial/Technical support for pollution remediation
6. Amount of request:	\$US250,000
7. Period funding request will cover:	2 Years
8. Region /Country:	SARD /India

B. Description of Implementing Organization

Blacksmith Institute's mission is to ensure that a clean and hospitable planet is accessible by future generations, regardless of their cultural or economic circumstances. Through methodology developed for its Polluted Places initiative, Blacksmith Institute identifies and researches sites where human health and livelihood are being substantially affected by pollution.

Once such locations have been identified, Blacksmith Institute's Technical Advisory Board then selects those where successful intervention appears feasible, following which an Initial Site Assessment is conducted, and, if this proves the need for intervention, a plan of action to support local government and community non-governmental organization (NGO) initiatives is then designed. Blacksmith Institute provides financial, technical and networking support throughout the planning and remediation phases until the site is cleaned up.

Strong local, international and technical partners, including health and pollution experts from Harvard University, Johns Hopkins University, Mount Sinai Hospital, and the World Bank, have endorsed this approach and its plan of work. Blacksmith Institute spends considerable time in the field assessing the health impacts of polluted sites, conferring with existing and prospective partners, especially including community representatives, creating sound and sustainable remediation plans, and training local government agencies and community NGOs in the skills and methodologies of pollution remediation.

This model has been successful in a variety of settings and types of polluted sites, details of which can be found at www.pollutedplaces.org and www.blacksmithinstitute.org.

C. Proposed Subproject

1. Background and Rationale

In India and elsewhere, industrial pollution significantly impacts the health of the poorest communities, especially women and children, threatening efforts to create sustainable economies, increase outside investment, and protect local ecological resources. Rivers, streams, and groundwater supplies are primary sources of drinking water for most of India's rural poor, and their pollution results in severely impeded opportunities for socio-economic development for millions of people.

Exposure to industrial pollutants causes irreversible brain damage in young children; cancers and other chronic illnesses; and impaired ability to correctly absorb nutrients. The World Bank and WHO estimate that 20 percent of deaths in the developing world directly result from environmental causes. Moreover, polluting industries are invariably located in the community's poorest areas, thus evading scrutiny from regulators and unofficial monitors. The surrounding areas house the lowest castes, uneducated about the dangers of pollution and contamination, and without access to local representation on health and political issues.

The Government of India is concerned about the problem of industrial pollutants, and has initiated efforts to address the issues related to remediation of polluted sites. It is observed that some locations can be cleaned up with minimal effort and expense, and such sites will be piloted in this project. Others will require substantial capital and effort, and this project will initiate that process. By creating workable partnerships for cleaning up seriously polluted sites, the project will substantially reduce the impacts of industrial pollution in some of India's poorest communities.

2. Objectives

The proposed sub-project has the following two objectives:

1. To reduce levels of mortality and morbidity caused by chemical pollution in local communities; and
2. To strengthen local government and community capacity to initiate and undertake successful remediation efforts.

This will occur through the following interventions:

1. Identifying and assessing selected sites in India where chemical pollution has adversely affected local environmental quality and caused high levels of mortality and morbidity among local communities;
2. Developing remediation plans for selected sites identified during the assessment process; and
3. Piloting implementation in 2-3 sites.

In each site selected, strong coalitions of local government and NGOs will be developed and supported, both financially and technically. In some cases, local agencies will be identified and trained to lead remediation efforts. Both processes will be highly participatory in nature with strong emphasis on community involvement, and require long and short-term community participation.

The proposed subproject will complement and strengthen existing ADB's ongoing projects on water supply and sanitation, as well as related projects for managing solid waste and toxic and hazardous waste. This is consistent with ADB's overall goal of ensuring environmental sustainability through the urban social infrastructure and environmental projects detailed in ADB's *Country Strategy and Program Update 2005-2007 for India*.

Although there are laws and regulations covering water and soil pollution in India, enforcement of these laws at the local level has often been weak, and has been a barrier in the past to successful remediation efforts. One of the key aims of the project is to strengthen the capacity of local agencies to carry out appropriate monitoring and enforcement activities using the participatory approach detailed in this proposal.

3. Scope of Work/Description of Proposed Approaches

A. Site Nomination

Nominated sites are first referred to Blacksmith Institute's New York office, where staff conduct further research via internet, e-mail, and telephone, and prepare a dossier of site information (sample in Appendix VI), which is then sent for review to the Technical Advisory Board (TAB) (Appendix VII).

Nominations have already been received for over a dozen sites, as listed in Appendix V. Additional nominations will be secured through the Polluted Places website, Central Pollution Control Board (CPCB), local NGOs and governmental groups and networks, ADB staff, and other sources.

Meeting by teleconference monthly, the TAB reviews sites against two key criteria: does the site indicate substantial morbidity and mortality; and whether Polluted Places resources could make a difference. A positive response to each question indicates that an Initial Site Assessment (ISA) will be conducted.

B. Site Assessment

The intent of the ISA is to validate the extent of contamination and health impact, and to determine an appropriate design for an intervention that will result in site remediation. The ISA follows a protocol developed by Johns Hopkins School of Public Health. It includes:

- Meetings with top officials of each of the following stakeholders: industry owner (if existing facility), local hospital, pollution officials (state and federal), NGOs, community groups, and municipality;
- Review available environmental testing data and health data and retain copies of same;
- Take water and/or soil samples where feasible;
- Physically assess the pollutant(s) and the pathway of that pollutant to human access, and determine an estimate of the number of people thus affected;
- Report above results; and
- Preliminary intervention design.

ISAs will be conducted in at least 12 sites under this project.

C. Intervention Design and Implementation

The purpose of the intervention is to empower a local agency to undertake remediation work. This involves providing financial, technical, strategic, and networking support to a local agency, which is selected during the ISA using the following criteria:

- Authority to conduct the clean up;
- Ability to coordinate with other bodies (e.g. national agencies and/or multilateral institutions);
- Excellent community mobilization skills and ability to generate involvement in decision making; and
- A champion – a locally respected, highly capable individual who is deeply committed to making a difference.

Interventions will be initiated in at least six sites under this project. Possible intervention activities involving the community and stakeholders may include some or all of the following:

- Hiring of local staff at the local agency committed to design and implementation of remediation activities;
- Analysis of technical requirements and costs to remediate pollution;
- Supply of alternative drinking water source;
- Provision of alternative employment to those whose livelihoods have been affected by pollution;
- Regular project review meetings among all stakeholders to evaluate progress towards objectives, identify barriers, plan future actions, etc.;
- Capacity building/community education and awareness raising activities (workshops, information sessions, technical training where appropriate);
- Interim environmental management improvements to mitigate worst effects in short term;
- Improvements in health care treatment for pollution victims; and
- Public participation in monitoring set ups, action cells, and community activities at cleaned up sites to avoid recurrence.

To strengthen the effectiveness of this intervention remediation work in the design, implementation, and long-term monitoring stages, Blacksmith Institute will invite Indian environmental experts to advise on appropriate strategies and technical measures. These persons will form part of Blacksmith Institute's Technical Advisory Board for the duration of the sub-project.

D. Remediation Implementation

Two to three sites will be selected for interventions having low remediation costs and using simple methodologies. At such sites, remediation activities will serve as pilot programs for accomplishing remediation in similar circumstances around the country.

A Regional Workshop in the middle of Year II will bring together representatives from all intervention sites, along with selected technical advisors, with the objectives being to assess local remediation plans and to create a solid and sustainable network of support for pollution remediation activities.

The actual remediation work itself will most likely be carried out by a suitably qualified technical agency, either a private company or, in some cases, a local government authority. This process will be managed by the local organization selected by Blacksmith Institute.

4. Innovation Demonstrated

The methodology of this work is innovative in itself. In addition, the Polluted Places strategy includes key innovative elements such as:

- Development and management of multi-stakeholder partnerships and community involvement;
- Immediate impacts through interim environmental improvement measures;
- Low cost of remediation planning /direct remediation and removal efficiency;
- Leveraging of larger funds;
- Simple and practical human health evaluation;
- Oversight and monitoring to ensure effective completion of remediation within budget; and
- Sustainability of remediation solutions.

Further details of these elements may be found in Appendix IV.

5. Oversight

Blacksmith Institute will exercise oversight over all ADB TA proceeds, which will be disbursed through Blacksmith to local partners at each selected project site, with full accounting for all funds to take place in New York.

6. Long Term Strategy

Blacksmith Institute is committed to full and successful remediation at all selected sites (not only those that will be remediated under this project), including ongoing provision of technical support and a commitment to work with local and international partners (including ADB and the World Bank) to ensure adequate funding for all phases of remediation activity. In other words, funding for ongoing work beyond the scope of this project will be found so that projects can be continued until successful cleanup is achieved. Experience indicates that for some sites this process can take 3-4 years.

Blacksmith Institute also remains dedicated to supporting, through technical and financial means, public, CPCP, state pollution control boards (SPCB) and local authorities participation and involvement in activities at cleaned up sites to avoid recurrences. Long-term community involvement and monitoring will be conducted by partner organizations that have been initiated by this project. If a threat of additional contamination remains at any site, Blacksmith Institute will support community activities to ensure contamination does not recur.

As a result of remediation, the overall health of community members will be improved. The direct consequences of this work are a sustained improvement in health, resulting from an improved physical environment.

7. Work Plan and Reporting

Please refer to Appendix I for additional details.

8. Expected Outputs and Outcomes

Based on its pilot work in India and extensive planning and remediation activities at polluted sites worldwide, Blacksmith is convinced that an intensive community planning process, rigorous scientific testing and capable technical assessment, and committed remediation strategies can result in successful health and economic benefits to communities throughout India.

Year I Outputs

1. Initial assessments and report;
2. Remediation plans; and
3. Documentation of methodology including participatory community-based process.

Year II Outputs

1. Commitment from stakeholders or in principle agreement for action;
2. Securing and actual mobilization of funds to implement remediation plans;
3. Completion of remediation at 2-3 sites; and
4. Documentation/reporting of process implementation (monitoring & measurement) including lessons learned, dissemination tools, skills transfer, empowerment, sustainability, exit strategy.

The expected outcome will be strengthened capabilities of local stakeholders in initiating clean-up processes in each community.

9. Subproject Evaluation and Information Dissemination

Blacksmith Institute, through its local staff, country and regional coordinator, advisory board, and head office staff, will be primarily responsible for ensuring that locally generated assessments of all project stages and outcomes are thorough and transparent.

Transparency and information sharing regarding operational stages and outcomes will be integral to this project, both for the sake of obligations to funding agencies and for the general information and input of local communities in India affected by pollution.

Evaluations will be carried out through site visits, and information will be shared through workshops, site visits, demonstrations, and a dissemination report capturing general and site-specific knowledge.

10. Scope of Replication /Use in Other DMCs

The methodologies for pollution remediation and stakeholder participation that Blacksmith Institute has developed, and that will be further refined in the proposed sub-project, will provide guidance for other similar efforts in India, and potentially beyond. A website (www.pollutedplaces.org) will chronicle methodologies, best practices, and concrete outcomes that groups undertaking remediation of industrial pollution in their communities can emulate, and will also function as a networking tool, helping those groups who have achieved successful outcomes through this ADB-funded program to mentor other projects.

In addition, Blacksmith Institute's Polluted Places Operational Manual provides detailed guidance on pollution remediation techniques, planning strategies for local groups including an explanation of the Polluted Places methodology, critical assessment data for heavy metal and chemical pollutants, and links to useful resources. This manual will be made available to all local partners and stakeholders as appropriate.

The Regional Workshop planned for midway through Year II, which will be attended by stakeholder representatives from all sites, Blacksmith Institute's regional and national representatives, and officials from ADB, will facilitate sharing of community participation strategies and remediation best practices, and go far towards forming a sustainable network to promote pollution remediation throughout India.

It is intended that this network will be self-sustaining, and will continue its activities in carrying out remediation projects using the developed tools and methodologies, without the requirement for continued financial support from Blacksmith Institute, ADB, or other outside agencies.

The proposed subproject has strong potential for up scaling and further replication into national and regional ADB-financed projects.

D. Cost Estimate and Disbursement Schedule 2005-2006

1. General

Interim financial accounting will be provided regularly by local Indian partners, but Blacksmith Institute will retain responsibility for all disbursements and for the final, general accounting of all grant funds.

Blacksmith Institute will insist on the most cost-effective and environmentally friendly remediation-related measures. It will ensure that only equipment essential to specific remediation tasks is purchased, and only the most timely and appropriate technical interventions are authorized. The provision of \$35,000 per site remediation may include the purchasing of equipment, as indicated in Appendix II 2-c of the sub-project budget. If such a purchase is done from this project budget, it shall be done so only after prior approval from ADB and in line with ADB's procurement guidelines. There is no equipment purchase necessary for the nomination, site assessment, and intervention design activities.

ADB funding will be used primarily to support the intervention phases of remediation activity, including site and project assessments, networking, methodology dissemination, remediation planning, implementation of remediation plans, conference organizing, and the organization of appropriate management and oversight structures. Blacksmith will also take leadership for investigating and securing large scale funding to ensure that successful remediation planning leads to successful remediation activities.

2. Assumptions

The two-year budget outlined in Appendix II is contingent upon project implementation according to the project schedule (Appendix I) and sustained commitment by local partners, CPCB along with adequate local and New York staff resources, adherence to stated pilot project implementation objectives, industry and government cooperation and the willingness to aid local groups in implementation and monitoring of polluted sites. It is proposed to seek technical and financial assistance from other donor agencies.

The contribution from Blacksmith Institute is guaranteed for 2005-2006. The contributions are secured by grants from the Sigrid Rausing Trust, New York Community Trust, and Great Forest, Inc. respectively.

Some of the potential sources of funding to be secured through other agencies, if the funds estimated for three remediation sites are found to be insufficient in year II are: state and central governments, CPCB, and the World Bank. The World Bank has specifically indicated early interest in funding large-scale remediation work in India.

3. Disbursement Schedule

Year 1 (Budget Line Items 1a-1d, 2a-b)

1. On signing of contract: **20% of total**
2. Initial assessments and report, remediation plans, documentation of methodology, completion of intervention designs: **30% of total**

Year 2 (Budget Line Items 2c, 3-5)

1. Remediation at selected sites: **30% of total**
2. Conference, production of Operational Manual, website development, and submission of required six-monthly progress reports and final report: **20% of total**

E. Proposed Subproject Management System

Blacksmith Institute is directed by its Chairman, Richard Fuller. Peter Hosking, Asia Regional Coordinator will be the key program representative.

A Blacksmith Institute Country Representative will provide technical resources and program oversight for all pollution projects in India identified and resourced by Blacksmith Institute in accordance with the terms outlined in this proposal. This will include monitoring the performance of local partners, agencies, and subcontractors, through telephone conference, face-to-face meetings, under an appropriate timing schedule to be worked out with local partners at each site. The Blacksmith Institute Country Representative will report to Peter Hosking, Blacksmith Institute's Regional Coordinator, by telephone on at least a weekly basis for the duration of the subproject, and will submit detailed monthly progress reports indicating activities performed at each site, involvement of local partners, identified barriers to success, recommendations for overcoming these, and follow-up actions and communications required to ensure fulfillment of project objectives. Reporting to ADB will be as detailed in the work plan and timetable (Appendix I) and on a more frequent basis depending on requirements.

Work plan and Timetable

The proposed time frame for implementation and completion of the pilot interventions will occur within the recommended Regional Technical Assistance (RETA) program period for the PEP (January 2005 – December 2006).

Assumptions and Risks

While creating the proposed two-year timeline detailed below, Blacksmith Institute has taken into account potential mitigating factors such as adverse weather conditions, changing political environments, and the assumed cooperation of the local community, industry, government, and NGOs. Changes in one or more of these assumptions may affect the implementation timetable outlined below.

Year I Work Plan: Remediation Planning

Months One to Six (January 2005 – June 2005)

- Establishment of Blacksmith staffing in Delhi; hiring of India Polluted Places Coordinator.
- Multiple site nominations will be secured and evaluated by Blacksmith's Technical Advisory Committee with input from CPCB staff, and other agencies.
 - Initial Site Assessments (ISAs) will be conducted at five to seven sites. As of October 1, 2004, six sites where groundwater pollution and a high level of adverse human health effects are suspected, have already been identified and researched for site visits and ISAs in the coming months. These include sites listed in the Appendices.
- Two new sites will be chosen for intervention. Sites will be chosen that have low costs for remediation, and thus indicate the possibility of project completion within the project timeframe. Plans will include:
 - Local agencies identified to take the lead in remediation planning and implementation of remediation activities;
 - Proposals from these agencies in place and approved, to include provisions for baseline water and soil assessment if previous research has not established a causal link between pollutant and human health risks;
 - A scope of work for each site with a clear remediation planning or direct remediation objective;
 - Project proposal will include a commitment to and outline for compliance with all Blacksmith reporting requirements for progress monitoring and project implementation standards;
 - A regimen of planning meetings, to include community participation and representation, at each site based on Polluted Places methodology will be organized;
 - If needed, a separate local agency at each site will be designated as the administrative 'pass through' for ADB funds and will be trained and monitored by Blacksmith to ensure strict financial accountability; and
 - A menu of financial and technical resources (provided primarily through Blacksmith Institute) and a timetable for their application will be developed for each project to sustain year 1 remediation planning and year 2 remediation activities.
- A clear and transparent financial and project progress reporting regimen based on a quarterly schedule will be developed with commitments to prompt and accurate reporting from each project's leadership. All reports and stated completion of project objectives will be verified by Blacksmith managerial staff.
- Prompt and thorough reports on these achievements will be prepared for ADB.

Months Six to Twelve (July 2005 – December 2005)

- As above, but for six to eight additional new sites, ISAs will be undertaken, and intervention design for two or three new sites will be completed.
- Preliminary organizing work for a major conference planned for year 2 will be undertaken.

Year II Work Plan: Remediation

Months One to Six (January 2006 – June 2006)

- Remediation activities to commence at two or three sites.
- Regular reporting and assessment according to the contracted schedule.
- A conference, planned in partnership with CPCB, and other agencies on industrial water pollution in India will be held in June or July 2006 in Delhi, and outcomes reported and disseminated widely to both affiliated and non-affiliated projects. Outcomes, lessons learnt, and the replication of results of the ten pilot projects will be the focus of this Conference.

Months Six to Twelve (July 2006 – December 2006)

- Blacksmith Institute staff, project partners, and advisors will develop appropriate funding and resource plans to guide successful remediation efforts at each of the sites over the long term. This will include thorough assessment of pilot project outcomes, remediation design, estimation of costs, technology needed, and drafting of proposals to appropriate agencies willing to support remediation. Staff will also liaise with government, industry, and CPCB officials where remediation implementation falls within their scope and means.

- A final report to ADB will outline progress made in both specific remediation and broader networking, make recommendations regarding longer-term resource needs, and outline a plan to meet those needs. The results of project evaluation and monitoring, including reports from partners and financial accounting, will be summarized and made available in this final report.

Year 1 (January – December 2005) Implementation Timetable, including ADB Reporting Schedule

Activity	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Staffing in Delhi												
Collection of site nominations												
ISAs at 5-7 sites												
Progress Report to ADB												
2 sites chosen for intervention												
ADB Semi-Annual Monitoring Report												
ISAs for 6-8 new sites												
Intervention design for 4 additional sites												
June/July 2006 Conference Planning begins												
2nd Semi-Annual ADB Monitoring Report												

*Year II implementation schedule will be submitted along with the second semi-annual monitoring report.

Budget

Item	Requested	Blacksmith Contribution	Total
1. Staff Expenses			
a) Local staff	\$10,000	\$10,000	\$20,000
b) Local travel	\$10,000	\$10,000	\$20,000
c) NYC Project oversight			
Consultant		\$15,000	\$15,000
Staff		\$10,000	\$10,000
Admin. & overhead		\$20,000	\$20,000
d) International travel		\$10,000	\$10,000
2. Implementation Costs			
a) 12-15 Site assessments (field visit, local meetings, sampling & lab analysis)	\$15,000		\$15,000
b) Pilot interventions (intervention design, and implementation) at 6 sites	\$90,000	\$10,000	\$100,000
c) Remediation at 2-3 sites* (may include purchase of additional equipment)	\$105,000	\$10,000	\$115,000
3. 2006 Conference, Delhi			
a) Facilities, planning & administration	\$10,000		\$10,000
b) International travel		\$2,000	\$2,000
c) Domestic travel		\$2,000	\$2,000
d) Materials & document reproduction		\$1,000	\$1,000
4. India Polluted Places Manual (including production & dissemination)	\$5,000		\$5,000
5. Website Design & Development	\$5,000		\$5,000
6. Contingencies		\$15,000	\$15,000
TOTAL	\$250,000	\$115,000	\$365,000

* Additional funds will be sourced from other sources if these funding levels are insufficient to carry out the required works.

Logical Framework

	Result	Performance Indicator
Inputs	1. Blacksmith Institute staff, Technical Advisory Board, & partners	
	2. Travel	
	3. Regional workshop	
Activities	1. Site nominations	<ul style="list-style-type: none"> • Number of sites nominated
	2. Selection of sites for ISAs	<ul style="list-style-type: none"> • Number of sites selected for ISAs based on criteria
	3. Site visits	<ul style="list-style-type: none"> • Data collection, documentation of existing conditions
	4. Community consultation	<ul style="list-style-type: none"> • Range, number, and diversity of stakeholders involved, with strong emphasis on the engagement of women • Suitability of community consultation approaches to specific local circumstances • Percentage of stakeholders represented
	5. Civil works implementation	<ul style="list-style-type: none"> • Contracts with remediation agencies
	6. Dissemination of lessons learned (through workshops, field visits, demonstration projects, and reporting to ADB and stakeholders)	<ul style="list-style-type: none"> • Date of dissemination completion • Minutes of proceedings • Attendance at field visits, etc.
Output	1. Site assessment report	<ul style="list-style-type: none"> • Timely completion of report covering agreed areas
	2. Remediation plans	<ul style="list-style-type: none"> • Timely completion of plans • Operationally and technically feasible, financial cost plans for selected sites • Incorporation of stakeholder inputs in final plan
	3. Implementation of remediation activities	<ul style="list-style-type: none"> • Commitment from stakeholders or in principle agreement for action • Securing and actual mobilization of funds to implement remediation plans • Completion of remediation at 2-3 sites • Documentation/reporting of process implementation (monitoring & measurement) including lessons learned, dissemination tools, skills transfer, empowerment, sustainability, and exit strategy
Outcome	Reduced levels of mortality and morbidity caused by chemical pollution in local communities, and strengthened local government and community capacity to initiate and undertake successful remediation efforts	<ul style="list-style-type: none"> • Measurably reduced levels of mortality and morbidity in remediated sites • Number of sites actually remediated • Production of a documented and replicable methodology that communities can use in their own pollution remediation efforts • Number of NGO-community-local government networks formed as a direct result of project • Long-term involvement of NGO-community and general public in activities surrounding cleaned up sites

Innovation

The following elements indicate the innovative nature of Blacksmith Institute's Polluted Places strategy:

Development and Management of Multi-Stakeholder Partnerships and Community Involvement

The creation and management of voluntary, multi-sectoral partnerships involving a range of local and regional stakeholders is integral to the efficacy of the Polluted Places strategy. Through regular meetings with affected communities, direct mentoring of local agencies and champions, sharing of technical and project management resources (including the Polluted Places Operational Manual), and transparency among all partners regarding aims and means, a powerful consensus is built as the basis for conducting effective intervention, and, where feasible, remediation activities.

Immediate Impacts Through Interim Environmental Improvement Measures

Blacksmith Institute frequently undertakes short-term or stopgap measures to mitigate the worst impacts of environmental pollution on local communities, while a more sustainable long-term strategy is being developed. Depending on the nature of the problem (for example, whether the site is currently a legacy site), these measures could range from short-term containment of the site, through to temporary relocation of affected communities. While these measures are not permanent solutions, they demonstrate to the community that action is being undertaken and build confidence and participation in long-term strategies.

Low Cost of Remediation Planning/Direct Remediation & Removal Efficiency

As demonstrated by past projects, seed funding of local pollution-related initiatives yields practical results. Two year-long interventions in Magadan and Tomsk (in Russia) received support of less than \$US15,000 each from Blacksmith Institute, and both resulted in the removal and safe disposal of tons of hazardous DDT and radioactive soil.

Leveraging of Larger Funds

Blacksmith Institute support for the Kabwe Environmental and Rehabilitation Foundation in Kabwe, Zambia raised the profile of one of the worst cases of lead contamination and poisoning in the world. Community awareness and World Bank involvement leveraged \$US 15 million in funding for Kabwe as part of the Copperbelt Environment Project.

Simple And Practical Human Health Evaluation

Using known health implications of known chemicals, an assessment of probable health impact is made during the ISA. This is then validated with health data from local hospitals and authorities – a simple and practical assessment that avoids detailed and expensive epidemiological studies.

Oversight and Monitoring to Ensure Effective Completion of Remediation Within Budget

By empowering Blacksmith Institute's local partners to be responsible for oversight and monitoring of the remediation programs, in conjunction with the community and its representatives, the likelihood that these works will be completed on time and within budget is greatly increased.

Current India Site Nominations

These seventeen sites have already been nominated for the Polluted Places site assessment process. Additional sites will be added as the list grows.

- a) Alang, Gujarat: Ship breaking. Contaminants in air & water
- b) Ankleshwar, Gujarat: largest industrial estate in Asia. Mostly chemical manufacturers, dumping into the river.
- c) Bidar, Karnataka: Pharmaceutical industrial estate. Suspected groundwater contamination.
- d) Nandesari, Gujarat: Pharmaceutical & chemical industrial estate. Common effluent treatment plant exists, but doesn't work well. Water contamination.
- e) Ranipet, Tamil Nadu: Tannery waste contaminating water.
- f) Singrauli, Madhya Pradesh: Coal mining. Some water pollution, but mostly air.
- g) Sukinda, Orissa: Chromium mining. Chromium contamination of water (also air & soil)
- h) Vishwas Nagar, New Delhi: PVC manufacturing. Dioxin & other chemical contamination of water.
- i) Vapi, Gujarat: Pharmaceutical & chemical industrial estate. Effluents from CETP going into the river.
- j) Amlai Village, Shahdol – Chlor Alkali production site.
- k) Urgapur, West Bengal – Steel plant.
- l) Howrah, West Bengal – Small-scale foundry cluster.
- m) Jaduguda, Jharkand – Uranium processing plant.
- n) Nangal, Punjab – Fertilizer plant /Fly ash pollution.
- o) Panipat, Haryana – Small-scale dye industries.
- p) Panipat, Haryana – Fertilizer plant /Fly ash pollution.
- q) Ghanauli, Punjab – Super Thermal power plant /Fly ash pollution

Sample Site Dossier: Kanpur India

This information is collected during the Nomination process, and further enhanced during the Site Assessment process. It is posted to www.pollutedplaces.org and updated progressively as implementation progresses.

SITE DOSSIER - Kanpur, Uttar Pradesh, India

http://www.pollutedplaces.org/region/south_asia/india/kanpur.shtml

Site Description

Kanpur, the largest and most industrialized city in the state of Uttar Pradesh, sits on the banks of the Ganges River, 126 meters above the sea level. During British colonial days, Kanpur was known as the “Manchester of India” due to its large concentration of cotton mills. With the decline of the textile industry, today Kanpur is better known for its leather industry. One neighborhood, Jajmau, in the eastern part of the city, is home to [more than 350 tanneries](#).

The tanneries produce toxic waste, including [hexavalent chromium](#), [arsenic](#), [cadmium](#), [zinc](#), [mercury](#), [nickel](#), [copper](#) and [cobalt](#), which make their way into the [water supply](#) of Kanpur. There is little-to-no effective waste treatment in Kanpur. A water treatment plant built in the 1990's has done little to reduce the contamination of wastewater from the tanneries, and instead mixes the tannery effluent with urban sewage water, which is then used to irrigate local farms and is also released into the Ganges River.

Pollutants from the tanneries have led to contamination of Kanpur's groundwater. In 2003, the local CPCB discovered a plume of hexavalent chromium in the water supply of the Noraiakheda neighbourhoods, extending from an old chemical manufacturing facility site where toxic sludge was dumped over a decade ago. Five tube wells have been sunk in the area to measure the extent of the problem. However, until a solution is implemented, local residents continue to drink and bathe in water from poisoned wells.

In Jajmau, the lack of treatment facilities has led to tannery sludge being dumped on temporary sites, which are exposed to human traffic.

Site Progress

[Blacksmith Institute](#) undertook an on-site assessment of Kanpur in January 2004.

The local government, along with NGOs, is very interested in finding a workable solution to Kanpur's waste problems. A priority has been put on providing residents of areas with safe drinking water. The government is monitoring the groundwater chromium plume, and the CPCB has come up with a tentative plan to convert the hexavalent chromium to less harmful trivalent chromium. The local NGO will provide consumer education on solid waste and water disposal, and continue its advocacy role.

Blacksmith Institute will work with all the local parties and assist in coordinating remediation efforts.

Blacksmith Institute Technical Advisory Board Members**Pat Breyse**

Director, ABET – Industrial Hygiene Program
Associate Director, Center for Childhood Asthma in the Urban Environment

Jack Caravanso

Assistant Professor, Environment and Occupational Health Department
Hunter College City, University of New York

Josh Ginsberg, Ph.D.

Director of Asia Programs, Wildlife Conservation Society

David Hanrahan

Lead Environmental Specialist
World Bank

David Hunter, Sc.D.

Professor of Epidemiology and Nutrition
Harvard University School of Public Health

Dr. Phillip J. Landrigan

Director, Collaborating Center for Environmental Epidemiology
Chairman, Dept. of Community and Preventative Medicine at Mount Sinai School of Medicine

Leona D. Samson, Ph.D.

Director, Center for Environmental Health Sciences
Professor of Biological Engineering, Massachusetts Institute of Technology

David Satterthwaite

Senior Fellow, Human Settlements Programme
International Institute for Environment and Development