



Fact Sheet: Blacksmith Institute

What: Blacksmith Institute is an international not-for-profit organization dedicated to solving life-threatening pollution problems in the developing world. Blacksmith addresses a critical need to identify and clean up the world's worst polluted places, focusing on sites where pollution threatens human health, especially where children are most at risk.

Based in New York, Blacksmith works cooperatively around the world in partnerships that include governments, the international community, NGOs and local agencies to design and implement innovative, low-cost solutions to save lives. Since 1999, Blacksmith has completed more than 30 projects; Blacksmith is currently engaged in over 40 projects in 19 countries.

Blacksmith Institute is known for its annual **World's Worst reports** (www.worstpolluted.org); for the creation of the **Blacksmith Index** (used around the world to rate levels of health risk from pollution); and for the **Blacksmith database**, the only resource of its kind, which currently documents over 600 of the world's worst polluted sites. Blacksmith is currently expanding this database with the **Global Inventory Project**, a worldwide effort to assess and document some 3000 polluted sites in over 60 countries. In 2008, Blacksmith began efforts to create the global **Health and Pollution Fund** (www.hpfund.org) to finance the cleanup and elimination of legacy pollution in the developing world.

Websites: Blacksmith Institute, www.blacksmithinstitute.org
Blacksmith World's Worst reports, www.worstpolluted.org
Health and Pollution Fund, www.hpfund.org

Where: Blacksmith is headquartered in New York City and London. Blacksmith is currently engaged in over 40 projects in 19 countries.

Blacksmith's in-country representation includes Cambodia, China, the Dominican Republic, Guinea, India, Kazakhstan, Kenya, Mozambique, Nepal, the Philippines, Russia, Senegal, Tanzania, Thailand and Zambia.

Project and Program Highlights:

Global Inventory Project (GIP):

The Global Inventory Project will assess about 3000 sites in more than 60 countries in Africa, Asia, Latin America and Eastern Europe to build the world's first comprehensive database of polluted sites with clear human

health impact. The GIP, which builds on Blacksmith's existing database, will rank sites using the Blacksmith Index. This ranking will guide and prioritize cleanup under the Health and Pollution Fund.

The GIP is a joint effort between Blacksmith, The European Commission, The United Nations Industrial Development Organization and Green Cross Switzerland. It is scheduled for completion in 2011.

Health and Pollution Fund (HPF)

Blacksmith is creating a proposed \$500 million public health fund to fight and eliminate legacy pollution in the developing world. While toxic pollution has almost been eradicated in developed countries, it is a growing problem in poorer countries. The HPF will be the first and only toxics cleanup program to be conducted on a global scale. The fund will support the remediation of some of the world's worst polluted sites as identified by the Global Inventory Project. Blacksmith is the coordinating body for the HPF. www.hpfund.org

Lead Poisoning and Car Batteries Project

Blacksmith is a leading organization in the effort to clean up lead pollution caused by the improper recycling of used car batteries. This is one of the worst pollution problems in the developing world, one that is growing with consumer demand for cars. Lead poisons over 12 million people, mainly women and children. It is the most common environmental disease among children living in developing countries. Projects are ongoing in Senegal, Dominican Republic, Philippines, Panama, El Salvador, Guatemala and India.

Artisanal Gold Mining/Mercury Poisoning Project

Blacksmith is working with the United Nations Industrial Development Organization's (UNIDO) Global Mercury Project in Senegal, Indonesia, Mozambique and Cambodia. UNIDO estimates that artisanal gold mining results in the release of an estimated 1,000 tons of toxic mercury per year, which constitutes about 30% of the world's mercury emissions. At least a quarter of the world's total gold supply comes from artisanal gold mining. Some 15 million gold miners, including 4.5 million women and 600,000 children, are poisoned by direct contact with toxic mercury. In addition, mercury rises and travels, dropping into rivers, oceans and seas, contaminating seafood far and wide.

2009 Report – World's Worst Polluted Places: 12 Cases of Cleanup and Success:

(Details at www.worstpolluted.org)

- **Accra, Ghana:** the broad commercialization of innovative cooking stoves to reduce indoor air pollution that causes respiratory illnesses among women and children;
- **Candelaria, Chile:** comprehensive copper tailings disposal and water conservation treatment system;

- **Chernobyl-affected areas, Eastern Europe:** medical, psychological and pedagogical interventions to improve the lives and livelihoods of those living in the zone of radiation contamination;
- **Delhi, India:** highly effective public policies to reduce the vehicle emissions that cause urban air pollution responsible for respiratory illnesses;
- **Haina, Dominican Republic:** removal of soil contaminated by the improper recycling of used car batteries to reduce lead levels in children's blood;
- **Kalimantan, Indonesia:** new techniques to reduce mercury poisoning from artisanal gold mining;
- **Old Korogwe, Tanzania:** removal of a stockpile of pesticides (e.g., DDT) responsible for contaminating soil and a nearby river, poisoning the local residents;
- **Rudnaya Pristan Region, Russia:** removal of lead-contaminated soil in children's playgrounds in order to lower blood lead levels in children;
- **Shanghai, China:** 12-year program to clean up sewage in an urban waterway that supplies drinking water to millions;
- **West Bengal, India:** reduction in arsenic poisoning through treatment of naturally occurring arsenic in well water.

Two initiatives with worldwide impact are also included:

- **Leaded Gas Phase Out:** a global effort by governments, multilateral agencies and the private sector to eliminate lead in gasoline that causes neurological damage;
- **Chemical Weapons Convention:** an international treaty to eliminate chemicals used as agents of warfare.

2008 Report – Top Ten World’s Worst Pollution Problems:

(Details at www.worstpolluted.org)

1. Groundwater Contamination
2. Industrial Mining Activities
3. Metals Smelters and Processing
4. Radioactive Waste and Uranium Mines
5. Untreated Sewage
6. Urban Air Quality
7. Used Lead Acid Battery Recycling
8. Contaminated Surface Water
9. Indoor Air Pollution
10. Artisanal Gold Mining

2006 and 2007 Reports – Top Ten World’s Worst Polluted Places

(See list at www.worstpolluted.org)

Blacksmith Index:

The Blacksmith Index was developed by Blacksmith’s technical experts to prioritize sites for remediation based on their risk to human health. It uses

the population affected, the characteristics of the pollutant, and the severity of the pathway to provide a 1 through 6 ranking of every site assessed.

Cost-Effectiveness:

The cost to save a human life through the removal of hazardous pollution on Blacksmith Institute projects can be as low as \$42. (* study reviewed by the centers for children's health and environment at Johns Hopkins University, Hunter College and the Mt. Sinai School of Public Health.)

Blacksmith's method of remediating highly polluted sites—sometimes using **worms, molasses and other low-cost solutions**—is one of the most cost effective ways to improve life expectancy in the developing world. Blacksmith projects range in cost between \$1 and \$50 per year of life gained.

Blacksmith Focus:

Blacksmith focuses on acute pollution that poses a threat to human health, working in highly polluted places where children, in particular, are most at risk. Blacksmith works to develop and implement solutions that can be easily replicated at low cost. Blacksmith does not function as a watchdog. Co-operation with local champions and stakeholders is key.

About Pollution:

Pollution is a global public health crisis. It poisons, cripples and kills, affecting over 100 million people in the developing world, especially children. The World Health Organization estimates that 20% of deaths in the developing world directly result from pollution.

In some of the world's worst polluted places, babies are born with birth defects, children have lost 30 to 40 IQ points, and life expectancy may be as low as 45 years because of cancers and other diseases.

Life-threatening pollution has been almost eliminated in developed countries with efforts such as the Superfund initiative in the U.S. (and similar programs in other countries), and the removal of lead from gasoline and asbestos from buildings. In the developing world, however, the problem is growing because of the drive to industrialize.

Most current international programs regulate the production and use of select toxins and the trans-boundary movement of waste rather than the mitigation or remediation of existing pollution. It is a global problem that is just emerging on the international radar screen. Blacksmith is the leading organization active in toxics cleanup on a global scale.

Blacksmith Success Stories:

(Read more at www.blacksmithinstitute.org)

In Muthia Village, in Gujarat, India, 60,000 tons of toxic wastes with heavy metals have been dumped over the past ten years by industrial plants. The

region has extremely high rates of cancer, premature deaths and stillbirths. Blacksmith funded a pilot project to decontaminate the soil using worms that concentrate the heavy metals in their bodies. The project has been a success and is being expanded.

In Rudnaya Pristan, Russia, lead pollution from a now abandoned lead smelter has contaminated the soil throughout the region. The local population shows clear evidence of neurological damage, contract lung and stomach cancer at five times the prevailing rate, and blood cancers at 33 times the prevailing rate. Blacksmith initiated a project to replace contaminated soils in schoolyards with clean soils, and is monitoring the decline in blood lead levels as the project makes an impact. Remediation work continues schoolyard by schoolyard.

Key Staff: Richard Fuller – Founder and President
 David Hanrahan – Director, Global Operations
 Jodyne Kim – Chief Financial Officer
 Meredith Block – Director, Programs
 Bret Ericson – Program Officer; Task Manager, Global Inventory Project
 Magdalene Sim – Director, Communications
 Matt Greenbaum – Development Associate
 Rachael Vinyard – Senior Development Associate
 Program Staff - 6 regional program coordinators; 12 country coordinators
 Technical Advisory Board - A committee of 28 experts in environment and health

Blacksmith Technical Advisory Board:

* **María del Rosario Alfaro**
 Environmental Contamination Inspector, Costa Rica

* **Thomas G. Boivin**
 President, Hatfield Consultants

* **Margrit von Braun, Ph.D. P.E.**
 Administrative Dean and Founder, Environmental Science Program, University of Idaho

* **Pat Breyse, M.D.**
 Director of the Division of Environmental Health Engineering, Department of Environmental Health Sciences, Johns Hopkins Bloomberg School of Public Health

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* **David Hunter, Sc.D.**

Professor of Epidemiology and Nutrition, Harvard University School of Public Health

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* **Mukesh Khare**

Professor, Department of Civil Engineering, Indian Institute of Technology Delhi, India.

* **Philip J. Landrigan, M.D., M.Sc.**

Director, Center for Children's Health and the Environment; Chair, Department of Community and Preventive Medicine; and Director, Environmental and Occupational Medicine, Mount Sinai School of Medicine.

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CEO and Chariman, Terra Graphics Environmental Engineering, Inc.

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Former Director, Environmental Resources Management, Young Leaders Programme Director, GIFT

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