



- Toxics, such as lead, mercury, chromium, solvents and other chemicals affect the health of more than **100 million people** throughout the emerging markets of the world.
- The number of people affected is **comparable to HIV/AIDS, TB and malaria**, yet the problem is not yet well recognized.
- Solutions can be implemented that **save lives for less than \$100 per person**.
- Pilot programs often leverage large-scale **implementation with funding from country or donor agencies**.

### About

Blacksmith Institute is an international non-profit organization whose purpose is to solve pollution problems in the developing world, where human health is most at risk. Since its inception in 1999, Blacksmith has completed over 50 clean-up projects worldwide in 21 countries.

Blacksmith works with governments at all levels and has strong government, industry and community connections in major emerging market countries. Branch offices have been established in India, Mexico, the Philippines, Indonesia, China, Russia, Ukraine and Senegal, and programs are in development in many others. Blacksmith also coordinates closely with key organizations such as the World Bank, United Nations Environment Programme (UNEP), United Nations Industrial Development Organization (UNIDO,) the Asian Development Bank, the Inter American Development Bank, and the European Union; many of which provide funding.

### Strategy

Blacksmith focuses on locations throughout the developing world where human health is most affected by pollution. Blacksmith combines pollution management with legacy pollution remediation to reduce exposures to toxins to local populations, especially children.

Strategies include:

- **Inventorizing toxic hotspots around the world.** To date, more than 2,200 locations in 50 emerging market countries have been identified where people are exposed to toxins at dangerous levels. A central on-line database coordinates information on each, and creates a platform for national and local governments, international agencies and Blacksmith to prioritize interventions.
- **Implementation of pilot and mid-scale clean-up projects.** Projects are often chosen with the intent to allow for scaling up by national or international agencies.
- **National capacity building.** Local and national agencies in most emerging market countries need the experience of the West to solve pollution problems. As well as conducting technical workshops, Blacksmith assists countries to develop national strategies, focusing government efforts on public health.

- **Collaborative platform with local champions.** Blacksmith focuses on solutions, and encourages full stakeholder participation in implementation, rather than litigation. Locals, passionate about the problem, implement Blacksmith's programs. Blacksmith provides resources and technical expertise.
- **Best science and best practices at all times.** A volunteer Technical Advisory Board of more than 50 senior experts with combined 600 years of experience oversees individual projects and the Blacksmith's program development. They bring the latest and most cost-effective technologies, appropriate to local conditions.

## Project Examples

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### ■ Yunnan Province, China

In collaboration with the Yunnan Environmental Protection Bureau, Blacksmith cleaned up arsenic contamination affecting 8,600 people from an abandoned metals mine and processing facilities. The project moved arsenic residues, built containment walls, and managed water run-off to reduce arsenic levels in drinking water to acceptable standards. The project is being replicated throughout the region by local authorities.



### ■ Muthia Village, Gujarat, India

Over the past 10 years, 60,000 tons of toxic wastes from industry was illegally dumped on the local riverbank resulting in extremely high rates of cancer, premature deaths and stillbirths. Blacksmith implemented a pilot project to decontaminate the soil using worms that concentrate the heavy metals in their bodies, reducing soil and water contamination to safe levels.



### ■ Haina, Dominican Republic

An abandoned car battery recycling facility poisoned a population of over 15,000 people near Santo Domingo with extremely dangerous levels of lead. With government, IADB and local institutions, Blacksmith safely disposed of more than 6,000 cubic meters of contaminated soil. By project end, children's blood lead levels had fallen significantly from an average of 71  $\mu\text{g}/\text{dl}$  to below 10  $\mu\text{g}/\text{dl}$  and are continuing to decline.