
Leading the way to a **Pure Earth** in **Mexico**

An investment to end the
use of lead glazed pottery

The Problem

85 million Mexicans are poisoned by the pottery they use for daily meals. Lead in traditional pottery glaze mixes with acidic food—like coffee, chili peppers, tomatoes and lemons—and quickly enters their bodies' digestive systems and bloodstreams. Today a startling 70% of the Mexican population suffers from the insidious effects of lead poisoning.

WIDESPREAD LEAD POSIONING IS ONE OF Mexico's most critical public health concerns. Even at low-levels lead exposure has been shown to significantly impair healthy brain function, particularly in children. Lead poisoning damages the area of the brain that controls anger response and has been linked to increased violent behavior. It is also strongly associated with intellectual impairment.



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Photo: Mexico—Toxic lead dust from the pottery glazing process pollutes the community. Photo Credit: Pure Earth

In a study published in the July 2014 edition of the *Annals of Global Health*, Pure Earth's research team estimated that 15% of the Mexican population has lost an average of 5 IQ points as a direct result of lead poisoning. For children ages 0 to 4, this means that throughout their lives they will lose a cumulative 820,000 disability-adjusted life-years to mild mental retardation. Artisanal potters are typically exposed to much more lead than the rest of the population and suffer even more severe consequences, including nerve damage, heart disease, and even premature death.

Lead poisoning impairs not only the general health and well-being of 85 million Mexicans, but also has very real financial consequences for the Mexican and global economies. A U.S. study found that for every dollar spent on controlling lead hazards, \$17-\$221 would be returned in health benefits, increased IQ, higher lifetime earnings, tax revenue, reduced spending on special education and reduced criminal activity. Similar cost benefit analysis of vaccinations against the most common childhood diseases show savings of only \$5.30-\$16.50 per dollar spent. Clearly controlling lead poisoning is well worth the expense.

In addition, eliminating leaded glazes would enable Mexican potters to export their products internationally, encouraging more rapid economic growth both domestically and abroad.

Mexican authorities are very aware of the array of problems lead poisoning poses. In 1991 they started a program to eliminate lead in pottery; however, this ban on leaded glazes has not been enforced. Today, tens of thousands of "backyard" potters continue to manufacture pottery using leaded glazes. Millions of Mexicans eat off this pottery in restaurants, hotels and in their homes, creating a toxic situation with dire health consequences for the entire country.



Local children await test to determine blood lead poisoning.
Photo Credit: Pure Earth

THE FACTS AT A GLANCE

- Lead poisoning affects 85 million men women and children—that's 70% of the Mexican population.
- Because of lead poisoning,
 - at least 15% of the Mexican population has an IQ that is 5 or more points lower than it should be.
 - Mexican children aged 0-4 have lost an estimated 820,000 disability-adjusted-life years.
 - In the US, research has shown that for each dollar invested in controlling lead exposures in children <6 years old there is a return of at least \$17.

Pure Earth's Proven Solution

Financed with \$50,000 from the European Commission in 2014, Pure Earth piloted a market driven approach to eliminate lead glazed pottery. This comprehensive program, called *Barro Aprobado*, was piloted in the state of Morelos and showed measurable results:

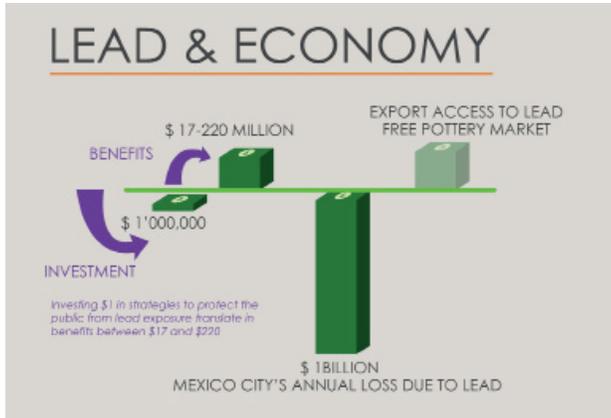
1. Driving Demand As some of the largest buyers of ceramics, restaurants and hotels have become our strongest allies when it comes to creating

demand for lead-free pottery. We educate these food industry leaders on the health risks of lead and develop marketing campaigns for those that commit to using only lead free pottery. Participating restaurants and hotels receive simple, inexpensive kits to test lead levels in ceramics and demonstrate their product's safety to customers, as well as materials that prove their lead-free status. We work with businesses to develop public relations events such as lead free pottery fairs and markets that have resulted in increased sales for lead-free pottery. The strategy is good for public health and good for business.

2. Meeting directly with artisans Once demand is established, artisans are eager to switch. We introduce alternative glazes that are not only non-toxic, but also look and work almost identically to traditional leaded glazes, burn in traditional low temperature kilns and are available at a lower cost. We work with local partners to train and assist them with the conversion process. We also clean up legacy contamination in their workshops and homes to ensure that from now on artisans and their families can live and work in a safe environment.

3. Encouraging a Standardized Lead Screening Process In order to provide critical treatments, doctors need a reliable way to identify children, as well as pregnant and nursing mothers, whose blood lead levels are dangerously elevated. We are helping the Mexican Department of Health and the Social Security Institute set up monitoring systems in public hospitals that test blood lead levels in umbilical cords immediately following birth. This method provides valuable information on both the mother and infant in a timely manner that allows for the most effective treatment. Questionnaires are used to collect important data that will help inform prevention. We believe standard screenings, like those mandated in the United States, are an important part of this strategy.





4. Providing support to the Federal Commission for Protection against Sanitary Risks (Cofepris) to enforce the law banning the sale of leaded glazes

Laws prohibiting the sale and use of leaded glazes have been on the books since 2004; however, enforcement has been weak for fear of the negative economic effects on some of Mexico's lowest income citizens. *Barro Aprobado* will ensure that the tradition of Mexican pottery can continue to flourish in a safe manner and consumers can be kept safe from toxic cookware.

5. Coordinating across all government agencies

Our experience shows that many government agencies need support to work together and keep a focus on the key processes needed. Pure Earth has been asked by the Mexican government to facilitate that coordination process, a role we see as critical in the coming years.

We have seen remarkable results during the short time the *Barro Aprobado* campaign has been active in Morelos. Artisans are uniformly impressed with the new lead-free glaze and sales of their new lead-free pottery have tripled. In addition, a dozen restaurants, hotels, and stores are participating in the lead free campaign, and dozens more businesses plan to join the campaign in 2015.

What's Next?

Our current funding from the European Commission ended on April 22nd. The Mexican Government is aware of our success and is beginning to respond and contribute resources, but we need to show continued success. We believe an extended roll out of the *Barro Aprobado* campaign over the next 3 years will result in ownership by the Mexican Government by 2020. *Barro Aprobado* is currently functioning

as a locally led effort, but should become a Federal effort in the near future.

Our next step is to scale up the campaign throughout the rest of Morelos, and in the states of Puebla and Querétaro, where the Governor's offices have already pledged to join the campaign in 2015.

We pledge to:

- Run state-by-state efforts to transition hotels and restaurants to lead-free pottery. Industry education and marketing is the key to driving up the demand for, and thus the supply of, lead-free pottery.
- Coordinate government agencies to continue to teach artisanal potters to use lead free glazes.
- Promote and establish a national, blood lead screening program.
- Remove lead dust from artisans' studios and homes.

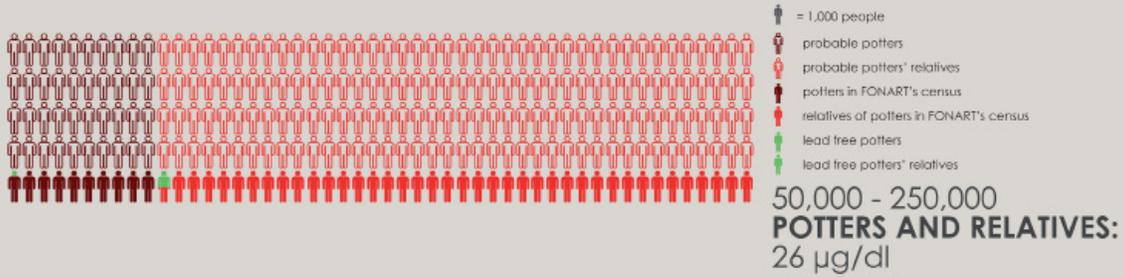
WHAT IT WILL TAKE

We are looking for a total of \$300,000 per year for three years from individuals and organizations. This funding will allow for the expansion of *Barro Aprobado* with the goal of ownership by the Mexican Government by 2020. Our current funding from the European Commission has ended. We urgently need additional funding in order to continue providing leadership and oversight of this project at this critical moment.



Pure Earth partners work to clean up lead-filled workspace.
Photo Credit: Pure Earth

AFFECTED POPULATION



PURE EARTH'S RECORD OF SUCCESS

Pure Earth's strategy is to implement pilot and mid-scale clean-up projects that allow for scaling up by national or international agencies and governments. Before any project begins, we secure buy-in and support from the local government or local agencies to ensure project sustainability.

To date, several of our pilot projects have been successfully implemented at scale. For example, in 2007 Pure Earth worked with the Asian Development Bank on a project in India that identified and assessed 60 toxic sites over the course of 2 years. This small scale project led to recognition by the Indian Government of the country's problem with toxic contamination and resulted in a government tax on coal production and coal powered generating plants, used in large part to fund clean-up of contaminated land. Close to \$100 million has been raised as a result of Pure Earth's initial investment and collaborative approach.

The villagers living in Dong Mai, Vietnam had some of the highest blood levels ever recorded after years of recycling lead acid batteries by hand and smelting lead in their backyards. Our project in 2014 involved community education, remediation of homes and yards and the construction of a changing facility to reduce the amount of toxic lead brought home from work. Our initial investment of \$60,000 resulted in an investment of close to \$500,000 from the community and local government.

Pure Earth's approach, focusing on collaboration with and buy-in from local governments, civil society organizations, businesses and artisans has already delivered successful outcomes in places like India and Vietnam. We are ready to move forward in Mexico and scale-up this proven intervention. Please join us in our campaign to eliminate lead in artisanal pottery and restore health to millions of Mexico's polluted poor.



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To learn more about how you can help, please contact Carol Sumkin, Chief Development Officer, carol@pureearth.org, 212-870-3490 or Jen Marraccino, Senior Development Director, jen@pureearth.org.

Lunch is served with lead free pottery! Photo Credit: Pure Earth

