

Reduce pollution. Save lives. Protect the planet.

ANNUAL REPORT 2019–2020



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LETTER

FROM RICHARD FULLER CEO, PURE EARTH



2020 HAS BEEN A BREAKTHROUGH YEAR for us all at Pure Earth. After 15 years of effort, we've succeeded in getting global attention on the lead exposure crisis impacting the world's children.

Those of us who work in toxic hot spots have seen firsthand the human and environmental devastation caused by lead pollution. But few understood how massive the scope of childhood lead poisoning truly is until we published a joint report with UNICEF in July 2020.

The Toxic Truth: Children's Exposure to Lead Pollution Undermines a Generation of *Future Potential* revealed, for the first time, that more than 800 million children are estimated to have elevated blood lead levels, and a primary source is the informal and substandard recycling of lead acid batteries found in cars, motorcycles and solar panels. The vast majority of these children are from low- and middle-income countries with almost half living in South Asia.

Lead is a potent neurotoxin that damages the developing brains of unborn babies, infants, and young children, causing lifelong mental, physical, and cognitive impairment and reduces life expectancy. Along with the human toll, there is a huge financial cost—an estimated USD \$1 trillion in lost economic potential for the nations where these children live.

But the good news is that lead can be recycled safely without exposing workers, their children, and surrounding neighborhoods. Lead-contaminated sites can be remediated and restored. People can be educated about the dangers of lead and empowered to protect themselves and their children. The return on the investment is enormous: improved health, increased productivity, higher IQs, less violence, and brighter futures for millions of children around the world.

And that is why we are excited to announce a new partnership between UNICEF, the Clarios Foundation, and Pure Earth to establish **Protecting Every Child's Potential (PECP)**, an initiative to prevent children's exposure to lead from informal and substandard used lead-acid battery (ULAB) recycling. **Bangladesh**, **Georgia**, **Ghana**, and **Indonesia** are slated to implement PECP projects, as well as **Mexico** where work is already underway to remove lead from traditional pottery glaze. PECP enables us to scale up our proven interventions with expanded teams on the ground and accelerate our global policy and awareness-raising efforts.

To help oversee this exciting expansion, I am pleased to welcome our new **President and Chief Operating Officer**, **Mark Schnellbaecher**, who joins Pure Earth with three decades of experience in international development.

The launch of PECP marks an important milestone, but it is just the beginning. We need many more partners to participate. Contact us if you are interested in joining us to make a future free from lead exposure.

Richard Fuller

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THE TOXIC TRUTH

CHILDREN'S EXPOSURE TO LEAD POLLUTION UNDERMINES A GENERATION OF FUTURE POTENTIAL



The Toxic Truth: Children's Exposure to Lead Pollution Undermines a Generation of Future Potential

In our first joint report, published July 30, 2020, Pure Earth and UNICEF garnered global attention by revealing lead poisoning is affecting children on a massive and previously unknown scale.



Around 1 in 3 children—up to 800 million globally have blood lead levels at or above 5 micrograms per deciliter (μ g/dL), a level which requires action. Nearly half of these children live in South Asia.

Key messages from the report state:

- Lead is a potent neurotoxin that causes irreparable harm to children's brains. It is particularly destructive to babies and children under the age of five whose brains are damaged before they've had the opportunity to fully develop, leading to lifelong neurological, cognitive and physical impairment.
- Childhood lead exposure is linked with mental health and behavioral problems, and an increase of crime and violence. Older children exposed suffer severe consequences including increased risk of kidney damage and cardiovascular diseases in later life.
- Lead poisoning robs children of their potential for achievement and impacts entire communities. Childhood lead exposure is estimated to cost low- and middle-income countries almost USD \$1 trillion in lost economic potential of these children over their lifetimes.

contributor to lead poisoning in children living in low- and middleincome countries, which have experienced a three-fold increase in the number of vehicles since 2000.

Informal and substandard recycling of car batteries is a leading

- The increase in vehicle ownership, combined with the lack of vehicle battery recycling regulation and infrastructure, has resulted in up to 50% of lead-acid batteries being unsafely recycled in the informal economy.
- Workers in dangerous and often illegal recycling operations break open battery cases, spill acid and lead dust in the soil, and smelt the recovered lead in crude, open-air furnaces that emit toxic fumes poisoning the surrounding community.
- Other sources of childhood lead exposure include lead in water from the use of leaded pipes, lead from active industry, such as mining and battery recycling, cookware, lead-based paint and pigments, lead solder in food cans, and lead in spices, cosmetics, ayurvedic medicines, toys and other consumer products.

Pure Earth and UNICEF called for urgent action to abolish dangerous practices causing lead poisoning including the unsafe recycling of lead acid batteries, adding lead to spices, pottery glaze, paint and other consumer goods.

The report, which prompted an urgent worldwide response, bases its conclusions on data analysis by the Institute of Health Metrics and Evaluation (IHME) at the University of Washington and independent research led by Pure Earth.

We're talking about a massive problem that has ripple effects, obviously, for the kids, but for society at large... It's effectively limiting the potential of a third of the world's children. It could also limit the creative and economic output of whole societies.

NICHOLAS REES Policy specialist, Unicef



The release of *The Toxic Truth* generated coverage in **more than 2,000 media outlets** around the world, including AFP, Al Jazeera , BBC, *The Guardian*, NPR, *The New York Times*, Reuters, *TIME* magazine, *The Telegraph*, Sky News and Voice of America.





PROTECTING EVERY CHILD'S POTENTIAL: A FUTURE FREE FROM LEAD EXPOSURE

In an urgent response to the newly understood scale of this health threat, Clarios Foundation, Pure Earth, and UNICEF joined forces to establish the Protecting Every Child's Potential (PECP) initiative. The initiative leverages the comparative advantages of each founding partner organization to protect every child's potential by preventing exposure to lead.

In addition to creating an awareness-raising movement and knowledge platform, the partners will mobilize international action to prevent children's exposure to lead from informal, illegal, substandard processing of lead-acid batteries and other leadcontaminated goods.

PROTECTING EVERY CHILD'S POTENTIAL A FUTURE FREE FROM LEAD EXPOSURE





As former US Secretary of State Madeleine Albright and UNICEF Executive Director Henrietta Fore wrote in an editorial published in *Fortune* Magazine,

"The initiative is based on a simple, unsurprising fact. Global progress on health issues depends on the shared efforts of the public and private sectors. We have seen this truth demonstrated repeatedly when countering polio, HIV/AIDS, malaria, Guinea worm, and now COVID-19. It is only common sense to combine the resources and know-how of government, business, and civil society. Together we can move rapidly to identify and correct the causes of suffering."

With the support of Clarios Foundation, Pure Earth will work in Bangladesh, Georgia, Ghana, Indonesia, and Mexico to:

- identify and assess sites and products contaminated with lead;
- educate communities about the dangers of lead and how to protect themselves;

- conduct remediation projects in contaminated communities to reduce or eliminate sources of lead exposures;
- train government representatives and other stakeholders to identify, assess and mitigate lead contamination;
- provide technical guidance to lead acid battery recyclers, pottery makers, and other industry representatives to ensure environmentally sound practices; and
- provide policy recommendations to provincial and national governments to protect workers and community members from lead exposures.

The PECP partnership seeks to mobilize international action and work collaboratively with local and national governments, businesses, United Nations agencies, academia and civil society to combat childhood lead poisoning. The partners are grounded in a fundamental belief that every child has a right to health and well-being and all children should have the chance to achieve their full potential.

"The data is clear, and the solutions to this issue are known," said Adam Muellerweiss, Chief Sustainability Officer, Clarios. "Everyday batteries around the world are safely collected, transported and recycled. This is what we do, and we invite others to join us to help protect the health and potential of every child."

Whether you are an individual with expertise that can assist the initiative, a business that wants to contribute to an ongoing project, or an organization hoping to begin your own project to stop childhood lead exposure, there are a number of ways to get involved.

For more information on how to get involved, contact Carol Sumkin at Carol@pureearth.org.





In **Adjara, Georgia,** 80% of children tested had elevated blood lead levels in 2018. Potential sources of lead exposure include toys and lead-adulterated spices.

Research is ongoing to pinpoint the sources. UNICEF developed a three-phase strategy that encompassed understanding the problem, searching for sources of lead and developing a national response plan.

In 2018, **Kathgora, Bangladesh**, housed an informal lead-acid battery recycling operation that left soil lead levels at 250 times the safe limit. All the children tested had elevated blood lead levels.

Pure Earth and local workers disposed of the battery waste and removed contaminated soil, recovering it with clean soil. As a result, children's blood lead levels reduced by 42%.





In **Central Java, Indonesia**, homebased lead-acid battery recycling without designated disposal sites left children playing in village slag piles. 88% of people tested had elevated blood lead levels.

In 2015, Pure Earth began developing a remediation plan with local stakeholders. In 2018, the first cleanup was undertaken in a village school yard and further government intervention plans are underway.







PROGRAM WORK AND TSIP ACTIVITY

TOXIC SITES IDENTIFICATION PROGRAM (TSIP)

Through the TSIP program, we assist countries in building capacity to solve their toxic pollution issues. Pure Earth teams collaborate closely with local and national government agencies during this process, and present a detailed report with maps and data from the investigations. This data forms the basis of our recommendations to protect public health at contaminated sites. The most severely polluted sites, which pose a grave threat to human health, are the ones prioritized for a detailed assessment and cleanup.

From January 2019— June 2020, Pure Earth's country teams around the world...

ASSESSED AND MAPPED 509 SITES IN 9 COUNTRIES

CONDUCTED WORKSHOPS IN COUNTRIES ARMENIA, BRAZIL, SENEGAL

48 NEW **INVESTIGATORS** In the past decade, TSIP has...

TRAINED OVER 500 INVESTIGATORS WORLDWIDE



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MEXICO

A family of potters transitioned to lead-free glaze with help from Pure Earth Mexico's Barro Aprobado program.

MEXICO

In Mexico, more than **13 million children have elevated blood lead levels** (BLLs), and the primary exposure is from the glaze used in traditional artisanal pottery, part of the daily life of millions of Mexicans. Less than 1% of traditional pottery is lead-free.

According to the 2019 national health survey, ENSANUT, elevated blood lead levels were found in 20 to 30% of the population in many states throughout Mexico, and pottery was identified as the main source affecting children and families.

Over the past 10 years, Pure Earth has conducted targeted research; developed interventions and gained valuable experience in training and supporting potters; recruited restaurants and hotels to convert to lead-free pottery; monitored health and BLLs; and worked with government agencies on this issue. Currently, as a result of our work, an estimated 250 potters (52 studios) are lead-free and 30 restaurants promote the use of lead-free cookware. On average, the blood lead levels among children of families participating in previous interventions have decreased by 65% or more within six months.



PROTECTING EVERY CHILD'S POTENTIAL – PARTNERING WITH CLARIOS FOUNDATION IN MEXICO

As one of the five initial countries included in Protecting Every Child's Potential, Clarios Foundation provided a leadership grant to begin scaling up Pure Earth's Barro Aprobado program in Mexico's biggest pottery-producing state, Puebla.



BANGLADESH

Approximately **35.5 million children in Bangladesh have elevated blood lead levels**; that's 60% of the children. To address this serious issue, Pure Earth continues to focus on lead, closely collaborating with a range of strong partners active in Bangladesh, including:

- Stanford University Woods Institute for the Environment;
- the International Lead Association (ILA);
- the International Center for Diarrheal Disease Research Bangladesh;
- the Eco-Social Development Organization;
- UNICEF;
- UNEP.

The partners' collective aim is to consolidate knowledge on lead, particularly ULAB and contaminated spices, and work towards a coordinated national strategy. The Pure Earth team also collaborates with the Department of Environment, which is under the Ministry of Environment and Forests.

Selecting the next cleanup site _____

In November 2019, a team of New York staff, a Technical Advisor, and two engineers from Tauw traveled to Bangladesh to conduct a detailed assessment and select a second pilot cleanup in Bangladesh. The team

BANGLADESH

Pure Earth team investigates an abandoned informal battery breaking and lead smelting site.



BANGLADESH

Guido van de Coterlet with Tauw Foundation and Mohammad Lutful Kabir with Pure Earth assessing an abandoned battery breaking and lead smelting site in Bangladesh.

completed a preliminary site assessment at a former ULAB breaking and smelting factory located in the rural area of Mirzapur Upazila, Tangail, approximately 60 km northeast of Dhaka, Bangladesh.

The plant had operated for more than three and a half years before it was abandoned. The area is surrounded by residential and agricultural land. Local shops, schools, and mosques are in close proximity to the contaminated area. Approximately 600 people live in range of the contamination, with another 450 people traveling in to work or visit the area. The project is currently on hold, due to COVID-19.

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PROTECTING EVERY CHILD'S POTENTIAL – PARTNERING WITH UNICEF BANGLADESH

Bangladesh is one of the world's countries most severely impacted by lead poisoning and is a priority in the first phase of the Protecting Every Child's Potential initiative. Planning is underway to expand the number of Pure Earth's in-country staff and, jointly, with UNICEF, begin scaling up our efforts in 2021.



COLOMBIA

Engaging Communities to Combat Pollution -

Pure Earth launched its Civil Society Organization Outreach in Colombia in February 2020 with a workshop to build awareness of pollution and health issues and engage stakeholders. Hosted with USAID and two local groups, Sueño de Angeles and Comunica Colombia, the workshop brought together government ministries, local and international NGOs, and representatives of local community-based organizations from different regions of the country. Out of the workshop, participants are developing communication plans for health-related pollution issues that most affect their constituents: air pollution in Medellin; mercury pollution in the Amazon regions from artisanal small-scale gold mining (ASGM); and industrial pollution in key watershed areas. This event was covered by Noticias Caracol, the national news, and received the attention and support from the Ministry of Environment and Sustainable Development (MADS), the National Institute of Health, the Ministry of Science, Technology and Innovation, the Ministry of Education, the Institute of Hydrology, Meteorology and Environmental Studies, and UNDP.

Reducing Toxic Mercury Pollution _____

Furthermore, in a project funded by the U.S. Department of State, Pure Earth is partnering with Centro National de Producción Más Limpia:

COLOMBIA

MALAMBO PILOT PROJECT FOLLOW-UP

In December 2019, Pure Earth's team returned to Malambo, where we had cleaned up an abandoned lead recycling operation, to measure blood lead levels again. We were encouraged by the findings—residents' BLLs reduced by 30%.



COLOMBIA

The Pure Earth Colombia team assessing an abandoned illegal gold mining and processing site contaminated with mercury.

CNPML and Innova Ambiental to strengthen the technical capacity of Colombian national, regional, and local governments, including law enforcement and military agencies, to handle, store, and dispose mercury recovered or seized from ASGM activities. Ultimately, this will support the Government of Colombia's ongoing efforts to comply with the Minamata Convention and reduce the national burden of mercury contamination. As part of the project, Pure Earth has initiated a pilot to test a variety of techniques for recovering mercury from the contaminated gold mining tailings, a ubiquitous problem in gold mining areas throughout Latin America. Because mercury gold mining methods extract only around 30-50% of the gold, the tailings still hold considerable value. This project both tests techniques of mercury recovery (or safe storage of the tailings) and explores mercury-free methods to extract the additional gold still found within the tailings. One aim is to determine whether profits from the remaining gold could help pay for the safe handling, storage, or disposal of the mercurycontaminated tailings.



PERU

Mercury-free Mining and Reforestation -

Pure Earth continues to build off the life-saving work funded by the U.S. Department of State. In February 2020, Pure Earth restored 2.5 hectares of rainforest degraded by artisanal and small-scale gold mining (ASGM) in one of the AMATAF Mining Association's concessions, located in the buffer zone of Peru's ecologically sensitive Tambopata National Reserve. Over the course of a single week, 12 miners and 16 field experts planted 2,778 seedings from 10 species, beginning the first stage of a three-year project funded by The Tiffany & Co. Foundation. While work was slowed because of the COVID-19 pandemic, Pure Earth ultimately plans to restore 3 to 5 hectares of degraded rainforest, transition at least one ASGM community to mercury-free mining, and expand government capacity to support restoration. ASGM accounts for about 40% of all gold produced in Latin America, with Peru as the largest gold producer in the region.

PERU

Before and after images of sapling planting and established growth in Madre de Dios.



INDONESIA

Woman panning for gold committed to using mercuryfree techniques.

INDONESIA

Empowering Women Goldminers —

In many communities, women hold the keys to change. This is particularly true in Indonesia where female artisanal gold miners provide important financial contributions to their families and are increasingly receptive to mercury-free gold processing. **Women in Mining & Energy (WiME)**, a strategic hub established in 2019 by Pure Earth and members of the Minerals and Energy for Development Alliance, seeks to increase female participation in the ASGM sector and promote equal rights, opportunities, and benefits for both men and women to pursue sustainable livelihoods. This project joins an effort begun in 2018 by Pure Earth's local partner, the Indonesian NGO Yayasan Tambuhak Sinta (YTS), which connects women miners with jewelers in Bali who are willing to purchase mercury-free gold at up to 20% above market prices. Pure Earth and YTS have been working together since 2009 to help artisanal miners reduce their use of and exposure to mercury.



PROTECTING EVERY CHILD'S POTENTIAL— PARTNERING WITH UNICEF INDONESIA

Lead pollution is also a significant problem in Indonesia. Pure Earth, UNICEF, and Clarios Foundation will be scaling up activities to reduce exposures caused by unsafe recycling of lead acid batteries through the Protecting Every Child's Potential initiative.



INDIA

Reducing Childhood Lead Poisoning —

India has the most lead-poisoned children in the world, with 58% (275 million) of Indian children estimated to have blood lead levels above 5 μ g/dL, the reference level set by the CDC.

Of the **400 toxic sites Pure Earth has identified in India** over the past decade, the prevalence of severe lead contamination has been deeply concerning. At the request of the government, and with support from USAID and the ERM Foundation, Pure Earth conducted a pilot lead source identification study in the state of Bihar in February 2020 to better understand which sources of lead are contributing to elevated blood lead levels and to what extent. Preliminary findings reveal informal recycling of used lead acid batteries and adulterated spices, like turmeric, with lead additives as major sources of lead exposure.

Expanding Operations in Tamil Nadu —

Pure Earth initiated the plans for a pilot cleanup project in a new state, Tamil Nadu, thanks to a grant from the Trafigura Foundation. A shuttered, registered lead smelter in Rangapuram, near Vellore, contaminated the nearby community, consisting of 55 homes, a childcare center and school. Due to COVID-19, the remediation of the school and homes, the community education campaign, and Pure Earth's second lead source identification study were delayed until early 2021. However, local government officials, the school principal and other community leaders are excited about the project which protects the health and potential of the children and also lays the groundwork for a broader, regional action plan to comprehensively address lead exposures.

INDIA

A teenage boy smelting lead with a single burner and pan in an alleyway in Patna, India. Sonakshi's school is located next to a small lead acid battery factory, exposing her and the other students to dangerous levels of lead contamination.

Sharing a Family's Story

To communicate the public health threats from informal leadacid battery manufacturing and recycling and Pure Earth's pilot in Karmalichak, USAID produced a short film telling the story of a primary school student, Sonakshi, and her grandfather, the school principal.

Watch the video in English or Hindi at www.pureearth.org/global-lead-program.



Sonakshi's grandfather, Sashi Kant Sinha, is the principal of her school. Principal Sinha says, "We have around 250 children. They are like my own kids."

We checked the lead level in children and the results showed high levels of lead in their blood. The long term solution is there should be no battery operations in residential areas.



Substandard lead-acid battery production and recycling is a widespread practice. Contaminated waste, fumes, and dust can migrate and be ingested or inhaled causing poisoning, IQ loss, developmental and behavioral changes, and lifelong impacts.

Lead poisoning is a public health problem and lack of awareness can complicate it. The regulators, producers, and community have to work together. Air and water is not owned by one person, it is owned by everyone.



PHILIPPINES

Investing in Clean Waterways —

Testing and clean-up efforts continued in 2019-2020 along the Marilao-Meycauayan-Obando river system, one of the world's most polluted waterways. Almost 3,000 HSBC and community volunteers helped Pure Earth's local team monitor water quality and its impact on fish safety, plant trees, and remove trash. Cleanup of the waterways, which ultimately empty into Manila Bay, are part of a long and ongoing partnership between Pure Earth and HSBC Philippines.

Addressing Lead Pollution _____

20 million children in the Philippines (50%) have BLLs above 5 ug/dL, ranking the country in the world's top 20% for number of lead poisoned children, according to IHME.

Between October 2019 and April 2020, 95 new toxic sites, each representing a barangay (a village, district, or ward) in Iloilo City or Tagbilaran City, were assessed and entered into Pure Earth's Toxic Sites Identification Program database. In Tagbilaran City, most of the soil samples contaminated with lead and other heavy metals were taken around battery display centers, junk shops, machine/metal works, a vulcanizing shop, and backyard garbage burning areas. A summary of results for completed work in Iloilo City is pending.

As the Philippines' widescale lead exposure, especially among children and women of child-bearing age, needs to be better understood, Pure Earth plans to analyze and aggregate existing data, and invest in filling the data gaps. Our goal is to systematically characterize the health risks of lead exposure to children throughout the most impacted regions in the country, and identify the point sources and appropriate interventions in order to develop a national action plan.

PHILIPPINES

Pure Earth and HSBC employees working together to protect river systems.



TAJIKISTAN

Pure Earth team removing tons of abandoned pesticide stockpiles posing health threat to communities.

TAJIKISTAN

Cleaning up pesticide dump sites ———

In November and December 2018, Pure Earth trained 23 investigators from several partner NGOs based in different areas of Tajikistan. In the spring and summer of 2019, the investigators completed 90 site assessments, resulting in the selection of three sites for clean up.

In January and February 2020, cleanups of contaminated areas in Sherobod, Beshkent, and Sangoba were completed under the supervision of the Committee of Environmental Protection of Tajikistan.

The remediation team removed 13 metric tons of pesticides and contaminated soil in Sangoba; 9.5 metric tons of pesticides and 255 metric tons of contaminated soil in Sherobod; and 139 metric tons of pesticides and 546 metric tons of contaminated soil in Beshkent.

These interventions, funded by the EU Delegation of Tajikistan, will ensure that hundreds of children living in these communities are no longer are exposed to dangerous pesticides and will serve as a model to clean up additional contaminated sites located throughout the country.



SENEGAL

Understanding Senegal's Pollution Problems -

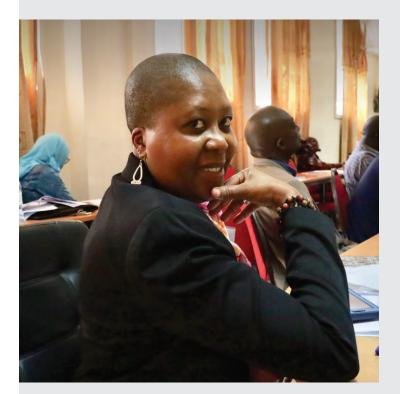
Important progress is being made in Senegal towards understanding and prioritizing the country's pollution issues and developing a road map for action. Pure Earth-trained investigators have assessed 81 sites, with mercury and lead being identified as primary pollutants.

Health and Pollution Action Plan (HPAP) -

The Health Pollution Action Planning process is proving an effective tool for countries to develop a road map and identify the resources needed to implement the needed interventions. In Senegal, representatives from 7 ministries (Ministry of Environment, Ministry of Health, Ministry of Agriculture, Ministry of Water and Sanitation, Ministry of Mines, Ministry of Urban Affairs, Ministry of Housing and Public Health) are participating and the Ministry of Environment has officially endorsed the HPAP process. The road map is scheduled to be finalized by the end of the 2020, well positioning Senegal to comprehensively take on pollution in 2021.

SENEGAL

Government officials at HPAP workshop in Dakar, Senegal.



ChemObs is an exciting and important project advancing evidence-based action. The Economic Calculator that we developed actually helps to predict the cost of inaction.

JUDITH ST. FORTH REGIONAL DIRECTOR, PURE EARTH AFRICA

The African Chemical Observatory Project (ChemObs)

The Global Environment Facility (GEF)-supported African ChemObs Project aims to develop sound management of chemicals. Specifically, it will enable participating countries to establish evidence-based policies and make informed decisions on chemical and pollution issues, taking into account human disease burdens. Initially, ChemObs was launched in 13 countries. Pure Earth is focusing on: Gabon, Mali, Senegal, Madagascar, Ethiopia, Kenya, Tanzania, Zambia, and Zimbabwe.

Pure Earth was included in this effort because of our extensive experience and authority in identifying and assessing toxic sites in low- and middle-income countries through the Toxic Site Identification Program.

One component of ChemObs is to develop tools to help build integrated surveillance and information management systems for chemicals of public health concern. Pure Earth was tasked to produce an Economic Calculator that takes environmental contamination data from publicly available sources and predicts adverse human health outcomes. The adverse outcomes are then quantified into financial costs.



MERCURY UPDATE

Pure Earth's work around the world to combat mercury pollution from ASGM continued in 2019-2020 with reforestation projects in the Amazon rainforest in Peru, and in Indonesia, where a women's mining group was formed to improve conditions for female miners. Since the inception of its **Global Mercury Program**, Pure Earth has trained almost 2,000 miners in Eastern Europe, Latin America, and Asia in mercury-free mining techniques and educated thousands more about the dangers of mercury use and exposure. In Africa, Pure Earth has assessed 250 mercurycontaminated sites.

Budi Susilorini, Indonesia Country Director, and Alfonso Rodriquez, Colombia Country Director represented Pure Earth at the third meeting of the Conference of the Parties to the Minamata Convention on Mercury (COP3), November 2019 in Geneva, Switzerland.

The Minamata Convention on Mercury, which came into effect in 2017, is a global treaty to protect human health and the environment from mercury. The treaty, signed by 128 countries, contains provisions that relate to controls and reductions across a range of products, processes, and industries where mercury is used, released, or emitted.

SWITZERLAND

Pure Earth at the 2019 Minamata Convention meeting.

PURE EARTH RESPONDS TO COVID-19



Dr. Jack Caravanos, Pure Earth's Director of Research, Professor of Global Public Health at New York University, and go-to expert on *Inside Edition* answered webinar participants' questions about protecting themselves from infection.



As the COVID-19 pandemic spread around the world, many of Pure Earth's partner communities struggled. To help meet immediate needs, Pure Earth and local organizations distributed food staples, such as rice and oil, and provisions, including cleaning supplies and toilet paper, to organizations and families in Mexico, Colombia, and the Philippines.

In Mexico, where Pure Earth supports a large project teaching potters how to use lead-free glazes, teams mobilized resources to support families in Tlayacapan, Morelos; Aceteopan and Cohuecan in Puebla; and in Metepec in the State of Mexico. To help potters earn a living under pandemic conditions, Pure Earth also launched an online store for lead-free pottery on its Barro Aprobado Facebook page. The online store, initially available only to buyers in Mexico City, promises to provide artisans with wider markets after the pandemic is over.

In the **Philippines**, Pure Earth delivered supplies to mining families in Benguet, to a soup kitchen in Pasig, and to families in Ate Cita in Meycauayan, Muntinlupa City, and Quezon City.

And in **Malambo, Colombia**, a community already struggling with a public health crisis created by years of exposure to toxic lead contamination, Pure Earth team members assembled and delivered bags of emergency provisions to 155 families.

QUARANTINE WEBINARS

In the early days of the COVID-19 pandemic, Pure Earth turned to its global network of public health experts for insights and analysis. Through its quarantine webinar series, Pure Earth brought together renowned health experts to interpret the emerging data and discuss the potential impact on vulnerable communities already dealing with a high burden of disease from pollution. In April, Dr. David Hunter, the Richard Doll Professor of Epidemiology and Medicine at the University of Oxford, kicked off the series with "Pandemic, Pollution, and Poverty." He was joined by Pure Earth team members who shared observations about conditions in Armenia, Tajikistan, Azerbaijan, Mongolia, and Madagascar.

PURE EARTH VIRTUAL "QUARANTINE" Q&A, PART II

Pandemic, Pollution & Poverty

with Renowned Public Health Expert DR. DAVID HUNTER + Members of the

PURE EARTH GLOBAL TEAM





Pure Earth staffers around the world adjusting to working at home.



GAHP INCORPORATION



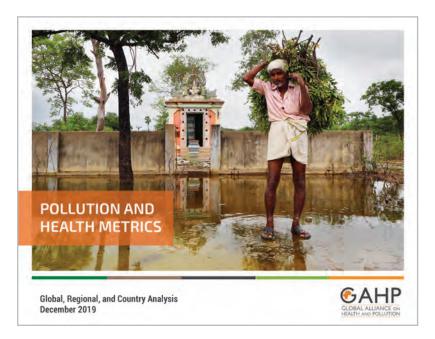
As we begin the new decade with new funding and teammates in place, we have ambitious plans to continue to motivate global action to tackle the pollution crisis. And we hit the ground running, engaging at the T20, a policy think tank for the G20, which led to invitations to participate in additional G20 policy planning groups to advocate for investments in pollution solutions.

RACHAEL KUPKA ACTING EXECUTIVE DIRECTOR, GAHP It's official—the Global Alliance on Health and Pollution (GAHP) incorporated as an independent not-for-profit foundation in Geneva, Switzerland, with the generous support of the Swiss Agency for Development and Cooperation (SDC) and Freshfields Bruckhaus Deringer LLP, and the extraordinary efforts of Denis Gobet at Gobet Legal, LLP.

Initially formed by Pure Earth, World Bank, UNEP, and others in 2012, GAHP's mission is to address pollution and health at scale by raising awareness globally, advocating with policy makers, providing technical guidance, and convening stakeholders within countries to conduct health and pollution action planning. GAHP will complete its separation from Pure Earth over the next two years, with Pure Earth hosting the Secretariat until the end of 2021.



COMMUNICATING THE ISSUES



POLLUTION AND HEALTH METRICS REPORT

In December 2019, GAHP published, with support from Pure Earth, *Pollution and Health Metrics: Global, Regional and Country Analysis*, which used 2017 Global Burden of Disease data from IHME to update the findings of The Lancet Commission on Pollution and Health. Central to the report was a ranking of pollution deaths on a global, regional and country level, which drew widespread national and international attention. Many outlets covered the report using the regional data provided to emphasize the deadly toll pollution is taking in their country. Stories were run in Serbia, the UK, India, Thailand, Pakistan, Nigeria, and Vietnam, to name a few. The findings of the report were also picked up by major international news networks including the BBC, *The New York Times*, Bloomberg, *Forbes*, and *The Guardian*.



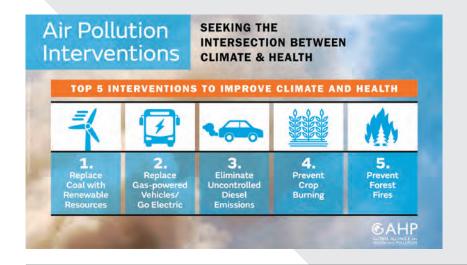
AIR POLLUTION INTERVENTIONS: SEEKING THE INTERSECTION BETWEEN CLIMATE & HEALTH REPORT

GAHP, Air Quality Asia, and the Schiller Institute at Boston College collaborated to evaluate air pollution interventions and identify which had the greatest impact on health, climate, and the combination of both. Researchers selected 22 practical interventions employed to reduce air pollution around the world and interviewed governmental and environmental leaders in more than 30 countries.

The report, *Air Pollution Interventions: Seeking the Intersection Between Climate & Health*, presents the a comprehensive and comparative review of an extensive array of actual (versus theoretical)

interventions undertaken to reduce emissions of PM2.5, particulate matter smaller than 2.5 microns, which impacts health, and carbon dioxide, a significant contributor to global warming. Released in June 2020 with support from the Clean Air Fund, the report is designed to help governments and policymakers, particularly in low- and middle-income countries, determine the most efficacious and cost-effective interventions for their communities.

Along with replacing coal-fired power plants, the top five measures found to be most effective for achieving co-benefits include: replacing diesel and gasolinepowered vehicles with electric vehicles in public and private use, eliminating uncontrolled diesel emissions, preventing crop burning, and preventing forest fires.





WORLD ECONOMIC FORUM BLOG

Among the organizations interested in the findings of the report, *Air Pollution Interventions: Seeking the Intersection Between Climate & Health*, was the World Economic Forum, which published an opinion piece by Pure Earth CEO, GAHP Board Chair, and a co-author of the report, Richard Fuller.

HEALTH AND POLLUTION ACTION PLANNING PROCESS (HPAP)

GAHP and Pure Earth continued to collaborate on the HPAP program throughout 2019 with GAHP taking the lead in 2020. The HPAP process works to build awareness, political will, and demand for addressing pollution and health problems at the national level. It also aims to increase the supply of resources to address the prioritized health problems.

In 2019, the Pollution Control Department of Thailand and Pure Earth finalized the Thai HPAP, and UNIDO assisted the governments of Ghana, Kyrgyzstan, the Philippines, and Tanzania to finalize their HPAPs, bringing the total number of completed Health and Pollution Action Plans to seven. GAHP and Pure Earth also initiated HPAPs with relevant government partners in Senegal and Central Kalimantan, Indonesia, with the support of the Oak Foundation and USAID. Additionally, several new countries submitted requests to begin the HPAP process. The most important step for municipal and national agencies is to raise their level of ambition in achieving their air quality and climate objectives. The solutions exist—and with technical support, strategic funding and public and private initiatives—we can successfully improve public health and combat climate change.

RICHARD FULLER CEO, PURE EARTH

EVENTS

PURE EARTH DAY 2020

In the face of COVID-19, we adapted our original plans and in-person events and celebrated the 50th anniversary of Earth Day virtually with a series of educational webinars attended by over 200 guests from around the globe. Pure Earth President Richard Fuller discussed pollution's global health impacts and the connection between COVID-19 and pollution. Pollution experts from Pure Earth India, Peru, and Senegal discussed environmental health projects that are improving people's lives.





PURE EARTH DAY LUNCH WEBINAR: PROTECTING THE PERUVIAN AMAZON





REDUCE POLLUTION. SAVE LIVES. PROTECT THE PLANET

HERE'S HOW YOU CAN HELP THE EARTH ON EARTH DAY AND EVERY DAY



PURE EARTH DAY 2021

Highlight your company's commitment to sustainability on Earth Day—April 22—and beyond.

Pure Earth cultivates innovative collaborations and strategic partnerships with corporate partners that:

- Engage employees at the global and local levels through either single day, turn-key Pure Earth Day Parties or long-term, project-based volunteer initiatives.
- Link your product or service to a global cause that helps protect the earth and its most vulnerable people from the dangers of pollution.
- Support 10 of the 17 Sustainable Development Goals in tangible, direct ways.

For more information, please contact Jen Marraccino at jen@pureearth.org or Rachel Bongiorno at rachelb@pureearth.org.



Beautiful sweets designed by Magnolia Bakery, Jars by Dani, Zola Bakes and Dō to participate in our Pure Earth Day percent-of-sales program.

2019 BENEFIT BASH CELEBRATING PURE EARTH'S 20TH ANNIVERSARY

On April 8, Pure Earth celebrated 20 years of Pollution Solutions at our 2019 Benefit Bash. We gathered for an amazing evening, recognizing our inspiring award recipients: **Armenia Fund USA**, **Barbara Jones**, **Gardiner Harris**, and **Magnolia Bakery**.

A bevy of talented jewelry designers donated beautiful pieces of responsibly sourced gold jewelry that were auctioned both in person and on-line. The evening even included gourmet cotton candy donated by fluff + fluff.

Thanks to our generous sponsors and guests, we raised over \$325,000 to support Pure Earth's life-changing work.

10TH ANNIVERSARY OF THE PURE EARTH GOLF TOURNAMENT

On September 23, we held our 10th annual Pure Earth Golf tournament, which once again took place at Fenway Golf Club in Scarsdale, NY. It was a beautiful day from start to finish, featuring great golf, contests, auctions, and delicious food and drink. Thanks to the committee, sponsors and our Green Champion Honoree, **Boston Properties**, the course was full and we raised over \$140,000.

A DIALOGUE WITH OUR GLOBAL POLLUTION EXPERTS

Pure Earth pollution experts from around the world gathered in New York on June 5, 2019, to share updates on the progress being made in tackling pollution problems in the experts' home communities and countries spread across five continents.

The event, held at the Permanent Mission of Canada to the UN, offered Pure Earth friends

and supporters a chance to hear directly from the front lines as well as words of support from Ambassador Louise Blais.

RACHEL'S NETWORK AND HEFN HOST WEBINAR: REAL SOLUTIONS TO POLLUTION – TACKLING THE LEADING CAUSE OF DEATH ON THE PLANET

On September 11, 2019, **Rachel's Network** and **Health & Environmental Funders Network** hosted a funders webinar at Indus Capital Partners on *Real Solutions to Pollution—Tackling the Leading Cause of Death on the Planet.*



Pure Earth CEO Richard Fuller presented key findings from the report produced by *The Lancet Commission on Pollution and Health*, as well as *Pollution Knows No Borders: How the Pollution Crisis in Low- and Middle-Income Countries Affects Everyone's Health, and What We Can Do to Address It.*

Drew McCartor, Director of Global Policy and Planning, presented the lead program in India, where half of all children have elevated blood lead levels.

Judith St. Fort, Regional Director of Africa shared the multi-disciplinary process, Health Pollution and Action Planning, which has been implemented in Madagascar, where 30% of the country's deaths are caused by pollution.

Lara Crampe, Director, Community Outreach, presented Pure Earth's program in Peru, which trains artisanal gold miners in profitable, mercuryfree methods and in reforesting land degraded by artisanal mining.





◆ TOP — (*left*) Pure Earth Golf Tournament – Tom Hill of Boston properties with the Green Champion Award; (*right*)Mike Doherty, with Building Maintenance Services, and crew enjoying the course. ◆ MIDDLE — 2019 Benefit, Award Recipients – Bobbie Lloyd, Barbara Jones, Diana Mkhitarian, Lisa Stepanian, and Gardiner Harris.
◆ BOTTOM — (*left*) Dialogue with Global Pollution Experts — Ambassador Louise Blais with Karti Sandilya, Charlotte Triefus and Richard Fuller; (*right*) Panel of Pure Earth Global Staff from Mexico, Colombia, Russia, Philippines & more.







2019 FINANCIAL STATEMENT

Consolidated Statement of Financial Position

Years Ended December 31, 2018–2019

	2019 Consolidated	2018 Consolidated
CURRENT ASSETS		
Cash and cash equivalents	\$ 75,049	\$ 608,615
Grants receivable	3,966,590	4,399,903
Pledges receivable	397,612	129,576
Prepaid expenses and other current assets	167,598	113,900
Total current assets	\$4,606,849	\$5,251,994
Property and equipment, net	407,659	495,960
Security deposit	25,000	25,000
Total assets	\$ 5,039,508	\$ 5,772,954
LIABILITIES AND NET ASSETS		
CURRENT LIABILITIES		
Accounts payable	647,968	501,293
Accrued expenses	111,167	111,431
Related party line of credit	170,924	-
Line of credit	-	75,000
Long-term debt, current portion	43,508	175,339
Total current liabilities	\$ 973,567	\$ 863,063
LONG TERM DEBT, net of current portion	_	43,335
Total liabilities	\$ 973,567	\$ 906,398
NET ASSETS		
Withouth donor restrictions	193,426	173,100
With donor restrictions	3,872,515	4,693,456
Total net assets	4,065,941	4,866,556
Total liabilities and net assets	\$ 5,039,508	\$ 5,772,954

Consolidated Statement of Activities

Years Ended December 31, 2018–2019

	December 31, 2019 Pure Earth Consolidated			December 31, 2018 Pure Earth Consolidated		
SUPPORT AND REVENUE	Unrestricted	Donor Restriction	Total	Unrestricted	Donor Restriction	Total
Grants	\$ —	\$2,966,452	\$2,966,452	\$ —	\$4,806,068	\$4,806,068
Fundraising income	651,198	_	651,198	371,955	_	371,955
Contributions	373,023	—	373,023	276,255	—	276,255
In-kind contributions	325,575	_	325,575	280,111	_	280,111
Net assets released						
from restrictions	3,787,393	(3,787,393)	_	3,616,248	(3,616,248)	_
Total support and revenue	\$5,137,189	(\$ 820,941)	\$4,316,248	\$4,544,569	\$1,189,820	\$5,734,389
FUNCTIONAL EXPENSES						
Program	3,864,062	_	3,864,062	3,592,365	_	3,592,365
Administration	769,052	_	769,052	727,325	_	727,325
Fundraising	461,164	_	461,164	424,084	_	424,084
Total functional expenses	\$5,094,278	\$ —	\$5,094,278	\$4,743,774	\$ —	\$4,743,774
Excess (Deficiency) of support and revenue over	40.011	(220.041)	(779,020)	(100.205)	1 100 000	000 615
functional expenses	42,911	(820,941)	(778,030)	(199,205)	1,189,820	990,615
Interest expense	(24,341)	_	(24,341)	(37,097)	_	(37,097)
Realized (loss) gain on investments				892		892
Foreign currency	—	_	—	092	—	092
• •	1 756		1,756	(27.270)		(27.270)
translation adjustment	1,756	_	1,700	(37,279)	_	(37,279)
Change in net assets	\$ 20,326	(\$ 820,941)	(\$ 800,615)	(\$ 272,689)	\$1,189,820	\$917,131
NET ASSETS, Beginning	173,100	4,693,456	4,866,556	445,789	3,503,636	3,949,425
NET ASSETS, End	\$ 193,426	\$3,872,515	\$4,065,941	\$ 173,100	\$4,693,456	\$4,866,556

Consolidated Statement of Cash Flows

Years Ended December 31, 2018–2019

	2019	2018
OPERATING ACTIVITIES		
Change in net assets	\$ (800,615)	\$ 917,131
Adjustments to reconcile change in net assets to net		
cash provided by (used in) operating activities:		
Depreciation	87,261	94,371
In-kind contribution of investments		(61,496)
Realized loss (gain) on investments		(892)
Changes in:		
Grants receivable	433,313	(213,264)
Pledges receivable	(268,036)	156,132
Prepaid expenses and other current assets	(53,698)	153,163
Accounts payable	146,675	(432,262)
Accrued expense	(264)	(24,868)
Net cash provided by (used in) operating activities	\$ (455,364)	\$ 588,015
INVESTING ACTIVITIES		
Proceeds from sale of investments		62,388
Fixed asset purchases		(1,480)
Fixed asset disposals	1,040	5,000
Net cash (used in) provided by investing activities	\$ 1,040	\$ 65,908
FINANCING ACTIVITIES		
Proceeds from line of credit	170,924	85,000
Repayments on line of credit	(75,000)	(100,000)
Repayments of long-term debt	(175,166)	(166,096)
Net cash provided by financing activities	(\$ 79,242)	(\$ 181,096)
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(\$ 533,566)	\$ 472,827
CASH AND CASH EQUIVALENTS, Beginning	\$ 608,615	\$ 135,788
CASH AND CASH EQUIVALENTS, Ending	\$ 75,049	\$ 608,615
SUPPLEMENTAL INFORMATION		
Interest paid	\$ 24,341	\$ 37,097

Utilization of Funds in 2019





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Resident depositing clean soil as part of the process to remediate a severely lead-contaminated yard in Kabwe, Zambia. Lesley-Anne Gliedman & Eytan Shapiro Samir Gole Katherine Gould-Martin Kevin Gray Sebastian Grubb Robert Guarnaccia Rachel P. Gumina Matthew Halper Virginia Hanson Gardiner Harris Amos Harris Susan Hawley Jonathan Heiser Evan Heller John & Felicia Hendrix Ron Hibshoosh Tom Hill Alicia Hosmer Shii Ann Huang & David Biello **Ron Hughes** Peter Humphrey Glo Janata Jennifer Johnson Robert Jonap Barbara & Kevin Jones Don Jones Kate Karlsen Sheldon Kasowitz Christopher Kelly Jr. Ian & Tracy King **Charles Kinser** Mary Knowles & Laurence Flood Eunjee Koh Kasia Konopacki Rubén & Elizabeth Leiman Kraiem Ziad & Katharyn Kubursi Rachael Kupka Patrick Lally Rebecca & Peter Lang

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