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# The Invisible Enemy

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A L D E M A R O   R O M E R O

Those of us trained in academe are rarely well equipped to deal with the consequences of our research affecting politics, the economy, or public health. That can be particularly true in the case of developing countries, where the mixture of a lack of true democratic institutions, combined with state ownership of corporations that have a high environmental impact, produces an explosive combination that few people realize until someone tries to make government accountable.

In the early 1990's I was the Executive Director and CEO of a private, non-profit organization called BIOMA (The Venezuelan Foundation for the Conservation of Biological Diversity). When I founded it in 1987, I modeled it largely along the lines of the U.S. Nature Conservancy, i.e., a nature conservation institution privately funded and focused on the protection of natural areas. Although we established some private nature preserves and worked with the government in the development of national parks, it soon became clear to me that

those were not the top environmental issues of a developing country like Venezuela.

One of the outreach activities we conducted was the publication of an annual "State of the Environment Report." Those reports showed that in addition to the loss of natural areas and biodiversity due mostly to deforestation there were many other acute environmental problems in Venezuela, most of them related to pollution generated by government activities. Prime among them was lead pollution.

Lead pollution in Venezuela was largely the product of a high amount of lead in the gas in a country with one of the world's cheapest prices for gasoline and a huge per capita vehicle fleet. This was surprising because by that time most countries in the world were already eliminating leaded gas by offering unleaded, and even more so because, although the Venezuelan government itself refined and sold unleaded gas and its additives to the U.S. and other countries through its U.S. subsidiary (the CITGO Petroleum Corporation), it did not offer such an alternative within Venezuela itself. Furthermore, since all cars imported into Venezuela had a catalytic converter (the very device used to reduce air pollution — mostly carbon monoxide- generated by cars) those devices were removed upon arrival to the Venezuelan market because they cannot operate with leaded gas.

Lead tetraethyl was introduced as an additive for gasoline in 1923 to eliminate the ping or knock of four-stroke motors. By the 1960s, it had become clear that lead was a very dangerous pollutant — particularly among children — causing all kinds of health problems including, but not limited to weakness, anemia, low performance in work or school, memory loss, irritability, and lack of coordination. High levels of lead in blood could even produce death. For this reason, in 1968, researchers developed methyl tertiary butyl ether (MTBE) as a substitute for tetraethyl lead to prevent the introduction of lead in the atmosphere; by the 1970s, many countries started to move toward producing lead-free gasoline. In December 1994, at the Summit of the Americas, Central America's leaders pledged to

eliminate the use of leaded gasoline, a move followed by other Latin American nations with only one exception: Venezuela.

Our studies had shown that several Venezuelan cities had lead particles levels in the air above the permissible standards of the U.S. and other developed countries, and that 85% of that pollution originated from leaded gas. Furthermore, a number of studies had shown that the amount of lead in the blood of many Venezuelans living in large cities was up to 50% higher than the permissible levels set in the United States; even worse, those levels had been increasing in the preceding years.

When I tried to figure out why the Venezuelan government through its national oil monopoly (PDVSA) offered only leaded gasoline in the local market, while producing and exporting the MTBE additive that could eliminate the use of that pernicious metal, I was nothing but puzzled. I learned through a source in the Venezuelan oil industry that PDVSA was contractually obligated to export all of the MTBE substitute production making such additive completely unavailable in the Venezuelan market. Things started to get even more shocking when I learned that former high-ranking PDVSA officials were acting as consultants for the companies selling lead additives to Venezuela. Furthermore, many of the documents I gathered containing data on lead pollution and lead in the blood, were generated by the Venezuelan government and labeled "confidential." I obtained those documents through some government officials who were alarmed by the lack of action regarding this public health issue. They also told me that the weak air pollution standards and/or their lack of enforcement by the government environmental authorities were put in place to make the Venezuelan oil industry happy and insure that the people "would not be alarmed." These confidential sources asked not to be identified out of fear of losing their jobs.

Additionally, PDVSA had been promoting seminars to "educate" the public about the benefits of lead in gasoline, while "demonstrating" that such an additive was not as bad as some people (whom they called "activists") said. In a twist, in one of those seminars, one of the

representatives of the lead industry that provided that metal to PDVSA said that he was surprised by the amount of tetraethyl lead in Venezuelan gasoline, since it was higher than what they had recommended. In another of those seminars, an official of PDVSA (which owned the U.S.-based CITGO) mentioned that if they sold in the U.S. the same gasoline they produced in Venezuela they would all be in jail.

With all this information in hand, in 1993 I published a fifty-one page study that compiled all the technical and policy information about this issue in Venezuela and went public with it. The idea was to make the general public aware of the serious health cost of leaded gasoline in the hope that policies in this regard could be changed.

Although our report was highly publicized in the Venezuelan media, the response from the Venezuelan government and its oil conglomerate, PDVSA, was complete silence. I was called to testify before a Venezuelan congressional committee where I presented the data, but no Venezuelan government official showed up at those hearings. In Venezuela, unlike the U.S., it is not unusual for government officials to ignore subpoenas from Congress.

However, I did receive an unsolicited letter from a "Lead and Zinc Institute" based in Canada. The letter made reference to the 1993 study I had coauthored and claimed that lead was not as bad as people thought and that some studies had shown that lizards fed on a diet rich in lead grew larger. They also made a number of other claims based on a number of studies I did not have access to in Venezuela. I then contacted Dr. Herbert Needleman, a world renowned pediatrician from the University of Pittsburgh, well acknowledged for his research on lead toxicity among children. He was also known because of his battles with the lead industry that had tried to discredit him by accusing him of scientific misconduct, charges of which he was cleared when analyses of his data and research carried out by other investigators showed that he had properly analyzed his material.

Needless to say, Dr. Needleman provided me with all the scientific arguments to refute the industry assertions that lead was nearly harmless and also provided some insights on the tactics used by the

lead industry to discredit its critics.

Then, less than a year after I presented and publicized the report on leaded gasoline, I co-authored another study, this one a report on the killing of dolphins in Venezuela. This was another well-documented fact to which the Venezuelan government had turned a blind eye. This second report was apparently too much for the government of Venezuela to tolerate. This time, Ignacio Agudo, the colleague with whom I wrote the report, and I were both persecuted by the Venezuelan government for “treason to the motherland” and we both had to flee the country due to credible death threats.

Among the the charges filed against me was that I had conspired with the U.S. gasoline industry against the Venezuelan government because of my criticism of its leaded gas policies. The Venezuelan

Dr. Herbert Needleman (left) and Romero  
when they met in Miami after Romero fled Venezuela.

PHOTOGRAPH BY ANA M. ROMERO.



consul in Miami reported that the charge of “treason” was because I “had given Venezuela a bad name” and the president of Venezuela publicly stated that if it had been up to him he would have shot those who criticized Venezuela.

In 2009, unleaded gas became available in Venezuela (the last country in the western hemisphere to adopt it). The Venezuelan government has never said it has made unleaded gas available out of environmental or health concerns. It has never taken an active role in caring for a Venezuelan population that has been affected by high levels of lead.

The lead particles in the air were always invisible to the average citizen. So were the interests behind keeping such gasoline additives at such high levels for so long, affecting so many people.

### **For Further Reading**

- Denworth, L. 2009. *Toxic Truth: A Scientist, A Doctor, and the Battle over Lead*. Beacon Press. 249 pp.
- Romero, A. 1992. *Auditoría Ambiental de Venezuela 1991. Reporte de la situación ecológica del país hasta el 31 de Diciembre de 1991*. Caracas: Bioma, 110 pp.
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- Romero, A. 2008. Nobody's dolphins, pp. 11-19, In: Trauth, J. & A. Romero (Eds.). *Adventures of the wild: experiences from biologists from the Natural State*. Fayetteville: University of Arkansas Press.
- Romero, A. & R. Prato. 1993. *Plomo: el enemigo invisible. La contaminación por plomo en Venezuela*. Caracas: Bioma, 51 pp.