

It's time to ban highly hazardous pesticides

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Development practitioners face difficulties persuading small holder farmers to reduce their use of extremely and highly hazardous pesticides. The patents on many of these pesticides expired long ago, allowing companies to market them at bargain prices. From an agro-ecological perspective, it is ironic that nearly all are non-specific, broad spectrum insecticides that kill all insects – both harmful and beneficial. From a public health perspective, it is perverse and tragic that they are the most toxic and at the same time normally the most readily available products in the developing world. In small villages in Asia, Africa, and Latin America even children can purchase highly toxics at the local store, and millions of farmers and their families come in contact with them routinely.

Pesticides produce huge health burdens

Highly toxic pesticides are associated with suicides, nervous system and mental health problems, not just among those who spray the products but also among the entire family. Researchers who compared the status of mental health and suicides in China, Sri Lanka, and the United Kingdom found that the high suicide rate in Sri Lanka and China is not due to higher levels of mental illness or rates of self-harm acts. People simply have easier access to pesticides than do the residents of the U.K. Success of a suicide attempt is directly associated with access to these pesticides, accounting for 60 to 90 percent of suicides in Asia, Africa, and Latin America.

Box 1. Discovering the harmful effects of pesticides

When we arrived to Carchi, Ecuador in 1998 pesticides were not seen as a problem, but rather a solution. One farmer told us, "I don't know if I believe in a God, but I do believe in pesticides. Thanks to pesticides, my family eats."

The true costs of pesticides were hidden. To help farmers come to see the harmful effects of pesticides, we employed during workshops a relatively disturbing activity that involved giving baby chicks a small dosage of highly toxic pesticides (usually carbofuran or methamidaphos) and observing them until they died. Participants watched and discussed symptoms as the chicks became wobbly, incoherent and then collapsed over a period of about one hour. Typically, certain participants would complain about the "murdering" of innocent chicks. Admittedly, the exercise was cruel, but it was highly effective at making blindly obvious the health effects that pesticides have on farmers and their families. (To avoid having to repeat the exercise, we came to use videos of the activity.)

During the exercise, participants inevitably would open up and talk about previously hidden experiences. Most admitted to becoming "drunk" while applying pesticides. Many said they had passed out in their fields, but that they did not tell anyone because they did not want to be labelled a *debilucho*, a weakling. We discovered that intoxications were commonplace. We also learned that deaths due to pesticides occurred in each of the communities where we worked, often to young children.

Commonly participants would conclude, "The fact is this is happening every day in our fields. We care more about the chicks than we do about our women and children. Something needs to be done!" This activity never failed to shock people into action.



Photo: Stephen Sherwood

Banning pesticides would not mean losses in production. Farmers are increasingly relying on alternatives such as insect traps. In this case, potato leaves are set under carton boxes around the margins of freshly ploughed fields.

While difficult to demonstrate scientifically, continual exposure to neuro-toxins produces symptoms of depression. Depression often leads people to commit self-harming acts. This has led some medical experts to argue that exposure to highly toxic pesticides may contribute to the climbing number of suicide attempts worldwide. Regardless of whether highly toxics are the cause of wanting to take your life or just an effective means of doing so, where access to extremely and highly hazardous pesticides has been restricted, suicide rates have fallen. Further, research in Northern Ecuador revealed that not just those who applied pesticides were at risk. Women and young children, although not commonly active in field agriculture there, were affected nearly as much.

Further research demonstrated that treatment costs and work days lost impose a significant financial burden on the public health system and the individual. Each human poisoning (not accounting for deaths) cost about six worker days. Chronic exposure to highly toxic pesticides adversely affects farmer thinking and motor performance to a level that would justify worker disability payments in wealthier countries.

Alternatives exist

Through studies of contamination pathways (Box 2), rural families have learned more about how hazardous pesticides regularly enter their homes. When confronted by these realities, the agrochemical industry argued that they cannot be held responsible for farmers' mis-use of pesticides, but this belies the industries' own findings. According to research financed by the Novartis Foundation, the single largest study on pesticide safety concerns anywhere, it is not realistic to expect the people of poor countries to manage these pesticides safely. As a result, the study concluded, "... any pesticide manufacturer that cannot guarantee the safe handling and use of its products should withdraw those products from the market." While industry and governments continue to tout the value of "safe use" training and education programs, these initiatives have been found largely ineffectual in curbing pesticide hazards on a large scale, and they continue to encourage the general use of pesticides. Companies and governments know that the distribution and use of highly toxic pesticides will lead to poisonings and neurological damage of rural families, yet they are steadfast in their resistance to halting their sale.

In cases where access to extremely and highly hazardous pesticides were restricted, no measurable negative effects occurred to rural economies (beyond perhaps, a decline in pesticide sales). Farmers simply found other alternatives, proving that these pesticides can be substituted by switching to non-chemical pest control or less toxic pesticides. The latter are

usually more expensive than highly toxics, but judicious use leads farmers to use them economically. Through knowledge-based methodologies, such as Farmer Field Schools, growers have shown that they can eliminate the use of extremely and highly hazardous pesticides with no losses in production. Despite the claims of governments and industry, the problem with eliminating highly toxics never has been a lack of alternatives, but rather the political will to place the interest of the public over those of influential private actors.

Policy initiatives

Corporate influence over government policy has resulted in a failure to control pesticide hazards through traditional forms of regulation throughout much of the developing world. This has led the FAO's Director of Plant Production and Protection, to go beyond calls for the implementation of additional modest policy reforms such as the FAO Code of Conduct, and call for the elimination of extremely and highly hazardous pesticides altogether. In a bold public statement, he said, "There is no way to ensure the chemicals involved would be used within acceptable margins of risk in developing countries". A few developing countries, including China, Thailand and Viet Nam, are beginning to prohibit the use of the most toxic pesticides. Other governments are being called upon to follow these examples and speed up their withdrawal from markets the world over.

Despite such examples, however, most politicians have not shown the willingness to confront the pesticide industry over the sale and distribution of these products. As a result, most countries continue to permit their sale and distribution and companies promote them aggressively, including through cut-rate pricing. When publicly questioned about this, industry representatives and government officials typically blame farmers, talk about inadequate monitoring resources or call for more studies. Yet during an informal meeting, a representative from a large pesticide company told one of the authors: "We know the days of highly toxics are numbered. The industry has been planning alternatives for several decades. Nevertheless, it will continue to sell highly toxic pesticides until it becomes either economically or politically unviable to do so."

Taking charge through grassroots action

In order to make extremely and highly hazardous pesticides "politically unviable" greater public pressure is needed. In Ecuador, members of the national agroecology movement have proposed the elimination of these products. In addition to working with growers, they see the need to work with

consumers, to support them in shifting food choices away from that produced with these pesticides. The movement has proposed that by 2010 farmers, women, and children no longer suffer from the sicknesses associated with chronic exposure to highly toxic pesticides.

To achieve this, agroecologists are beginning to champion the following grassroots actions:

- Organize information campaigns based on existing studies that demonstrate the health, economic, and environmental consequences associated with the use of highly toxics.
- Promote the continuous learning on organically based alternatives to pesticides, in particular through farmer-to-farmer exchanges. This should include programs on "ecological literacy" – that is, helping rural people to learn how to manage their farm ecologies for their benefit.
- Protest and boycott the purchase and consumption of foods such as tomatoes, potatoes, and bananas when the seller cannot guarantee that they were produced free of highly toxic pesticides.
- Demand that government regulatory agencies place a label on products that are produced with highly toxic pesticides, informing that the purchase of that product indirectly contributes to the poisoning of men, women, and children of rural communities.
- Demand that government agencies, the Ministry of Education, local governments, the FAO, and other national and international organisations do not accept financing from companies that produce, sell, or distribute highly toxics. Further, public agencies should not collaborate in safe use programmes of highly toxic pesticides, since it is known that they cannot be used safely under the conditions of developing countries. Instead, programmes should focus on the elimination of the use of highly toxics.
- Establish ties with other like-minded international movements in the Americas, Europe, Africa, and Asia to demand greater corporate responsibility.
- Join with NGOs and social movements around the world in promoting private certification and other systems that guarantee the elimination of highly toxic products.

We urge LEISA practitioners and readers from throughout the world to consider similar actions in alliance with other sectors of society.



Box 2. Exposure pathways

To illustrate pesticide exposure pathways, we employed a "tracer" – a non-toxic fluorescent powder that glowed under ultraviolet light. Working with community volunteers, we added the tracer powder to the liquid in backpack sprayers and asked farmers to apply as normally. At night we visited homes with ultraviolet lights and video cameras to identify exposure pathways. During video presentations, community members were astonished to see the tracer not only on the hands and face of applicators, but also on their young children who played in fields. We also found traces on clothing and throughout the house, such as around wash areas, on beds and even on the kitchen table. The tracer study helped people discover how pesticides entered to home and how those who did not apply pesticides, in particular women and children, became exposed.

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