Pesticide exports to the Third World

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In the 1960s and 1970s, large scale western agricultural technology was introduced to many traditional farming societies in the Third World. Propelled by the so-called 'green revolution', chemical-intensive practices became the standard. This approach failed to recognise that many tropical agro-ecosystems are fundamentally different from temperate agro-ecosystems and that, in particular, the chemical approach so frequently used in temperate zone agriculture is far less effective in tropical zone agriculture.

The global trade in pesticides is an enormous business, controlled by transnational corporations (TNCs). About three dozen companies control over 90 per cent of the world trade, with the top ten accounting for over 50 per cent of that total. Approximately 25 per cent of that trade ($4 billion) is controlled by only three companies: Bayer of Germany, Ciba-Geigy of Switzerland and Monsanto of the United States.[1] Some of these corporations have economies bigger than some of their client countries in the Third World. By 1974, a decade before the Bhopal tragedy, Union Carbide was selling its products in 125 countries, 75 of which had smaller economies than the corporation.[2]

Pesticide use in developing countries has virtually exploded in recent decades. Between 1974 and 1978, Third World imports of pesticides increased from $641 million to almost $1 billion.[3] In India, annual pesticide use was 2,000 tons in 1950; in 1986, it was estimated to be more than 80,000 tons. In African countries, pesticide usage has increased fivefold over the past decade, while in the Philippines, it grew fivefold in a recent six-year period.[4]

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Transnational corporations, whether from the US or Europe, are so powerful that they manage to dominate departments of agriculture, not only in the Third World, but also in the developed countries. Ministries of agriculture throughout the world have, effectively, turned into mere subsidiaries of the TNCs. The infrastructure developed by these government agencies (plant protection departments, research stations, extension agents, etc.) helps to promote chemically intensive agriculture. Agricultural education is also strongly influenced by the corporate sector and, in many countries, depends on it for financial support. Together, private and government institutions are capable of dominating agricultural development economically, politically and ideologically. In Mexico, for example, they specify to borrowers the kinds and quantities of pesticides they must apply to crops in order to qualify for production loans.[5]

The pesticide industry and its apologists argue that pesticides are necessary in developing countries to feed rapidly growing populations. There are at least two fundamental flaws in this argument.

First, it assumes that pesticides are necessary to increase food production. Yet, after fifty years of use, pesticides have now been shown to be about as necessary as crack cocaine for a drug addict. Their initial fulminate action against pests gave them a reputation as the 'magic bullet' of agriculture. But their efficiency at killing pests has proved to be temporary, since the pests almost invariably evolve resistance. The destruction of natural enemies (predators, parasites and diseases) that once kept pests under control, combined with evolved resistance, forces farmers to apply stronger pesticides in higher and more frequent doses in what has become known as the pesticide treadmill.

The most dramatic example can be found in cotton production in the tropics. In Nicaragua, for example, pesticides were first introduced in 1950 to control the boll weevil in cotton. Initially, cotton farmers were applying a maximum of four doses per season to control this pest. By 1960, the numbers of applications had increased to five to ten per season; nonetheless, the number of major pests had risen to seven or eight.[6] Finally, in 1980, applications averaged twenty-seven per season and the list of major pests had sky-rocketed to twenty-one. Furthermore, Pimentel and others have shown that, as pesticide use increased from 50 million pounds to 600 million pounds (from the mid 1940s to 1970), economic loss due to pest damage almost doubled.[7] The idea that pesticides are necessary to increased food production has been finally recognised as false by the US National Academy of Science in its 1989 report, 'Alternative agriculture'.

Second, the argument that pesticides are necessary to feed growing populations is borrowed from the old, discredited neo-malthusian argument of overpopulation. It assumes that human populations grow at a faster rate than the production of food and, therefore, must outstrip

their food supplies. Ironically, the overpopulation argument has been used most frequently in explaining famine in countries of Africa, one of the most underpopulated continents in the world. However, beside the theoretical, philosophical and political objections to this mode of argument, it is plainly wrong. A study cited by Weir and Shapiro found that 70 per cent of the pesticides used in the Third World go for the production of luxury crops grown for export to Europe, the US and Japan.[8] In Africa, while pesticide sales multiplied fivefold from 1964 to 1978, during the same time period, food production was reduced by 1 per cent.[9] Traditional agriculture, which is responsible for most of the basic food production of the Third World, used only 30 per cent of the pesticides.

It is, therefore, naive to assume that an increase in pesticide use will lead to an increase in food production, and feed more people. Moreover, this trend is not associated with 'feeding people', since the increase in pesticides usually accompanies the transformation of agriculture to structures which aggravate inequalities. Historically, peasants have been utilised by the agro-exporters as a source of cheap, seasonal labour which can be dismissed when necessary without major social consequences. And pesticide use itself does nothing to improve the nutritional status of the majority, since pesticides are mainly used for export cash crops.

Pesticide poisoning and pesticide control

Most developing countries, because of their economic conditions, do not have the infrastructure adequately to regulate the use and availability of pesticides, nor to monitor pesticide residues in food or in the environment. Some have virtually no laws controlling pesticide imports, registration and handling. For example, one study found eighty-one developing countries with no detectable pesticide controls in place.[10] As of 1988, the Food and Agriculture Organisation of the United Nations estimated that some fifty countries have no pesticide regulation, though many of these are now in the process of setting up some form of control. The situation is aggravated by the large number of products and brands that flood the market, many of which are produced by formulation plants that mix hundreds of chemicals to generate many more brands of pesticides.[11] All of this creates confusion and constitutes an economic burden on the importer nation.

The lack of an adequate infrastructure to administer and coordinate pesticide-related activities also takes its toll on the accessibility of information. In many countries, the only information available to those who handle pesticides (peasants, farmers and farm workers) comes from the industry itself and is often useless for the adequate assessment of pesticide hazards. Ignorance about pesticides is not limited to those who handle them directly, but is also frequently found

among officials in the government agencies that deal with them. In Colombia, for example, a government official from the Ministry of Agriculture, when questioned about Mirex, a dangerous pesticide banned in the United States but readily available to Colombian farmers, admitted that he had never heard of it, nor had he ever heard of the EPA's list of banned products.[12]

Living conditions in many rural communities increase the possibilities of coming into contact with hazardous pesticides. Malnutrition is generalised, especially amongst farm workers, making them more susceptible to pesticide poisoning, and child labour is the norm. Wright's description of a camp for migrant labourers in the Culiacan Valley, Mexico, is particularly telling:

> The *campamentos* in which the 140,000 to 200,000 migrant workers and their families live are open sheds, surrounded on at least two sides and sometimes four by contiguous vegetable fields. The fumigation aircraft and backpack spray crew must spray the edges of the fields, and to the edge of the *campamentos*, where children play, people cook and eat, and where people sleep.[13]

The rapid proletarianisation of the peasantry, which results from the expansion of the agricultural export sector, increases further the incidence of pesticide poisonings in the Third World. More and more, peasants who were engaged in traditional farming, with very little contact with or knowledge of hazardous pesticides, find themselves being sprayed with pesticides while working in large commercial fields. Nor are the means of treatment readily available. Rural health clinics are, at best, deficient and, at worst, completely absent. Most are not adequately equipped to handle pesticide poisonings. Physicians as well as workers are frequently ignorant about the symptoms and hazards. Because the symptoms of pesticide poisoning are, in most cases, similar to many common illnesses among malnourished and poor people, they may be recorded as other illnesses. This makes treatment inappropriate, and contributes to the serious underdiagnosis of pesticide poisoning in developing countries. Only a blood test for plasma acetylcholinesterase levels can detect pesticide poisoning – and even this only detects organophosphate poisoning.

The lack of safety precautions among those who handle pesticides comes not only from ignorance about their health hazards, but also from the lack of resources for adequately managing toxic chemicals. Safety gear is usually too expensive for peasants, and large-scale farming operations often do not provide farm workers with any protective clothing. Furthermore, in many tropical developing countries, protective clothing is hard to use because of hot weather.

Illiteracy also encourages pesticide poisoning in the Third World. The people who handle pesticides directly often cannot read the labels,

even when the container is labelled in the correct language. And, even then, the product may have been labelled inadequately or deliberately mislabelled. According to Weir and Shapiro, over half of the pesticides for sale in Mexico are labelled insufficiently or incorrectly.[14]

In rural communities in the Third World, it is very common to see children bathing in containers which once held pesticides. Containers are frequently recycled and used to store water, milk, food or cooking oil. This practice has resulted in serious poisoning, including fatalities. In Senegal, for example, nineteen people from two families died after eating food cooked with oil sold in a bottle that was previously used to store ethyl parathion.[15]

The alarming number of cases of pesticide poisoning worldwide, particularly in Third World countries, has generated concern in the international community. In November 1985, the Food and Agriculture Organisation of the United Nations adopted the 'International Code of Conduct on the Distribution and Use of Pesticides'.

This is the first time that a minimum international standard for measuring pesticide-related practices of governments and industry has been established. Some have suggested that the idea of a voluntary code of conduct for the pesticide industry was conceived as a means of staving off the threat of export controls.[16] In fact, the pesticide industry, as represented by the International Group of National Associations of Manufacturers of Agrochemical Products (GIFAP), supported the idea of a code, thereby putting forward an image of itself as responsible and concerned with public welfare. Such an approach indicates its confidence that an FAO-negotiated code would not be opposed to the industry's aims.

From the beginning, however, the industry has contested the so-called principle of 'prior informed consent' (PIC) as part of the code. PIC means that a pesticide banned, withdrawn or severely restricted in one country should not be imported to another unless the importing country's government (1) has been fully informed of the reasons for the regulatory action, and (2) has positively consented to the importation of the controlled pesticide. But the industry has fought any type of export control, arguing that restricting exports of pesticides banned in their country of origin would infringe another country's sovereign right to determine which pesticides are used within its borders. Importing countries responded that, where there is no regulatory apparatus, only PIC would allow a government to determine if controlled products should enter its borders. In fact, they see PIC as a prerequisite for informed decision-making, which will guarantee sovereignty.

The Pesticide Action Network International, a worldwide citizens' coalition of environmentalists, consumer groups, farmers, and others who are opposed to the irrational spread or misuse of pesticides, had participated in the drafting of the code, including PIC. But, through

last minute, backdoor manoeuvres, PIC and several other key provisions were dropped just before adoption and, in 1985, the code was approved without the PIC provision. However, at the formal review of the code two years later, in 1987, the FAO general conference adopted a resolution that PIC should be incorporated into it. The pesticide-exporting countries, especially the United States, West Germany, France and the United Kingdom, lobbied intensively against such a move, and the FAO secretariat attempted to stop a full discussion of the pesticide code in 1987, arguing that governments had not had sufficient time to implement it. Even after the incorporation of PIC was approved, the pesticide-exporting countries continued trying to block it, arguing that alternatives should still be considered.

Despite the adoption of what is an extensive code, unacceptable practices are still widespread. A report prepared by the Pesticide Trust in 1989 concluded that a safe use of hazardous pesticides is not possible under prevailing Third World conditions.

In addition to the problems of implementation and compliance with a voluntary code, there are more fundamental problems. For example, the code explicitly incorporates the assumption that pesticides are necessary to increase food production. The FAO resolution that adopted the code begins: 'Recognising that increased food production is a high priority need in many parts of the world and that this need cannot be met without the use of indispensable agricultural inputs such as pesticides.' It also assumes that a 'safe use' is possible, and ignores the right of workers to ensure safe working conditions for themselves – there is no workers' protection provision.

Thus, although the code provides a useful action tool for importing governments and concerned citizens, it will not solve the problem of pesticide proliferation and misuse. An FAO-generated and approved code has, after all, to be harmonious with FAO's general philosophy. FAO has long promoted pesticide use under its mandate to increase agricultural productivity in developing countries. Its technical assistance helped open up the Third World as a major market for agrochemicals, including pesticides, and its Plant Protection Service maintains strong informal links with GIFAP.

The World Bank and the IMF

It is a truism that the economies of many agrarian Third World countries are characterised by the disarticulation of the two main sectors: the agro-export sector, which generates much of the foreign exchange, and the peasantry, which is engaged in agriculture for subsistence or food production for domestic markets. The economic links of the powerful agro-export sector are with the developed countries, which are the buyers of their products and the suppliers of their agricultural inputs. This economic structure has resulted in serious

economic crisis, characterised by high foreign debts, stagnant growth rates, escalating inflation, high unemployment and increased poverty. The crisis creates pressures on the agro-export producers to increase crop production in the short run, resulting in an increased use of pesticides and other agrochemicals.

During times of economic crisis especially, international financial organisations like the World Bank and the International Monetary Fund, and development aid agencies such as USAID, play crucial roles in directing the development strategies of Third World nations. In 1988, the World Bank allocated $4.5 billion (approximately 20 per cent of total allocations) to fifty-six agricultural and rural development projects in the Third World.[17]

The World Bank is a business and, as such, it makes loans that need to be repaid. This influences the type of projects that receive funding, and biases the Bank towards encouraging pesticide use by making farmers increase their involvement in the market economy (or commercial agriculture). Food self-sufficiency does not generate the hard currency that is needed for loan repayment. On the other hand, producing coffee, miniature gourmet vegetables, macadamia, etc, does, and is therefore promoted by international finance institutions.

Another way in which the World Bank promotes pesticides is by providing loans to Third World governments to provide pesticide subsidies to farmers. One study found that in the nine Third World countries investigated, government subsidies for pesticide use amounted to an average of 44 per cent of the retail price of the pesticides and, in some cases, went over 90 per cent.[18] Pesticide subsidies reduce pesticide cost artificially, making integrated pest management (IPM), a pest control approach which seeks to minimise chemical pesticide use, more difficult. A pivotal concept in IPM is that of 'economic threshold level'. This is the break-even point, the level of a pest just before the economic loss from pest damage exceeds the cost of a control measure (i.e., pesticide). In other words, when the economic threshold level is reached, the farmer should apply pesticide to avoid economic loss. The calculation is based, among other things, on the price of pesticides at that time. If pesticides are cheap, threshold levels will be very low, which means that the farmer will spray at very low levels of the pest, even when employing a rational IPM programme.

In 1985, pressured by criticisms from environmentalist and citizens' groups in the Third World, the World Bank released a set of guidelines for the selection and use of pesticides in projects that it financed. In these guidelines, it recognised explicitly that the chemical approach does not work and proclaimed that IPM would be the World Bank's objective in its strategy for agricultural development. However, a recent study from the Institute for Consumer Policy Research found few signs that the World Bank is actually trying to implement its pesticide guidelines. Of the twenty-four projects examined, only one

even mentioned IPM.[19]

Conclusion

International lending institutions and development agencies from the wealthy industrialised nations have generally reflected the view that Third World development should be modelled on northern industrial development, which, in the case of agriculture, means capital and chemical intensive. However, a growing number of people are concerned about the direction development, including agricultural development, is taking and the long-term implications and cost of that 'unsustainable development'. Consumers, farmworkers, small family farmers, environmentalist and social justice activists have combined their efforts with those of similar groups in the industrialised nations to generate a new and more powerful concept of environmental justice.

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