

Case studies of action taken on highly hazardous pesticides

Recognizing that highly hazardous pesticides (HHPs) cause a disproportionate amount of harm to people and the environment, particularly in lower- and middle-income countries, many authorities have taken action to remove HHPs from use altogether or to reduce or restrict their use in various ways. Not only national authorities have acted on HHPs; in some cases, regional regulatory bodies have acted; in other cases, private sector organizations have decided to remove the use of HHPs from food supply chains.

This fact sheet extracts information from the more comprehensive document *Guidelines on Alternatives to Highly Hazardous Pesticides*,¹ about a number of cases in which action was taken on HHPs. The Guidelines aim to inform decision makers, from farmers to government ministers, that acting to remove HHPs from use benefits human health and the environment in multiple ways and does not harm agricultural productivity.

Bangladesh

Between 1996 and 2007, 21 pesticides were partially or completely banned by the Bangladeshi regulator, resulting in a shift towards the use of less hazardous pesticides, in toxicity class II, III and U of the World Health Organization (WHO) classification.² All WHO class I toxicity HHPs were banned in 2000.

There were significantly fewer deaths from pesticide exposure after the bans, without any apparent harmful effect on agricultural production.

Better Cotton Initiative

Cotton is the crop that receives the highest pesticide use globally, and HHPs are widely used in efforts to control cotton pests. An international, multi-stakeholder initiative called the Better Cotton Initiative (BCI) works to improve conditions for cotton farmers and to improve the sustainability of cotton production. Among its recommendations is an extensive protocol that strengthens controls over both which pesticides are used and how they are used. A number of indicators in the BCI protocol propose that pesticides meeting criteria 1-7 of the FAO/WHO HHP guidelines³ should not be used, or that their use should be phased out. Adherence to BCI criteria demonstrates that millions of farmers are able to produce cotton successfully without the use of many HHPs.

China

In 2013, the National Pesticide Registration Review Committee of China took action to ban or limit the use of seven pesticides: chlorsulfuron, tribenuron-methyl, metsulfuron-methyl, asomate, urbacid, chlorpyrifos and triazophos. In addition, aldicarb, phorate and isocarboxiphos were banned in 2018; ethoprop, omethoate, methyl isothiocyanate and aluminium phosphide were banned in 2020; and chloropicrin, carbofuran and methomyl were banned by the end of 2022. Bans and restrictions on other highly hazardous pesticides are under consideration. The measures were taken to guarantee agricultural production safety, agricultural product quality, and safety and eco-environmental security, and to safeguard people's safety and health.

Denmark

Since the 1980s, Denmark has implemented successive pesticide action plans aimed at reducing the use and impact of pesticides in agriculture, thereby taking the lead on a strategy that was later adopted across the European Union. Steps designed to optimize pesticide use and reduce the need for pesticides by using resistant varieties of crops have been widely applied. Many pesticides have also been removed from use to protect groundwater or in compliance with European Union directives. In 2009, integrated pest management was adopted as a strategy, rather than trying to reduce pesticide use further, and, with the help of research and advisory bodies, farmers moved away from using pesticides altogether.⁴

Middle East

A regional integrated pest management programme implemented in Algeria, Egypt, Iran (Islamic Republic of), Iraq, Jordan, Lebanon, Morocco, the State of Palestine, the Syrian Arab Republic and Tunisia between 2004 and 2012 resulted in a 60-70 per cent decrease in pesticide use and improved net returns for farmers as well as other social benefits. The crops involved were tomato, apple, grape, peach, mint, pistachio, cucumber, watermelon, wheat, strawberry, palm date, citrus and olive.⁵

Mozambique

Following a comprehensive review of its complete pesticide register, Mozambique in 2014 cancelled the registrations of 61 pesticide products containing 31 different active ingredients and announced risk reduction measures for another 52 pesticide products.

The initiative was prompted by the Government's concern over the use of hazardous pesticides and its desire to promote the sustainable intensification of agricultural production. The project was also intended to serve as a pilot for other countries and for future guidelines of the Food and Agriculture Organization of the United Nations (FAO) and was implemented as part of the Quick Start Programme of the Strategic Approach to International Chemicals Management.

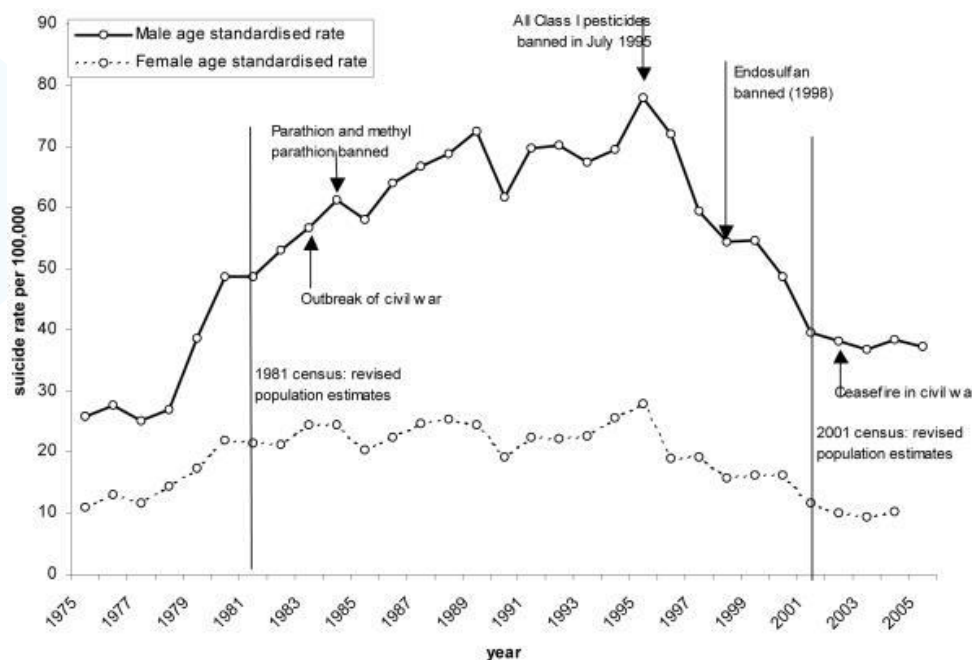
A seven-step process was implemented that included:

- Review of registered pesticides to identify HHPs
- Review of pesticide import trends as a proxy for pesticide use
- Field surveys of pesticide use in key crops
- Assessment of pesticide user risks
- Assessment of environmental hazards
- Consultation with stakeholders and capacity-building
- Cancellation of HHPs and other risk reduction measures

The process is described in some detail in the FAO publication "[Addressing highly hazardous pesticides in Mozambique](#)".⁶

Sri Lanka

In 1995, 1998 and 2008 a series of pesticide bans were enacted in Sri Lanka, primarily with the objective of reducing deaths from self-poisoning (suicides), which were extremely high. A total of eight HHPs were banned, with the result that death rates from pesticide suicides fell dramatically. Further research showed that the pesticide bans had no negative impact on agricultural productivity. The figure below shows the dramatic drop in deaths from pesticide self-harm when the HHPs found to be most widely used were banned.



Age-standardized suicide rates for men and women, Sri Lanka, 1975–2005.⁷

West Africa

An estimated 116,000 farmers in Benin, Burkina Faso, Ghana, Guinea, Mali, Mauritania, Niger and Senegal participated in an FAO-supported integrated production and pest management programme between 2006 and 2010. While the programme initially set out to monitor and reduce the presence of persistent organic pollutant pesticides in regional river systems, it rapidly expanded to all pesticides when these were found to be contaminating scarce and sensitive water systems. By the end of the programme, participating farmers had substantially reduced their use of synthetic pesticides on rice, cotton, mango, cowpea, sesame, shea nut, jatropha, henna and other plants, with increased yields and increased farmer incomes.⁸

Endnotes

- United Nations Environment Programme (2023). *Guidelines on Alternatives to Highly Hazardous Pesticides* (Geneva). Available at <https://www.unep.org/explore-topics/chemicals-waste/what-we-do/emerging-issues/highly-hazardous-pesticides-hhps>.
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