



Eliminating **highly hazardous pesticides**: advancing agroecology for harm prevention

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Highlights

- Long term adverse health and environmental impacts affect agricultural workers, their families and communities, consumers and the environment in ways that is difficult to quantify.
- Safe use of highly hazardous pesticides (HHPs) is not possible and, in face of such hazards, the Precautionary Principle should be applied. In 2007, the Food and Agriculture Organization called for the progressive ban of HHPs.
- SAICM seeks to minimize the impact of toxic chemicals and, in its Global Plan of Action, promotes alternatives to reduce and phase out highly toxic pesticides. Agroecological practices improve rural livelihoods without the risks associated with pesticide use.
- Harm prevention is the key. Policies should promote agroecological practices and employ substitution principles as an effective and practical means to support the progressive ban of HHPs.

Pesticide harm and the myth of safe use

For over 50 years, pesticides have been poisoning agricultural workers and continue to do so today. An estimated 355,000 people are killed annually due to unintentional poisoning with about half occurring in agriculture¹ while as many as 41 million people suffer health effects² with children and infants affected disproportionately. Many of these poisonings occur in developing countries where regulatory frameworks often lack resources. Health care for poisoning victims, especially in rural areas, is rarely adequate or available.

Statistics for chronic effects of pesticide poisoning – ranging from damage to internal organs, to cancers, reproductive health disorders, impaired foetal and neonatal development, cognitive and behavior disorders, and endocrine disruption – are often difficult to quantify.

Such effects can be triggered even at low doses considered safe by standard regulatory toxicity tests. Furthermore, endocrine disrupting pesticides (EDCs) may which manifest different mechanisms of toxicity, are potentially more dangerous, at lower levels of exposure. All people are at risk as food, air and water supplies are polluted by pesticides.

These hazards make 'safe use' impossible to achieve in reality. The conditions of use of pesticides on farms and agricultural estates render personal protective equipment ineffective aside from being impractical and costly. Poverty and disempowerment, the lack of respect for agricultural worker's health and environmental rights, and other factors only belie this presumption of safe use.

“EDCs could cross the placental barrier and severely affect foetal and postnatal growth including that from childhood to adulthood.”

¹ World Bank. (2008). Agriculture for Development.

² PAN International (2007). *A Position of Synthetic Pesticide Elimination: A PAN International Position Paper-Working Group 1.*

Highly hazardous pesticides

In 2007, the FAO Panel of Experts in Pesticide Management drew up criteria for HHPs and priority activities to reduce risks including the possibility for a progressive ban.³ Pesticide Action Network International (PAN) added environmental toxicity, inhalation toxicity and endocrine disruption to develop PAN's HHPs list.⁴ Under PAN's criteria, HHPs are pesticides that:

- a) have high acute toxicity; or
- b) have long term toxic effects (carcinogenicity, mutagenicity, reproductive toxicity, endocrine disruption); or
- c) are of high environmental concern (listed in the Stockholm Convention or Montreal Protocol, very bioaccumulative or persistent, or highly toxic to bees); or
- d) are known to cause high incidence of severe or irreversible adverse effects (listed in the Rotterdam Convention).

Furthermore, PAN outlined a rationale for the progressive ban of HHPs and developed a recommendation for a stepwise implementation of the ban by Fair Trade organizations.⁵

“Safe use of HHPs is not possible. Precautionary measures direct policy to substitute their use with less harmful approaches.”

Risk assessment and substitution

The Precautionary Principle, in the Wingspread Conference formulation, states that *“when an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically”*.

The history of belatedly discovering and acknowledging the disastrous impacts of pesticides shows that the level of acceptable risk could not be known. But approval for pesticide use is based mainly on studies of known acute effects. Is the health of a great number of people, especially women and children, worth the risk of allowing the use of highly hazardous technologies when safer and proven alternatives exist?

Pesticide risk assessment should be founded on harm prevention. Less harmful or safer approaches should be substituted for hazardous ones.

³ FAO/WHO (2007). *1st FAO/WHO Joint Meeting on Pesticide Management and 3rd Session of the FAO Panel of Experts on Pesticide Management*.

⁴ PAN List of HHPs.

⁵ Weber, C (2010). Rationale for a progressive ban of highly hazardous pesticides by Fair Trade Organisations. PAN Germany.

Agroecology for harm prevention

Strategies to address harm often revolve around the sound management of pesticides including the promotion of safer alternatives. SAICM's Global Plan of Action calls for *“promoting alternatives to reduce and phase out highly toxic pesticides”*.

Agroecology offers a proven and more comprehensive knowledge-based approach over agrochemical solutions where perceived benefits are based on simple reductionist models. It is defined in the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) report as the *“science of applying ecological concepts and principles to the design and management of sustainable agroecosystems”* and that *“it incorporates ecological processes in farming systems and processes”*. It notes that agroecological functions are maximized with high species diversity.

The report cites a study covering over 12 million hectares of cultivated land in developing countries showing improved yields, and water and carbon cycling. Experience by PAN's grassroots partners on agroecological methods has revealed improved livelihoods without the associated adverse risks from pesticide use.

Policy recommendations

Harm, especially with chronic effects, could be severe and irreversible. It needlessly impacts not only the person's family but also the productivity and wellbeing of a community. The precautionary principle directs that policy should be geared towards preventing harm rather than managing risks. Governments and international institutions are called upon to:

- apply the precautionary principle in the regulation of pesticides in both international and national levels;
- embrace harm prevention as a core policy over risk management, taking into utmost consideration the effects on vulnerable groups such as pregnant women and children;
- substitute the use of HHPs with less harmful means such as agroecological approaches like biodiversity-based ecological agriculture;
- give priority support to promote the transition towards agroecological agroecosystems and respect for food sovereignty through knowledge-sharing and capacity building, and the implementation of supporting policies on land, food, technology, and credit; and
- eliminate the production and use of HHPs via a progressive ban as ecological alternatives are gradually introduced.