

Rationale for a progressive ban of Highly Hazardous Pesticides by Fair Trade Organisations



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Abbreviations

EPA	Environmental Protection Agency
Fair Trade	The Fair Trade movement advocates the payment of a higher price to marginalized producers and workers to help them move towards economic self-sufficiency as well as social and environmental standards. Fair Trade organisations and companies work with producers in developing countries on the basis of standards to help them get a better deal in the market for the products they grow and make such as coffee, cocoa, sugar, tea, bananas, cotton, fruit, flowers or handicrafts.
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
HHPs	Highly Hazardous Pesticides
pbHHP	progressive ban of Highly Hazardous Pesticides
WHO	World Health Organisation

1 Background and general considerations

Many non-governmental organisations, increasingly the food chain and also international governmental bodies such as the Food and Agriculture Organisation of the United Nations (FAO) aim to progressively eliminate Highly Hazardous Pesticides (HHPs). And even some pesticide companies already announced years ago they will progressively eliminate the distribution of certain pesticides.¹

In November 2006 the FAO Council discussed and endorsed SAICM, the Strategic Approach to International Chemicals Safety. SAICM provides a policy framework to guide efforts to achieve the 2020 goal that chemicals will be produced and used in ways that minimize significant adverse impacts on the environment and human health. In view of the broad range of activities envisaged within SAICM, the FAO Council suggested that the activities of FAO could include risk reduction, including the progressive ban on highly hazardous pesticides. SAICM as well as guidance provided by FAO presents an opportunity for Fair Trade Organisations to contribute to risk reduction including the progressive ban of highly hazardous pesticides.

Activities to progressively phase out HHPs are driven by the fact that the “safe use” of HHPs is not possible. This is not just the case in developing countries with a poor regulatory structure, a poor legal system, poor implementation of regulations and with very limited resources. It is also the case in industrialised countries with a well developed administrative infrastructure and a high percentage of trained users as is the case in Western Europe.

Fair Trade organisations² and companies work with producers in developing countries on the basis of standards to help them improving their living conditions. Therefore especially these organisations and companies should be keen avoiding the use of pesticides which have the potential to damage human health and the environment.

Over the last decade several different approaches to reducing hazards and risks of chemical plant protection have been developed and implemented by governmental bodies, non-governmental organisations and also by private entities. And several Fair Trade organisations, who intend to have higher standards than the normal market participants, are currently scrutinizing their pesticide related standards. This document outlines what could be the basis of a *progressive ban of Highly Hazardous Pesticides* (pbHHPs) implemented by Fair Trade Organisations and how a gradual implementation by producers could look.

In order to generate a prohibited pesticides list, regulations, scientific evidence, and political developments should be taken into account. The latter are especially important as the pbHHPs has become an integrated part of pesticide and plant protection policies as well as of worker, environmental and consumer protection policies.

Although the term “highly hazardous pesticides” is a relatively new one, it is a good term for develop-

¹ “We will be reducing application rates still further and gradually introducing less toxic replacements for products in WHO toxicity class 1.” Bayer (1995): Annual Report 1995. Leverkusen. Unfortunately this statement was not followed by targeted action.

² The Fair Trade movement advocates the payment of a higher price to marginalized producers and workers to help them move towards economic self-sufficiency as well as social and environmental standards. Fair Trade organisations companies work with producers in developing countries on the basis of standards to help them get a better deal in the market for the products they grow and make such as coffee, cocoa, sugar, tea, bananas, cotton, fruit, flowers or handicrafts.

ing a prohibited materials list. It was the FAO who pioneered it and in 2007 it's Panel of Experts on Pesticide Management outlined criteria to identify HHPs (for more see the chapter on this issue and the Annex). As FAO has no legal power to implement the pbHHPs at national or regional levels it is now up to all stakeholders mentioned in the *International Code of Conduct on the Distribution and Use of Pesticides* to implement the progressive ban of Highly Hazardous Pesticides (pbHHPs). These stakeholders are governments, the pesticide industry, the food industry, farmers, and public interest groups.³ As public interest groups are directly addressed in the Code of Conduct PAN took up the task and further developed the idea of a pbHHPs based on the criteria developed by the FAO Panel of Experts on Pesticide Management.

Using all the criteria listed by the FAO Panel of Experts on Pesticide Management and by adding some additional criteria (to address the environment and the hormonal system) PAN International developed the "PAN International List of Highly Hazardous Pesticides". This list is available at http://fao-code-action.info/action_centre.html. It is based on well accepted classification systems and it lists highly hazardous pesticides which should be eliminated globally. PAN suggests taking this "PAN List of Highly Hazardous Pesticides" (PAN List of HHPs) as a basis for developing a prohibited pesticides list.

In the following section a rationale will be described for creating a prohibited pesticides list that allows a gradual implementation by agricultural producers. It is based on the following two questions.

- What is the scientific, regulatory and political basis for developing a prohibited pesticides list?
- How could the progressive ban of HHPs be done stepwise?

³ See www.fao-code-action.info

2 What is the scientific, regulatory and political basis for developing a prohibited pesticides list?

A list of prohibited pesticides can be developed on the basis of:

- legally binding regulatory standards,
- voluntary regulatory standards,
- toxicological classifications of pesticides by hazard.

This three kinds of norms will be described in the following. It is important to note that legally binding regulatory standards as well as voluntary regulatory standards are based on the third category, the toxicological classifications by hazard.

2.1 Legally binding regulatory measures

These are measures either undertaken by national or regional governments to restrict or ban the use of pesticides within countries or regions (e.g. the EU) according to their legal framework, or by international structures which agree on conventions or protocols that are binding for those countries which ratify or sign them.

International regulations which are highly relevant for pesticides are the Montreal Protocol, the Stockholm Convention and the Rotterdam Convention, all of which are binding for the parties who have ratified or signed them. It can be assumed that there is a very broad agreement that the pesticides covered by these international conventions are highly hazardous and must or should be phased out.

2.1.1 The Montreal Protocol on Ozone-Depleting Substances (Montreal Protocol)

The Montreal Protocol was adopted in 1987 and has been amended several times since. It is binding for all countries who have ratified or signed it. The goal of the Montreal Protocol is to protect the ozone layer by reducing and eliminating global emissions of ozone depleting substances due to human activities. Methyl bromide is an ozone-depleting pesticide covered by the Montreal Protocol. Methyl bromide is listed in the PAN International List of Highly Hazardous Pesticides.

2.1.2 The Stockholm Convention on Persistent Organic Pollutants (POPs Convention)

The POPs Convention entered into force in 2004. For all those countries which have ratified or signed it the POPs Convention is legally binding. The aim of the Stockholm, or POPs, Convention, is to globally eliminate Persistent Organic Pollutants. Pesticides covered by the POPs Convention are highly toxic plus they are persistent and therefore lasting for decades in some instances before degrading into less dangerous forms. They evaporate and travel long distances through the air and through water, particularly to Arctic and Antarctic regions where they bioaccumulate in the food chain, including in fatty tissue of humans and animals.

The chemicals covered by the POPs Convention have all already been banned in Europe before the POPs Convention entered into force. But some are still in use in developing countries, legally as a result of exemptions allowed under certain conditions by the Parties of the POPs Convention and illegally where exemptions have not been agreed.

All POPs covered by the Stockholm Convention are listed on the PAN International List of HHPs.

2.1.3 The Rotterdam Convention (PIC Convention)

The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade which is also known as the Rotterdam Convention or PIC Convention, came into force in 2004. The aim of the PIC convention is to guarantee information exchange in international trade in pesticides that are banned, withdrawn or severely restricted in at least two countries in two regions for health or environmental reasons.

A pesticide listed in the Annex to the PIC Convention should not be exported to another country unless the importing country's government has been informed of the reasons for regulatory action, the hazards and risks of the pesticide and has positively consented to the import of the pesticide. The PIC Convention does not ban chemicals. It rather gives importing countries the information they need to take autonomous and informed decisions about chemicals that may be imported.

All pesticides covered by the Rotterdam Convention are listed on the PAN International List of HHPs.

2.2 Voluntary standards

These are standards that have been outlined by entities, institutions or organisations that have no legal power but take a lead in guiding international pesticide management policies. The most important one is the International Code of Conduct on the Distribution and Use of Pesticides.

2.2.1 The International Code of Conduct on the Distribution and Use of Pesticides (International Code of Conduct)

The International Code of Conduct was one of the first voluntary Codes of Conduct and it is the most comprehensive set of voluntary standards of conduct for all public and private entities engaged in, or associated with, the distribution and use of pesticides. Since its adoption in 1985 (the most recent revised version was adopted in November 2002) it has served as the globally accepted standard for pesticide management. The International Code of Conduct is often called the FAO Code as it was adopted by the FAO Conference.

FAO officially acts as a neutral forum where all nations meet as equals to negotiate agreements and debate policy. FAO is also a source of knowledge and information and it aims to support developing countries and countries in transition to modernize and improve agricultural, forestry and fishery practices, and to ensure good nutrition for all. FAO can not set standards that are legally binding for national or regional governments. Instead FAO supports member countries in solving problems related to agricultural production and as such has developed a long list of guidelines related to the production, marketing, use and disposal of pesticides.

PAN Bad Actors

To address requests for information on “bad pesticides” PAN North America developed a comprehensive pesticide data base. The Pesticide Action Network (PAN) Pesticide Database is a one-stop location for toxicity and regulatory information for pesticides. The database and website are updated and enhanced by Pesticide Action Network North America (PANNA). In this database several pesticides are signed as “PAN Bad Actors”⁶ to support users in identifying hazardous pesticides. The “PAN Bad Actors” have never been used to come up with a separate “black list”.

The PAN List of Lists

Another tool PAN created to make hazardous pesticides more easily visible is the *List of Lists* created by PAN UK (for more see <http://www.pan-uk.org/List%20of%20Lists.html>). It provides a convenient reference for identifying those pesticides associated with particularly harmful health and environmental impacts. The *List of Lists* 2009 covers pesticides which are: banned under international conventions; classified as hazardous by the World Health Organisation; carcinogenic or endocrine disrupters; banned in the European Union; and many others. The 3rd edition also incorporates a list of endocrine disrupters compiled by *Our Stolen Future*, a group of independent scientists, and, in the context of international concern about declining bee populations, a section on pesticides highly toxic to bees has been added.

The PAN International List of Highly Hazardous Pesticides (PAN HHP List)

In 2009 PAN International published the PAN HHP List. This list is the only list which can be used as a PAN black list. PAN based this PAN HHP List on the criteria being listed by the FAO Panel of Experts on Pesticide Management. In addition to these criteria PAN added other criteria based on internationally accepted classifications such as some environmental indicators, plus endocrine disrupters as defined by the EU.

2.3 Toxicological Classifications of Pesticides by Hazard

The regulatory measures described above are all based on toxicological classifications of pesticides by hazard. Classifications of pesticides by hazard have been developed for decades in order to systematically communicate how hazardous a pesticide is and which risks might have to be expected (e.g. acute effects or long term effects such as cancer or reproductive effects) if one is exposed to the substance.

On the basis of data and information about the hazards of a pesticide, governments decide via a risk assessment if a pesticide can be registered for use under certain conditions or if it will be severely restricted or banned.

Toxicological classifications have been developed by different institutions. The following classifications are among the most acknowledged and recognized.

⁶ PAN Bad Actors are chemicals that are one or more of the following: highly acutely toxic, cholinesterase inhibitor, known/probable carcinogen, known groundwater pollutant or known reproductive or developmental toxicant.

GHS. The Panel further recommended that WHO should assess the feasibility of incorporating the GHS CMR criteria, and possibly other relevant endpoints, into its Classification. Pesticides listed in the Classification would subsequently need to be evaluated against these criteria, so that the WHO Classification can be considered comprehensive and complete, not only for acute hazards but also for the most important chronic hazards. The Panel recognized, however, that such evaluations would require considerable resources.⁸

2.3.2 The Environmental Protection Agency (EPA)

EPA is responsible for the registration of pesticides in the USA. In this role the US EPA is classifying pesticides by hazards and defines conditions of use.

PAN has included the EPA classification for cancer and for bee toxicity in its HHP List. The U.S. EPA Office of Pesticide Programs maintains a List of Chemicals Evaluated for Carcinogenic Potential.⁹ This list is a product of the general risk assessment included in the process of pesticide registration. This classification can be seen as a further development of the IARC classification system, but also includes the potential exposure of humans.¹⁰ Therefore, a low exposure potential can place a pesticide in a lower category even when sufficient evidence of carcinogenicity exists. U.S. EPA's classification of carcinogenicity has changed several times over the last 20 years. The list is updated annually, but its focus is mostly on pesticides registered in the USA.

The US EPA also defines categories for environmental toxicity of pesticides¹¹. Pesticides highly toxic to bees according to the US EPA are included in the PAN List of HHP.

2.3.3 The European Union

The major legislative framework in force dealing with dangerous substances in the European Union is the Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances¹². For the PAN International List of HHPs the final proposal for the 30th amendment¹³ was used to identify pesticides which are very toxic by inhalation as well as pesticides considered carcinogenic, mutagenic and/or toxic to reproduction.

⁸ Report 2nd FAO/WHO joint meeting on pesticide management and 4th session of the FAO panel of experts on pesticide management 6-8 October 2008 Geneva

⁹ US Environmental Protection Agency Office of Pesticide Programmes (2000): List of Chemicals Evaluated for Carcinogenic Potential, U.S. EPA Office of Pesticide Programmes, Washington, DC, USA

¹⁰ Altenburger, R., Bödeker, W., Brückmann, S., Oetken, G., Weber, C. (1999): Zur Human- und Ökotoxizität von Pestiziden, die im Bananenbau verwendet werden, Pestizid Aktions-Netzwerk e.V. (PAN Germany), Hamburg, Germany

¹¹ US EPA (2007): Technical Overview of Ecological Risk Assessment Analysis Phase: Ecological Effects Characterization, U.S. Environmental Protection Agency, Washington, DC
www.epa.gov/oppefed1/ecorisk_ ders/toera_analysis_eco.htm

¹² EC (1967): Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances. Official Journal of the European Community No. 196. Brussels

¹³ Final proposal of the Technical Committee on Classification and Labeling of Dangerous Substances for the 30th Adaptation to Technical Progress of Directive 67/548/EEC, <http://ecb.jrc.ec.europa.eu/classification-labelling/>

In the future PAN International will base the List of HHPs on the GHS.

3 How could the progressive ban of HHPs be done stepwise by Fair Trade organisations?

The PAN International List of Highly Hazardous Pesticides, published in early 2009, available at http://fao-code-action.info/action_centre.html, is the best available list on which to base targeted and well-defined steps to eliminate HHPs. Many of the HHPs on the PAN List are banned within the European Union. However, many of them are still being used in other regions of the world. Therefore, getting rid of such chemicals is not necessarily just a matter of substitution for many farmers, but a matter of the conversion of agricultural production systems. This fact urges all those intending the progressive ban of HHPs to develop a short term, mid term and long term plan.

It is advisable that, where possible, farms faced with having to phase out highly hazardous pesticides are assisted to make the transition to organic or agroecological production systems. If the farmers are unwilling to take this step and/or Fair Trade Organisations are not able to support them in it, then the next step is to see if a farmer can phase out all the HHPs in one go, using only less hazardous pesticides. If this also cannot be achieved, then a stepwise procedure as described below can be used, allowing for the phase out of groups of pesticides in the short term, mid term and long term. The speed of phase out is very much dependent on the readiness of the specific farmer to integrate ecological crop protection and pest management techniques and approaches.

If certain conventional farmers have not implemented integrated pest management procedures, this might imply that a range of HHPs will continue to be used over a certain time period. Therefore, to make sure the negative effects of HHPs are kept as low as possible, the progressive ban should start with Step 1, ensuring that the basic legal duties are implemented.

3.1 Check if basic duties are implemented

Pesticides are registered on the assumption that their use will be in compliance with national, regional and international regulations. However, studies, NGO monitoring activities and governmental surveillance programs show that this is frequently not the case. Therefore an essential basic task is to make sure that pesticides are at least used according to law.

Non-compliance can result in severe negative effects for the farmer or pesticide user, consumers and the environment. It can additionally hit the actors along the food chain as expected standards might not be met. In terms of fair-trade products it can hit actors even harder as it can be assumed that the consumers expect that fair trade products do not involve illegal use of highly hazardous pesticides.

For health and safety reasons a monitoring system should be in place that looks, not just at the compliance with a prohibited pesticides list, but also with all health and safety and environment protection regulations.

3.2 Fact finding mission

Pesticide risk reduction and pesticide use reduction activities should start with a fact finding mission which should answer the following questions.

Which HHPs are being used and which of the HHPs used are registered for the purpose they are used for, and which are not?

This is not necessarily an easy task, as the analysis should not just look at the pesticides officially being banned or officially being registered for use but also at those pesticides which are used illegally and where they are used, as the illegal use is an indicator of any kind of problem (law not known by user, law not enforced, no alternative available or known by farmers, strong phytosanitary standards that have to be met by farmers etc.). Phasing out pesticides is about phasing in alternative pesticides and/or alternative pest management approaches – no matter if the use of a pesticide is legal or illegal at a specific stage.

3.3 Define the aims, timeframes and indicators

A prohibited pesticides list should not stand alone but should be placed into the context of the progressive ban of highly hazardous pesticides, risk reduction and finally pesticide use reduction.

Therefore any stakeholder interested in joining the efforts to progressively ban highly hazardous pesticides should do so by starting developing a plan of how HHPs could be banned progressively. Such a plan can only be well implemented if it defines aims, timeframes and indicators and if it is transparent.

3.4 Identify which of the HHPs being used are the most worrying

Pesticides can have many different adverse effects and it is difficult to weight these different effects against each other. For example: Is it more worrying if a pesticide causes reproductive effects or if it causes cancer? How about environmental effects? Are they less important than those effects directly damaging human beings (e.g. by short term or by long term excruciating death?) How would one weight a pesticide that might cause the death of pollinators (possibly without having full evidence) taking into account that a third of the global food production is dependent on pollinators, especially bees?

Taking this into account PAN Germany suggests that the progressive ban of HHPs should be implemented by not ranking the different criteria but rather treating the different criteria within specific groups of criteria equally as can be seen in Table 1.

Table 1: Criteria for putting pesticides on the Prohibited Pesticides List			
Toxicological Criteria			Regulatory Criteria
Group 1: Acute toxicity	Group 2: Long term effects	Group 3: Environmental toxicity	Group 4: Conventions
Extremely toxic (WHO 1a)	cancer	persistence in water	Montreal Protocol
Highly toxic (WHO 1b)	mutagenicity	persistence in water sediment	Rotterdam Convention (PIC)
Inhalative toxicity (R26)	reproductive toxicity	bee toxicity	Stockholm Convention (POPs)
	endocrine disruptor		

In a separate file (excel) the pesticides of the PAN List of HHPs are listed and it can be seen which of the criteria are met by the different pesticides on the PAN List of HHPs.

3.5 Steps to implement the phase out

In order to be able to progressively ban the HHPs the following systematic approach could be used.

3.5.1 Immediately (1 year)

All pesticides which are on the annexes of the Montreal Protocol, the Rotterdam Convention and the Stockholm Convention (see “Regulatory Criteria” in Table 1) should be on the prohibited pesticides list of any fair trade organisation with no exemption. These pesticides are not just highly hazardous but they are of such a high concern that the international governmental communities additionally have regulated them by binding international conventions. These are 42 pesticides which are of very high concern, and many of which have been banned in many countries already many years ago.

Those pesticides which possibly do not meet the “Group 4: Conventions” but do meet one or more criteria in “Group 1: acute toxicity” AND “Group 2: long term effects” AND “Group 3: environmental toxicity” should also already be on the PML without any exemption or should be put on the PML immediately.

To identify the pesticides meeting specific criteria please use the attached PAN List of HHPs.

3.5.2 End the use short term (3 years)

All those pesticides which meet at least one or more criteria in two groups described in Table 1 should be put on the prohibited pesticides list short term (3 years).

3.5.3 End the use long term (6 years)

All those pesticides which meet at least 1 criteria in the “Group 1: Acute Toxicity“ or “Group 2: Longterm Toxicity” or “Group 3: Environmental Toxicity” should be put on the PML long-term (6 years).

This means that after a period of 6 years no Fair Trade labelled agricultural product would be produced with the use of a highly hazardous pesticide.

4. The issue of exemptions

Legal regulatory systems as well as Fair Trade (standard setting) organisations work with exemptions in order to make sure that farmers do not risk their farm because they do not have a specific pesticide at hand or because governments or standard organisations expect that too many farmers might violate the law or standard.

Frequently this still leads to a practice where farmers get exemptions even though other farmers producing the same crop in the same soil climatic area can do without. A Fair Trade organisation should make sure that only such exemptions are being agreed where there is no farmer producing the same crop within the same soil climatic area who can do without the pesticide.

Annex

FIRST SESSION OF THE FAO/WHO MEETING ON PESTICIDE MANAGEMENT

and

3RD SESSION OF THE FAO PANEL OF EXPERTS ON PESTICIDE MANAGEMENT

22-26 October 2007

Rome, Italy

RECOMMENDATIONS

(...)

Highly hazardous pesticides

7. The Panel discussed how to identify the group of highly hazardous pesticides and **recommended** that these be defined as having one or more of the following characteristics:

- Pesticide formulations that are included in classes Ia or Ib of the *WHO Recommended Classification of Pesticides by Hazard*;

or

- Pesticide active ingredients and their formulations that are included in carcinogenicity Categories 1A and 1B of the *Globally Harmonized System on Classification and Labelling of Chemicals* (GHS), or are included accordingly in the *WHO Recommended Classification of Pesticides by Hazard*;

or

- Pesticide active ingredients and their formulations that are included in mutagenicity Categories 1A and 1B of the *Globally Harmonized System on Classification and Labelling of Chemicals* (GHS) or are included accordingly in the *WHO Recommended Classification of Pesticides by Hazard*;

or

- Pesticide active ingredients and their formulations that are included in reproductive toxicity Categories 1A and 1B of the *Globally Harmonized System on Classification and Labelling of Chemicals* (GHS) or are included accordingly in the *WHO Recommended Classification of Pesticides by Hazard*;

or

- Pesticide active ingredients listed by the *Stockholm Convention* in its Annexes A and B;

or

- Pesticide active ingredients and formulations listed by the *Rotterdam Convention* in its Annex III

or

- Pesticides listed under the *Montreal Protocol*

or

- Pesticide formulations that have shown a high incidence of severe or irreversible adverse effects on human health or the environment.

8. The Panel further **recommended** that:

- a) WHO, FAO and UNEP further develop criteria for inclusion of pesticide formulations that have shown a high incidence of severe or irreversible adverse effects on human health or the environment, and that
- b) WHO incorporate the GHS criteria on “carcinogenicity, mutagenicity and reproductive toxicity” into its *Recommended Classification of Pesticides by Hazard* as a priority action.

9. The Panel discussed priority activities related to a progressive ban on highly hazardous pesticides and **recommended** that:

- a) FAO and WHO, as a first step, prepare a list of highly hazardous pesticides based on the criteria above, update it periodically in cooperation with UNEP, and make it widely known.
- b) FAO, in collaboration with WHO, invite governments and the pesticide industry to develop plans of action for progressively phasing out highly hazardous pesticides, either at the national or the regional level as appropriate, taking into account work undertaken in existing MEAs such as the Stockholm Convention, Rotterdam Convention and the Montreal Protocol.
- c) FAO, in collaboration with WHO, collect information on alternatives for highly hazardous pesticides, both reduced risk pesticides and other pest management approaches, in cooperation with all relevant stakeholders, and share experiences among countries.
- d) FAO, in collaboration with WHO, seek assistance from donors for countries which wish to phase out highly hazardous pesticides with the aim of preparing, implementing and enforcing phase-out plans and search for alternatives.
- e) FAO mobilize internal and external resources in order to implement, as a priority, the recommendations of the FAO Council with respect to highly hazardous pesticides.

10. The Panel discussed how to address the current use of highly hazardous pesticides, and **recommended** that highly hazardous pesticides should not be used unless

- (i) governments establish a clear need, (ii) no alternatives are available, and (iii) control measures as well as good marketing practices are sufficient to ensure that the product can be handled with acceptable risk to human health and the environment. In the latter circumstance, the use of such pesticides should be severely restricted.

(...)