



Forest Stewardship Council®



# FSC Pesticides Policy




FSC-POL-30-001 V3-0 EN

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**DRAFT 2-0**

The Forest Stewardship Council® (FSC) is an independent, not for profit, non-government organization established to promote environmentally appropriate, socially beneficial, and economically viable management of the world's forests.

FSC's vision is that the world's forests meet the social, ecological, and economic rights and needs of the present generation without compromising those of future generations.

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## Introduction

FSC-certified Organizations are required to use integrated pest management (IPM) to avoid, or aim to eliminate, the use of chemical pesticides in FSC certified management units, and thus minimize risks to human health and the environment while maintaining economically viable management.

However, in certain circumstances, after having identified and quantified a pest, weed or disease problem and considered all available pest management strategies and practices, the use of chemical pesticides might be identified as the most suitable remedial control. The FSC Pesticides Policy regulates the use of chemical pesticides in these situations. (See Figure 1. Scope and approach of the FSC Pesticides Policy).

The first version of this Policy was approved in 2002 to facilitate the implementation of the FSC Principles and Criteria (V4). The Policy was developed following a hazard approach which identified chemical pesticides that, due to their high toxicity, were prohibited in FSC-certified forests unless the FSC Pesticides Committee, acting on behalf of the FSC Board of Directors had granted a temporary derogation for their use.

In line with the objectives of the 2015-2020 FSC Global Strategic Plan and stakeholder feedback, the Policy has been revised to incorporate, alongside a hazard-based approach, a risk-based approach that considers not only the hazard of the active ingredient but also the way and circumstances in which the chemical pesticides are used.

The revised FSC Pesticides Policy follows a stepwise approach. First, highly hazardous pesticides (HHPs) are identified and categorized according to their hazard. Then, where integrated pest management (IPM) identifies the need to use a chemical pesticide as a measure of last resort, environmental and social risk assessment (ESRA) is conducted at different levels to identify the nature and degree of risk together with the mitigation and monitoring measures to minimize it.

In this revision process the FSC Pesticides Policy has been aligned with criterion 10.7 of the most recent version (V5-2) of the FSC Principles and Criteria: *“The Organization shall use integrated pest management and silviculture systems which avoid, or aim at eliminating, the use of chemical pesticides. The Organization shall not use any chemical pesticides prohibited by FSC policy. When pesticides are used, The Organization shall prevent, mitigate, and / or repair damage to environmental values and human health”*.

### Explanatory note for public consultation

Until this revision, the FSC derogation process has been the tool for managing the risks associated with the use of highly hazardous pesticides (HHP).

Where IPM has identified the need to use an HHP, the derogation process ensures the implementation of appropriate stakeholder consultation, risk mitigation measures and research into less hazardous alternatives.

However, while there are many success stories about the derogation process, stakeholders have often questioned its effectiveness, bureaucratic and cost burden, the involvement of international technical experts in the assessment of derogation applications and the centralized decision making by a non-chamber balanced body.

The Terms of Reference (ToR) of the revision process of the FSC Pesticides Policy require an assessment of the feasibility of continuing or discontinuing the entire approach towards derogations.

Accordingly, the Pesticides Policy Working Group (PPWG) is proposing to eliminate the FSC derogation system, and replace it with a risk assessment framework that includes national/regional knowledge and good practises requirements relevant to the known hazard of specific highly hazardous pesticides.

The PPWG considers environmental and social risk assessment (ESRA) to be the best technical tool for determining the risks of using pesticides and mitigation measures to manage and minimize exposure.

The intent of the consensual proposal from the PPWG (formed by interest balanced stakeholders and technical experts) is to:

- affirm the importance of IPM as a first step.
- strengthen the regulations that govern the use of HHPs.
- prohibit the most hazardous pesticides, where risks to human health and the environment due to their high toxicity even at low exposure cannot be managed (see clause 3.1.a).
- enhance the role of national decision making related to pest management within the international regulatory framework.
- incorporate considerations of 'risk' as demanded by the 2015-2020 FSC Global Strategic Plan.

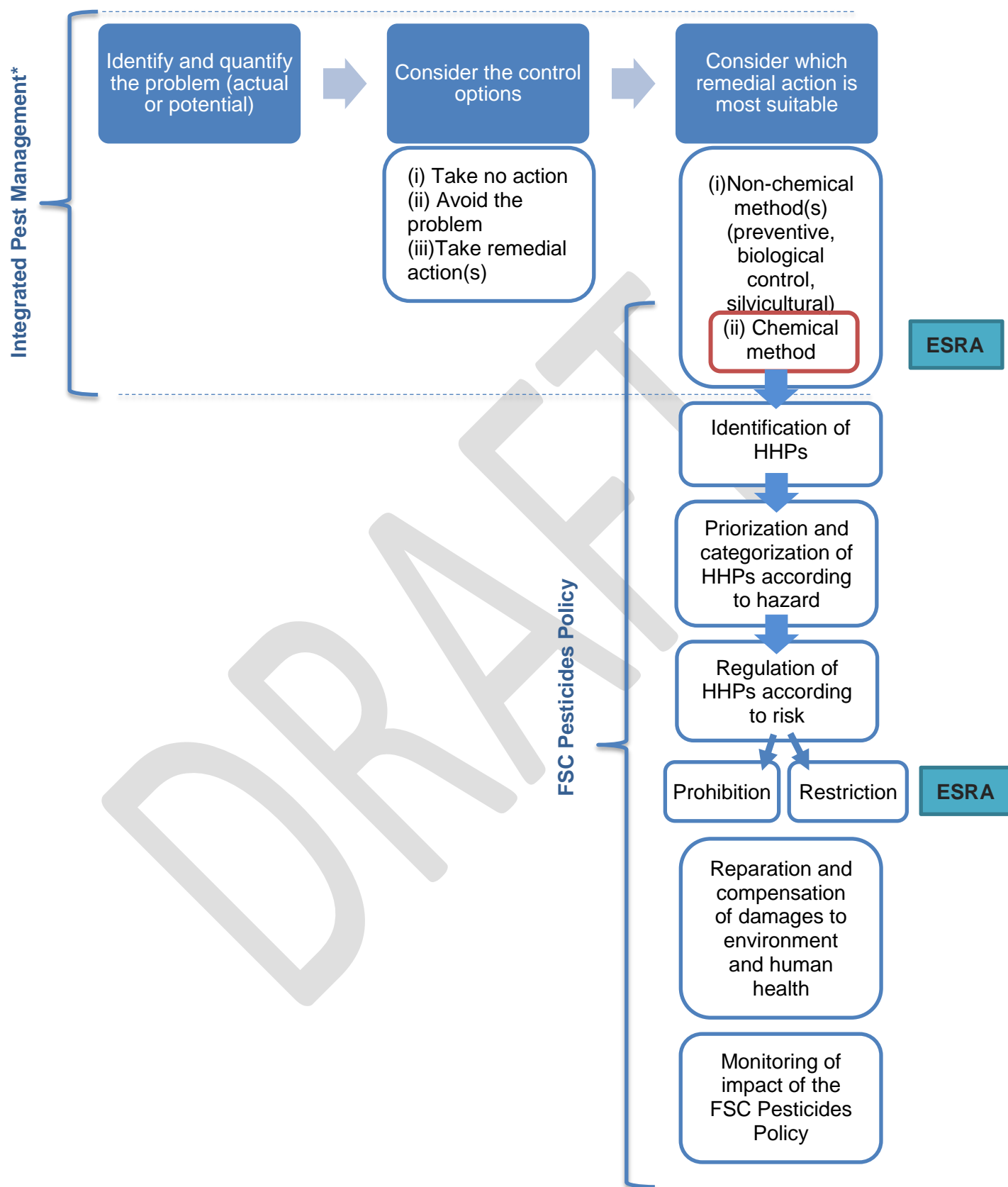


Figure 1. Scope and approach of the FSC Pesticides Policy

\* See FSC Guide to integrated pest, disease, and weed management in FSC certified forests and plantations (<https://ic.fsc.org/en/document-center/id/315>)

## A Objective

This Policy provides FSC's position for managing the use of chemical pesticides in FSC-certified management units.

The short term objective of the FSC Pesticides Policy is eliminating the use of the most hazardous chemical pesticides, reducing the overall (volume and number) use of chemical pesticides in FSC-certified management units, and promoting best practices for the minimization of their associated risks to human health and the environment.

The long-term ambition of the FSC Pesticides Policy is phasing out the use of chemical pesticides in FSC-certified forests.

## B Scope

This Policy applies to the use of chemical pesticides for the protection of vegetation, human health, livestock and native species in FSC certified natural forests and plantations (including FSC-certified nurseries, workers' housing and pesticides storage facilities within or adjacent to the management unit, and those outside the management unit, which are solely for the purpose of contributing to the management objectives).

### Explanatory note for public consultation

The Policy does not apply to third party nurseries. However, it does requires organizations to:

- ask their nursery suppliers about the chemical pesticides they use in the production of seedlings and materials entering the management unit
- inform them about the requirements of the FSC Policy, to raise awareness of the risks associated to HHPs use and open a platform for dialogue regarding alternatives to their use.

This Policy does not cover:

- biological control
- chemical pesticides used for other purposes than pest control in the forest management unit (eg. as fertilizer),
- impurities in fertilizers
- the use of chemical pesticides once the forest products have left the forest gate.

Biopesticides are considered under the category "other chemical pesticides".

In draft 2 the scope of the policy has been extended to include workers' housing and pesticides storage facilities outside of the forest area that are solely for the purpose of meeting management objectives in alignment with the definition of Management Unit in FSC Principles and Criteria V5-2:

**Management Unit:** a spatial area or areas submitted for FSC certification with clearly defined boundaries managed to a set of explicit long term management objectives which are expressed in a management plan. This area or areas include(s):

- all facilities and area(s) within or adjacent to this spatial area or areas under legal title or management control of, or operated by or on behalf of the organization, for the purpose of contributing to the management objectives; and
- all facilities and area(s) outside, and not adjacent to this spatial area or areas and operated by or on behalf of the organization, solely for the purpose of contributing to the management objectives. (Source: FSC 2011).

## **C Effective and validity date**

Approval date	dd mmmmm yyyy
Publication date	dd mmmmm yyyy
Effective date	dd mmmmm yyyy
Period of validity	dd mmmmm yyyy (or until replaced or withdrawn)

## **D References**

The following referenced documents are relevant for the application of this policy document. For undated references, the latest edition of the referenced document (including any amendments) applies.

*FSC-STD-01-001 FSC Principles and Criteria*

*FSC-STD-01-002 FSC Glossary of Terms*

*FSC-STD-60-004 International Generic Indicators (IGI)*

FSC normative documents superseded and replaced by this Policy:

*FSC-STD-30-001 V1-0 EN Indicators and Thresholds for the identification of 'highly hazardous' pesticides (HHP)*

*FSC-STD-30-001a EN FSC List of 'highly hazardous' pesticides*

*FSC-PRO-30-001 V1-0 EN Pesticides Derogation Procedure*

*FSC-PRO-30-001a EN List of approved derogations for the use of "highly hazardous" pesticides*



## E Terms and definitions

For the purposes of this Policy, the terms and definitions provided in *FSC-STD-01-002 FSC Glossary of Terms*, *FSC-STD-01-001 V5-2 FSC Principles and Criteria for Forests Stewardship*, *STD-60-004 FSC International Generic Indicators*, and the following apply:

**Active ingredient:** part of the product that provides the pesticidal action (Source: *FAO International Code of Conduct on Pesticide Management*).

**Biological control agents:** organisms used to eliminate or regulate the population of other organisms (Source: Based on *FSC-STD-01-001 V4-0* and World Conservation Union [IUCN]. Glossary definitions as provided on IUCN website).

**Biopesticides:** certain types of pesticides derived from such natural materials as animals, plants, bacteria, and certain minerals. (Source: *United States Environmental Protection Agency*)

**Chemical pesticide:** synthetically produced pesticide.

**Emergency:** a situation that requires immediate action to control the sudden invasion or infestation of a pest, which threaten either long-term stability of the ecosystem, human well-being or economic viability.

Events that happen cyclically and scenarios which are predicted through planning, monitoring or the application of an integrated pest management system cannot be considered an emergency.

For the purpose of the FSC Pesticides Policy, emergency situations require immediate action and cannot feasibly be controlled by a less hazardous alternative.

**Environmental and social risk assessment (ESRA):** a process to predict, assess and review the likely or actual environmental and social effects of a well-defined action, evaluate alternatives, and design appropriate mitigation, management and monitoring measures. In the context of the FSC Pesticides Policy, it relates to chemical pesticide use.

**Fair compensation:** Remuneration that is proportionate to the magnitude and type of services rendered by another party or of the harm that is attributable to the first party (Source: *FSC-STD-60-004 V1-0 EN International Generic Indicators*)

**Governmental order:** the use of a specific chemical pesticide is ordered or carried out by governmental authorities independent of The Organization.

**Highly hazardous pesticide (HHP):** chemical pesticides that are acknowledged to present particularly high levels of acute or chronic hazards to health and environment according to internationally accepted classification systems, or are listed in relevant binding international agreements or conventions, or contain dioxins, or heavy metals.

In addition, pesticides that appear to cause severe or irreversible harm to health or the environment under conditions of use in a country may be considered to be and treated as highly hazardous (Source: Based on *FAO International Code of Conduct on Pesticide Management*).

FSC distinguishes between FSC prohibited HHPs, FSC highly restricted HHPs and FSC restricted HHPs:

- **FSC prohibited HHPs:** chemical pesticides that a) are listed or recommended for listing in the International Conventions (Stockholm Convention, Rotterdam Convention or Montreal Protocol), or b) are acutely toxic and that can induce cancer (carcinogenic and likely to be carcinogenic), or c) contain dioxins or d) contain heavy metals).
- **FSC highly restricted HHPs:** chemical pesticide presenting two or three out of the following hazards: acute toxicity, chronic toxicity and environmental toxicity.
- **FSC restricted HHPs:** chemical pesticide presenting one out of three of the following hazards: acute toxicity, chronic toxicity and environmental toxicity.

**Integrated pest management (IPM):** careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the development of pest populations, encourage beneficial populations and keep pesticides and other interventions to levels that are economically justified and reduce or minimize risks to human and animal health and/or the environment. IPM emphasizes the growth of a healthy forest with the least possible disruption to ecosystems and encourages natural pest control mechanisms (Source: Based on *FAO International Code of Conduct on Pesticide Management*).

**The Organization:** The person or entity holding or applying for certification and therefore responsible for demonstrating compliance with the requirements upon which FSC certification is based (Source: *FSC-STD-01-001 V5-2 Principles and Criteria for Forest Stewardship*).

**Pest:** any species, strain or biotype of plant, animal or pathogenic agent injurious to plants and plant products, materials or environments and includes vectors of parasites or pathogens of human and animal disease and animals causing public health nuisance (Source: *FAO International Code of Conduct on Pesticide Management*).

**Pesticide:** any substance, or mixture of substances of chemical or biological ingredients intended for repelling, destroying or controlling any pest, or regulating plant growth (Source: *FAO International Code of Conduct on Pesticide Management*).

**Repair:** Process of assisting the recovery for environmental values and human health.

**Risk:** The probability of an unacceptable negative impact arising from any activity in the management unit combined with its seriousness in terms of consequences (Source: *FSC-STD-01-001 V5-2 Principles and Criteria for Forest Stewardship*).

In the context of pesticide use, risk is the probability and severity of an adverse health or environmental effect occurring as a function of a hazard and the likelihood and the extent of exposure to a pesticide (Source: *FAO International Code of Conduct on Pesticide Management*).

**Silviculture:** The art and science of controlling the establishment, growth, composition, health and quality of forests and woodlands to meet the targeted diverse needs and values of landowners and society on a sustainable basis (Source:

*Nieuwenhuis, M. 2000. Terminology of Forest Management. IUFRO World Series Vol. 9. IUFRO 4.04.07 SilvaPlan and SilvaVoc).*

### **Verbal forms for the expression of provisions**

[Adapted from ISO/IEC Directives Part 2: Rules for the structure and drafting of International Standards]

“shall”: indicates requirements strictly to be followed in order to conform to the document.

“should”: indicates that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required.

“may”: indicates a course of action permissible within the limits of the document.

“can”: is used for statements of possibility and capability, whether material, physical or causal.

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## **F      Version history**

**FSC-POL-30-601 Chemical Pesticides in Certified Forests: Interpretation of the FSC Principles & Criteria:** Initial version. Approved by the FSC Board Pesticides Committee in July 2002.

**FSC-POL-30-001 EN Pesticides Policy (2005)** Approved in December 2005 at the 40<sup>th</sup> meeting of FSC Board of Directors.

**FSC-POL-30-001 V3-0 EN Pesticides Policy** [To be completed after approval of the document.](#)

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## Part I – Approach and Policy elements

### 1 FSC approach to the use of chemical pesticides

- 1.1 Criterion 10.7 of the FSC Principles and Criteria requires the use of integrated pest management and silviculture systems which avoid, or aim at eliminating, the use of chemical pesticides.
- 1.2 FSC recognizes that in certain circumstances, and after having considered other available pest management strategies and practices, the use of chemical pesticides can be the only feasible way of controlling a pest, weed or disease problem.
- 1.3 FSC's approach to reduce and phase out the use of chemical pesticides, and to promote an adequate use that mitigates associated impacts, includes the following elements (see Figure 2):
  - a) Identification of highly hazardous pesticides (HHPs) according to their short and long term toxic characteristics for humans and the environment.
  - b) Prioritization of these characteristics (hazard groups and criteria), and categorization of HHPs in multiple lists.
  - c) Regulation of the use of HHPs in each list according to the risk they pose to human health and the environment, with risk being a function of the toxicity (a fixed feature of the active ingredient and representing the hazard) and the local exposure to humans and the environment.
  - d) Reparation and compensation for damage to environmental values and human health caused by inadequate development or implementation of environmental and social risk assessment.
  - e) Monitoring of the use of pesticides and the impact of the FSC Pesticides Policy.

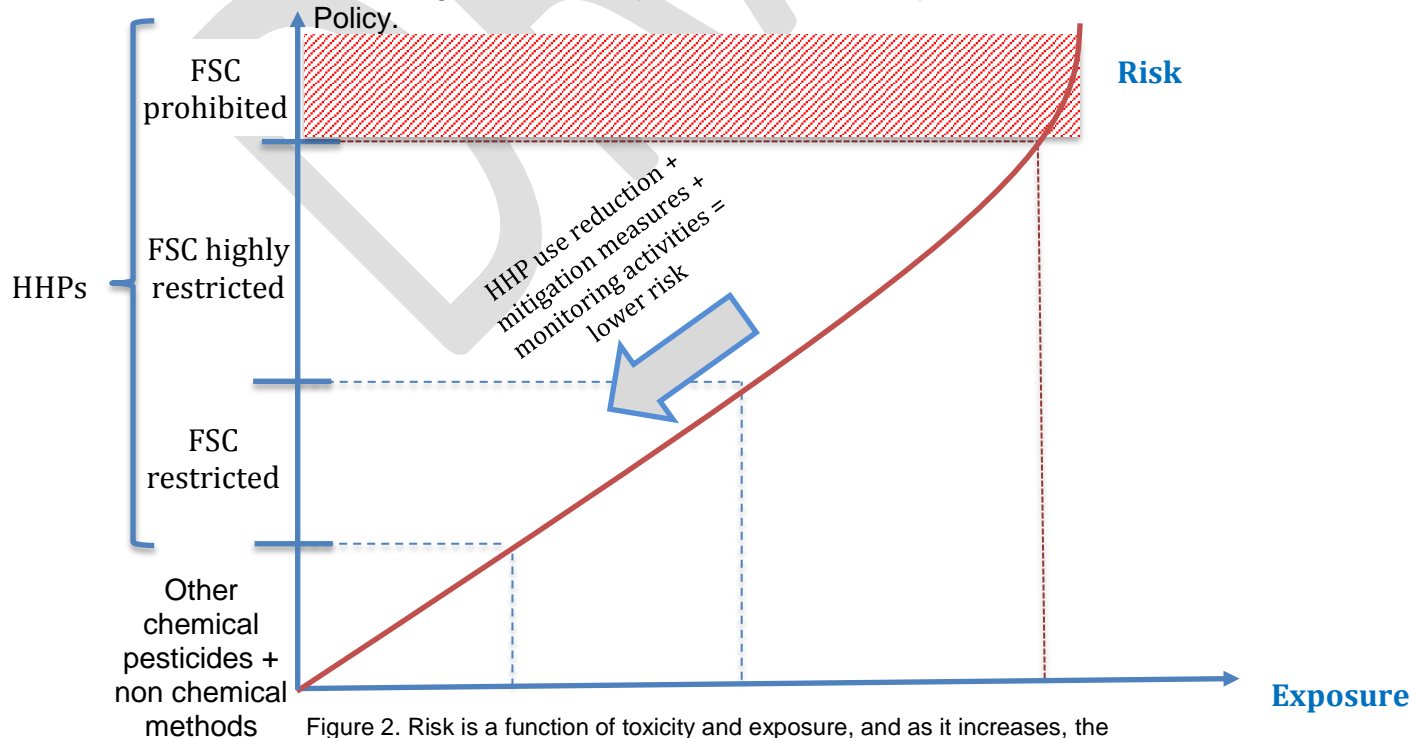


Figure 2. Risk is a function of toxicity and exposure, and as it increases, the Organization shall intensify the activities undertaken to mitigate it.

#### Explanatory note for public consultation

The PPWG recognizes the challenge for certificate holders to immediately stop the use of all highly hazardous pesticides (HHPs).

To facilitate the reduction and phase out of HHPs in FSC-certified forests, the PPWG proposes an approach where HHPs are prioritized based on their toxicity (=hazard) and allocates them into three subgroups or sublists:

- FSC prohibited HHPs
- FSC highly restricted HHPs
- FSC restricted HHPs

The use of the HHPs in each subgroup is regulated according to the risk they present, taking into account the level of toxicity of the active ingredients and the way they are used within the management unit.

With this approach, FSC seeks to immediately eliminate the use of the most hazardous chemical pesticides in FSC-certified forests, as risk is not manageable, and progressively phase out other hazardous pesticides, that may only be used if adequate environmental and social risk assessment is conducted and associated mitigation, management and monitoring measures are identified and implemented.

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## Part II - Implementation

### 2 Identification of HHPs

2.1 FSC identifies HHPs according to the following internationally recognized hazard groups and criteria, and the associated indicators and thresholds listed in Annex 1:

a) **Relevant international agreements or conventions:**

- Stockholm Convention on Persistent Organic Pollutants.
- Rotterdam Convention on the Prior Informed Consent Procedure.
- Montreal Protocol on Substances that Deplete the Ozone Layer.

b) **Acute toxicity** (a substance causes harmful or lethal effects following oral, dermal or inhalation exposure in a short space of time).

c) **Chronic toxicity** (a substance causes harmful effects over an extended period, usually following repeated or continuous exposure to very low doses).

Chronic toxicity includes:

- **Carcinogenicity** (ability of a substance to induce cancer or increase its incidence in humans).
- **Mutagenicity** (ability of a substance to induce an increased occurrence of mutations in cells and/or organisms).
- **Developmental and reproductive toxicity** (ability of a substance to cause adverse effects on unborn children and induce adverse effects on sexual function and fertility in adults).
- **Endocrine disruptors** (substances that interfere at very low concentrations with hormones and hormonal balance).

d) **Environmental toxicity** (a substance has harmful effects on the environment, threatening ecosystems and/or accumulating into water and soil).

Environmental toxicity includes:

- **Aquatic toxicity** (effect of a substance to organisms – vertebrates, invertebrates and plants – living in the water).
- **Persistence in soil or water** (ability of a substance to resist to environmental degradation and accumulate in soil, sediment and aquatic environments).
- **Soil sorption potential** (characteristic based on the combination of the persistence and the water solubility of a chemical substance, and its soil sorption coefficient (Koc), which measures the mobility of a substance in soil).
- **Bioaccumulation** (increase in the concentration of a substance in a biological organism over time, as the organism absorbs the toxic substance at a rate greater than that at which the substance is eliminated from its body).

- **Biomagnification** (increase of the concentration of a substance in the tissues of organisms as it travels up the food chain).
- e) **Dioxins (residues or emissions)** (persistent environmental pollutants [POPs], that are highly toxic and can cause reproductive and developmental problems, damage the immune system, interfere with hormones and cause cancer).
- f) **Heavy metals (arsenic, cadmium, lead, and mercury)** (systemic toxicants known to induce multiple organ damage, even at lower levels of exposure).

#### Explanatory note for public consultation

FSC follows a scientific approach to identify highly hazardous pesticides.

The internationally recognized hazard evaluation criteria selected by FSC were established by WHO/FAO in 2007 and further developed by PAN to make them workable.

Based on the recommendations of a technical working group, FSC added three additional criteria: acutely toxic for rats and birds, dioxins and heavy metals.

The last revision of the criteria and the associated indicators and thresholds to identify HHPs was done by a panel of experts appointed by the FSC Board of Directors and approved by the FSC Board in 2015. The revision process was done in line with ISEAL requirements and FSC-PRO-01-001 The Development and Revision of FSC Normative Documents.

The indicators and thresholds selected by FSC are benchmarked by the best science available and are defined by international authorities, including the World Health Organization (WHO), US Environmental Protection Agency (EPA) and the Globally Harmonized System (GHS) followed by extensive consultation with social, environmental and economic stakeholders.

Other ISEAL sustainability standards use similar criteria to identify HHPs as the basis for their pesticides policies.

Please, see Annex 1 for more information.

- 2.2 The HHPs identified by FSC according to the criteria above and associated indicators and thresholds are listed in the addendum to this Policy.
- 2.3 The FSC lists of HHP will be updated by two or more independent technical experts appointed by FSC at least every 3 years and approved by a chamber balanced body.
- 2.4 FSC shall annually review whether changes have occurred to the relevant international agreements or conventions, or recommendations for listing<sup>1</sup> new chemical pesticides have been made.

<sup>1</sup>The Rotterdam Convention Chemical Review Committee has recommended to list a chemical pesticide in Annex III of the Rotterdam Convention and submitted a Decision Guidance Document (DGD) to the Conference of the Parties or the Persistent Organic Pollutants (POP) Review Committee has recommended to list a chemical pesticide in Annex A (elimination) or Annex B (restriction) of the Stockholm Convention.



- 2.5 If changes have occurred or new recommendations have been made, FSC shall update the FSC lists of HHP within three (3) months<sup>2</sup> to recategorize the listed HHPs accordingly.

### 3 Prioritization of criteria and categorization of HHPs

- 3.1 FSC has prioritized the hazard groups and criteria to identify HHPs (Clause 2.1), and classified HHPs into three categories, as described in Figure 3, in order to support organizations to reduce and phase out the use of chemical pesticides following a stepwise approach,

- a) **FSC prohibited HHPs:** chemical pesticides i) listed or recommended for listing in the International Conventions or, ii) acutely toxic and carcinogenic or, iii) containing dioxins or iv) containing heavy metals.

#### Explanatory note for public consultation

To support the short term objective of eliminating the use of the most hazardous chemical pesticides and to make the FSC Pesticides Policy more ambitious, the PPWG is suggesting in draft 2 to include in the FSC list of prohibited pesticides chemical pesticides for which a recommendation to be listed in the Rotterdam or Stockholm Convention has been made by The Rotterdam Convention Chemical Review Committee or the Persistent Organic Pollutants (POP) Review Committee.

These recommendations are only provided when strong technical evidence of the impact of the pesticide on human health and the environment exists.

The Stockholm Convention aims at the global elimination of Persistent Organic Pollutants (POPs). POPs are toxic, bioaccumulative, highly persistent and capable of long-range transport and pose a global threat to living beings.

The Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain hazardous Chemicals and Pesticides in International Trade regulates the exchange of information in international trade on certain hazardous pesticides (active ingredients and formulations).

The chemical pesticides that would be added to the FSC list of prohibited pesticides due to changes in Criterion 1. Relevant International Agreements or conventions can be consulted in the Addendum.

- b) **FSC highly restricted HHPs:** chemical pesticides scoring two or three of the following hazard groups: i) acute toxicity, ii) chronic toxicity and iii) environmental toxicity.
- c) **FSC restricted HHPs:** chemical pesticides scoring one of the following hazard groups: i) acute toxicity, ii) chronic toxicity and iii) environmental toxicity.

- 3.2 Chemical pesticides that do not fall in any of the above categories are not considered highly hazardous by FSC.

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<sup>2</sup> The timeframe for the implementation of the updated FSC lists of HHPs will follow the timeframes associated with the implementation of normative documents described in FSC-PRO-01-001 V3-1 *Development and revision of FSC normative documents*.

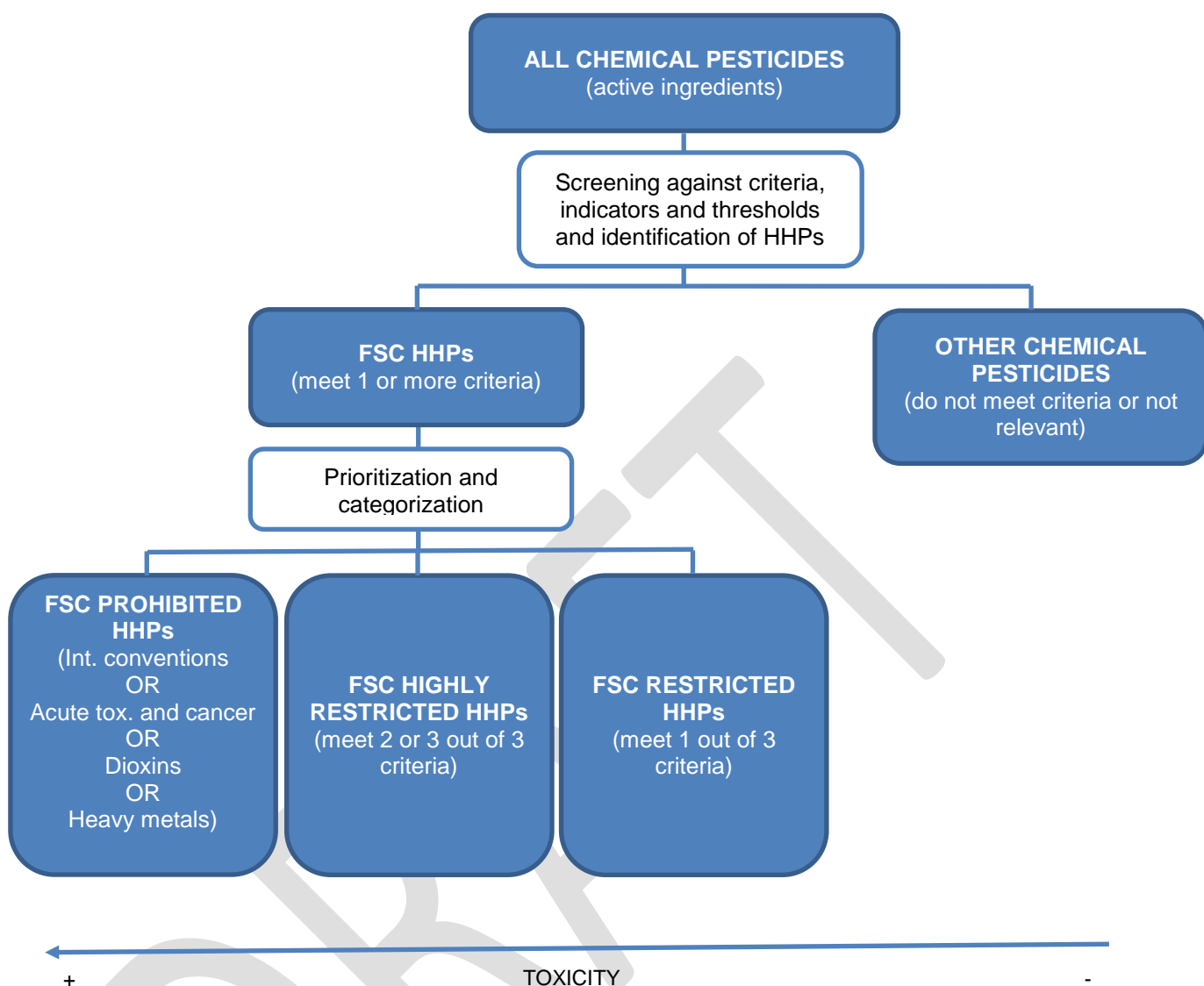


Figure 3. Classification of chemical pesticides and categorization of HHPs.

## **4 Regulation of the use of HHPs**

### **General principles**

- 4.1 The prioritization of criteria and categorization of HHPs results in the prohibition or restriction of their use according to the risk they pose to human health and the environment, with risk being a function of the toxicity, which is a global constant, and the local exposure.
- 4.2 Under the same conditions of effectiveness and risk, the Organization shall select the less hazardous pest management alternative available, giving preference to:
  - a) non-chemical methods over chemical pesticides,
  - b) chemical pesticides not listed in the FSC lists of HHPs over those listed in the FSC lists of HHPs, and
  - c) FSC restricted HHPs over FSC highly restricted HHPs.
- 4.3 However, in certain instances a more hazardous alternative may present lower social and environmental risks.
- 4.4 Environmental and social risk assessment (ESRA) shall be undertaken by different stakeholders at international, national and management unit level to identify lower risk alternatives, conditions for its use and adequate mitigation and monitoring measures. (See Figure 4. Environmental and social risk assessment framework).

### **International level**

- 4.4.1 Taking into consideration the different types of hazards, FSC shall develop for each hazard group International Generic Indicators (IGI) for the use and risk management of HHPs that present that hazard.
- 4.4.2 For the development of the IGI, FSC shall consider the exposure elements and variables described in Annex 2.
- 4.4.3 The IGI shall address research into less hazardous alternatives and engagement with interested and/or affected stakeholders.
- 4.4.4 Moreover, FSC shall consider the need to develop IGI for the use and risk management of HHPs related to training requirements (FSC Principles and Criteria V5-2, Criteria 2.5 and 4.3), monitoring requirements (FSC Principles and Criteria V5-2, Criteria 8.2) and use of personal protective equipment (FSC Principles and Criteria V5-2, Criteria 2.3).

### **National level**

- 4.4.5 The IGI (to be developed by FSC) shall be adapted to the national context and locally relevant thresholds (limits that shall not be exceed) for the use and risk management of the relevant FSC highly restricted HHPs and FSC restricted HHPs shall be developed.

### **Management Unit level**

- 4.4.6 The Organization shall comply with the applicable international and/or national indicators and thresholds for the use and risk management of highly hazardous pesticides.

- 4.4.7 The Organization shall undertake a comparative ESRA as part of their Integrated Pest Management to identify the lowest risk option to control a pest, weed or disease problem, conditions for its use and the generic mitigation and monitoring measures to minimize the risks.
- 4.4.8 ESRA shall consider the minimum list of types of hazards, exposure elements and exposure variables described in Annex 2.
- 4.4.9 Moreover, before applying any chemical pesticide, the Organization shall conduct a site relevant ESRA considering the applicable components of Annex 2 and according to SIR, which shall include an assessment of site-specific risks and the application of generic mitigation and monitoring measures previously identified in the site.
- 4.4.10 Site specific ESRAs shall be available to any stakeholder upon request.
- 4.5 As risk increases, the efforts undertaken to reduce it and mitigate it shall also increase.

**Explanatory note for public consultation**

The PPWG considers that undertaking site relevant ESRA is consistent with the FSC Principles and Criteria (for example 4.5, 6.2 & 6.3 10.7) and IGI where environmental and social risk assessments prior to undertaking management activities are required. Furthermore, the application of Scale Intensity and Risk (SIR) are also well established responsibilities for the standard developer and forest manager.

**Regulations for FSC prohibited HHPs**

- 4.6 FSC considers the risk associated to the use of FSC prohibited HHPs to be unacceptable due to their high toxicity, even at low exposure.
- 4.7 The Organization shall not use any FSC prohibited HHPs in management units, except in case of an emergency situation or a governmental order. (See Annex 3. Procedure for use of FSC prohibited HHPs in case of emergency situations or governmental orders).
- 4.8 The Organization shall inform processing plants within the Management Unit and third-party nursery suppliers about the classification of HHPs in the FSC Pesticides Policy and the requirements for their use.
- 4.9 The Organization shall encourage processing plants within the management unit and third-party nursery suppliers to avoid the use of FSC prohibited HHPs in their processes and in the production of seedlings and other materials entering to the management unit.
- 4.10 The Organization shall keep records of the FSC prohibited HHPs used in the production of seedlings and other materials entering the management unit coming from third-party nursery suppliers and in processing plants within the management unit.

#### Explanatory note for public consultation

The intent of the FSC Pesticides Policy regarding third-party nursery suppliers and processing plants within the Management Unit is raising awareness about HHPs and the risks associated to their use, and promote a dialogue about possible alternatives to their use.

### **Regulations for FSC highly restricted HHPs and restricted HHPs**

- 4.11 The Organization may use FSC restricted HHPs and FSC highly restricted HHPs, only when the risks associated their use have been identified and assessed through environmental and social risk assessment (ESRA) at international, national and Management Unit level, and can be controlled through the implementation of mitigation and monitoring measures. (See Annex 4. Mechanism to implement requirements for FSC highly restricted HHPs and FSC restricted HHPs).
- 4.12 In the absence of other specifications, if two or more options from different hazard categories are available to control a pest, weed or disease problem, the Organization shall only choose an alternative from a higher hazard category, when a comparative ESRA proves that it causes less social and environmental damages, is more effective and has equal or greater social and environmental benefits.
- 4.13 In the absence of other specifications, if two or more options within the same hazard category are available to control a pest, weed or disease problem, the Organization shall identify through a comparative ESRA which is the alternative that causes less social and environmental damages, is more effective and has equal or greater social and environmental benefits.
- 4.14 The Organization shall consult the online database provided by FSC for information exchange on alternatives and monitoring procedures.
- 4.15 In order to make progress on the replacement of FSC highly restricted HHPs and restricted HHPs with less hazardous alternatives, the Organization shall have programs in place, according to SIR, to research, identify and test alternatives, with clear actions, timelines, targets and resources allocated.
- 4.16 FSC encourages Organizations to collaborate with research institutions and other certificate holders on research programs for the identification of less hazardous alternatives.

#### Explanatory note for public consultation

Forest managers shall strive to move toward less hazardous alternatives for several reasons:

- Risks associated to less hazardous alternatives are generally easier to control.
- The classification of HHP is dynamic and as science progresses, HHPs can be upgraded to a more restrictive category.

## Regulations for other chemical pesticides

4.17 The fact that a pesticide is not included in the FSC lists of HHPs, doesn't mean that it is safe. Before using a chemical pesticides not listed in the FSC lists of HHPs (including biopesticides), the Organization shall conduct a site relevant ESRA as per Clause 4.4.9 above.

### ESRA FRAMEWORK

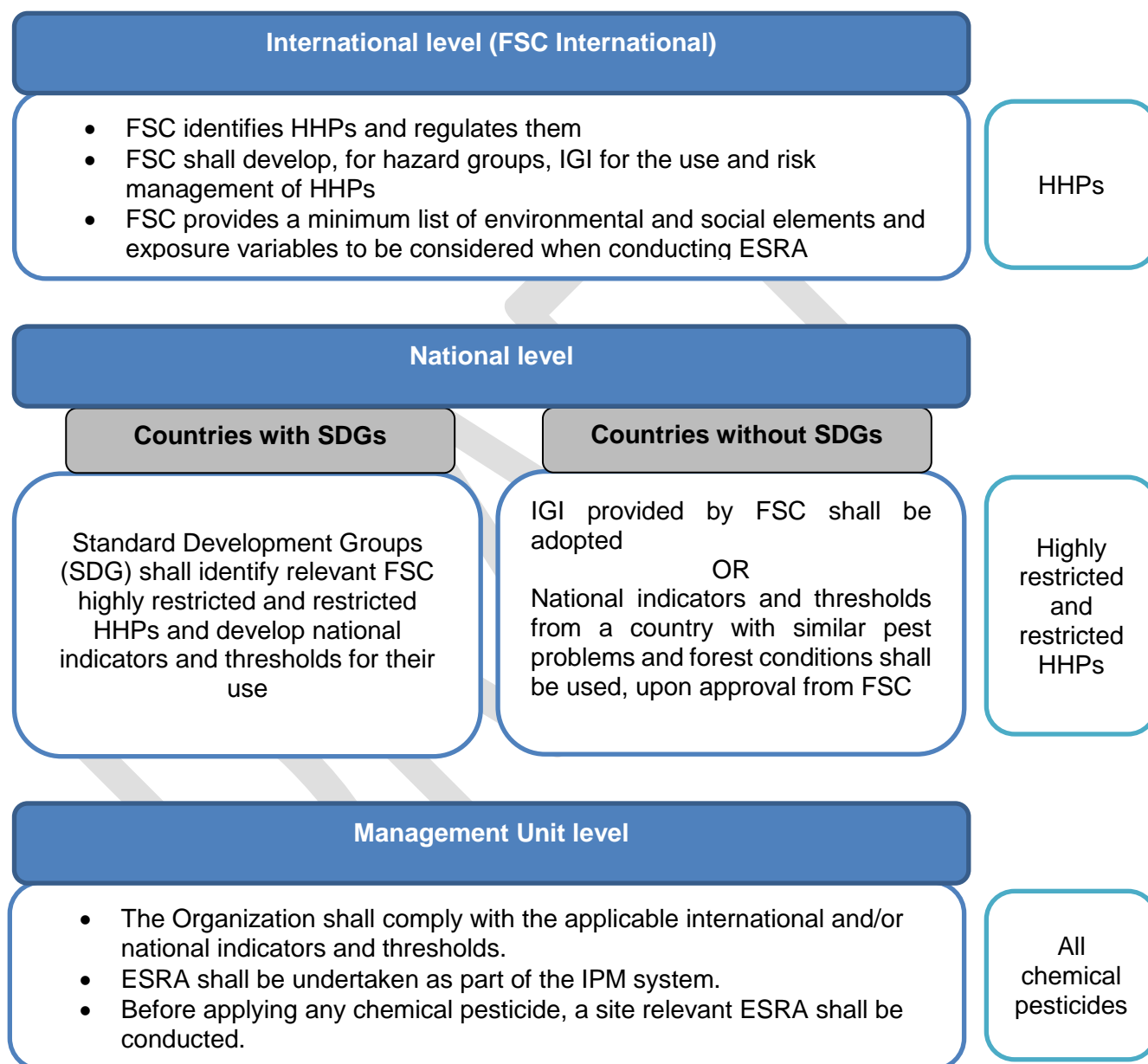


Figure 4. Environmental and social risk assessment framework

## **5 Repairing damages to environmental values and human health**

- 5.1 The Organization shall prioritize risk prevention and mitigation over damage repair and compensation.
- 5.2 If damages to environmental values and/or human health occur from the use of pesticides, they shall be repaired according to their magnitude (see FSC Principles and Criteria V5-2, Criterion 6.3 regarding environmental damage and Criterion 2.6 regarding occupational injuries).
- 5.3 When reparation is not possible, the Organization shall provide fair compensation.
- 5.4 The mechanisms developed for resolving grievances and for providing fair compensation to workers and local communities (see FSC Principles and Criteria V5-2, Criterion 2.6 and Criterion 4.6) shall consider pesticides use.

## **6. Monitoring of the use of pesticides and the impact of the FSC Pesticides Policy.**

- 6.1 The Organization shall maintain records of pesticide usage, including trade name, active ingredient, quantity of active ingredient used, period of use, number and frequency of applications, location and area of use and reason for use.
- 6.2 FSC will monitor, evaluate and regularly report on the impact of the FSC Pesticides Policy, in particular on the trends in the number, amount and frequency of HHPs used per area unit and in the injuries and accidents rates related to chemical pesticide use.

## **Annex 1. Criteria, Indicators and Thresholds for identifying highly hazardous pesticides (HHPs)**

### **Introduction**

Following a science based approach, FSC identifies HHPs according to internationally recognized criteria, and associated indicators and thresholds.

The basis for selection of the criteria, indicators and thresholds was discussed in detail in the paper: *Use of Chemical Pesticides in Certified Forests: clarification of FSC Criteria 6.6, 6.7 and 10.7* (S. Radosevich, M. Lappé & B. Addlestone (2000) FSC-US). This work was reviewed in *Review of the Forest Stewardship Council's Pesticide Indicators and Thresholds* (2005) by Pesticides Action Network-UK followed by revisions of the indicators and thresholds by a panel of experts in 2007 and 2013.

The global criteria selected to identify highly hazard pesticides were initially established by WHO/FAO in 2007 and included: acute toxicity, chronic health hazards (carcinogenicity according to GHS evaluation, reproductive and mutagenic effects) as well as high incidence of severe or irreversible adverse effects on human health or the environment.

To make them workable, PAN further developed these criteria, and added pesticides fatal if inhaled, carcinogenic and probably carcinogenic according to IARC/EPA and endocrine disrupting chemicals.

FSC has added three additional criteria: acute toxicity for rats and birds, dioxins and heavy metals.

The indicators and thresholds selected by FSC are benchmarked by the best science available and are defined by international authorities, including the World Health Organization (WHO), US Environmental Protection Agency (EPA) and the Globally Harmonized System (GHS) followed by extensive consultation with social, environmental and economic stakeholders.

### **Criteria evaluated in the determination of hazard.**

FSC has selected the following criteria to be evaluated in the determination of hazard:

<b>Hazard group</b>	<b>Number</b>	<b>Criteria</b>
Relevant International Agreements or conventions	1	Relevant International Agreements or conventions
Acute toxicity	2	Acute toxicity to mammals and birds
Chronic toxicity	3	Carcinogenicity
	4	Mutagenicity to mammals



Hazard group	Number	Criteria
Chronic toxicity	5	Developmental and reproductive toxicity
	6	Endocrine disrupting chemical (EDC)
Environmental toxicity	7	Acute toxicity to aquatic organisms
	8	Persistence in soil or water and soil sorption potential and bio-magnification and bio-accumulation
Dioxins	9	Dioxins (residues or emissions)
Heavy metals	10	Heavy metals

Table 1. Hazard groups and criteria for the identification of highly hazardous pesticide.

#### Explanatory note for public consultation

The working group has discussed how to identify highly hazardous pesticides (HHPs) and has validated the current criteria used by FSC to identify HHPs, listed in FSC-STD-30-001 V1-0 *Indicators and thresholds for the identification of 'highly hazardous' pesticides (HHP)*, as they are internationally recognized, based on science and have been developed following usual FSC procedures.

Criteria, indicators and thresholds for the identification of FSC highly hazardous pesticides (HHPs)

Hazard Group	Criteria	Indicators and thresholds for the identification of FSC highly hazardous pesticides (HHPs)	Sources of information
RELEVANT INTERNATIONAL AGREEMENTS OR CONVENTIONS	<b>Criterion 1. Relevant International Agreements or conventions</b>	<p>1.1 A pesticide is considered 'highly hazardous' if:</p> <ul style="list-style-type: none"> <li>a) It is banned by international agreement under the Persistent Organic Pollutants POP convention (Stockholm Convention), OR</li> <li>b) It is listed in Annex III of the Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, OR</li> <li>c) It is listed as ozone depleting substance under the Montreal Protocol on Substances that Deplete the Ozone Layer.</li> </ul>	<p>Stockholm Convention on Persistent Organic Pollutants (POPs) at <a href="http://www.pops.int">http://www.pops.int</a></p> <p>Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade at <a href="http://www.pic.int">http://www.pic.int</a></p> <p>Montreal Protocol on Substances that Deplete the Ozone Layer at <a href="http://ozone.unep.org/">http://ozone.unep.org/</a></p>

Hazard Group	Criteria	Indicators and thresholds for the identification of FSC highly hazardous pesticides (HHPs)	Sources of information
ACUTE TOXICITY	<b>Criterion 2. Acute toxicity to mammals and birds</b>	<p>2.1. A pesticide is considered 'highly hazardous' if it contains any active ingredient that is:</p> <ul style="list-style-type: none"> <li>a) 'Extremely hazardous' (Class Ia) or 'Highly hazardous' (Class Ib), according to <u>WHO<sup>3</sup> Recommended Classification of Pesticides by Hazard</u>, OR</li> <li>b) Acutely toxic for rats and birds: acute oral LD50 for rats/birds <math>\leq</math> 200 mg/kg body weight (or most sensitive mammal/bird), OR</li> <li>c) 'Fatal if inhaled' (H330) according to the <u>GHS<sup>4</sup></u> as classified by national/ international authorities.</li> </ul>	<p>WHO &amp; IPCS: The WHO recommended classification of pesticides by hazard and guidelines to classification. International Programme on Chemical Safety (IPCS) &amp; World Health Organization (WHO). Geneva.</p> <p>The FOOTPRINT Pesticide Properties DataBase:  <a href="http://sitem.herts.ac.uk/aeru/footprint/index2.htm">http://sitem.herts.ac.uk/aeru/footprint/index2.htm</a></p> <p>The Pesticide Manual British Crop Protection Council (BCPC): <a href="https://www.bcpc.org/">https://www.bcpc.org/</a></p> <p>Regulation (EC) No 1272/2008 of The European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 and its amendments and other national legislation implementing the GHS</p>

<sup>3</sup> World Health Organization

<sup>4</sup> Globally Harmonized System of Classification and Labelling of Chemicals

Hazard Group	Criteria	Indicators and thresholds for the identification of FSC highly hazardous pesticides (HHPs)	Sources of information
CHRONIC TOXICITY	<b>Criterion 3. Carcinogenicity</b>	<p>3.1. A pesticide is considered 'highly hazardous' if it contains any active ingredient that is in any of the following categories by classification systems:</p> <p>a) Group 1: 'The agent (mixture) is carcinogenic to humans' or Group 2A: 'The agent (mixture) is probably carcinogenic to humans', according to the <u>IARC</u><sup>5</sup>, OR</p> <p>b) Group A (Carcinogenic to Humans) (1986 Guidelines) or Group B (Probably Carcinogenic to Humans) (1986 Guidelines) or Known/Likely human carcinogen (1996 Guidelines) or Carcinogenic to humans (1999 and 2005 Guidelines-current) or Likely to be carcinogenic to humans (1999 and 2005 Guidelines - current), according the <u>EPA</u><sup>6</sup>, OR</p> <p>c) Category IA (Known to have carcinogenic potential for humans) or category IB (Presumed to have carcinogenic potential for humans), as classified by national/ international authorities according to <u>classification for carcinogens of the GHS</u><sup>7</sup>.</p>	<p>US EPA: Chemicals Evaluated for Carcinogenic Potential. Office of Pesticide Programs, U.S. Environmental Protection Agency (US EPA).</p> <p>IARC: Agents reviews by the IARC Monographs. Volumes 1-102 International Agency for Research on Cancer (IARC), Lyon, France</p> <p>Regulation (EC) No 1272/2008 of The European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 and its amendments and other national legislation implementing the GHS.</p>

5 International Agency for Research on Cancer

6 Carcinogenicity classification by the US Environmental Protection Agency

7 Global Harmonized System of Classification and Labelling of Chemicals

Hazard Group	Criteria	Indicators and thresholds for the identification of FSC highly hazardous pesticides (HHPs)	Sources of information
CHRONIC TOXICITY	<b>Criterion 4. Mutagenicity to mammals</b>	<p>4.1 A pesticide is considered 'highly hazardous' if it contains any active ingredient that is in any of the following categories:</p> <p>a) Category IA (Substances known to induce heritable mutations in germ cells of humans) or Category IB (Substances which should be regarded as if they induce heritable mutations in the germ cells of humans), as classified by national/ international authorities according to the <u>classification for mutagenicity of the GHS<sup>5</sup></u>.</p>	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 and its amendments and other national legislation implementing the GHS.
	<b>Criterion 5. Developmental and reproductive toxicity</b>	<p>5.1 A pesticide is considered 'highly hazardous' if it contains any active ingredient that is in any of the following categories:</p> <p>a) Category IA (Known human reproductive toxicant) or Category IB (Presumed human reproductive toxicant), as classified by national/ international authorities according to the <u>classification for reproductive toxicants of the GHS<sup>8</sup></u>.</p>	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 and its amendments and other national legislation implementing the GHS.

<sup>8</sup> Global Harmonized System of Classification and Labelling of Chemicals

Hazard Group	Criteria	Indicators and thresholds for the identification of FSC highly hazardous pesticides (HHPs)	Sources of information
CHRONIC TOXICITY	<b>Criterion 6. Endocrine disrupting chemical (EDC)</b>	<p>6.1 A pesticide is considered 'highly hazardous' if it contains any active ingredient that is classified as:</p> <ul style="list-style-type: none"> <li>a) Category 1 (Substances for which endocrine activity have been documented in at least one study of a living organism) according to the <u>EU<sup>9</sup> list of potential endocrine disruptors</u>, OR</li> <li>b) Category 2 (Suspected human carcinogens) of the classification for carcinogens of the GHS<sup>6</sup> AND Category 2 (Suspected human reproductive toxicant) of the <u>classification for reproductive toxicants of the GHS<sup>6</sup></u></li> </ul>	<p>EC (2000): Towards the establishment of a priority list of substances for further evaluation of their role in endocrine disruption – preparation of a candidate list of substances as a basis for priority setting, European Commission, Delft.</p> <p>EC (2004): Commission Staff Working Document SEC (2004) 1372 on implementation of the Community Strategy for Endocrine Disrupters – a range of substances suspected of interfering with the hormone systems of humans and wildlife (COM (1999) 706), European Commission, Brussels.</p> <p>EC (2007): Commission staff working document on the implementation of the "Community Strategy for Endocrine Disrupters" – a range of substances suspected of interfering with the hormone systems of humans and wildlife (COM (1999) 706), (COM (2001) 262) and (SEC (2004) 1372), SEC(2007).</p> <p>Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 and its amendments and other national legislation implementing the GHS.</p>

Hazard Group	Criteria	Indicators and thresholds for the identification of FSC highly hazardous pesticides (HHPs)	Sources of information
ENVIRONMENTAL TOXICITY	<b>Criterion 7. Acute toxicity to aquatic organisms</b>	<p>7.1. A pesticide is considered 'highly hazardous' if it contains any active ingredient that:</p> <ul style="list-style-type: none"> <li>a) has aquatic toxicity LC50/EC50 &lt; 50 µg/l, using Daphnia as the test organism or other invertebrate or vertebrate aquatic organisms that show greater sensitivity than Daphnia. Acute test duration up to 96 hours.</li> </ul>	<p>The FOOTPRINT Pesticide Properties DataBase:  <a href="http://sitem.herts.ac.uk/aeru/footprint/index2.htm">http://sitem.herts.ac.uk/aeru/footprint/index2.htm</a></p> <p>The Pesticide Manual British Crop Protection Council (BCPC):  <a href="https://www.bcpc.org/">https://www.bcpc.org/</a></p>
	<b>Criterion 8. Persistence in soil or water and low sorption potential</b>  <b>AND</b> <b>Bio-magnification, bio-accumulation</b>	<p>8.1 A pesticide is considered 'highly hazardous' if it contains any active ingredient that is considered:</p> <ul style="list-style-type: none"> <li>a) Persistent (DT50&gt; 90 days), COMBINED WITH</li> <li>b) Low soil sorption coefficient (Koc &lt; 300ml/g), AND/OR</li> <li>c) High water solubility (&gt; 30mg/l)</li> </ul> <p>AND</p> <p>8.2. it has the potential to accumulate in animal/human tissue:</p> <ul style="list-style-type: none"> <li>a) Bio-concentration factor (BCF) for the active ingredient is ≥ 1000, OR</li> <li>b) Octanol-water partition coefficient (KOW) for the active ingredient is &gt; 1000 i.e. logP (KOW) &gt; 3</li> </ul> <p>Note: BCF data shall supersede the logP (KOW) data.</p>	<p>The FOOTPRINT Pesticide Properties DataBase:  <a href="http://sitem.herts.ac.uk/aeru/footprint/index2.htm">http://sitem.herts.ac.uk/aeru/footprint/index2.htm</a></p> <p>The Pesticide Manual British Crop Protection Council (BCPC):  <a href="https://www.bcpc.org/">https://www.bcpc.org/</a></p>

9 European Union

Hazard Group	Criteria	Indicators and thresholds for the identification of FSC highly hazardous pesticides (HHPs)	Sources of information
DIOXINS	<b>Criterion 9. Dioxins (residues or emissions)</b>	<p>9.1 A pesticide is considered 'highly hazardous' if:</p> <ul style="list-style-type: none"> <li>a) it is contaminated with any dioxins at a level of 10 part per trillion (corresponding to 10 ng/kg) or greater of tetrachlorodibenzo-pdioxin (TCDD) equivalent (TEQ), or it produces such an amount of dioxin(s) when burned.</li> </ul>	Stockholm Convention and national monitoring data
HEAVY METALS	<b>Criterion 10. Heavy metals</b>	<p>10.1 A pesticide is considered 'highly hazardous' if it contains any of the following heavy metals as active ingredient, inert or known impurity:</p> <ul style="list-style-type: none"> <li>a) lead (Pb), OR</li> <li>b) cadmium (Cd), OR</li> <li>c) arsenic (As), OR</li> <li>d) mercury (Hg)</li> </ul>	<p>The Pesticide Manual British Crop Protection Council (BCPC):</p> <p><a href="https://www.bcpc.org/">https://www.bcpc.org/</a></p>



## **Annex 2. Minimum list of hazards, elements and variables to consider in the assessment of environmental and social risks.**

This annex provides:

- a) a minimum set of types of hazards, exposure elements and exposure variables that shall be considered by FSC, Standard Development Groups and Organizations to identify and assess the risks of using a chemical pesticide and
- b) a guidance template to assist organizations conducting ESRA at the management unit level.

### **a) Minimum set of types of hazards, exposure elements and exposure variables**

#### **1. Hazard identification**

The first step in the risk assessment is the identification of the type and nature of adverse effects of the use of a chemical pesticide. Once the hazards are identified, proper measures can be taken to eliminate them.

To identify and assess the risks of using a chemical pesticide, at least the following hazards shall be considered:

<b>Hazard group</b>	<b>Types of hazard</b>
Acute toxicity	Toxic by contact or ingestion
	Toxic by inhalation
Chronic toxicity	Carcinogenicity
	Mutagenicity to mammals
	Developmental and reproductive toxicity
	Endocrine disruption
Environmental toxicity	Acute toxicity to aquatic organisms
	Persistence in soil and water
	Biomagnification and bioaccumulation

#### **2. Exposure Characterization**

The second step in a risk assessment is the exposure characterization, which analyzes how different values can be affected by the use of a chemical pesticide.

The exposure characterization considers:

- the environmental and social values exposed to chemical pesticides and that can potentially or actually be affected by their use, and
- the exposure variables, that influence the level of exposure.

##### **2.1 Exposure elements**

Exposure elements are the elements of values of interest to which the use of a chemical pesticide may pose risk. Two types are distinguished: environmental values and social values.

To identify and assess the risks of using a chemical pesticide, at least the following environmental and social values shall be considered:

##### **2.2.1 Environmental values:**

- Soil (erosion, degradation).
- Water (ground water, surface waters, water supplies).

- Atmosphere (air quality, climate change).
- Non-target species (vegetation, wildlife, pollinators, pets).
- Non timber forest products (medicinal plants, mushrooms).
- High Conservation Values.
- Landscape.
- Ecosystem services (recreation).

### **2.2.2 Social values:**

- Health of workers - including migrant and seasonal workers -, neighbors, communities and indigenous peoples (fertility/reproductive, respiratory, dermatologic, neurological and gastrointestinal problems, cancer, hormonal imbalance).
- Health of the family
- Food and water (contamination).
- Social infrastructures (schools, hospitals).
- Economic viability (jobs, agriculture, livestock).
- High Conservation Values.
- Customary rights.

### **2.2 Exposure variables**

The usage conditions of a chemical pesticides affects the level of exposure. To identify the way to use a chemical pesticides that poses a smaller risk, at least the following variables shall be considered:

- Formulation (liquid, granules, dust).
- Mixture of active ingredients.
- Concentration of the active ingredient(s).
- Dose of the active ingredient(s).
- Frequency of application.
- Area of application.
- Previous applications.
- Metabolites of the active ingredient.
- Capacity and skills of workers (license to handle pesticides, training, ability to read and understand labels and instructions).
- Application system.
- Application equipment.
- Personal protective equipment (PPE).
- Topography of the area of application.
- Weather conditions during the application (wind speed and direction, temperature, humidity).
- Spray drift.
- Information about pesticides application available to neighbors (related to perception of pesticides use).

## **b) Guidance template for undertaking ESRA at the management unit level**

Organizations are required to undertake ESRA at the management unit level to identify the lowest risk option to control a pest, weed or disease problem.

The template below has been designed as a guidance tool to support the assessment.

The template outlines the risk factors to be identified and consequently mitigated:

- hazard – the type of hazard the chemical pesticide presents (e.g. toxicity by contact or ingestion, carcinogenicity),
- exposure elements – the environmental and social values that may be affected by the chemical pesticide (e.g. water quality, human health) and
- exposure variables – the characteristics of the chemical pesticide application (e.g. concentration, application method),

and a description of the associated risks and the mitigation strategies to minimize them.

Additional hazards, exposure elements and/or exposure variables may be identified due to the operational, environmental or social circumstances within which the chemical pesticide is being applied.

### **Explanatory note**

In completing the templates when conducting a site relevant ESRA it is important to consider:

- The scale of the operation. What area is being treated with the chemical pesticide?
- The intensity of the operation. Is all of the area being treated? Are other areas located nearby also being treated with the chemical pesticide?
- The hazard represented by the chemical pesticide. How toxic is the chemical pesticide to non-target values and are high risk values likely to be affected given the application method to be used?
- Local conditions, including environmental, social and regulatory aspects. How does the environment of the area to be treated affect the choice of chemical pesticide(s) and/or application methods? Are people living nearby and/or do they use the area to be treated for recreation, food collection purposes? How do regulatory requirements affect the choice of chemical pesticide(s) and/or application methods?

### **Template for ESRA at the management unit level**

This template can be used by organizations to conduct Environmental and Social Risk Assessment (ESRA) at the management unit level.

#### **General information**

<b>Date</b>			
<b>Organization name</b>		<b>Branch</b>	
<b>Location</b>		<b>Country</b>	
<b>Site</b>		<b>Treatment area (hectares/acres)</b>	
<b>Proposed chemical pesticide</b>		<b>Reason(s) for treatment (protection of vegetation, logs, human health, livestock, native species, seeds or seedlings, weed control, others)</b>	

**Identification and assessment of risk – function of toxicity and exposure- and mitigation strategies to minimize it**

Exposure Elements	Minimum list of values	Hazard groups and types of hazards									Description of why/why not a risk	Mitigation strategies defined to minimize risk <sup>10</sup>
		Acute toxicity		Chronic toxicity				Environmental toxicity				
		Toxic by contact or ingestion	Toxic by inhalation	Carcinogenicity	Mutagenicity to mammals	Developmental and reproductive toxicity	Endocrine disruption	Acute toxicity to aquatic organisms	Persistence in soil and water	Biomagnification -bioaccumulation		
Environmental	Soil (erosion, degradation)											
	Water (ground water, surface water, water supply)											
	Atmosphere (air quality, climate change)											
	Non-target species (flora and fauna, including wildlife pollinators and domestic animals)											
	Non-timber forest products (medicinal plants, food sources)											
	High conservation values (in particular HCVs 1 to 4)											
	Landscape											
	Ecosystem services (tourism, recreation)											

<sup>10</sup> The mitigation strategies will be developed considering at least the minimum list of exposure variables below

Exposure Elements	Minimum list of values	Hazard groups and types of hazards								Description of why/why not a risk	Mitigation strategies defined to minimize risk <sup>10</sup>
		Acute toxicity		Chronic toxicity			Environmental toxicity				
		Toxic by contact or ingestion	Toxic by inhalation	Carcinogenicity	Mutagenicity to mammals	Developmental and reproductive toxicity	Endocrine disruption	Acute toxicity to aquatic organisms	Persistence in soil and water		
	Others:										
Social	Human health (workers -including migrant and seasonal workers- and their families, neighbors, communities and indigenous peoples (fertility/reproductive, respiratory, dermatologic, neurological and gastrointestinal problems, cancer, hormonal imbalance).										
	Food and water (contamination)										
	Social infrastructure (schools, hospitals, community gardens)										
	Economic viability (jobs, agriculture, livestock)										
	High Conservation Values (in particular HCVs 5 and 6)										
	Customary rights										
	Others:										

- Exposure variables

The following minimum list of exposure variables shall be considered when describing the mitigation strategies in the table above:

- Formulation (liquid, granules, dust).
- Mixture of active ingredients.
- Concentration of the active ingredient(s).
- Dose of the active ingredient(s).
- Frequency of application.
- Area of application.
- Previous applications.
- Metabolites of the active ingredient.
- Capacity and skills of workers (license to handle pesticides, training, ability to read and understand labels and instructions).
- Application system.
- Application equipment.
- Personal protective equipment (PPE).
- Topography of the area of application.
- Weather conditions during the application (wind speed and direction, temperature, humidity).
- Spray drift.
- Information about pesticides application available to potentially affected stakeholders.<sup>11</sup>

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<sup>11</sup> Stakeholder engagement is a core part of the ESRA. Organizations shall comply with the applicable international and national indicators (to be develop) for engagement with interested and/or affected stakeholders and consider site specific situations.

### **Annex 3. Procedure for use of FSC prohibited HHPs in case of emergency situations or governmental orders**

1. Before using a FSC prohibited HHP in response to the situations described in Clause 4.7, the Organization shall provide a written notification to its certification body of the intent to use a FSC prohibited HHP including a rationale for its use.
2. Within thirty (30) days of starting the use, the Organization shall submit a report to its certification body describing the rationale for the need to use the FSC prohibited HHP, a site relevant environmental and social risk assessment (ESRA) conducted as per Clause 4.4.8 and the control measures, training and monitoring in place to prevent, minimize and mitigate impacts a description of the correspondent review processes.
3. Moreover, the Organization shall comply with the applicable International Generic Indicators (IGI) applying to the hazard(s) that the FSC prohibited HHP used present and those related to training, monitoring, use of personal protective equipment, research and engagement with interested and/or affected stakeholders.
4. In case of emergency situations, a comparative ESRA shall probe that the pest or disease problem cannot feasibly be controlled by a less hazardous alternative.
5. Certification bodies shall assess compliance with the requirements for emergency or governmental orders exceptions supported by independent pesticides experts.
6. Non-compliance with the requirements for FSC prohibited HHPs shall result in the issuance of a major non-conformity and the correspondent corrective action request, including measures for repairing damages for environment or human health.
7. If the non-compliance is proved to be intentional, it shall result in the suspension of the certificate, which in accordance to FSC-STD-20-001 (V4-0) General Requirements for FSC Accredited Certification Bodies may lead to the withdrawal of the certificate.
8. Certification bodies shall include in the public summary reports annual records about the use of FSC prohibited HHPs in case of emergency situations or governmental orders.



## **Annex 4. Mechanism to implement requirements for FSC highly restricted HHPs and FSC restricted HHPs**

### **National level**

#### **ESRA in countries with Standard Development Groups (SDGs)**

1. For each FSC restricted HHPs and FSC highly restricted HHPs relevant<sup>12</sup> in the country, SDGs shall develop an ESRA matrix, which shall include at a minimum the identification of the hazard(s) associated to the HHP, and an assessment of the risks to the environmental and social values considering exposure variables (See Annex 2. Minimum list of hazards, elements and variables to consider in the assessment of environmental and social risks).
2. Based on the risk characterization in the ESRA matrix, SDGs shall determine whether or not the HHP may be used in FSC certified management units in the country.
3. For each FSC restricted and FSC highly restricted HHPs permitted for use, SDGs shall develop a national framework with indicators and locally relevant thresholds for risk management.
4. SDGs shall use the international generic indicators (to be developed by FSC) and the ESRA matrix as a starting point.
5. SDGs shall consider the scale, intensity and risk (SIR) of the forest operation and their pesticides use. As risk increases, the requirements for frequency and intensity of stakeholder engagement, monitoring, research activities and mitigation measures implemented shall be intensified.
6. SDGs shall consider information in chemical labels, material safety data sheets (MSDS), existing national or regional level risk assessments undertaken by regulatory agencies in the country, and conditions for derogations approved in the country when applicable, during the development of the ESRA matrix and the national indicators.
7. When possible, the national framework shall define in which circumstances a FSC highly restricted HHPs may be used instead of a FSC restricted HHPs, including the rationale.
8. The national framework shall be submitted to FSC for approval.
9. Certification bodies shall assess compliance of the Organization with these framework as part of the annual audit.

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<sup>12</sup> Used or likely to be used in FSC certified Managements Units in the country

#### Explanatory note for public consultation

Hazard is global. Therefore, in order to control risk, exposure has to be managed locally.

The WG proposes to create a global framework with global indicators for a risk assessment template to be subsequently adapted to the regional / national circumstances.

To avoid introducing new elements to the FSC system, the WG proposes using the existing structures in the FSC system. Thus, this adaptation will be done by Standard Development Groups and the adapted indicators included in National Forest Stewardship Standards, that will be submitted to FSC for approval.

Certification bodies, with assistance from technical experts if necessary, will check compliance with the requirements for the use of FSC highly restricted HHPs and FSC restricted HHPs, as it occurs with other FSC requirements.

This proposal reduces the burden and costs of the current derogation system, eliminates the centralized decision making and allows local flexibility within a homogeneous framework.

#### **ESRA in countries without Standard Development Groups (SDGs)**

10. International Generic Indicators (IGI) for the use of chemical pesticides provided by FSC shall be adopted.
11. Upon approval by FSC, the national indicators and locally relevant thresholds for risk management from a country with similar pest problems and forest conditions, shall be used.