Food and Agriculture Organization of the United Nations

UNEP

# ROTTERDAM CONVENTION: CONNECTING PEOPLE, SCIENCE AND POLICY MAKERS

# ROTTERDAM CONVENTION
# CONNECTING PEOPLE, SCIENCE AND POLICY MAKERS

PROTECTING PEOPLE'S HEALTH
AND THE ENVIRONMENT BY REGULATING
HAZARDOUS PESTICIDES
THROUGH INFORMED DECISIONS
TAKEN BY POLICY MAKERS BASED ON
SOUND SCIENTIFIC PRINCIPLES!

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# INTRODUCTION



People developed agriculture around 12,000 years ago.

Agriculture is considered a major factor of the global decline in biodiversity, considering its strong impact on the environment.

The agriculture intensification during the 20th century has led to the homogenization of agricultural landscapes (monocultures) and to the development of farming practices that are unfavorable to many species.

Among those practices pesticides application is listed high, as one of the most detrimental.

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# PEOPLE



Pesticides are used to control pests in crops, to kill harmful organisms (insects, fungi) or weeds, as causal factors for many crop diseases and infestations and to stop these pests from spreading. Pesticides contain active substances with intrinsic toxic properties. They are considered essential to protect crops from losses in yield and quality.

However, that same use can cause adverse environmental and health effects. Many pesticides have been shown to be toxic also to non-target organisms including beneficial organisms and might have long term negative effects on the environment. Pesticides also pose a risk to human health - individuals and communities alike. The most vulnerable categories through **direct occupational exposure** are farmers and farm workers as operators of pesticides, as well as their families. Highly toxic pesticides and their formulations are reported to be the causal factor for intoxications and poisonings of many farmers and their families especially in developing countries. Prevailing conditions of use in these countries include the lack of safe technology and protective equipment.

**Most insecticides and fungicides come as liquids or wettable powders, are mixed with water and applied by using a backpack sprayer. Often, farmers combine several products together in mixtures known locally as cocktails, applying all on a single pass through the field. Farmers might apply pesticides with dysfunctional equipment, not wearing protective clothing, due to non-availability or climatic conditions and mixing pesticides with bare hands. All this, together with a non-adequate training of farmers is increasing the exposure and thus the risk these pesticides pose to them.**

Although the pesticide industry is promoting the concept of safe use of pesticides, safe use of Highly Hazardous Pesticides and severely hazardous pesticide formulations is not possible given the socio-economic, and sometimes climatic conditions in developing countries. WHO (1990)[1] estimated that at least 20.000 accidental deaths, and 3.5 - 5 million unintentional poisoning accidents are caused by pesticides every year in the world. The majority of these are occurring in developing countries where about 30% of the commercialized pesticides (formulations) are not in full conformity with internationally recognized quality norms (China and Sri Lanka – 35 cases of Acute pesticide poisoning per 100000 in general population; Thailand – 18 per 100000 occupationally related APP)[2].

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There are many ways by which residues from treated crops can be carried from the field into the food on our table. Time between spaying and harvest might be too short and pesticide residues remain in or on the produce. Residues on fruits and vegetables are not properly washed off. Further, pesticides can leach through the soil into groundwater, contaminating drinking water. Due to container size, the prevailing distribution system and other reasons, empty containers might not be properly disposed of and could be used for food and water storage. Pesticides can also contaminate soil or animal feed and reach the consumer via the food chain.

People are **indirectly exposed** to pesticides through contaminated soil, water, air and agricultural produce, thus via food. Pesticide residues bio-accumulates in particular in fatty tissue and can be harmful if they exceed certain levels.

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Pesticides in the environment can have adverse effects on all kind of non-target aquatic and terrestrial organisms and on eco-system services. These ecosystem services are the benefits that people obtain from ecosystems. They include provisioning (e.g. food, water), regulating (e.g. climate, water purification), and cultural services (e.g. recreational) that directly affect people, and supporting services (e.g. soil formation, nutrient cycling) needed to maintain the other services. Biodiversity underlies all ecosystem services[3].

"Pesticide means any substance, or mixture of substances of chemical or biological ingredients, which does not include any living organisms, intended for repelling, destroying or controlling any pest, or regulating plant growth".

"Highly Hazardous Pesticides (HHP) means pesticides that are acknowledged to present particularly high levels of acute or chronic hazards to health or environment according to internationally accepted classification systems such as WHO or GHS or their listing in relevant binding international agreements or conventions. In addition, pesticides that appear to cause severe or irreversible harm to health or the environment under the conditions of use in a country may be considered to be and treated as highly hazardous".

"Severely hazardous pesticide formulation means a chemical formulated for pesticidal use that produces severe health or environmental effects observable within a short period of time after single or multiple exposures, under conditions of use". (Code of Conduct and Rotterdam Convention text)

[1] Public health impact of pesticides used in agriculture, World Health organization, Geneva, 1990

[2] Policy and practice: Acute pesticide poisoning (Josef G. Thundiyil et al). Bulletin of the World Health Organization. March 2008, 86 (3)

[3] Millennium Ecosystem Assessment Synthesis Report, http://www.maweb.org//en/Products.Synthesis.aspx

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# SCIENCE



The availability of scientific information is essential to our ability to understand risks from pesticides, and to manage those risks properly. The process that is used for evaluating the potential for health and ecological effects of a pesticide is called risk assessment. Protection of human health and the environment is facilitated through harmonized science-based data requirements and methodologies for hazard and risk assessment. In general, complete standard data packages investigating physical and chemical properties, fate and behaviour in the environment, toxicological and eco-toxicological effects, allowing for a risk assessment for human and animal health and the environment, in accordance with valid legislation are used to carry out risk assessments of pesticides.


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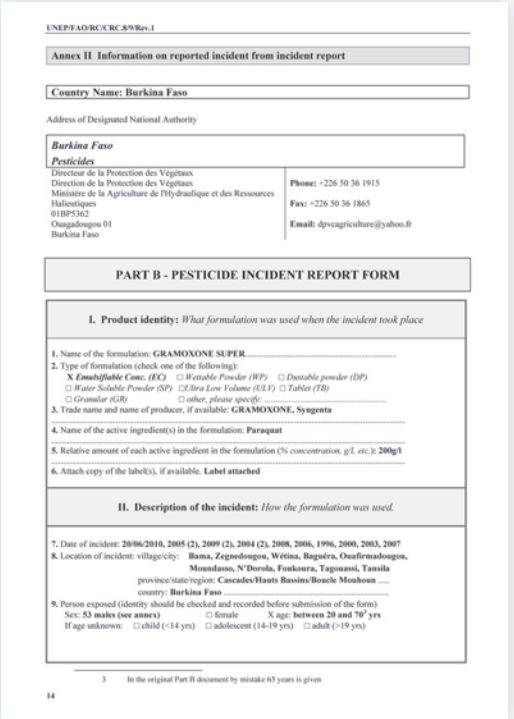
The Convention is embedding requirements for science based risk and hazard evaluation, as well as scientifically supported information on physico-chemical, toxicological and eco-toxicological properties of the pesticides for which Parties submit notifications of final regulatory actions for banning or restricting certain pesticide. The specific information requirements and criteria are listed in Annex I and Annex II of the Convention.

Annex I contains all information requirements for notifications made pursuant to article 5, whereas Annex II describes the criteria for listing these banned or severely restricted chemicals in Annex III, making them subject to the PIC procedure. Annex II re-

quires a risk evaluation based on a review of scientific data in the context of the conditions prevailing in the Party's country submitting the notification of a final regulatory action to ban or restrict a chemical. The data should be generated in accordance to scientifically recognized methods and data reviews carried out in agreement of sound scientific principles and methods.

In addition, with the provisions of article 6 of the Convention any Party that is a developing country or country with an economy in transition, may propose to the Secretariat the listing of a severely hazardous pesticide formulation (SHPF) in Annex III. Such proposals are based on incidents that occur for example during repackaging operations, spraying applications and storage operations. In those cases the DNA collects data on the exposure to one or more persons and the effects and consequences to their health.



UNEP/FAO/RC/CRC.8/9/Rev.1

**Annex II Information on reported incident from incident report**

**Country Name: Burkina Faso**

Address of Designated National Authority

***Burkina Faso***
***Pesticides***
Directeur de la Protection des Végétaux
Direction de la Protection des Végétaux
Ministère de la Agriculture de l'Hydraulique et des Ressources Halieutiques
01BP5362
Ouagadougou 01
Burkina Faso

**Phone:** +226 50 36 1915
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**Email:** dpvcagriculture@yahoo.fr

**PART B - PESTICIDE INCIDENT REPORT FORM**

**I. Product identity:** *What formulation was used when the incident took place*

1. Name of the formulation: **GRAMOXONE SUPER**
2. Type of formulation (check one of the following):
**X** ***Emulsifiable Conc. (EC)*** ☐ *Wettable Powder (WP)* ☐ *Dustable powder (DP)*
☐ *Water Soluble Powder (SP)* ☐ *Ultra Low Volume (ULV)* ☐ *Tablet (TB)*
☐ *Granular (GR)* ☐ *other, please specify:* .....
3. Trade name and name of producer, if available: **GRAMOXONE, Syngenta**
4. Name of the active ingredient(s) in the formulation: **Paraquat**
5. Relative amount of each active ingredient in the formulation (*% concentration, g/L etc.*): **200g/l**
6. Attach copy of the label(s), if available. **Label attached**

**II. Description of the incident:** *How the formulation was used.*

7. Date of incident: **20/06/2010, 2005 (2), 2009 (2), 2004 (2), 2008, 2006, 1996, 2000, 2003, 2007**
8. Location of incident: village/city: **Bama, Zegnedougou, Wééna, Baguéra, Ouafirmadougou, Moundasso, N'Dorola, Fouksoera, Tagouassi, Tansila**
province/state/region: **Cascades/Hauts Bassins/Boucle Mouhoun**
country: **Burkina Faso**
9. Person exposed (identity should be checked and recorded before submission of the form)
Sex: **53 males (see annex)** ☐ female X age: **between 20 and 70[3] yrs**
If age unknown: ☐ child (<14 yrs) ☐ adolescent (14-19 yrs) ☐ adult (>19 yrs)

3 In the original Part B document by mistake 65 years is given

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The Rotterdam Convention is a legally binding international treaty that facilitates information exchange in international trade on certain hazardous chemicals and pesticides trough the mechanism of the Prior Informed Consent (PIC) procedure. All information exchanged, need to be based on national decisions that can be taken under different circumstances. The main objective of this agreement is to promote shared responsibility and cooperative efforts between exporting and importing countries for managing chemicals that pose significant risks in order to protect human health and environment. This is achieved via the following provisions:

- ***Submission of importing responses for Annex III chemicals*** *(article 10)*
- ***Submission of notifications of final regulatory actions on banned or restricted chemicals in Parties*** *(article 5)*
- ***Submission of proposals for Severely Hazardous Pesticides Formulation from developing countries*** *(article 6)*
- ***Exporting notifications*** *(article 12)* ***and accompanying information*** *(article 13)*

nally, articles 12 and 13, describe the obligations of **Parties exporting** chemicals listed in Annex III and chemicals banned or severely restricted in their territory, to notify and to provide each importing Party with a safety data sheet according to an internationally recognized format including **scientifically based information**. The export notification shall include the information set out in Annex V.

Annex IV of the Convention sets out information and criteria for listing those SHPFs in Annex III and asks for further information, for example risk and/or hazard evaluations, where available. Those SHPF proposals are verified and considered for listing in Annex III by the Chemical Review Committee (CRC) if the Party is able to prove that the severely hazardous pesticides formulation affects human health or is causing environmental problem **under conditions of use in its territory**, and if the proposal contains all information related to the accident and the formulation, as required in Annex IV of the Convention. Fi-

Scientifically backed information on hazardous chemicals available through various international bodies (examples):

- WHO Recommended Classification of Pesticides by Hazard (WHO, 2009)
- Health Risk Assessment Toolkit: Chemical Hazards (WHO, 2010)
- Sound management of pesticides and diagnosis and treatment of pesticide poisoning (WHO/UNEP)
- Childhood Pesticide Poisoning: Information for Advocacy and Action (FAO/UNEP/WHO, 2004)
- International Chemical Safety Cards (World Health Organization and International Labor Organization)
- International Programme on Chemical Safety (IPCS) - joint programme of three Cooperating Organizations (WHO, ILO, and UNEP)
  - Health and Safety Guides (HSG)
  - Environmental Health Criteria (EHC)
  - Concise International Chemical Assessment Documents (CICADs)
- Joint FAO/WHO Meeting on Pesticide Residues (JMPR) - Residues monographs and information on pesticide maximum residue levels (MRLs)
- International Agency for Research on Cancer (IARC) as part of WHO
- "Screening Information Data Set" (SIDS) programme, operated under the auspices of the Organization for Economic Cooperation and Development (OECD) which includes: physico-chemical properties, results of environmental fate testing, results of environmental effects testing and results of health effects testing
- EU pesticides database

# POLICY MAKERS



Policy makers have to carefully assess the benefits of pesticides in agriculture and the risk they pose to human health and environment on the basis of scientific data. They have to integrate social, environmental and economic aspects in their final decisions on whether to register a pesticide and its formulations for certain uses. Review of decisions on the basis of regular re-evaluations and reassessments of already registered pesticides based on newly available scientific data are also part of their work. This can lead to re-registration but also to a ban or restriction of pesticides. Examples for advanced pesticide regulation can be found within Organisation for Economic Co-operation and Development (OECD) countries.

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Science is guiding policy changes for the benefit of people and the environment. Policy regulations stipulate rules, set up standards and establish guidance aiming at a justifiable balance between benefit and risk, while ensuring food security and the protection of human health and the environment at the same time.

Contrary to developed countries, developing countries and countries with economies in transition often lack the resources to manage the risks from pesticides. International cooperation is therefore of crucial importance for developing countries.

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# ROLE OF ROTTERDAM CONVENTION



The Rotterdam Convention (1998), a legally binding international treaty with 154 Parties enables such cooperation by facilitating information exchange on certain hazardous pesticides in international trade and use. The **Conference of Parties (COP)** as governing body of the Convention unanimously decides to include in Annex III, hazardous chemicals and pesticides based on notifications of at least two PIC regions and **SHPFs based on a proposal submitted by at least one developing country**. This gives a very strong voice to developing countries and supports them in their efforts to manage the risk from pesticides. Thus, via the Secretariat of the Rotterdam Convention, all members Parties are alerted for potential risks to health and environment caused by certain hazardous pesticides and pesticide formulations. This potentially leads towards regulatory actions at national level.

Further, the Secretariat of the Rotterdam Convention provides technical assistance to developing country parties and parties with economies in transition in order to support them in building their capacity (human resources, policy, legal and institutional frameworks), and to fulfil their obligations in implementing the Convention. Technical assistance is provided upon request and according to the specific needs of the parties, eithe **through face-to-face meetings or through online training**

The Rotterdam Convention Secretariat is **jointly administered by FAO and UNEP, thus making best use of the organisations' particular strengths**. FAO with its expertise in pesticides, a long history in pesticide management and a global network of regional offices is ensuring support on a national, regional and global level.

The work under the Convention and its implementation is aligned with the FAO's strategic objective on sustainable agriculture. This again is supported by data and experience from agro-ecology, conservation agriculture, climate-smart agriculture, alternatives to the use of pesticides, integrated pest management (IPM) program and Farmers Field Schools (FFS).

Published by the Secretariat of the Rotterdam Convention
on the Prior Informed Consent Procedure
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*For further information please contact the Secretariat at the following address:*

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