



Chemicals and Agriculture

Chemicals are used in every facet of life and are present in a bewildering range of products and applications. Growing knowledge of the wide distribution and impact of chemicals in the environment and the human body has underscored the need for their regulatory control and careful management. Agricultural pesticides are an important subset of chemicals and pose specific challenges.

The international community has taken several important initiatives to protect the environment and health from chemicals. These include the Montreal Protocol on protection of the ozone layer, the Basel Convention on the *Transboundary Movement of Hazardous Wastes*, the Rotterdam Convention on the *Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade*, the Stockholm Convention on *Persistent Organic Pollutants*, and the *Strategic Approach to International Chemicals Management*.

Although many of the chemicals addressed by the above initiatives are agricultural pesticides, these initiatives are predominantly led by organizations in the environmental sector. Consequently, the dialogue in countries is primarily among the environment authorities. Ministries of agriculture and health, which play a major role in pesticide management, are often insufficiently involved and, as such, have less access to international funds for chemicals management capacity building. As a result, important opportunities are being missed to link-up with, or strengthen, ongoing programmes on pesticide management. Equally, opportunities are being missed for using the vast body of experience related to regulatory control of pesticides as an example for the less developed control of other chemicals. Special efforts are required to better connect the work of the different sectors at national level.

STRENGTHENING THE REGULATORY FRAMEWORK FOR PESTICIDE CONTROL

FAO's solid expertise and experience in pesticide management underpin its leading role in providing guidance at the international level and technical support at national level.

International guidance

In recognition of the hazards associated with pesticide trade and use, FAO has been given the task of developing the tools and strategies for improving the management of pesticides. The *International Code of Conduct on the*

Distribution and Use of Pesticides is a non-legally binding instrument that provides guidance on the management of pesticides and has been agreed by FAO Member States, WHO, the private sector and NGOs. Alongside the Code, technical guidelines have been prepared to assist countries with the implementation of specific aspects of the Code. In addition:

- FAO provides the Secretariat for the Rotterdam Convention jointly with UNEP and leads the work on pesticides;
- FAO works closely with WHO to provide guidance to Codex Alimentarius, the world's food standard setting body, on maximum residue limits for individual pesticides in agricultural products;
- FAO leads on the provision of standard technical specifications for pesticides which helps countries ensure that pesticidal products are effective and do not contain possibly harmful impurities.

The most effective way of reducing the impact of pesticides is by reducing their use.

Practical implementation

Regulatory control: Effective pesticide legislation provides governments with the tools to control the import, trade, management, use and disposal of pesticides. FAO has provided many countries with technical assistance to strengthen pesticide legislation and capacity for its implementation. A special initiative is being initiated towards progressively banning highly hazardous pesticides.

Integrated Pest Management: The most effective way of reducing the impact of pesticides is by reducing their use.

Integrated Pest Management (IPM) is widely promoted by FAO to help farmers produce crops in a cost-effective and sustainable manner. IPM requires a good understanding of the agro-ecosystem and uses non-chemical methods to suppress pests. Pesticide use is generally reduced considerably without affecting yields. Where pesticide use remains justified, products are carefully selected to minimize impacts on anything other than the pests to be controlled.

Best practice: Pesticide application is the point at which most damage to health and environment occurs. Correct use requires a good understanding of pesticide hazards, the ability to read a complex label and follow its instructions, access to and correct use of personal protective equipment and well maintained and correctly calibrated application equipment. FAO provides guidance on best practice and works with governments and with partner agencies, organizations and the private sector to improve standards and reduce risks to farmers.

Stock management: Good stock management and storage of pesticides throughout their distribution lines is important in preventing loss, damage, deterioration and inappropriate use. FAO has developed computer-based stock management systems to allow tracking of products, and provides guidance on pesticide store design and management.

Disposal: Mismanagement of pesticides over decades has resulted in the accumulation of large stockpiles of obsolete pesticides that are now considered hazardous waste. FAO is working with partners globally to assist countries with the identification, securing and disposal of such stockpiles.



Pesticides pose particular problems

- Pesticides are designed to be toxic to living organisms.
- Pesticides are intentionally dispersed in the environment.
- Pesticides are often used by poorly educated and untrained individuals.
- Pesticides are commonly applied to food crops and can leave residues that are consumed.
- Pesticides often impact adversely on non target organisms that may serve important ecological functions, such as natural enemies of pests, pollinators, earth worms and birds.



FOR MORE INFORMATION:

Plant Production and Protection
Division

[http://www.fao.org/ag/AGP/AGPP/
Pesticid/Default.HTM](http://www.fao.org/ag/AGP/AGPP/Pesticid/Default.HTM)