

# *Pest management – a new approach*

A briefing for the *IPM in Developing Countries Project* funded by the European Commission *Environment in Developing Countries* budget (DGVIII)

**This overview aims to introduce Commission officers, delegations, and policy advisers to the new approach to pest management involving controlling chemicals, reducing reliance on pesticides and implementing IPM.**

## **Pesticides in developing countries**

Many people with practical development experience have been concerned about the use of pesticides in the field. Pesticides can, if properly used, bring higher productivity and reduce pest attack. However there is concern about whether safe use of pesticides is possible under some conditions in developing countries. Increasing quantities of pesticides have been procured for pest control, with little apparent effect on productivity.



*Farmer in Zimbabwe applying hazardous pesticide dimethoate with brush and bucket.  
(Photo: ZIP Research, Zimbabwe)*

## **Problems facing donor agencies**

The Commission has faced questions in the European Parliament about its use of pesticides in development aid. Stocks of outdated, hazardous pesticides in parts of Africa have amplified concern. Many development agencies are grappling with these questions. The Commission contracted the Pesticides Trust to suggest new approaches. A survey among Lomé member states confirmed the interest in Integrated Pest Management (IPM) strategies.

## **Experts agree**

Following research, the Pesticides Trust organised a two-day workshop in Gembloux, Belgium in 1996. Participants included the Commission, policy-makers from EU member states, representatives from Lomé

countries and from the principal intergovernmental and international agencies—the Technical Centre for Agricultural and Rural Cooperation (CTA), the Food and Agriculture Organisation of the UN (FAO) and CABI Bioscience. The workshop considered and approved the three-pronged approach to assist developing countries in asserting control over pesticides and moving towards sustainable pest management systems. The recommendations of the workshop are summarised in this briefing.

## **A new approach to pest management**

The strategy set out in this briefing consists of the combined approaches of:

- ❖ **Establishing control:** regulating and controlling the import, trade and use of pesticides;
- ❖ **Reducing reliance:** minimising pesticide use, selection of least hazardous products and introducing non-chemical controls where possible; and
- ❖ **Action for IPM:** adopting policies and implementing strategies in support of IPM. An emphasis is placed on the importance of farmer participation, identifying feasible IPM projects and establishing government policies and institutional support.

---

# *The pesticide market cannot be left to its own devices – the success or otherwise of IPM depends on its effective control.*

JPL Deuse, IPHYTROP Consortium,  
France

---

## **Pesticide concerns**

An International Labour Office report draws attention to the danger in the agricultural sector, where 14% of all occupational injuries and 10% of all fatal injuries are caused by pesticides. Accidental deaths from pesticide poisoning worldwide are estimated by the World Health Organisation at 20,000 a year, overwhelm-

ingly in developing countries. The *International Code of Conduct on the Distribution and Use of Pesticides* was agreed by governments and industry in 1985 through the FAO. After nearly ten years of international efforts to implement the Code, an FAO survey found very limited improvements in health problems and the effect of pesticides on the environment appeared substantially worse.

The corporate agenda is to intensify pesticide use in developing countries. Pesticide sales are increasing, and industry predicts that developing countries will account for over one-third of all sales by the year 2000.

## **Avoiding dangerous pesticides**

Until very recently, most African countries had no legislation governing pesticide import, distribution and use of pesticides. Some countries have now adopted pesticide registration schemes and others operate a list of permitted active ingredients. It is important that no pesticide be procured for a developing country unless it is registered or listed for use in that country.

Major development agencies now consider that, in general and subject to exceptions, some of the most acutely hazardous pesticides should not be procured. The World Health Organisation (WHO) has produced an internationally accepted ranking of pesticides according to their acute hazards. Most development agencies now recommend that Class Ia ('extremely hazardous') and Class Ib ('highly hazardous') products should not be procured, and in general neither should Class II ('moderately hazardous') products.

The FAO *Code of Conduct* covers matters relating to pesticide management; testing of pesticides; procedures to reduce health hazards; regulatory and technical requirements; availability and use; distribution and trade; information exchange and prior informed consent; labelling, packaging, storage and disposal; advertising; and guidance on monitoring and observance. Overall, the *Code* provides a widely accepted framework of good practice.

Technical guidelines are available from the FAO on implementation of most aspects of the *Code*. International work is under way through the Organisation of Economic Cooperation and Development to bring about international harmonisation on packaging and labelling of pesticides.

The Prior Informed Consent (PIC) provisions in the Code provides governments with information on pesticides which are banned, severely restricted, or withdrawn from use for health or environmental reasons. They provide a mechanism for governments in importing countries to indicate whether they prohibit or allow pesticides on a PIC list. The PIC procedure was adopted as a legally binding Convention in 1998. The list of PIC pesticides is published regularly by UNEP Chemicals and FAO, the joint secretariat. PIC pesticides should never be imported contrary to a government decision.

Among the most relevant guidance for development agencies are the FAO's *Provisional Guidelines on Tender Procedures for the Procurement of Pesticides*, which describe the requirements for documents and information in inviting tenders from suppliers. The *Guidelines* set out conditions to be listed in tender invitations and to be attached to submissions for bids – including quality, packaging and labelling.

## **Guides for procurement**

There are four basic guides for safer procurement. If pesticides are necessary (and this question should always be asked) the procurement process should make sure:

- ❖ the pesticide is registered for use in the country of destination or use;
- ❖ the pesticide is not in WHO Class Ia or Ib, and preferably not in Class II;
- ❖ the pesticide is not on the PIC list, or if so import is permitted and conditions can be met;
- ❖ the procurement procedure is in compliance with the FAO *Code* and the recent FAO *Provisional Tender Guidelines*.

These principles should apply whatever the source of pesticide procurement – whether by direct purchase, regional funding, Stabex funding or under National Indicative Programmes.

## **The new approach**

Pesticides will continue to be used for the foreseeable future in many situations. Each country will have different situations and priorities, and guidelines on pest management must recognise this.

The first approach is **to establish control of pesticides**, by adopting the basics of national pesticide registration and chemical management. This includes adopting the FAO *Code of Conduct*, the *Provisional Tender Guidelines*, and avoiding the procurement of hazardous pesticides.

## Taking IPM to farmers' fields

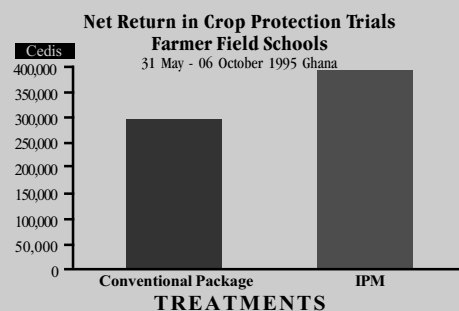
The challenge of IPM depends on the crop, the pest and the location. The prize is sustainable production and better economic return for the farmer. Following the initial successes in rice in Asia, IPM solutions are now being sought for a number of crops in Africa. These include cash crops such as coffee and

cotton but also food crops and vegetables. Although most pesticides in Africa are used on cash crops, pesticides for these crops are often misused on food crops.

FAO's Regional Office in Ghana has begun successfully to apply the Asian farmer field school approach to rice. Early work has shown that



Farmers in farmer field school, Ghana and chart showing net return to farmers. (Photo and chart courtesy of FAO, Rome.)



farmers use less pesticides but spend more time in the field monitoring plant health. Higher net returns are the result. A similar approach is to be tried on cotton, and projects are in hand to promote IPM in coffee and vegetables.

National extension services and pesticide management capabilities are often stretched to capacity. However the establishment of the new Global IPM Facility with its focus on African IPM may help to deliver IPM solutions to farmers on the ground and the information collected as part of this new approach will raise awareness of the potential for change.

The second approach is **to reduce reliance on pesticide use, risk and dependence**, and to improve all aspects of pest management including improving non-chemical pest control. The third approach is to reorient pest control in selected cropping systems to a **farmer-centred, national IPM programme** with policy support.

These approaches may proceed at the same time, and some aspect is achievable even within limited resources, providing government officers are aware of the range of technical options available for eliminating overuse, misuse and abuse of pesticides and have sufficient research back up and resources to promote these alternatives.

Methods of reducing pesticide use risk and dependence include, for example, careful selection of active ingredients, spraying at reduced rates and frequencies, using safer formulations, improving pesticide application techniques, better timing

and targeting of applications, using threshold levels of economic pest damage to determine spraying time, increased training and availability of information.

In adopting a policy to reduce pesticide use, risk and reliance, governments need to undertake research, education and training initiatives, as well as removing structural con-

straints that act in favour of chemical control. In further reducing reliance on pesticides, these measures will strengthen capacity for chemical control in the country and can lay the foundations for successful IPM development.

### Towards IPM

IPM promotes agriculture based on broad ecological principles. It aims to minimise crop losses from pests and reduce the use of pesticides, thereby promoting long term sustainable agricultural production. The FAO says: a system of non-chemical pest methodologies should be considered before a decision is taken to use pesticides. Suitable pest control methods should be used in an integrated manner ... the effects of pesticides on human health, the environment, sustainability of the agricultural system and the economy should be carefully considered.

Increasingly, IPM practitioners and programmes recognise that successful implementation depends on the full participation and training of the women and men farmers and growers, and that efforts are needed to ensure research and training meet farmers' needs.

An IPM approach can provide:

- ❖ a benefit to farmers in terms of reduced outlays and often increased yields
- ❖ a benefit to governments which can save on foreign exchange and reduce dependence on foreign suppliers

*IPM is about  
people and talking.  
Farmers must do  
it themselves.*

*JW Ketelaar, FAO/IPM  
trainer in Ghana farmer field school*

# Key points

- ❖ Information on pesticides and pest management is available: see resources.
- ❖ Pesticides should only be procured in compliance with the *FAO Code of Conduct* and *FAO Provisional Tender Guidelines*.
- ❖ Opportunities should be taken to reduce pesticide use, risk and dependence.
- ❖ IPM in target crop and pest situations can provide economic returns for farmers.

- ❖ a benefit to the environment
- ❖ a more sustainable, knowledge based, agriculture
- ❖ an increase in biodiversity

The key elements in successful IPM are:

- ❖ adoption of a government policy which actively supports implementation. The policy needs not only to promote IPM, but also to eliminate factors which work against IPM;
- ❖ the availability of solutions for management of pests in particular cropping systems;
- ❖ a commitment to involve farmers and communities in the transition to IPM, including developing field schools to train farmers.

As support for sustainable agricultural production gathers momentum, a wide range of methods and approaches have evolved, blurring the line between IPM and related practices. The common elements stress working with and responding to the needs of women and men farmers.

## Conclusion

This Pest Management Note is the first in a series of briefings, together with other resources, to help decision makers learn more about new approaches and developments in pest management. Solutions for safer, more sustainable, and economically rewarding, pest management practices are increasingly available. This project, and the resources generated, are designed to help implement these solutions.

## Resources

The outputs of this programme include:

*Progressive Pest Management – Implementing New Approaches to Pest Management*: a short non-technical guide for general readers both in the Commission and ACP states to introduce IPM.

*IPM Country Profiles*: summarise IPM potential on a country-by-country basis – initially for a number of African ACP States. They include IPM projects which have adopted a farmer participatory approach. The profiles also provide overviews of chemical regulation and controls in African ACP States.

*Guide to Active Ingredient Hazards*: a tabulated guide to current concerns over the 800 or so individual pesticide active ingredients for Commission staff and personnel in developing countries who need a quick and immediate profile of a pesticide.

*Resource Guide*: a guide for Commission staff and personnel in developing countries to pesticide issues, details of research agencies, regional and intergovernment agencies active in the IPM field, and available databases and Web sites.

*Pest Management Notes*: a series of briefings on policy and current pesticide issues will be provided. In addition to this briefing, others are:

- > Integrated pest management
- > Disposal of obsolete pesticides
- > Desert locust control in Africa
- > Prior Informed Consent
- > International chemical initiatives
- > Pesticide procurement
- > Pesticide residues in food
- > Growing coffee with IPM
- > Success with cotton IPM

*Case studies*: detailed case studies have been prepared on IPM potential in Ghana and Ethiopia. A third study on Senegal is in preparation.



*Pest management—a new approach, PMN No. 1, April, 1998.* This briefing is one of a series prepared by Pesticide Action Network UK (PAN UK), which is responsible for its contents, as consultants to DGVIII of the EC. PAN UK is an independent charity working to reduce pesticide problems in developing countries. Its quarterly journal *Pesticides News* reports on pesticides and IPM.

Contact *Mark Davis, Barbara Dinham* or *Stephanie Williamson* at **Pesticide Action Network UK**  
Eurolink Centre, 49 Effra Road, London SW2 1BZ, UK  
Tel +44 20 7274 8895 Fax +44 20 7274 9084  
Email [admin@pan-uk.org](mailto:admin@pan-uk.org), Website [www.pan-uk.org](http://www.pan-uk.org)