

C.7.

Prevention/sustainable  
development

**Progressive pest management controlling pesticides  
and implementing IPM  
- IPM for Cotton in Asia: a possible strategy for Central Asia  
and Eastern European countries? -**

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Many of the agricultural projects, which are funded by the European Commission, require the use of pest control measures in some form or other. In this context, pests can include not only insects and weeds, but also diseases, invertebrates and rodents. These pests damage crops, human and animal feed, stored products and materials, and even building structures.

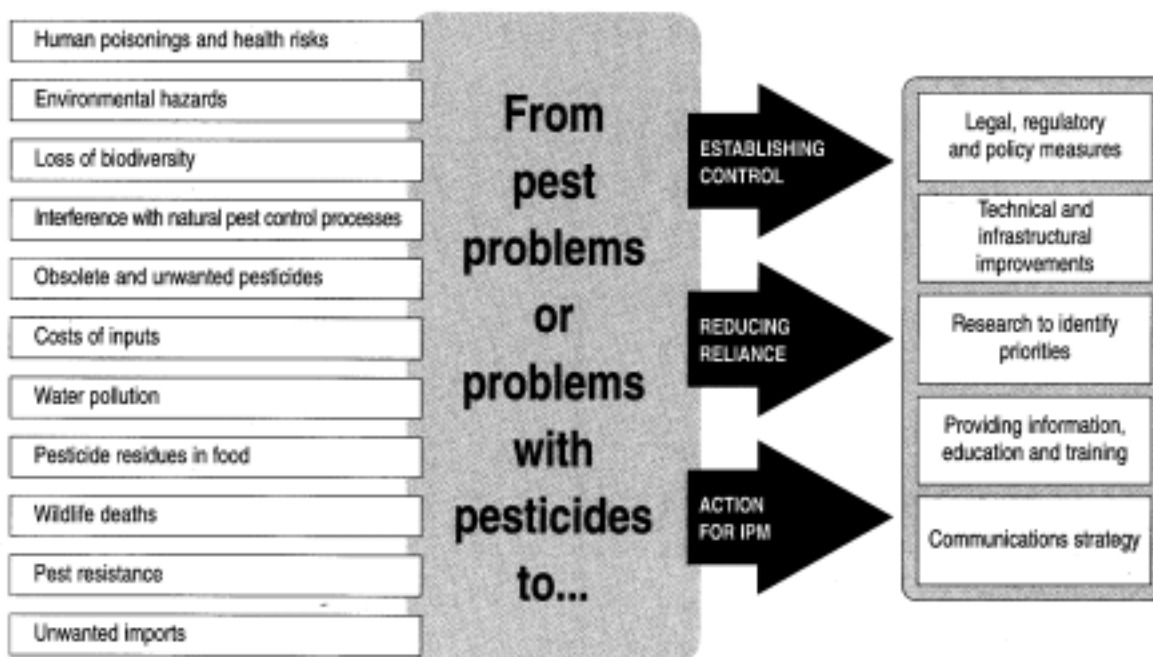
In agriculture, a number of measures and techniques are available to control pests, including resistant crop varieties and biological control, but the most widely used are chemical pesticides. However, while they have made important contributions in the field of crop protection, these chemicals, by their very nature and misuse, also cause significant damage to human and animal health, and the environment. This and the increasing cost of these chemicals, which can inevitably lead to a significant reduction in farmers' incomes, have led the European Commission to reassess its policies of pest management (i).

Any pest control should be based on ecological principles by making use of natural and cultural processes and methods, which promote sustainable, healthy crop and animal production with minimum negative effects to the environment. The use of chemical pesticides, if necessary, would then be used as part of a basket of techniques, but only if other measures fail to keep pests below an economic threshold level.

The Commission has therefore adopted as a strategy the idea of progressive pest management. While therefore chemical pesticides will continue to be used in agricultural production for some time, progressive pest management promotes a three-pronged strategy of pesticide control; pesticide reduction; and the promotion of integrated pest management (IPM). Increasingly, IPM projects and programmes are being promoted by a number of agencies and donors as the best pest management option for the future, as it guarantees yields, reduces costs, is environmentally friendly, and contributes to the sustainability of agricultural production (Agenda 21 of the Rio declaration). The World Bank, the Food and Agricultural Organisation of the United Nations (FAO), the International Agricultural Research Centres (IARCs), the Organisation for Economic Cooperation and Development (OECD) have adopted IPM as a policy and support it with development assistance.

IPM is not just a technical system, but depends on the sensitivity of its application to economic, social and cultural factors. The success of any programme is recognised to depend principally on the addressing of two key issues viz: full participation and training of the participants on the one hand, and full support from governments involved on the other. The implementation of the IPM approach must be therefore a process of change from a heavy reliance on pesticide use to the more eco-friendly integrated and sustainable approach of IPM.

Because of the different situations that countries find themselves and the options available for pest control, the three-stage Progressive Pest Management approach can be promoted either sequentially or in parallel. The three can then be outlined as 1) Establishing control over the pesticide problem, 2) Reducing reliance on a chemical based approach, and 3) Reorientation to an IPM approach.



**Figure 1. Implementing the European Commission approach to Progressive Management**

Establishing control over pesticides and pesticide use is the first and normally the most difficult problem to address. As can be seen, actions need to be taken on several fronts and in a co-ordinated way if sustainable changes are to come about in the patterns of pesticide use. Although most countries have some of the elements in place, they are not always linked in a proper manner to allow an impact not only at field level but more importantly at policy level, with the result that there is no effective control of pesticide use.

There are now over 800 pesticide active ingredients and many thousands of formulations for pesticide products. As a matter of policy, it must always be the principle to select those pesticides which are both effective at controlling pests, while at the same time causing minimal damage to human and animal health as well as the environment. Any products in use not replying to these criteria should be replaced. Legislation governing pesticide imports, distribution and use is therefore a prerequisite for the evaluation appropriate products. Approval or registration should be based on the formulated product and not on the active ingredient. This approval should also be based on trials that have been carried out in the country in question, or at the limit, in a similar agro-ecological zone.

The purchasing policy naturally follows appropriate legislation. All purchases should meet international standards. This must apply not only for imported products but also for locally manufactured pesticides that are often not subject to the same quality control. To achieve this, strict tender procedures need to be followed. The FAO provides *Provisional Guidelines on Tender Procedures for the Procurement of Pesticides*, which describe requirements for documents and information in inviting tenders from suppliers. The EC has now gone a few steps further by introducing first an obligation for the suppliers to prepare and implement with appropriate personnel a *Stewardship Training Programme*. In addition, introducing extensive evaluation criteria, which include an obligation to inform the prospective client of the nature of the non-active ingredients of his product, especially the solvent, on the assumption that the client has the right to know exactly what he is purchasing.

Because of the inappropriate mechanisms in many countries for pesticide management and control, outdated and deteriorated stocks of pesticides are now a serious concern for human and animal health. The disposal of these obsolete stocks must become a clear priority, if not already, for governments. There are very positive signs that all the actors; producers, relevant donors, FAO, and governments, are now willing to act together in a concerted manner to remove these obsolete stocks in concerted and co-ordinated operation. However, such operations will serve no purpose unless they are not repeated. Every effort should be made therefore to put in place a proper chemical management policy and strategy which allows the adoption of measures to avoid future accumulations of stocks.

These measures will need to take into account research, which is orientated towards sustainable pest management systems; information, training and education for both direct and indirect pesticide users, which will allow the most effective and least hazardous products to be made available to the users.

Because of the concerns with pesticide use in developing countries, the European Commission has addressed the issues by developing the idea of progressive pest management and the promotion of the integrated pest management approach. At the same time it aims to support countries seeking to implement IPM as a national

approach to sustainable agricultural production, and to encourage those countries, which have yet to begin the process. IPM techniques can be applied in large scale and small-scale agricultural projects and programmes.

In this vein, the EC has recently financed a 12MEURO programme *Integrated Pest Management for Cotton in Asia*, and which is being implemented under the auspices of FAO.

The development objective of the programme is the sustainable, profitable, and environmentally sound production of cotton in the participating countries: India, Pakistan, China, Bangladesh, Vietnam, and the Philippines.

The specific objectives are threefold:

To develop a cadre of IPM cotton trainers from existing extension or field plant protection staff to train farmers in Farmers Field Schools

To promote co-operation for cotton IPM among governments, research institutions, development agencies, extension services and farmers' and other non-governmental organisations and to improve access for all interested parties to information from within and outside the programme area.

National policies on plant protection in cotton re-orientated to support IPM development in the six Programme countries.

The main outputs from the project will be:

1. Support for the development of official national IPM programmes for cotton in each of the participating countries.
2. The development of Farmers Field Schools (FFS) and the Training of Trainers (TOT).
3. The promotion of demand-driven, farm orientated field studies involving local research and development agencies
4. Technical reports on the economic benefits derived from cotton IPM as compared to conventional chemical-intensive methods
5. Country reports and the regular exchange of information.

The project has come to the end of its first year of implementation which in effect was a setting-up of the project year, basically recruiting personnel, organising the farmer field schools, setting up general training programmes, acquiring equipment and carrying out some preliminary studies e.g. Assessment of economic justification for intervention in the cotton sector in the Philippines; Pesticide Policy Evaluation against the backdrop of the EU guidelines on Progressive Pest Management. The different country participants will now be preparing annual reports and new work programmes for the second year.

## Conclusions

Although this project is still in its early days, its mandate as well as its content will give an opportunity, not only to put in place a number of activities at field level to promote the Integrated Pest Management approach, but more importantly through the promotion of Progressive Pest Management, to put in place at different levels, a sound framework for sustainable agricultural production which can be profitable as well as environmentally friendly.

The project encourages dialogue with the Central Asia countries but also Eastern European countries who may be in similar conditions with their agricultural production and who would wish to share not only their own experiences, but also benefit from the results of the 'IPM for cotton in Asia' project's approach. While the subject of this conference is the addressing of issues concerned with the problems of obsolete pesticides, it must be apparent that this cannot, and in fact, should not be taken out of a concept of an integrated approach which not only will address the problems of existing stocks, but more importantly, addresses the issues which will prevent new obsolete stocks building up in the future.

- (i) Control of pesticides and IPM, Directorate-General for Development, Commission of the European Communities