

March 2008



منظمة الأغذية
والزراعة
للأمم المتحدة

联合国
粮食及
农业组织

Food
and
Agriculture
Organization
of
the
United
Nations

Organisation
des
Nations
Unies
pour
l'alimentation
et
l'agriculture

Organización
de las
Naciones
Unidas
para la
Agricultura
y la
Alimentación

TWENTY-NINTH FAO REGIONAL CONFERENCE FOR THE NEAR EAST

Cairo, the Arab Republic of Egypt, 1 - 5 March 2008

Pesticide Management in the Near East Region

CONTENTS

	Paragraphs
I. INTRODUCTION	1-4
II. PESTICIDE MANAGEMENT ISSUES	5-13
III. KEY ELEMENTS OF PESTICIDE MANAGEMENT	14-17
IV. PESTICIDE MANAGEMENT IN THE REGION AND LESSONS LEARNED	18-26
V. REQUIREMENTS FOR SUCCESSFUL PESTICIDE MANAGEMENT IN THE NEAR EAST REGION	27

I. INTRODUCTION

1. Meeting food demands of an increasing world population requires a corresponding growth in agriculture production. Yet, in many parts of the world, additional land for agricultural activities is unavailable and expansion of cultivated areas is environmentally or socially unacceptable. Sustainable intensification of agricultural production on already cultivated land requires use of strategies and approaches that will not harm the environment or resource base for future generations of farmers and consumers.
2. Intensification of agricultural production is normally linked to increased infrastructure investment such as irrigation or to increased use of external inputs such as fertilizers and pesticides. In recent decades, intensive use of pesticides as the major means of pest management has had negative effects on agro-ecosystems and the environment as well as public health.
3. Pesticide management is an important activity carried out by FAO to introduce member countries to sustainable and environmentally sound agricultural practices that reduce risks associated with pesticides use. *The FAO International Code of Conduct on the Distribution and Use of Pesticides* (Code of Conduct) serves as the reference for all activities related to pesticide management. Many activities conducted in the Near East Region in relation to pesticide management are based on the Code of Conduct.
4. The *Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade* is another important instrument for pesticide management efforts in the Near East Region. It promotes shared responsibility and cooperation among parties involved in the international trade of certain hazardous pesticides in order to contribute to their environmentally sound use thus protecting the environment as well as human health. Through its technical cooperation projects (TCPs), FAO also assists countries in the Region in dealing with obsolete pesticide management and disposal.

II. PESTICIDE MANAGEMENT ISSUES

5. National policies on pest and pesticide management evolve in response to both knowledge of the adverse side effects of pesticides and the availability of economically viable alternative approaches. The use of pesticides and the implementation of sound pesticide management practices are regulated through pesticide legislation.
6. However, most developing countries face constraints regarding the effective enforcement of their pesticide legislation. In the Near East countries, financial and human resources as well as the level of technical expertise for the control of pesticides are low in comparison with those in industrial countries. Despite these constraints, various improvements can be observed in pesticide management practices in the Region.
7. For example, the Gulf Cooperation Council (GCC) has issued a harmonized pesticide law for its member countries, namely Saudi Arabia, Kuwait, Bahrain, Qatar, the United Arab Emirates and the Sultanate of Oman. The number of countries limiting the use of extremely and highly hazardous pesticides is steadily growing. Pesticides classified as persistent organic pollutants (POPs) by the *Stockholm Convention on Persistent Organic Pollutants* are now rarely used in agriculture and the following regulatory actions have been applied.

Reduction of reliance on pesticides

8. In many production systems where use of pesticides remains an automatic and primary response to pest problems, farmers often apply pesticides at first signs of crop damage without understanding the complex crop-pest ecology and the economic impact of their interventions. Among Near East Region countries, there is a growing awareness that current pesticide levels are unnecessarily high, unsustainable, risky and not cost effective, yet available alternatives remain underutilized.

Phasing out of pesticides hazardous to human health and the environment

9. There is a growing consensus that extremely and highly hazardous pesticides (those that fall into the World Health Organization (WHO) Hazard Class I-A and I-B) should be phased out, particularly in countries where users generally lack necessary knowledge and means to reduce the risk to acceptable levels. This requires a mechanism that sets up a progressive ban of these products, discontinues their registration or restricts their use to specific circumstances where risks can be properly contained and managed.

Phasing in of alternative approaches and products

10. There is growing evidence that alternative approaches and products can manage pests very effectively without adverse effects on human health or the environment. Both developed and developing countries increasingly rely on Integrated Pest Management (IPM) as their crop protection approach. This development also is reflected in policies and guidelines of international organizations such as FAO, OECD and the World Bank.

11. IPM programmes in developing countries have had impressive achievements (see paragraph 19). In the Near East Region, the countries that have received FAO technical assistance in IPM made possible by a trust fund from the Government of Italy include: Egypt, Syria, Lebanon, Iran, Jordan, West Bank and Gaza Strip, and Saudi Arabia.

Increased quality control

12. Quality controls, such as standards for pesticide residues, are becoming more stringent for both domestic consumption and export, particularly to OECD countries. This corresponds with growing concern about health and the environment and recognition that extensive use of pesticides is expensive and thus, not economically practical.

Improved management of obsolete pesticides

13. Removal and disposal of obsolete pesticide stock in each country begins with a survey and inventory. Without proper assessment and identification of the pesticides concerned, disposal cannot be attempted. FAO's Plant Protection Service has inventoried the level of obsolete pesticides in 104 countries, of which 45 are in Africa and eight in the Near East.

III. KEY ELEMENTS OF PESTICIDE MANAGEMENT

14. FAO actively promotes pesticide management through the Code of Conduct which recognizes the following elements as key areas in pesticide management.

- *Government responsibility*: governments have an overall responsibility to regulate the availability and distribution of pesticides in their countries through enforcement or updating of existing laws and regulations.
- *Pesticide industry adherence*: adherence to the provisions of the Code of Conduct for the pesticide industry, particularly manufacturing companies, is an important element in proper pesticide management.
- *Pesticide export and trading*: the ability of countries to verify and exercise control over the quality of pesticides offered for sale is essential for compliance with the international codes and standards.
- *Supplementary efforts of the pesticide industry and traders*: a number of pesticide management practices based on adherence to the provisions of the Code of Conduct should be observed by the pesticide industry and traders, especially in countries lacking adequate pesticide legislation and regulations.
- *Handling and application*: Article 3.5 of the Code of Conduct recommends avoiding pesticides that require personal protective equipment during application. In developing

countries with limited resources, use of alternative pesticides that do not require expensive clothing should be especially encouraged.

- *Awareness of coordinated action to disseminate educational materials:* development of educational materials is an important component in raising awareness and ensuring proper pesticide handling and application among all stakeholders.
- *Integrated pest management:* IPM has attracted a range of stakeholders, including manufacturers of biological and chemical pesticides, who play proactive roles in the development of this approach.
- *Infrastructure and capabilities for promoting research and development of pesticide alternatives:* research on biological control techniques, low toxicity pesticides and pesticides of low risk to human health and the environment should be supported by governments and relevant international and regional organizations.
- *Application equipment industry:* it is the responsibility of governments and industry to promote pesticide application methods and equipment that can ensure low risks to human health and the environment.
- *Resistance management strategies:* governments, the pesticide industry and international organizations, in particular in cooperation with WHO, have the collective responsibility of promoting resistance management strategies to prolong the useful life of valuable pesticides and reduce resistance of pests to pesticides.

International instruments of pesticide management

15. A broad range of international instruments has been developed in response to international health and environmental concerns about pesticides management and their use. By ratifying international conventions, governments agree to incorporate the objectives of these international polices into their national legislation. Examples of such instruments directly relevant to use of pesticides are the *Rotterdam Convention*, the *Stockholm Convention* and the *Montreal Protocol on Substances that Deplete the Ozone Layer*, leading to the phasing out of Methyl Bromide.

16. In addition, the Code of Conduct sets voluntarily standards for the management of all pesticides. It has guided many countries in the development of pesticide legislation, and major pesticide companies have agreed to adhere to its provisions. The Code of Conduct has been updated twice. Its second update recognizes IPM as an alternative method that reduces reliance on pesticides and focuses on risk reduction in support of sustainable agricultural development.

17. The Strategic Approach to International Chemical Management (SAICM), adopted February 2006 by the International Conference for Chemicals Management (ICCM) in Dubai, UAE, is an international policy framework that fosters sound management of chemicals. It supports the achievements of the goals agreed at the *2002 Johannesburg World Summit on Sustainable Development* and aims to ensure that, by the year 2020, chemicals will be produced and used in ways that minimize adverse impacts on the environment and human health. A Quick Start Programme (QSP) was established to implement SAICM through a voluntarily, time-limited trust fund. The QSP Implementation Committee, of which FAO and other organizations of the Inter-Organizational Programme for the Sound Management of Chemicals (IOMC) are members, has approved the Egyptian project proposal for a “national awareness campaign for all stakeholders to promote safe use and management of pesticides according to the International Code of Conduct on the Distribution and Use of Pesticides”. Arabic speaking countries in the Region have nominated SAICM national focal points and the League of the Arab States has created an Arab SAICM Coordination Unit.

IV. PESTICIDE MANAGEMENT IN THE REGION AND LESSONS LEARNED

Activities of the FAO Obsolete Pesticides Programme in RNE countries

18. Tunisia and Morocco are participating in the Africa Stockpile Programme for the Prevention and Elimination of Obsolete Pesticides. Under FAO guidance, Tunisia completed a comprehensive national inventory of obsolete pesticides and is preparing for disposal of these stocks. At the same time, a comprehensive programme supported by FAO, has been developed to prevent recurrence of obsolete pesticides accumulation by strengthening pesticide management capacity. Morocco is preparing to execute a national inventory of obsolete pesticides at the end of 2007.

19. A Technical Cooperation Programme (TCP) for inventorying and safeguarding obsolete pesticides has been completed in Syria where 600 tonnes of obsolete pesticides have been located and securely stored. FAO is working with the Government of Syria to secure additional funding for disposal of obsolete pesticides and implementation of a programme to strengthen pesticides hazardous waste management. The Swiss Development Cooperation has offered funds for a subregional project on obsolete pesticide prevention and disposal in Syria, Jordan and Lebanon. The project objectives include eliminating obsolete pesticides in Syria, inventorying obsolete pesticides in Jordan and Lebanon, safeguarding high risk pesticides where they are found, and supporting capacity-building activities to improve pesticide management in the three countries.

20. The GCC countries have requested FAO's assistance in developing a regional project on prevention and elimination of obsolete pesticides. As a result, a TCP for developing a comprehensive project on obsolete pesticide elimination and capacity building in pesticide management in GCC counties commenced in late 2007.

21. The FAO Obsolete Pesticides Programme has assisted five countries affected by the 2003 desert locust upsurge with management of the remaining pesticides stocks, pesticide containers and sites contaminated by pesticides. The five countries, Algeria, Libya, Morocco, Mauritania and Tunisia, have benefited from FAO assistance in:

- provision of equipment for container cleaning and crushing,
- quality control of remaining pesticide stocks through a sampling and analysis programme;
- development of an electronic pesticide stock management system through which pesticide containers are bar-coded and traced throughout their existence.

22. In addition, because the large volumes of pesticides used in the desert locust emergency control operations resulted in contamination of sites in several countries, FAO is working to survey sites, determine the risk they present and develop remediation strategies that can be applied locally without excessive cost or the need for sophisticated technology.

23. During the 2007 desert locust outbreak in Yemen, Sudan, Eritrea and Ethiopia in Central Region, the FAO Obsolete Pesticide Programme began working with the Near East Region countries of Sudan and Yemen, advising them on pesticide container management, pesticide stock management, and prevention and remediation of pesticide contamination of the environment.

Implementation of the International Code of Conduct on the Distribution and Use of Pesticides in the Near East Region

24. A 2004 survey of the implementation of the Code of Conduct in the Near East Region found that total implementation was approximately 62 percent (Table 1). It also found differences in the implementation of the individual articles of the Code of Conduct because some countries had concern about specific articles or did not have the appropriate legislative or political situation to implement them, or because they did not have appropriate capacity or facilities.

Table 1: Total implementation of the Code of Conduct
in the Near East Region

Code Article	Implementation %
Pesticide management	60
Testing of pesticides	41
Reducing health and environment risks	43
Regulatory and technical requirements	74
Availability and use	82
Distribution and trade	64
Information exchange	70
Labeling, packaging , storage and disposal	70
Advertising	52
Average	62

25. The survey also found that implementation of the pesticide management aspects of the Code of Conduct in the responding countries of the Region averaged approximately 60 percent (Table 2). Governments, related pesticide industries and traders adhered to the Code in essence, although the average of 56 percent implementation indicates there is still need to improve. Indirect practices such as coordinating activities to increase awareness through disseminating educational materials, implementing development management strategies and involving the application equipment industry are well below the average and need significant support based on a demand-driven approach.

Table 2: Implementation of pesticide management aspects of the Code of Conduct
in the Near East Region

	Implementation (%)
Government responsibility	86
Pesticide industry adherence	77
Pesticide exporting and trading	56
Supplement by pesticide industry and traders	69
Handling and application	65
Awareness of coordinated action to disseminate educational materials	41
IPM	62
Infrastructure and capabilities for promoting research and development of alternatives	78
Application equipment industry	32
Resistance management strategies	32
Average	60

IPM programme in the Near East Region

26. The IPM programme in the Region, supported by the Government of Italy and executed by FAO, was initiated in 2004 in six Near East Region countries, namely Egypt, Jordan, Syria, Iran, Lebanon and the West Bank and Gaza Strip. The programme aims to improve knowledge and increase information on the use of hazardous pesticides and proper application of IPM measures to selected crops. It also identifies market opportunities for IPM crops and provides information to policy-makers on the importance of meeting quality standards for domestic and international markets. The government counterparts as well as farmers confirmed that IPM: i) offers a valid approach to more cost effective production ii) responds to more stringent standards for pesticide residue for export markets; and iii) reduces the need for pesticides thus reducing risks to public health and the environment.

V. REQUIRMENTS FOR SUCCESSFUL PESTICIDE MANAGEMENT IN THE NEAR EAST REGION AND FUTURE PROSPECTS

27. In many farming systems, pesticides play a role in supporting current levels of production. At the same time, they are often overused or otherwise misused, and have many undesirable side effects. With this in mind, the following recommendations and conclusions are offered to provide guidance for improving pesticide management in the Near East Region in support of sustainable agricultural production and in protection of human and environmental health:

- The registration and control of pesticides and pesticide application equipment, and upgrading of national registration and control systems and their regional harmonization are necessary for full implementation of the Code of Conduct in the Region.
- The information exchange on pesticide management both among and within countries in the Region should be improved, by developing regional Web sites and establishing national consultative committees with representatives of all stakeholder groups.
- Member countries should increase awareness of pesticide use, management and risks through national awareness campaigns that involve educational programmes, local media, extension programmes, decision-makers, etc.
- Governments of the Region should be encouraged to adopt IPM participatory approach as a national crop protection strategy and to take all necessary measures and support policies to ensure effective implementation of this strategy.
- Governments of member countries and stakeholders at the national level should be encouraged to take full account of SAICM and its implications for the agriculture sector.