



REPORT

2ND FAO/WHO JOINT MEETING ON PESTICIDE MANAGEMENT

and

**4TH SESSION OF THE FAO PANEL OF EXPERTS ON PESTICIDE
MANAGEMENT**

**6 – 8 October 2008
Geneva**



**Food and Agriculture
Organization
of the United Nations**



**World Health
Organization**

Table of contents

Table of contents	3
Abbreviations	4
1. Introduction	5
2. Opening of the meeting	5
3. Election of the chairperson and rapporteurs	6
4. Adoption of the agenda	6
5. Developments since the previous session of the Panel	7
5.1 WHO	7
5.2 FAO	10
5.3 UNEP	12
5.4 Other organizations	13
6. Highly hazardous pesticides	14
6.1 Identifying highly hazardous pesticides	14
6.2 Priority activities for risk reduction	16
7. Guidelines in support of the Code of Conduct	19
8. Drafting status of guidelines under development	19
8.1 Guidelines on resistance management for pesticides	19
8.2 Guidelines on registration of microbial pest control agents	20
8.3 Guidance on pest and pesticide management policy development – agriculture	20
9. Review of outlines for new or revised guidelines	21
9.1 Guidelines on retail establishments for pesticides	21
10. Review of new and revised guidelines	22
10.1 Guidelines on the development of a reporting system for health and environmental incidents resulting from exposure to pesticides	22
10.2 Guidelines on registration of pesticides	23
10.3 Guidelines on pesticide advertising	24
11. Guidelines proposed for updating	26
11.1 Guidelines on pesticide legislation	26
11.2 Guidelines on good labelling practice for pesticides	26
12. Implementation of the Code of Conduct	27
13. Counterfeit pesticides	28
14. Review of the Code of Conduct	29
15. Recommendations	29
16. Closure of the meeting	35
Annex 1 – List of participants	36
Annex 2 – Agenda	41

Abbreviations

ADI	Acceptable Daily Intake
ASP	Africa Stockpiles Programme
CCPR	Codex Committee on Pesticide Residues
CIEN	Chemicals Information Exchange Network
CMR	Carcinogenic, Mutagenic and Reproductive toxicant
FAO	Food and Agriculture Organization of the United Nations
GCDPP	Global Collaboration for Development of Pesticides for Public Health
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
GLP	Good Laboratory Practice
GMP	Global malaria Programme
HHP	Highly Hazardous Pesticide
HQ	Headquarters
IARC	International Agency for Research on Cancer
ICC	International Chamber of Commerce
ICCM	International Conference on Chemicals Management
ICSC	International Chemical Safety Card
IFCS	Inter-governmental Forum on Chemical Safety
IGO	Inter-governmental Organization
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
IPCS	International Programme on Chemical Safety
IPM	Integrated Pest Management
IVM	Integrated Vector Management
JMPR	Joint Meeting on Pesticide Residues
JMPS	Joint Meeting on Pesticide Specifications
MEA	Multilateral Environmental Agreement
MRL	Maximum Residue Limit
NGO	Non-governmental Organization
OECD	Organization for Economic Co-Operation and Development
PAN	Pesticide Action Network
PIC	Prior Informed Consent
PIM	Poisons Information Monograph
POP	Persistent Organic Pollutant
SAICM	Strategic Approach to International Chemicals Management
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNITAR	United Nations Institute for Training and Research
WHO	World Health Organization
WHOPES	World Health Organization Pesticide Evaluation System

1. Introduction

The 2nd FAO/WHO Joint Meeting on Pesticide Management and 4th Session of the FAO Panel of Experts on Pesticide Management, were held at WHO Headquarters in Geneva from 6 to 8 October 2008.

The FAO Panel of Experts on Pesticide Management is the official statutory body that advises the Organization on matters pertaining to pesticide regulation and management, and alerts it to new developments, problems or issues that otherwise merit attention. The Panel in particular counsels FAO on the further implementation of the revised version of the *International Code of Conduct on the Distribution and Use of Pesticides*¹ (the Code of Conduct). Members of the WHO Panel of Experts are drawn from the WHO Panel of Experts on Vector Biology and Control, or are academic or government experts invited to advise the Organization on policies, guidelines and key actions to support Member States on sound management of pesticides.

Experts invited to this meeting have been selected for their personal expertise and experience in specific aspects of pesticide management, both in agriculture and in public health, and do not represent the position of governments or institutions they may belong to. They are appointed in their personal capacity by either FAO or WHO. In addition, representatives from other Inter-Governmental Organizations (IGOs), pesticide industry and Non-Governmental Organizations (NGOs) also attended the meeting as observers.

Dr Morteza Zaim welcomed all participants on behalf of WHO and expressed his great pleasure in hosting the joint meeting for the first time in Geneva. He thanked all present for kindly having responded to the invitation to participate in the meeting.

Mr Mark Davis, of FAO, noted the absence of Dr Gero Vaagt, former Senior Officer of the FAO Pesticide Management Group, who had been called to other duties. He recalled the long involvement of Dr Vaagt in the organization of this Panel and noted that his experience would be greatly missed. Mr Davis underlined the importance of the guidance which the Panel is providing, in particular to developing countries, which are in the complicated situation of having to balance trade, health and environmental interests.

All participants in the meeting are listed in Annex 1.

2. Opening of the meeting

Dr Lorenzo Savioli, Director Control of Neglected Tropical Diseases, gave the opening address on behalf of Mr Hiroki Nakatani, Assistant Director General of WHO. He welcomed the Panel members from FAO and WHO and colleagues from other UN organizations and the World Bank to the meeting, as well as representatives of industry associations and public interest groups who attended the meeting as observers.

¹ <http://www.fao.org/agriculture/crops/core-themes/theme/pests/pm/code/en/>

Dr Savioli reminded the participants that the Panel has an advisory role to FAO and WHO on policies, guidelines and key actions to support Member States on the sound management of pesticides. He stressed that the strengthening of capacity for judicious and effective management of pesticides is a priority for WHO and that the collaboration with FAO provides an opportunity to ensure complementarity, harmonized and coordinated guidance and support to Member States and other stakeholders on this important issue.

The Director underlined that Integrated Vector Management (IVM) is being promoted by WHO as a key strategy for the sound management of pesticides. Capacity building in the field of public health pesticides is an important element of IVM, in particular given the increased use of insecticides in the health sector in many vector-borne disease endemic countries where resources and infrastructure for such activities are often inadequate.

Dr Savioli noted that important guidance documents are being prepared by the Panel and requested the meeting to ensure that these are pragmatic and useful to the main target groups, which are governments of developing countries and countries with economies in transition. He emphasized that the Code of Conduct serves as a framework and guiding document for both FAO and WHO and invited the Panel to carefully review the Code and advise whether any improvements can be made to the document to better address the specific needs of public health pesticides.

Finally, Dr Savioli, wishing the meeting success and stating he looked forward to its recommendations, declared the 2nd FAO/WHO Joint Meeting on Pesticide Management open.

3. Election of the chairperson and rapporteurs

Dr Vibeke Bernson was elected Chairperson of the meeting, and Dr Gamini Manuweera and Dr Sandhya Kulshrestha were appointed rapporteurs.

4. Adoption of the agenda

One additional issue was included under agenda item 13: counterfeiting and illegal trade in pesticides.

The definitive agenda was adopted as shown in Annex 2.

5. Developments since the previous session of the Panel

A brief summary was presented of some important developments with respect to pesticide management that had taken place since the 1st Joint Meeting in October 2007.

5.1 WHO

Chemical safety

WHO Chemical Safety is in the process of updating the Poisons Information Monographs (PIMs) on dieldrin, endosulfan, paraquat and aluminium phosphide. PIMs are concise but comprehensive, internationally peer-reviewed documents about individual agents or groups of agents to which poisoning exposures may occur. The PIMs are primarily intended to facilitate the work of poison information specialists and clinicians in dealing with poisoning cases. They summarize the physico-chemical and toxicological properties of the substance, the clinical features of poisoning and patient management. These will be available on the INTOX and INCHEM websites².

Chemical Safety has also developed International Chemical Safety Cards (ICSCs). ICSCs summarize essential product identity data and health and safety information on pure chemicals for use by workers and employers, agriculture and for the public at large. There are now approximately 150 ICSCs on pesticides, available through the WHO web page of the International Programme on Chemical Safety (IPCS)³.

Chemical Safety is undertaking a risk assessment of the use of DDT in indoor residual spraying for malaria prevention. The draft document will be released for public and peer review, followed by an expert meeting.

Food safety

The 2008 FAO/WHO Joint Meeting on Pesticide Residues (JMPR) was held in Rome, Italy, in September 2008. The meeting evaluated 26 pesticides, of which six were new compounds and six were re-evaluated within the periodic review programme of the Codex Committee on Pesticide Residues (CCPR).

JMPR consists of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group. During the Meetings, the FAO Panel of Experts is responsible for reviewing residue and analytical aspects of the pesticides under consideration, including data on their metabolism, fate in the environment and use patterns, and for estimating the maximum residue levels that might occur as a result of the use of the pesticides according to good agricultural practices. The WHO Core Assessment Group is responsible for reviewing toxicological and related data and for estimating, where possible, acceptable daily intakes (ADIs) for humans of the pesticides under consideration. Relevant information is accessible on the respective JMPR websites of FAO and WHO⁴.

² <http://www.inchem.org> and <http://www.intox.org>

³ <http://www.who.int/ipcs/publications/icsc/en/index.html>

⁴ <http://www.who.int/ipcs/food/jmpr> and <http://www.fao.org/ag/AGP/AGPP/Pesticid/JMPR>

Evidence, research and action on mental and brain disorders

Pesticide ingestion accounts for over 60 percent of suicides in many rural areas of China and South-East Asia and there is evidence of increased pesticide self-poisoning in Central and South American, as well as African countries. The WHO Team of Evidence, Research and Action on Mental and Brain Disorders of the WHO Department of Mental Health and Substance Abuse held a meeting in Nonthaburi, Thailand, in December 2007 to launch the global public health initiative *The Impact of Pesticides on Health: Preventing Intentional and Unintentional Deaths from Pesticide Poisoning*. The meeting identified actions for safer access to pesticides through community interventions.

The Team also published *Prevention of suicidal behaviours: Feasibility demonstration projects on community interventions for safer access to pesticides*⁵. The document provides draft protocols for the demonstration of feasibility of community-level interventions for safer access to pesticides and the identification of potential sites where to conduct those demonstration projects. The Team also convened a meeting on *Prevention of Suicidal Behaviours: Clinical Management of Acute Pesticide Intoxication*, in Nonthaburi, Thailand, in December 2007. The purpose of this meeting was to do an in-depth review of guidelines on the clinical management of acute pesticide intoxication and to develop clinical guidance for health care workers at different levels of the health care system (i.e., primary health care, district hospitals and specialized units) and a strategy for implementation.

Global Malaria Programme

The Global Malaria Programme (GMP) has produced an update on the WHO Position statement on DDT: *The Use of DDT for Malaria Control*, which includes increased focus on occupational and environmental safety guidance.

The GMP has been collaborating with UNEP and the Secretariat of the Stockholm Convention on Persistent Organic Pollutants (POPs), in providing technical support to countries for capacity building in the use of DDT according to the provision of the Convention. In this context, the Secretariat of the Convention has signed a memorandum of understanding with WHO to support countries in fulfilling their requirements for reporting to the Secretariat on the production and use of DDT for disease vector control.

Two national workshops on DDT reporting were held in 2008, respectively in Rabat, Morocco and in Sana'a, Yemen. Both workshops were preceded by a field visit conducted on assessment and support for safe storage of DDT. In July 2008 a three day inter-regional workshop was held in Bangkok, Thailand to improve the relevant processes for data collection, reporting systems and DDT stocks management in each of the participating countries, i.e., China, Democratic People's Republic of Korea, India, Myanmar, Papua New Guinea and Solomon Islands. As part of these regional and country workshops support was also given to countries to assess the capacities of countries for environmentally sound management of DDT stocks and wastes and discuss the introduction of alternatives to DDT and the strategies to be used to reduce the reliance on DDT.

⁵ http://www.who.int/mental_health/resources/suicide/en/index.html

WHOPES

The WHO Pesticide Evaluation Scheme (WHOPES) finalized the testing and evaluation of 5 pesticide products and developed recommendations on their use in public health⁶. The reports of the WHOPES Working Group meetings provide critical reviews of existing literature as well as of studies organized and supervised by WHOPES. These reports are widely distributed among national control programmes, registration authorities and other stakeholders and are intended to facilitate the registration and safe and effective use of such products by Member States.

The 7th FAO/WHO Joint Meeting on Pesticide Specifications (JMPS), held in Braunschweig, Germany, in June 2008, reviewed data package of 19 manufacturers of pesticides (ten for FAO specifications; two for WHO specifications; and seven for joint FAO/WHO specifications) and made recommendations for the development of quality standards for these products.

In collaboration with FAO, WHOPES developed a training manual on the development of pesticide specifications. This tool provides a step-by-step approach to acquiring the knowledge and skills for basic decision-making on the development of pesticide specifications, including the determination of equivalence, following the principles, criteria and procedures detailed in the *Manual on development and use of FAO and WHO specifications for pesticides*⁷. The planned training activities of the two Organizations are expected to support capacity building of the national programmes in the implementation of the Code of Conduct, especially as it relates to Article 6.1.4.

The sixth meeting of the Global Collaboration for Development of Pesticides for Public Health (GCDPP) was held at WHO headquarters, in April 2008. The meeting was attended by representatives of industry, national and government-supported agencies, regional and international organizations, and universities and research institutions, as well as several WHO resource persons, mainly from pesticide registration authorities. The meeting discussed the draft FAO/WHO guidelines on registration of pesticides and advised WHO on the refinement of the guidelines so that they are pragmatic and useful for the main target groups.

WHOPES is in the process of peer review of three generic risk assessment models for application of insecticides in indoor residual spraying, space spraying and mosquito larviciding, as well as three efficacy guidelines for mosquito skin repellents, ground-applied space spray products and household insecticide products. All six guidelines are expected to be published by mid-2009.

Housed in the WHO Vector Ecology and Management Unit, WHOPES has supported the activities of the Unit in supporting Member States in incorporating the principles IVM into their national policies. IVM is highly promoted by WHO for the optimal use of resources for vector and public health pest control and as a key strategy for sound management of pesticides.

WHOPES has also, in collaboration with WHO Regional Offices, initiated situation analyses and needs assessments for strengthening capacity on sound management of pesticides in 12

⁶ <http://www.who.int/whopes/recommendations/wgm/en/>

⁷ http://whqlibdoc.who.int/publications/2006/9251048576_eng_update2.pdf

priority countries in Asia, Africa and South America, through multi-sector and multi-stakeholder approaches. WHOPES also attended the WHO/EURO meeting on Sound Management of Pesticides – Risk Reduction, in Bonn, Germany, in August 2008. The meeting was attended by representatives of 18 Member States, mainly from Eastern Europe, the Caucasus and Central Asia, and recommended on actions to reduce risks associated with the use of such chemicals in agriculture and health.

5.2 FAO

Organizational changes

The Panel was informed that the Plant Production and Protection Division, which hosts the pesticide management programme at FAO, is going through a process of restructuring which should lead to closer integration of crop production and protection activities. Issues related to pesticide management used to be handled by the Pesticide Management Group, but will now be under a Programme Entity responsible for the reduction of risks associated with pesticide use in agriculture to protect human health and the environment, which has three main objectives:

- implementation of the Code of Conduct, including the progressive elimination of highly hazardous pesticides. This objective also covers the work of the JMPR and the JMPS;
- national capacity building for implementation of the Code of Conduct. This objective covers, among other activities, human health risk assessment, strengthening of laboratory capacity, the development of national action plans, implementation of IPM, the safeguarding of obsolete pesticides stocks, etc.;
- communication, knowledge management and associated capacity building services in support of pesticide risk reduction, which includes such activities as the development of guidelines in support of the Code of Conduct, the deployment of pesticide stock management systems, the publication of the joint FAO/WHO training manual on pesticide specifications, information tools on herbicide resistance, etc..

Furthermore, the departure of the Senior Officer Pesticide Management at FAO has led to a reassignment of tasks to other staff within AGP. However, it has also led to a reduction in capacity to implement some of the planned activities related to pesticide management, including some recommendations made previously by the Panel. It is expected that this post will be filled again by mid-2009.

Food safety

The Codex Committee on Pesticide Residues (CCPR) met for its 40th Session, in Hangzhou, China, in April 2008. In addition to the adoption of (draft) Maximum Residue Limits (MRLs) and the revocations of some existing MRLs, the CCPR discussed options for setting globally harmonized MRLs through Codex. This might be achieved by the definition of Codex MRLs before most national MRLs have been set. The implications of such a system on the work of the CCPR and the JMPR would be considerable, though, and these will be further evaluated before the next session. The report of the CCPR is available on the Codex web site⁸.

⁸ <http://www.codexalimentarius.net/web/archives.jsp?year=08>

In addition to the work carried out by the JMPR in 2008 referred to under section 5.1, the attention of the Panel drawn to the ongoing FAO/WHO-IPCS project to update principles and methods for the risk assessment of chemicals in food⁹.

Minor uses

A Global Minor Use Summit was organized jointly by FAO, the US Department of Agriculture (USDA), the US Environmental Protection Agency (USEPA), and IR-4 Project, at FAO headquarters in December 2007. The summit focussed on finding solution for constraints regarding the generation of data for the registration of pesticides, and other regulatory issues, for minor use or specialty crops.

The summit discussed such issues as the generation of residue data, the promotion of extrapolation of data between different uses (e.g., through zoning or crop grouping), strengthening information and data sharing, and the development of harmonized, global guidance. The final recommendations of the summit can be found on FAO's web site¹⁰.

Obsolete pesticides

Regarding the management and disposal of obsolete pesticides, the Panel was informed that a second phase of the Africa Stockpiles Programme (ASP) is being developed. Noticeably, a much greater emphasis will likely be placed on the importance of sound pesticide management for the prevention of accumulation of obsolete pesticide stocks.

In addition, FAO is in the process of setting up new projects on the management and disposal of obsolete pesticides in Eastern Europe, the Caucuses and Central Asia; the Middle East; the Andean countries and Paraguay; and India and Vietnam (with UNDP).

Rotterdam Convention

The number of Parties to the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (the Rotterdam Convention) continues to increase its scope and impact. The number of Parties increased to 126, while national implementation plans for the Convention have been developed for 52 countries, and is continuing.

The Chemical Review Committee, in March 2008, recommended the inclusion of two new pesticides into its Annex III (the PIC procedure): aldicarb and alachlor. Furthermore, the upcoming Conference of Parties of the Convention, later in October 2008, will consider the inclusion of the pesticides TBT and endosulfan into Annex III.

Trends in international agriculture

The year 2008 has seen the emergence and increased importance of a number of global issues which have a direct impact of agricultural production, such as spiralling food prices, the promotion of bio-fuels and the consequences of climate change. These trends have focused international attention on agriculture again, after a long period of relative neglect. The implications of these global trends on (increased) pesticide use are already being noted. This underlines the importance of continued efforts to ensure sound pesticide management.

⁹ <http://www.who.int/ipcs/food/principles/en/>

¹⁰ <http://www.fao.org/ag/AGP/AGPP/Pesticid/>

Monitoring implementation of the Code of Conduct

The previous session of the Joint Meeting discussed two *ad hoc* cases of monitoring observance of the Code of Conduct.

In response to the provisions of the Guidelines on Monitoring and Observance of the Code of Conduct, and in particular its Annex I, FAO sent out an invitation to provide a Regular Monitoring Report on implementation of the Code of Conduct to all its member countries, in July 2008. The deadline for receipt of reports was set at 30 October 2008.

Results of this monitoring exercise will be analysed in the course of 2009, and a report on implementation of the Code of Conduct in FAO member countries should be available at the next session of the Joint Meeting. The report should assist FAO, WHO and the Panel in identifying and/or strengthening priorities for further implementation of the Code of Conduct.

5.3 UNEP

UNEP Chemicals presented its activities for strengthening sound management of pesticides, much of which is carried out in support of SAICM and chemicals-related multilateral agreements. They include activities related risk assessment, management and communication, such as:

- facilitating development of tools for guidance and training in methods for risk assessment and management to be used in capacity building in developing countries and economies in transition;
- promoting the development, exchange and communication of information on reduction of chemicals exposures and effects of chemicals on in particular for sensitive groups and ecosystems;
- supporting activities to minimize effects of natural disasters and industrial accidents involving chemicals;
- mainstreaming of chemicals management into national development agendas.

Pesticide risks

A particular issue with respect to pesticides which UNEP intends to focus on over the next few years are the environmental risks of pesticides in the tropics. In this respect, limited funding has been programmed for the period 2009 – 2011.

Information systems

Several information systems have been put in place, which are of particular relevance for pesticide management:

- the *POPs Laboratory Databank*, a global database of laboratories capable of analyzing POPs. The database provides information, for each laboratory, of the type of analyses that are carried out, the matrices in which POPs can be detected, methods being used, and quality assurance aspects¹¹;

¹¹ <http://www.chem.unep.ch/databank/Home/Welcome.aspx>

- the *Information System on DDT in Disease Vector Control*, which is operated in collaboration with the WHO Global Malaria Programme and the Stockholm Convention¹². The system provides relevant up-to-date information and guidance on DDT and its alternatives in disease vector control. It was especially developed as a tool for exchanging data, experiences and expertise on the management and use of DDT within and between regions;
- the *Information System on POP Termiticides and Alternatives*, which aims to provide easy access to relevant information and guidance materials on termites and options for their management without POP termiticides¹³;
- the *Chemical Information Exchange Network (CIEN)*, which was set up as a mechanism to help networking and collaboration among various stakeholders responsible for the environmentally sound management of chemicals¹⁴. Twelve countries in Africa now have national CIEN web sites to facilitate national information exchange on chemicals;

5.4 Other organizations

The representative of UNITAR informed the meeting about its activities on capacity building for chemicals and waste management. UNITAR is assisting 25 countries in implementing SAICM. It also has a collaborative programme with the Rotterdam Convention, in particular to develop national action plans for its implementation.

The participants were also informed about activities related to pesticide risk reduction carried out by the OECD. A number of seminars has been organised on specific topics, in which non-OECD countries have taken part, the latest of which was the workshop on *Risk Reduction through Better Worker Safety and Training*. Its report has been published earlier in 2008¹⁵.

The Pesticide Action Network (PAN) brought to the attention of the meeting that it had taken up the issue of risk reduction from highly hazardous pesticides (HHPs). A community monitoring exercise had been started to collect information of human health effects caused by pesticides. Furthermore, a first draft of a list of HHPs is presently being elaborated by PAN.

¹² <http://www.chem.unep.ch/ddt/Default.html>

¹³ <http://www.chem.unep.ch/termite/Default.html>

¹⁴ <http://jp1.estis.net/communities/cien/>

¹⁵ http://www.oecd.org/departement/0,3355,en_2649_34383_1_1_1_1_1,00.html

6. Highly hazardous pesticides

6.1 Identifying highly hazardous pesticides

The previous session of the Panel defined a number of criteria to define HHPs. Following publication of these criteria, feedback was received with regard to the clarity of the criteria and their completeness. Therefore, a number of criteria were revisited by the Panel.

WHO classification

A presentation was made by the WHO on the *WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification*¹⁶, in particular the approach taken for the inclusion of certain chronic hazards (the “CMR” criteria: carcinogenicity, mutagenicity and reproduction toxicity). At present, pesticides classified by the International Agency for Research on Cancer (IARC) as having a high likelihood of being carcinogenic, are specifically identified in the WHO Classification. Reproductive toxicity is taken into account on a case-by-case basis, but not all pesticides listed in the classification have been evaluated against this hazard.

Concern was expressed that CMR hazards have not been, and are presently not, systematically evaluated for all pesticides listed in the WHO Classification. It therefore, contrary to acute hazards, may not provide a complete classification of CMR hazards. However, the only other global hazard classification, the *Globally Harmonized System for the Classification and Labelling of Chemicals* (GHS)¹⁷, while providing criteria for CMR hazards, does not evaluate individual pesticides against these criteria. Systematic evaluation of individual pesticides against the CMR criteria of the GHS, and inclusion of its results in the WHO Classification, would according to the Panel be extremely useful.

The Panel underlined the longstanding use and great importance of the WHO Classification for many aspects of pesticide management and regulation, in particular in developing countries. It noted its wide use in registration, classification and labelling, among others.

The Panel reiterated its previously expressed concern that the acute toxicity classifications of the WHO system and of the GHS have not yet been harmonized. It therefore recommended that WHO, as soon as possible, harmonize its criteria for acute toxicity with those of the GHS. The Panel further recommended that WHO should assess the feasibility of incorporating the GHS CMR criteria, and possibly other relevant endpoints, into its Classification. Pesticides listed in the Classification would subsequently need to be evaluated against these criteria, so that the WHO Classification can be considered comprehensive and complete, not only for acute hazards but also for the most important chronic hazards. The Panel recognized, however, that such evaluations would require considerable resources.

Endocrine disrupting pesticides

Endocrine disrupting effects were not incorporated into the list of criteria for HHPs as defined by the previous session of the Panel. A presentation was therefore made by PAN on the status of knowledge about endocrine disrupting pesticides.

¹⁶ http://www.who.int/ipcs/publications/pesticides_hazard/en/

¹⁷ http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html

It was stressed in this presentation that endocrine disruption by chemicals should not be considered an emerging issue anymore. Much scientific work has been carried out on the effects of endocrine disruption and the toxicological and physiological explanatory mechanisms. A summary of these mechanisms, as well as the resulting adverse effects, was presented to the Panel.

PAN noted that a number of countries have started taking action in regulating endocrine disrupting chemicals, including pesticides. As a first step, several countries, such as the European Union, Japan and the United States of America have started listing potential endocrine disrupting chemicals and identifying those that require further regulation. Furthermore, the OECD has initiated a research programme which is expected to lead, shortly, to a battery of new and revised testing guidelines to detect endocrine disruptors.

It was recognized in the presentation that there still is no full understanding of all the mechanisms by which pesticides affect the endocrine system, and the adverse effects this may cause. However, PAN was of the view that there is sufficient information on endocrine disrupting pesticides, with assay guidelines well developed by OECD in conjunction with the European Union, Japan and the United States of America, to move forward and regulate at least those pesticides already identified by the European Union. As a result, PAN urged FAO and WHO to include endocrine disruption as a criterion for HHPs.

The Panel welcomed the considerable advancements in the development of harmonized testing guidelines and evaluation criteria for endocrine disrupting chemicals. However, it noted that the OECD harmonized testing guidelines had not yet been published, and the European Union list of likely endocrine disrupting chemicals requiring regulation had not yet been formally adopted. Furthermore, there is still much discussion about the variety in effects that may be caused by endocrine disruptors, questions regarding potency, and effective approaches to assess their actual risk. The Panel also noted that endocrine disruption is not a toxicity endpoint as such and often will lead to toxic effects such as cancer or reproductive effects. Such effects would be covered by the criteria for HHPs.

The Panel, therefore, felt it was premature to include specific reference to endocrine disruptors as a separate category of highly hazardous pesticides. However, the Panel recognized that endocrine disruption can be an important mechanism of pesticide hazard expression. It was recommended that this issue be closely followed, and that the Panel should review the extent to which the existing criteria address endocrine disrupting pesticides at one of its future sessions.

Criteria for HHPs

Based on its discussions, and with the aim to ensure that its criteria for HHPs are clear and unequivocal, the Panel recommended that the criteria published at its 2007 session be slightly revised, and read as follows.

Highly hazardous pesticides should be defined as having one or more of the following characteristics:

- pesticide formulations that meet the criteria of classes Ia or Ib of the *WHO Recommended Classification of Pesticides by Hazard*;

or

- pesticide active ingredients and their formulations that meet the criteria of carcinogenicity Categories 1A and 1B of the *Globally Harmonized System on Classification and Labelling of Chemicals* (GHS);
- or
- pesticide active ingredients and their formulations that meet the criteria of mutagenicity Categories 1A and 1B of the *Globally Harmonized System on Classification and Labelling of Chemicals* (GHS);
- or
- pesticide active ingredients and their formulations that meet the criteria of reproductive toxicity Categories 1A and 1B of the *Globally Harmonized System on Classification and Labelling of Chemicals* (GHS);
- or
- pesticide active ingredients listed by the *Stockholm Convention* in its Annexes A and B, and those meeting all the criteria in paragraph 1 of annex D of the Convention;
- or
- pesticide active ingredients and formulations listed by the *Rotterdam Convention* in its Annex III;
- or
- pesticides listed under the *Montreal Protocol*;
- or
- pesticide active ingredients and formulations that have shown a high incidence of severe or irreversible adverse effects on human health or the environment.

With respect to the last criterion, the Panel requested WHO, FAO and UNEP to develop workable criteria on how to determine whether pesticide active ingredients and their formulations have shown a high incidence of severe or irreversible adverse effects on human health or the environment.

Pesticide industry representatives indicated that criteria to identify highly hazardous pesticides which are entirely hazard-based would not be supported by them, and risk assessment should be the basis for regulatory decision making.

6.2 Priority activities for risk reduction

The Panel recalled the recommendation made by the 131st session of the FAO Council, in 2006, with respect to FAO's contribution to SAICM, which read:

In view of the broad range of activities envisaged within SAICM, the Council suggested that the activities of FAO could include risk reduction, including the progressive ban on highly hazardous pesticides, promoting good agricultural practices, ensuring environmentally-sound disposal of stock-piles of obsolete pesticides and capacity-building in establishing national and regional laboratories.

The previous session of the Panel made a number of recommendations with respect to risk reduction of HHPs. FAO informed the meeting that regrettably little progress had been made with implementation of these recommendations, to a large extent due to limitations in personnel (see section 5.2). FAO stressed, however, that risk reduction of HHPs would remain a high priority in its programme, as recommended by the FAO Council.

The previous Panel recommendation that FAO and WHO, as a first step, prepare a list of HHPs based on the criteria identified, had not been taken up. FAO indicated it would be very hesitant to develop such a list, since its relationship to existing Multilateral Environmental Agreements (MEAs) that have more extensive identification procedures, in particular the Rotterdam Convention, might cause confusion in implementation at country level. In addition, preparing a list of individual pesticides classified as a HHP will likely result in long and complicated discussions, which may divert attention from the main task of reducing the risks posed by HHPs.

FAO therefore suggested that the first step of implementing the criteria defined by the Panel may be to develop guidance for registrars on how to apply the criteria for the national authorization of pesticides. Such guidance would also include available relevant data sources needed to use the criteria, and advice on elements and procedures for decision making, in particular with respect to viable alternatives for HHPs. As a second step, FAO and WHO could then actively engage regulators at the national level and assist them in implementing risk mitigation measures for HHPs.

The Panel stressed that registrars in many developing countries need clear guidance on what should be considered HHPs and what type of risk reduction measures can be taken. At present, most countries concerned already lack manpower and technical expertise to carry out proper hazards assessment for pesticides, let alone complete risk assessments.

The Panel revisited its previous recommendations made on priority activities for risk reduction. It noted that most of these recommendations still stand, but suggested to make a number of amendments to further clarify actions that should be taken to reduce risks that are posed by HHPs.

The Panel noted that many HHPs are currently in use, and reiterated that substituting them by less hazardous pest management options will often take time. However, as a general principle, the Panel recommended that HHPs should not be registered for use unless:

- i. governments establish a clear need;
- ii. no alternatives, based on a risk – benefit analysis, are available; and
- iii. control measures as well as good marketing practices are sufficient to ensure that the product can be handled with acceptable risk to human health and the environment.

The Panel considered that the following activities should be a priority for FAO and WHO, with the aim to reduce the risks from HHPs, which explicitly could include a progressive ban of these compounds:

- FAO and WHO, as a first step, should make available to countries information on HHPs based on the criteria above, update it periodically in cooperation with UNEP, and make it widely known;
- FAO, in collaboration with WHO, should invite governments and the pesticide industry to develop plans of action to reduce risks from HHPs by taking regulatory or technical

action, either at the national or the regional level as appropriate, taking into account the work undertaken in existing MEAs such as the Stockholm Convention, Rotterdam Convention and the Montreal Protocol;

- FAO, in collaboration with WHO, should collect information on alternatives for HHPs, both reduced risk pesticides and other pest management approaches, in cooperation with all relevant stakeholders, and share experiences among countries;
- FAO, in collaboration with WHO, should seek assistance from donors for countries which wish to act to reduce risks from HHPs with the aim of preparing, implementing and enforcing action plans and search for alternatives;
- FAO should mobilize internal and external resources in order to implement, as a priority, the recommendations of the FAO Council with respect to HHPs.

The Panel underlined that effective risk reduction from HHPs is mainly carried out at the national level, and that national governments thus have the prime responsibility in this respect. It therefore recommended that FAO, in collaboration with WHO, invite national governments to ensure that at least the following risk reduction measures for HHPs are taken into account:

- identify HHPs with help of the criteria explained above;
- review the need for the use of HHPs, while simultaneously reviewing use conditions, mitigation measures and comparative risk assessment;
- where a specific need is identified for a HHP and no viable alternatives are available, governments should be advised to take all the necessary precautions, mitigation measures and apply restrictions, that may include the use only under certain conditions or by specifically certified users, severe restrictions, or a possible phase-out;
- promote the use of alternative pest management strategies and, in case they are not available, promote research for development of alternative strategies;
- promote the substitution principle for HHPs;
- ensure the provision of sufficient advice and information to users.

Finally, the Panel noted that the Global Guide to Resources on Acute Toxic Pesticides, which had been prepared by the Intergovernmental Forum on Chemical Safety (IFCS) to assist its recommendations on acutely toxic pesticides, is still being updated regularly¹⁸. The Panel suggested that FAO and WHO, as well as national government, could also use this guide to further identify and implement priority activities for risk reduction of HHPs.

¹⁸ http://www.who.int/ifcs/champions/guide_resources/en/index.html

7. Guidelines in support of the Code of Conduct

As an introduction to the discussions on the various guidelines being developed in support of the Code of Conduct, the Panel was informed of newly published or translated guidelines since the its previous session, in October 2007:

- the publication, in May 2008, of the joint FAO/WHO *Guidelines on Management Options for Empty Pesticide Containers*.¹⁹
- the translation into French and Spanish of the FAO *Guidelines on Monitoring and Observance of the Code of Conduct*.²⁰
- the translation into Arabic of the FAO *Guidelines on Efficacy Evaluation for the Registration of Plant Protection Products*.²¹
- the publication of the FAO Legislative study No. 97 – *Designing National Pesticide Legislation*.²²

The Panel was also informed that, because of legal requirements at WHO and the wish to operate a consistent guideline drafting procedure within both organizations, FAO and WHO have decided that guidelines in support of the Code of Conduct would in the future only be drafted by independent experts. FAO and WHO underlined that this procedure would be adhered to avoid any appearance of a conflict of interest, and not because there had been any reservation with respect to the technical quality of previous guidelines. Guidelines presently in the process of being drafted are not affected by this change of policy. Pesticide industry associations and public interest groups would continue to be invited to participate in Task Groups for specific guidelines as observers, and provide inputs in the drafting process.

8. Drafting status of guidelines under development

The Panel was presented with the drafting status of a number of guidelines that are presently being developed.

8.1 Guidelines on resistance management for pesticides

The Panel reviewed a first working draft of the *Guidelines on Resistance Management for Pesticides* at its previous session. Additional comments on this draft had been received subsequently and had been incorporated into a second draft by the drafter in close collaboration with the Task Group chair. The second draft had been reformatted by FAO and was being completed by the drafter.

The Panel requested the Task Group chair and the drafter to finalize the draft by January 2009, to be circulated for review by the Task Group and by a limited number of independent

¹⁹ <http://www.fao.org/agriculture/crops/core-themes/theme/pests/pm/code/frame/implement/obsolete/en/>

²⁰ <http://www.fao.org/agriculture/crops/core-themes/theme/pests/pm/code/frame/monitor/en/>

²¹ <http://www.fao.org/agriculture/crops/core-themes/theme/pests/pm/code/frame/implement/regpes/en/>

²² <http://www.fao.org/legal/legstud/list-e.htm>

peer reviewers. External peer reviewers should be selected based on their expertise in pesticide resistance management, both in agriculture and in public health, by FAO and WHO in consultation with the Task Group chair. The Panel recommended that comments received be taken into account in finalizing this draft, and that it subsequently be circulated among Panel members and observers for review, by June 2009. A final version of the guideline should be presented to the Panel for endorsement by October 2009.

8.2 Guidelines on registration of microbial pest control agents

With respect to the *Guidelines on Registration of Microbial Pest Control Agents*, the Panel took note of the fact that a draft had been prepared based on the outline agreed during its previous session. This draft was circulated among the Task Group members and comments were incorporated by the drafter. The second draft will require reformatting, to be in line with the agreed guideline format.

The Panel requested that this draft be finalized and reviewed by the Task Group by January 2009, and subsequently be sent for external peer review. External peer reviewers should be selected based on their expertise in the registration of microbial pest control agents, both in agriculture and in public health, by FAO and WHO in consultation with the Task Group chair. The Panel recommended that the peer review be taken into account in finalizing this draft, and it be circulated subsequently among Panel members and observers for comments, by May 2009. A new version of the guideline should be presented to the Panel for endorsement, by October 2009.

8.3 Guidance on pest and pesticide management policy development – agriculture.

A draft of the *Guidance on Pest and Pesticide Management Policy Development (Agriculture)* had been discussed by the Panel at its previous session. Subsequently, additional comments were provided which differed substantially from each other and did not represent a clear consensus on the changes to be made. This resulted in a new draft of the document, which had not yet been circulated among the Task Group or full Panel.

The Panel discussed the status and process of development of this draft guideline. It requested FAO to circulate the newly revised draft among the Task Group members for review, by January 2009, to assess whether previous comments have been incorporated in an acceptable manner. Since the latest comments were all provided Task Group members, the Panel recommended that the Task Group consider calling an external independent peer review of the guidance document if certain key elements would remain unresolved. The Panel recommended that a final draft then be prepared, and circulated among Panel members for endorsement by June 2009. If no major comments were to be received on the final draft, FAO was requested to finalize the guidance document and subsequently proceed with publication prior to the Panel's next session.

9. Review of outlines for new or revised guidelines

The Panel was presented with one draft outline for a new guideline to be developed.

9.1 Guidelines on retail establishments for pesticides

A revised scope and outline was presented of the *Guidelines on Retail Establishments for Pesticides*, based on the suggestions made the Panel during its previous session. The Panel confirmed its previous recommendation that the guideline should focus on providing advice to governments on the establishment of a proper system and setting minimum requirements of pesticide distribution and sales within the country. Guidance to be provided to retailers was considered to be the main responsibility of individual governments and of the private sector itself.

The Panel underlined the very important role that retailers play in the pesticide management chain, in particular in developing countries, where they tend to be the prime source of information for pesticide users, not only on the products themselves but also on pest management in general. The effective organization and regulation of retail outlets should therefore be a priority and the guideline should provide minimum requirements in this respect.

The Panel made a number of suggestions regarding the contents of guideline, which included:

- ensuring that distribution and sales of all types of pesticides, including agricultural, public health and domestic use products are covered;
- taking into account different types of retail outlets which may cater for different groups of pesticide users (e.g., general public, farmers, professional pest control operators);
- addressing forms of retail specific to many developing countries, such as travelling salesmen and mixed retail shops (e.g., ‘one-stop shops’ selling all agricultural inputs and materials, or even other types of goods);
- including options for retailer licensing, and the problem encountered in various countries that license holders may not be the actual shopkeepers;
- addressing in sufficient detail elements on labelling, packaging, storage and disposal;
- stressing the need to avoid the risk of food contamination during storage;
- covering all articles of the Code of Conduct which are relevant of pesticide distribution and sales.

In addition, the Panel underlined the importance of training of and information provision to pesticide distributors and retailers, and of effective enforcement, and requested that this be taken into account in the guideline.

The Panel requested that FAO and WHO prepare a detailed annotated table of contents for this guideline by March 2009, and circulate it among Panel members and observers for comments. The Panel further recommended that the development of the guideline be initiated as soon as possible afterwards, so that a complete draft can be distributed for discussion at its next session.

10. Review of new and revised guidelines

The Panel was presented with three draft guidelines presently under development.

10.1 Guidelines on the development of a reporting system for health and environmental incidents resulting from exposure to pesticides

A draft version of the *Guidelines on the Development of a Reporting System for Health and Environmental Incidents Resulting from Exposure to Pesticides* had been discussed during the previous session of the Panel. Comments made by the Panel were incorporated and the draft went subsequently through an additional review round by a number of Panel members, observers and external reviewers. A final draft was then prepared and had been distributed to the Panel for endorsement.

The Panel commended the drafter for her excellent work in finalizing this guideline. The Panel recognized the importance of having a feedback system on possible adverse impact of pesticides within the country as a basis for effective interventions through policy and other options. While recognizing that the operation of a thorough and effective pesticide incident reporting and monitoring system is very complex and will require considerable resources, the Panel underlined that this guideline can provide guidance on how to initiate such a system.

The Panel endorsed in principle the present version of the guideline, but requested that a number of clarifications be made to certain sections of the text. These included:

- adding and/or amending certain definitions;
- providing a good description of the circumstances of pesticide exposure, and the addition of certain elements to the report of suspected pesticide poisoning cases;
- including a recommendation for mandatory reporting of health and environmental incidents;
- providing more guidance on the verification of incident reports.

The Panel recognized that cases of pesticide poisoning as a result of suicide attempts will have very different policy implications from occupational and accidental cases. However, it recommended that reporting and assessment of suicide cases also be included in the guideline.

The Panel noted that for the guidelines to be effective, many countries will likely need capacity building in various aspects of incident reporting and analysis. The Panel also stressed the need of field-testing this guideline and obtaining feedback about the feasibility of its recommendations and its usefulness, and noted the willingness of individual members and of UNEP to do so. It was underlined that a reporting system is only one of the building blocks in protecting human health and the environment as part of sound pesticide management.

The Panel requested that a definitive draft be circulated to its members for final endorsement by November 2008, and that FAO and WHO, after formatting and editing, proceed with publication of the guideline no later than March 2009.

10.2 Guidelines on registration of pesticides

Based on the outline agreed upon at the previous session of the Panel, a draft of the *Guidelines on Registration of Pesticides* had been prepared. This initial draft had been discussed at the 6th GCDPP Meeting in April 2008, in which most of the members of the Task Team for this guideline participated. The comments and suggestions provided during the meeting were subsequently incorporated in a revised draft, which had been circulated among Panel members and observers.

The Panel was reminded of the fact that the purpose of the guideline is to provide general advice on the principles and process as well as requirements for registration of pesticides, including institutional and administrative organization. It should be considered as an umbrella document with more detailed guidance on technical elements of the registration process (such as data requirements, testing methods or risk assessment procedures) to be provided in separate guidelines.

The Panel expressed its appreciation regarding the advanced status of development of the document. It stressed that an effective pesticide registration system is a vital element for sound management of pesticides in a country, and requires a multi-disciplinary approach in implementation.

The Panel considered that the overall scope and contents of the guideline were appropriate for its purpose, and raised a number of issues that might be considered when finalizing the document. These included:

- limiting the section on the responsibilities of various stakeholders to those that are directly involved in pesticide registration;
- considering to extend the definition of ‘pesticide’ to the one used by the JMPS, so that public health and domestic use pesticides are more clearly included;
- explaining different types of registration in more detail;
- providing more information on registration by equivalence;
- clarifying and correcting the section on data protection, by limiting it to a description of principles but avoiding to take a specific position, as this was not done in the Code of Conduct;
- ensuring that issues regarding transparency of the registration process and public information are properly covered;
- providing more guidance on the use of existing data and data exchange between registration authorities;
- including experimental permits, and providing more detail on registration options for minor uses and biopesticides;
- providing additional guidance on comparative risk assessment and the substitution principle;
- clarifying the various options and requirements for fast-track registration.

The Panel further confirmed that genetically modified organisms or natural enemies of pests would not be covered by the guideline. It requested FAO and WHO to carry out a legal review of the guideline to avoid inconsistencies or errors.

The Panel recommended to extend the commenting period until 31 December 2008, after which a new draft should be prepared and circulated among Panel members for endorsement, no later than March 2009. The Panel requested that, if no major comments are received, FAO and WHO, after formatting and editing, proceed with publication of the guideline.

10.3 Guidelines on pesticide advertising

With respect to the *Guidelines on Pesticide Advertising*, the Panel took note of the new draft which had been prepared by the Task Group chair and the written comments provided on this document.

The draft of the guidelines as presented to the Panel suggests that for certain types of advertisements, the provisions of Article 11.2 do not necessarily need to be observed. This would be the case, for instance, for small promotional items such as pens which may not have enough space to show the required wording. While recognizing that such physical constraints could exist for certain types of promotional items, the Panel underlined that no exemptions should be made in this guideline for provisions in the Code of Conduct. Therefore, the Panel recommended that the provisions of Article 11 in the Code of Conduct would need to apply to all forms of pesticide advertising, and that the guidelines reflect this clearly.

The Panel discussed the need to provide further guidance on Article 11.2.18 of the Code of Conduct which states that *Pesticide industry should ensure that advertisements and promotional activities should not include inappropriate incentives to encourage the purchase of pesticides*. The previous session of the Panel recommended that examples be given of what can be considered appropriate and inappropriate incentives or gifts, to assist regulators in the application of this article to their national situation. Examples were subsequently provided in the new draft of the guideline.

The draft guidelines provide a general definition of ‘inappropriate’ which reads: *In general terms, an incentive may be considered appropriate if it is in line with the objectives of the Code of Conduct, and inappropriate if it runs counter to these objectives, i.e. if it encourages the purchasing of a pesticide for another reason than to make the best choice to control a pest or disease*. This definition was considered by some observers as too narrow, as the ‘best choice’ could be interpreted as being limited to biological reasons, but excluding convenience of use, price, etc. Such an interpretation would then disallow advertising to encourage ‘brand change’. It was suggested to modify the latter part of the phrase into: *make the best choice for cost-effective control a pest or disease*. However, the Panel considered this an equally narrow interpretation, and suggested clarify that the best choice will need to be made for agronomic, economic, environmental and health reasons.

Concern was expressed about the use of specific examples in the guidelines, as they can never be exhaustive, and are highly dependent on social, economic, cultural and religious circumstances. A replacement text was therefore presented to the Panel of a more generic nature. The Panel discussed both the draft guideline text and the proposed replacement and concluded that inclusion in the guidelines of explicit examples of inappropriate incentives

would be helpful to national regulators. It considered that the draft guideline clearly stresses that the exact interpretation of this article is subjected to the national or local situation.

The Panel therefore concluded that a list of examples of inappropriate (but not of appropriate) incentives of gifts should be provided in the guideline, such as, but not necessarily limited to:

- incentives or gifts which are not related to the product advertised;
- incentives or gifts with a value higher than the product advertised, unless it is related to the judicious use of the product in question (e.g., personal protective equipment, sprayer maintenance equipment);
- incentives or gifts in exchange of the product label, as this leads to unlabeled products in the hands of the end-user.

The suggestion made to refer in the guidelines to the International Chamber of Commerce (ICC) Code of Advertising and Marketing Communication Practice²³ (and in particular Chapter A on Sales promotion) as minimum general provisions regarding the use of incentives, was supported by the Panel.

The guideline leaves it at the discretion of governments and other stakeholders to notify FAO or WHO of cases of non observance of the provisions of the Code of Conduct on advertising. FAO and WHO may decide to review such notifications. It was suggested that a summary of such complaints and the outcome of the review should be made publicly available by FAO or WHO. The Panel did not support this suggestion, since the *ad hoc* monitoring procedure of observance of the Code of Conduct, set up by FAO, is not a formal international complaints procedure²⁴.

CropLife International noted that, at this point in time, it could not agree with the Panel recommendations on this guideline, but would provide a definitive statement on its acceptance after having reviewed the final draft.

The Task Group was requested to incorporate the recommendations made during the meeting, as well as any editorial comments as far as appropriate. The Panel further requested that the final draft of the guidelines be reviewed again for any legal inconsistencies.

The Panel recommended that the Task Group prepare a new draft of the document by January 2009, for subsequent circulation among the Panel members for endorsement. The Panel requested that, if no major comments are received, FAO and WHO, after formatting and editing, proceed with publication of the guideline no later than June 2009.

²³ <http://www.iccwbo.org/policy/marketing/id8532/index.html>

²⁴ <http://www.fao.org/ag/AGP/AGPP/Pesticid/Code/Guidelines/Monitoring.htm>

11. Guidelines proposed for updating

The Panel discussed two guidelines which had been proposed for updating during a previous session.

11.1 Guidelines on pesticide legislation

The Panel was presented with the recently published *FAO Legislative Study on Designing National Pesticide Legislation*, and commended its quality and clarity.

The Panel underlined that the existing FAO guidelines on pesticide legislation are outdated and do not cover all pesticide uses addressed in the Code of Conduct, and reiterated its previous recommendation to develop updated guidelines on this issue. The Panel discussed in which ways the presented legislative study could be used as a basis for the elaboration of a new guideline on pesticide legislation, which would need to cover all areas of pesticide use, including public health and domestic uses.

The Panel recommended that FAO and WHO initiate the development of an outline for a new guideline on pesticide legislation, to be presented for consideration by the Panel at its next session.

11.2 Guidelines on good labelling practice for pesticides

The Panel was informed that no progress had yet been made in updating this document. The Panel stressed the importance of effective labelling of pesticides as a prime tool for communication with the user.

The Panel revisited its previous recommendation to present the WHO and GHS classifications for pesticides in a parallel manner in the guidelines, since these two systems had not yet been harmonized. It agreed, however, that clear advice on pesticide labelling needs to be provided to countries and a double-track system should be avoided. Furthermore, countries have started implementing GHS and require specific guidance on how to apply this to pesticide labelling.

The Panel noted that while the GHS is to become the global standard for classification and labelling of chemicals, the FAO guidelines and WHO classification of pesticides have long history of use in many countries, and that users have grown accustomed to this approach. The Panel therefore supported the proposal to update the guideline, taking into account the GHS but ensuring that the existing guideline is not changed more than absolutely necessary.

The Panel requested that a first draft be circulated among Panel members and observers by January 2009.

12. Implementation of the Code of Conduct

Although a large number of activities are being carried out by international organizations, national governments, the private sector and civil society organizations, which contribute to the implementation of the Code of Conduct, continued efforts to promote the sound management of pesticides are still needed, in particular in developing countries and countries with economies in transition. The Panel was therefore invited to discuss ways and means of strengthening implementation of the Code over the next few years.

A number of issues were put forward, regarding a possibly reorientation of implementation of the Code, among them:

- increased focus on national implementation, by favouring the development of national projects and programmes;
- better orientation of guidance and guidelines to the needs to developing countries and including systematic verification of their usefulness;
- closer integration of pest management, pesticide management, sustainable intensification of crop production, integrated vector management, chemicals management, environmental issues;
- mainstreaming of awareness building on the Code in the regular work of FAO, WHO and UNEP.

It was proposed to develop a programme for implementation of the Code of Conduct, which would build on a strategic approach based on four main elements: **i. normative work** at the international level (e.g., guidelines, policies, forums), which would guide to **ii. capacity building** on technical and policy issues (e.g., training, information exchange) at national and regional levels, which would lead to **iii. implementation** projects and programmes, primarily at the national level, which in turn would require **iv. feedback** mechanisms to assess effectiveness of implementation. By having the feedback direct the normative work again, a ‘strategic loop’ for implementation of the Code of Conduct could be developed.

The Panel welcomed the initiative to attempt to increase attention and resources for implementation of the Code of Conduct, and agreed that activities at national and regional levels are in particular required. The Panel endorsed the general concept to develop a programme for implementation of the Code of Conduct along the lines set out during the meeting.

The Panel stressed the importance of ensuring the involvement of all stakeholders, since the success of the Code of Conduct is borne by the fact that all major stakeholders have underwritten it. New stakeholders, such as the food sector, should therefore be actively engaged to participate in the programme. Furthermore, the Panel recommended that opportunities be sought to work with other organizations which are members of the Inter-organization Programme for the Sound Management of Chemicals (IOMC) to strengthen work on training, capacity building and implementation of the Code of Conduct.

The Panel stressed the importance of integration of the programme with initiatives such as the *Strategic Approach to International Chemicals Management* (SAICM) and the 2nd *International Conference on Chemicals Management* (ICCM-2), with a view to facilitating a more effective implementation of the Code of Conduct.

While FAO, WHO and UNEP are already accessing their regular budgets to fund implementation activities, this will certainly be greatly insufficient to develop an effective programme. The Panel therefore called upon FAO, WHO, UNEP and other meeting participants to identify sources and secure funds for implementation of the programme. The Panel recommended that particular attention be paid to presenting the programme in ways that are attractive to governments and potential donors.

The Panel indicated that its members could contribute to the development of a programme for implementation of the Code of Conduct by identifying important needs and gaps that require attention and key entry points that could help get such a programme started up. Furthermore, the Panel could act as ‘steering committee’ which would oversee implementation and monitor its effectiveness.

13. Counterfeit pesticides

At the request of CropLife International, the Panel discussed the problem of counterfeit and illegal pesticides.

The Panel was informed of the increasing importance of counterfeit pesticide products, which are estimated to amount to 5-7 percent of the products in Europe and 20-30 percent in developing countries. Apart from causing economic losses to the legitimate pesticide industry, forged pesticides may endanger farmers’ livelihoods and health, put the food chain and consumers at risk, and may cause damage to the environment. Counterfeiting also undermines the national regulatory systems. CropLife expressed its concern that legitimate pesticides tend to be strictly regulated but problems of illegal and counterfeit products still get relatively limited attention in many countries.

The Panel recognized the importance of the problems caused by the trade in counterfeit pesticides, and noted that it appears to be related, to a large extent, to weak inspection and control systems in many (developing) countries. Strengthening import and export controls, and developing effective systems of quality control which are also feasible in resource-poor countries, are needed to get to grips with this problem. This will require involvement of many players and stakeholders.

The Panel indicated that it would like to further discuss possible ways of reducing the trade and adverse impact of counterfeit pesticides at a next session.

14. Review of the Code of Conduct

The Panel discussed the scope and objectives of the *International Code of Conduct on the Distribution and Use of Pesticides*, in particular its coverage of public health and domestic pesticides. The Panel noted that the Code of Conduct clearly addresses all pesticides and all areas of use. However, it was recognized that its provisions, definitions and the included references appear to focus more on the management of agricultural pesticides.

The Panel recognized that an even more complete Code of Conduct, which might be jointly published by FAO, WHO and possibly UNEP, would likely increase its visibility and impact. However, concern was expressed at initiating a formal revision of the Code of Conduct, as experience has shown that this would require much time and resources, which might better be used for actual implementation of the Code of Conduct. Any possible updating of the Code of Conduct should therefore be limited in scope and not attempt to amend issues expected to generate much discussion.

The Panel recommended that FAO and WHO start the process to ensure that the Code of Conduct, and its implementation tools, adequately addresses all pesticides, and in particular public health pesticides. As a first step, WHO was requested to prepare a working document indicating which articles of the Code of Conduct might need to be amended or completed to ensure full coverage of public health and domestic pesticides.

15. Recommendations

Based on the working documents reviewed, the presentations made and the discussions held during the meeting, the Panel made the following recommendations:

Highly hazardous pesticides

1. To make further progress on the initiative for the reduction of risks posed by HHPs, the Panel reviewed the recommendations from its 2007 meeting and **agreed** that these recommendations **be adopted with the modifications** as incorporated in the following text:
2. HHPs **should be defined** as having one or more of the following characteristics:
 - pesticide formulations that meet the criteria of classes Ia or Ib of the *WHO Recommended Classification of Pesticides by Hazard*;
 - or
 - pesticide active ingredients and their formulations that meet the criteria of carcinogenicity Categories 1A and 1B of the *Globally Harmonized System on Classification and Labelling of Chemicals* (GHS);
 - or

- pesticide active ingredients and their formulations that meet the criteria of mutagenicity Categories 1A and 1B of the *Globally Harmonized System on Classification and Labelling of Chemicals* (GHS);
 - or
 - pesticide active ingredients and their formulations that meet the criteria of reproductive toxicity Categories 1A and 1B of the *Globally Harmonized System on Classification and Labelling of Chemicals* (GHS);
 - or
 - pesticide active ingredients listed by the *Stockholm Convention* in its Annexes A and B, and those meeting all the criteria in paragraph 1 of annex D of the Convention;
 - or
 - pesticide active ingredients and formulations listed by the *Rotterdam Convention* in its Annex III;
 - or
 - pesticides listed under the *Montreal Protocol*;
 - or
 - pesticide active ingredients and formulations that have shown a high incidence of severe or irreversible adverse effects on human health or the environment.
3. The Panel **noted** advancements in the development of harmonized testing guidelines and evaluation criteria for endocrine disrupting chemicals, but felt it was premature to include specific reference to endocrine disruptors as a separate category of highly hazardous pesticides. However, the Panel **recognized** that endocrine disruption can be an important mechanism of pesticide hazard expression. It was **recommended** that the extent to which the existing criteria address endocrine disrupting pesticides be reviewed by the Panel at one of its next sessions.
 4. The Panel further **recommended** that WHO, FAO and UNEP develop criteria for determining whether pesticide active ingredients and their formulations have shown a high incidence of severe or irreversible adverse effects on human health or the environment.
 5. The Panel discussed how to address the current use of highly hazardous pesticides, and **recommended** that these should not be registered for use unless:
 - a) governments establish a clear need;
 - b) no alternatives, based on a risk – benefit analysis, are available; and
 - c) control measures as well as good marketing practices are sufficient to ensure that the product can be handled with acceptable risk to human health and the environment.
 6. The Panel discussed priority activities related to risk reduction from HHPs, including a progressive ban, and **recommended** that:
 - a) FAO and WHO, as a first step, make available to countries information on HHPs based on the criteria above, update it periodically in cooperation with UNEP, and make it widely known;

- b) FAO, in collaboration with WHO, invite governments and the pesticide industry to develop plans of action to reduce risks from HHPs by taking regulatory or technical action, either at the national or the regional level as appropriate, taking into account the work undertaken in existing Multilateral Environmental Agreements such as the Stockholm Convention, Rotterdam Convention and the Montreal Protocol;
 - c) FAO, in collaboration with WHO, collect information on alternatives for HHPs, both reduced risk pesticides and other pest management approaches, in cooperation with all relevant stakeholders, and share experiences among countries;
 - d) FAO, in collaboration with WHO, seek assistance from donors for countries which wish to act to reduce risks from HHPs with the aim of preparing, implementing and enforcing action plans and search for alternatives;
 - e) FAO mobilize internal and external resources in order to implement, as a priority, the recommendations of the FAO Council with respect to HHPs.
7. The Panel further **recommended** that FAO, in collaboration with WHO, invite national governments to ensure that at least the following risk reduction measures for highly hazardous pesticides (HHPs) are taken into account:
- a) identify HHPs with help of the criteria explained above;
 - b) review the need for the use of HHPs, while simultaneously reviewing use conditions, mitigation measures and comparative risk assessment;
 - c) where a specific need is identified for a HHP and no viable alternatives are available, governments should be advised to take all the necessary precautions, mitigation measures and apply restrictions, that may include the use only under certain conditions or by specifically certified users, severe restrictions, or a possible phase-out;
 - d) promote the use of alternative pest management strategies and, in case they are not available, promote research for development of alternative strategies;
 - e) promote the substitution principle for HHPs;
 - f) ensure the provision of sufficient advice and information to users.

WHO Classification of pesticides by hazard

8. Given the great importance of the *WHO Recommended Classification of Pesticides by Hazard* for various aspects of pesticide management and regulation, including registration, classification and labelling, in particular in many developing countries, the Panel **expressed its concern** that the classifications of the WHO system and of the GHS have not yet been harmonized, which impedes the provision of clear guidance on classification and labelling of pesticides.
9. The Panel therefore **recommended** that WHO, as a matter of urgency, harmonize its criteria on acute toxicity with those of the GHS. The Panel further **recommended** that WHO assess the feasibility to incorporate the GHS criteria on carcinogenicity, mutagenicity and reproductive toxicity, and other relevant endpoints, into its Classification and ensure that all pesticides listed have been evaluated against these criteria.

Implementation of the Code of Conduct

10. The Panel discussed the need to strengthen the implementation of the *International Code of Conduct on the Distribution and Use of Pesticides* and **recognized** the importance of its implementation at, in particular, national and regional levels. The Panel **endorsed** the general concept to develop a programme for implementation of the Code of Conduct as presented, and **recommended** that it include a strategy to involve the food sector as an important stakeholder.
11. The Panel **stressed** the importance of integration with initiatives such as the *Strategic Approach to International Chemicals Management* (SAICM) and the 2nd *International Conference on Chemicals Management* (ICCM-2), with a view to facilitating a more effective implementation of the Code of Conduct. Furthermore, the Panel **recommended** that opportunities be sought to work with organizations which are members of the Inter-organization Programme for the Sound Management of Chemicals (IOMC) to strengthen work on training, capacity building and implementation of the Code of Conduct.
12. The Panel **called upon** FAO, WHO, UNEP and other meeting participants to identify sources and secure funds for implementation of the programme. The Panel **recommended** that particular attention be paid to presenting the programme in ways that are attractive to governments and potential donors.
13. The Panel **requested** to be kept informed of developments in the elaboration and implementation of the programme.

Guidelines in support of the Code of Conduct

14. The Panel reviewed the drafting status of a number of guidelines which are being developed in support of the Code of Conduct, and made the following recommendations.
 - a) With respect to the *Guidelines on Resistance Management for Pesticides*, the Panel took note of the ongoing work to develop a new draft of this guideline, along the lines set out during its previous session. The Panel **requested** the Task Group chair and the drafter to finalize the draft by January 2009, to be circulated for review by the full Task Group and independent peer reviewers. The Panel **recommended** that comments received be taken into account in finalizing this draft, and that it subsequently be circulated among Panel members and observers for review, by June 2009. A final version of the guideline should be presented to the Panel for endorsement by October 2009.
 - b) With respect to the *Guidelines on Registration of Microbial Pest Control Agents*, the Panel took note of the fact that a draft had been prepared for this document, based on the outline agreed during its previous session. The Panel **requested** that this draft be finalized and reviewed by the Task Group by January 2009, and subsequently be sent for external peer review. The Panel **recommended** that the peer review be taken into account in finalizing this draft, and it be circulated subsequently among Panel members and observers for comments, by May 2009. A new version of the guideline should be presented to the Panel for endorsement, by October 2009.

- c) With respect to the *Guidance on Pest and Pesticide Management Policy Development*, the Panel noted the status of development of this draft and **requested** that, after internal review by FAO, the draft be circulated and commented on by the Task Group, by January 2009, to assess whether previous comments have been incorporated in an acceptable manner. The Panel **recommended** that the Task Group consider calling an external independent peer review of the guidance document if certain elements would remain unresolved. The Panel **recommended** that a final draft be circulated among Panel members for endorsement by June 2009 and that FAO, if no major comments were received, finalize the guidance document and subsequently proceed with publication prior to its next session.
15. The Panel reviewed the draft outline of one guideline which is being developed in support of the Code of Conduct, and made the following recommendations.
- a) With respect to the outline for the *Guidelines on Retail Establishments for Pesticides*, the Panel **underlined** the importance of proper regulation of retail outlets, and **recommended** drafting a guideline focused on providing advice to the governments in the establishment of a proper system of sale of pesticides within the country, including public health and household pesticides. The Panel **provided** several **suggestions** on its content, which included taking into account different types of retail establishments which may sell pesticides; addressing in sufficient detail elements on labelling, packaging, storage and disposal; and stressing the need to avoid food contamination during storage. The Panel **requested** that FAO and WHO prepare a detailed annotated table of contents for this guideline by March 2009, and circulate it among Panel members and observers for comments. The Panel further **recommended** that the development of the guideline be initiated as soon as possible afterwards, so that a complete draft can be distributed for discussion at its next Session.
16. The Panel reviewed a number of draft guidelines that were developed in support of the Code of Conduct, and made the following recommendations.
- a) With respect to the *Guidelines on the Development of a Reporting System for Health and Environmental Incidents Resulting from Exposure to Pesticides*, the Panel **recognized** the importance of having a feedback system on possible adverse impact of pesticides within the country as a basis for effective interventions through policy and other options. The Panel **endorsed in principle** the present version of the guideline, but requested that a number of clarifications be made to certain sections of the text. The Panel **requested** that a definitive draft be circulated to its members for final endorsement by November 2008, and that FAO and WHO, after formatting and editing, proceed with publication of the guideline no later than March 2009.
 - b) With respect to the *Guidelines on Registration of Pesticides*, the Panel **stressed** that an effective pesticide registration system is a vital element for sound management of pesticides in a country, and requires a multi-disciplinary approach in implementation. The Panel **made suggestions** for improvements to various sections of the draft, including the responsibilities of various actors for pesticide registration; the issue of data protection, transparency and public information; registration by equivalence; comparative risk assessment and the substitution principle. The Panel **recommended** to extend the commenting period until 31 December 2008, after

which a new draft should be prepared and circulated among Panel members for endorsement, no later than March 2009. The Panel **requested** that, if no major comments are received, FAO and WHO, after formatting and editing, proceed with publication of the guideline.

- c) With respect to the *Guidelines on Pesticide Advertising*, the Panel took note of the new draft which had been prepared by the Task Group chair and the comments provided on this document. The Panel **recommended** that the provisions of Article 11 in the Code would need to apply to all forms of advertising. The Panel further discussed the issue of inappropriate incentives and **concluded** that a list of examples should be provided in the guideline, taking into account the comments made. The Panel **recommended** that the Task Group prepare a new draft of the document by January 2009, for subsequent circulation by among the Panel members for endorsement. The Panel **requested** that, if no major comments are received, FAO and WHO, after formatting and editing, proceed with publication of the guideline no later than June 2009.
17. The Panel reviewed a number of draft guidelines which had been proposed for updating, and made the following recommendations.
- a) With respect to *Guidelines on Pesticide Legislation*, the Panel took note of the *FAO Legislative Study on Designing National Pesticide Legislation* and **commended** its quality. The Panel **underlined** that existing FAO guidelines on pesticide legislation are outdated and do not cover all pesticide uses addressed in the Code of Conduct. The Panel discussed in which ways the study could be used as a basis for the elaboration of a new guideline on pesticide legislation, covering all areas of pesticide use, including public health and domestic uses. The Panel **recommended** that FAO and WHO initiate the development of an outline for a new guideline on pesticide legislation, to be presented for consideration by the Panel at its next session.
 - b) With respect to the *Guidelines on Good Labelling Practice for Pesticides*, the Panel took note of the status of updating this document. The Panel **stressed** the importance of effective labelling of pesticides as a prime tool for communication with the user. The Panel **agreed** that clear advice on labelling needs to be provided to countries, and that parallel presentations of the WHO and GHS classifications for pesticides in the same guideline should be avoided. The Panel **recommended** that the guideline be updated, taking into account the GHS but ensuring that the existing guideline is not changed more than absolutely necessary, and that a first draft be circulated among Panel members and observers by January 2009.

Review of Code of Conduct

18. The Panel discussed the scope and objectives of the *International Code of Conduct on the Distribution and Use of Pesticides* and **noted** that, while these clearly address all pesticides, the provisions of the Code of Conduct and the included references appear to lean to the management of agricultural pesticides. The Panel therefore **recommended** that FAO and WHO start the process to ensure that the Code of Conduct, and its

implementation tools, adequately addresses all pesticides, and in particular public health pesticides.

16. Closure of the meeting

The 2nd FAO/WHO Joint Meeting on Pesticide Management, and the 4th Session of the FAO Panel of Experts on Pesticide Management, was closed by Mr Mark Davis, Senior Officer a.i. of the Pesticide Management Group of FAO and by Dr Morteza Zaim, Scientist in charge of the WHO Pesticide Evaluation Scheme. They thanked all participants for their valuable inputs in the discussions and expressed their satisfaction about the progress that was made.

The meeting was informed that Dr Vibeke Bernson, who had chaired the meeting over the last few years, would be retiring at the end of 2008. Her pleasant but very efficient way of chairing the meetings has greatly contributed to their success. Her contribution to the Panel was gratefully acknowledged.

Finally, the meeting also took note of the fact that FAO Panel members will come to the end of their 4-year term in the course of 2009, but before the next session. Therefore, Mr Davis extended his sincere gratitude, on behalf of FAO, to all for having accepted to sit on the Panel and for having shared their experience and expertise. He presented an FAO memorial medal to each FAO Panel member as an expression of the appreciation of the Organization.

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Annex 2 – Agenda

1. Opening of the meeting and welcome address
2. Appointment of Chairman and Rapporteurs
3. Adoption of agenda
4. Introduction of meeting procedure, working arrangements and housekeeping matters.
5. Summary of developments and actions taken after the first joint meeting in October 2007.
6. Highly hazardous pesticides – status of implementation of recommendations made after the first joint meeting in October 2007.
7. Draft Guidelines agreed for publication in the previous meeting – status report
 - a. Guidelines on management options for empty pesticide containers.
 - b. Guidelines on pesticide advertising.
 - c. Guidance on pest and pesticide management policy development – agriculture.
8. Draft Guidelines under development – status report
 - a. Guidelines on resistance management for pesticides.
 - b. Guidelines on registration microbial pest control agents.
9. Draft outlines for Guidelines – for review
 - a. Guidelines on retail establishments of pesticides.
10. Draft Guidelines – for review.
 - a. Guidelines on the development a reporting system for health and environmental incidents resulting from exposure to pesticides.
 - b. Guidelines on registration of pesticides.
11. Guidelines proposed for updating – issues regarding content
 - a. Guidelines on pesticide legislation
 - b. Guidelines on good labelling practice for pesticides
12. Implementation of the revised version of the International Code of Conduct – future orientation of activities.
13. Any other matters.