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Preparations for the Conference of the Parties

**WORLD HEALTH ORGANIZATION
PUBLICATIONS RELATED TO THE USE OF DDT IN VECTOR CONTROL**

Note by the secretariat

Attached to the present note is information on publications of the World Health Organization related to the use of DDT in vector control. This information was provided by the World Health Organization and has not been formally edited.

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WHO PUBLICATIONS RELATED TO

THE USE OF DDT IN DISEASE VECTOR CONTROL

INTRODUCTION

This bibliography has been developed to provide a ready source of reference on the primary WHO publications relating to the use of DDT for disease vector control.

The introductory section is on the basic WHO recommendation on DDT use for vector control, which was made by the WHO Study Group on Vector Control for Malaria and Other Mosquito-Borne Disease in 1995, and confirmed by the Twentieth Meeting of the WHO Expert Committee on Malaria in 1998. Other existing recommendations on specific aspects of the use of DDT in disease vector control is premised on this primary recommendation.

The publications have been grouped under broad topics (sections) to facilitate referencing. It is to be noted however, that the majority of the publications address cross-cutting issues relating to the topics outlined.

Section A (*use of DDT in vector control*) lists the publications containing the basic WHO recommendations on DDT, which is presented in the introductory section.

Criteria for decision making on the use of DDT for vector control, indoor residual spraying (IRS) processes, as well as issues relating to the implementation of effective IRS programmes form the major subject areas of the publications listed under Section B (*when and how to use DDT for disease vector control*).

Effective management of public health pesticides is directly linked to human and environmental health. Good pesticide management practices will ensure that the right amount of high quality pesticides are purchased for a judicious and appropriate end use (preventing misuse and/or illegal use of pesticides), thereby minimizing or eliminating potential risks to human health and the environment. Good management therefore involves appropriate registration, control and enforcement of laws and regulations, as well as safe pesticide disposal mechanisms. These issues are covered by Section C (*management and safety issues*).

The long-term objective of the Stockholm Convention is the development of safe, effective and affordable vector control interventions, which could effectively replace the use of DDT. In response to this objective, WHO has developed an action plan to support the strengthening of vector control programmes and infrastructure in countries, for the development and sustainable implementation of DDT alternatives. These issues are covered under Section D (*reducing reliance on DDT*).

Good vector resistance management strategies are essential for the continued effectiveness of available insecticides. The withdrawal of DDT will be facilitated by the successful prevention of vector resistance to existing and new insecticide alternatives to DDT. This is covered under Section E (*resistance monitoring*).

A number of alternative methods and approaches to DDT are in use or being promoted by WHO. The publications listed under Section F (*alternative methods and approaches to DDT*) lists primary publications on the subject.

Section G (*general vector control*) lists primary publications on the general subject of vector control.

WHO is developing a compendium of all existing recommendations and guidelines on the use of DDT in vector control to guide countries. The compendium will be published during the second half of 2003.

2. BASIC WHO RECOMMENDATION ON THE USE OF DDT IN VECTOR CONTROL

The WHO Study Group on Vector Control for Malaria and Other Mosquito-Borne Disease, made the following recommendations on the use of DDT for disease vector control in 1995. The recommendations, which were also confirmed by the Twentieth Meeting of the WHO Expert Committee on Malaria in 2000, state in part:

.....There is therefore, at this stage, no justification on toxicological or epidemiological grounds for changing current policy towards indoor spraying of DDT for vector-borne disease control.

DDT may therefore be used for vector control, provided that all the following conditions are met:

- a. It is used only for **indoor spraying**;*
 - b. It is effective*
 - c. The material is manufactured to the specifications issued by WHO*
 - d. The necessary safety precautions are taken in its use and disposal*
4. *In considering whether to use DDT, governments should take into account the following additional factors:*
- a. The cost involved in the use of insecticides (DDT or alternatives);*
 - b. The role of insecticides in focal or selective vector control, as specified in the Global Malaria Control Strategy*
 - c. The availability of alternative vector control methods, including alternative insecticides (in view of the availability of alternative insecticides for indoor residual spraying, some of which may compete with DDT in terms of epidemiological impact, public acceptability, logistic suitability and compliance with specifications issued by WHO, DDT no longer merits being considered the only insecticide of choice);*
 - d. The implications for insecticide resistance, including possible cross-resistance to some alternative insecticides;*
 - e. The changing public attitude to pesticide use, including public health implications.*

PRIMARY WHO PUBLICATIONS RELATED TO THE USE OF DDT IN DISEASE VECTOR CONTROL

A. USE OF DDT IN VECTOR CONTROL:

- WHO (2000). *WHO Expert Committee on Malaria. Twentieth Report.* Geneva, World Health Organization. Technical Report Series No. 892
- WHO (1995). *Vector control for malaria and other mosquito-borne diseases. Report of a WHO Study Group.* Geneva, World Health Organization, WHO Technical Report Series, No. 857.

B. WHEN AND HOW TO USE INDOOR RESIDUAL SPRAYING

- Najera, J.A. and Zaim, M. (2002). *Malaria vector control - Decision making criteria and procedures for judicious use of insecticides.* Geneva, World Health Organization (document WHO/CDS/WHOPES/2002.5).
- WHO (2001). *Malaria vector control – Insecticides for indoor residual spraying.* Geneva, World Health Organization, document WHO/CDS/WHOPES/2001.3.
- WHO (2000). *Manual for indoor residual spraying - Application of residual sprays for vector control.* Geneva, World Health Organization, 2000 (document WHO/CDS/WHOPES/GCDPP/2000.3 Rev.1).
- WHO (1990). *Equipment for vector control.* Geneva, World Health Organization.

C. MANAGEMENT AND SAFETY ISSUES

C-1. General pesticides management

- WHO (2003). *Guidelines on the management of public health pesticides.* Report of the WHO Interregional Consultation, Chiang Mai, Thailand, 25-28 February 2003. Geneva, World Health Organization (Document CDS/WHOPES/2003.7)
- WHO (1997). *Guidelines for poison control.* Geneva, World Health Organization.

C-2. Safe use of public health pesticides

- WHO (1991). *Safe use of pesticides.* Fourteenth Report of the WHO Expert Committee on Vector Biology and Control. Technical Report Series No. 813, Geneva, World Health Organization.
- WHO (1979). *Safe use of pesticides.* Third report of the WHO Expert Committee on Vector Biology and Control. WHO Technical Report Series, No. 634, Geneva, World Health Organization.

C-3. Purchasing public health pesticides

- WHO (2000). *Guidelines for the purchase of public health pesticides,* Geneva, World Health Organization, 2000 (document WHO/CDS/WHOPES/2000.1).
- WHO (1998). *Guidelines for the purchase of pesticides for use in Public Health,* Geneva, World Health Organization, 1998, (document WHO/CTD/WHOPES/98.5).

C-4. Quality of public health pesticides

- WHO (2002). *Recommended classification of pesticides by hazard and guidelines to classification 1998-1999*. Geneva, World Health Organization (document WHO/IPCS/98.21/Rev1).
- WHO (2001). *Chemistry and specifications of pesticides*. Technical Report series, 899, Geneva, World Health Organization, 2001.
- WHO (1996). *Evaluation and testing of insecticides. Report of the WHO Informal Consultation WHO/HQ, Geneva, 7-11 October 1996*, World Health Organization, (document CTD/WHOPES/IC/96.1).

C-5. Disposal of public health pesticides

- FAO/WHO/UNEP (1996). *Guidelines for the management of small quantities of unwanted and obsolete pesticides*. FAO Pesticide Disposal Series, No. 7. Rome, Food and Agriculture Organization of the United Nations.
- FAO/WHO/UNEP (1996). *Disposal of bulk quantities of obsolete pesticides in developing countries. Provisional technical guidelines*. FAO Pesticide Disposal Series, No. 4. Rome, Food and Agriculture Organization of the United Nations.

D. REDUCING RELIANCE ON DDT

- Mörner, J., Bos, R., and Fredrix, M. (2002). *Reducing and eliminating the use of persistent organic pesticides: Guidance on alternative strategies for sustainable pest and vector management*. UNEP/FAO/WHO. Geneva, World Health Organization.
- WHO (2001). *Action Plan for the Reduction of Reliance on DDT in Disease Vector Control*. Geneva, World Health Organization (Document WHO/SDE/WSH/01.5).

E. RESISTANCE MONITORING

- WHO (1998). *Test procedures for insecticide resistance monitoring in malaria vectors, bio-efficacy and persistence of insecticides on treated surfaces*, Report of the WHO Informal Consultation on "WHO/HQ, 28-30 September 1998, Geneva, World Health Organization (document WHO/CDS/CPC/MAL/98.12).
- WHO (1998). *Techniques to detect insecticide resistance mechanisms (field and laboratory manual)*, Geneva, World Health Organization 1998 (document WHO/CDS/CPC/MAL/98.6).
- WHO (1992). *Vector resistance to pesticides*. Fifteenth Report of the WHO Expert Committee on Vector Biology and control. WHO Technical Report Series No. 818, Geneva, World Health Organization 1992.
- WHO (1981). *Instructions for determining the susceptibility or resistance of adult mosquitoes to organochlorine, organophosphate and carbamate insecticides – Diagnostic test*. Geneva, World Health Organization (document WHO/VBC/81.806).

F. ALTERNATIVE METHODS AND APPROACHES TO DDT

F-1. Insecticide-treated nets

WHO (2002). *Insecticide-treated mosquito net interventions. A Manual for National Control Programme managers*. Geneva, World Health Organization (Document WHO/CDS/RBM/2002.45).

WHO (2002). *Instructions for treatment and use of insecticide-treated mosquito nets*. Geneva, World Health Organization (document WHO/CDS/RBM/2002.41 & WHO/CDS/WHOPES/GCDPP/2002.4).

WHO (2002). *Scaling-Up Insecticide-Treated Netting Programmes in Africa*. Geneva, World Health Organization (Document WHO/CDS/RBM/2002.43)

F-2. Alternative pesticides

Chavasse, D.C. and Yap, H.H.(1997). *Chemical methods for the control of vectors and pests of public health importance*. Geneva, World Health Organization, (WHO/CTD/WHOPES/97.2).

WHO (2002). *Report of the 6th WHOPES Working Group meeting - Review of deltamethrin 25% WG & WP and Agnique MMF*. 6-7 November 2002, Geneva, World Health Organization (document WHO/CDS/WHOPES/2002.6).

WHO (2001). *Report of the 5th WHOPES Working Group: WHO/HQ, Geneva, 30-31 October 2001: Review of Olyset Net and Bifenthrin 10% WP*. Geneva, World Health Organization (document WHO/CDS/WHOPES/2001.4).

WHO (2001). *Report of the 4th WHOPES Working Group meeting – IR3535, KBR3023, (RS)-methoprene 20%EC, pyriproxyfen 0.5%GR and lambda-cyhalothrin 2.5%CS*, 4-5 December 2000, Geneva, World Health Organization (document WHO/CDS/WHOPES/2001.2).

WHO (1999). *Report of the 3rd WHOPES Working Group meeting – deltamethrin 1%SC and 25%WT and etofenprox 10%EC and 10%EW*, 23-24 September 1999, Geneva, World Health Organization (document CDS/CPE/WHOPES/99.4).

WHO (1998). *Report of the 2nd WHOPES Working Group Meeting – Review of alpha-cypermethrin 10%SC and 5%WP and cyfluthrin 5%EW and 10%WP*, 22-23 June 1998, Geneva, World Health Organization (document WHO/CTD/WHOPES/98.10).

WHO (1997). *Report of the first WHOPES Working Group meeting*, 26-27 June 1997. Geneva, World Health Organization, 1997, (document CTD/WHOPES/97.5).

F-3. Vector source reduction

WHO (1988). *Environmental management for vector control*. Geneva, World Health Organization.

Zerba, E.N. (1999). *Guideline specifications for bacterial larvicides for public health*. Report of the WHO Informal Consultation, WHO/HQ, Geneva, 28-30 April 1999, Geneva, World Health Organization, 1999 (document WHO/CDS/CPC/WHOPES/99.2).

G. GENERAL VECTOR CONTROL

Birley, M.H. (1991). *Guidelines for Forecasting the Vector-borne Disease Implications of Water Resources Development*. PEEM Guidelines 2. Geneva, World Health Organization (document WHO/CWS/91.3)

Phillips, M, Mills, A, and Dye, C. (1993). *Guidelines for cost-effectiveness analysis of vector control*. Geneva, World Health Organization (document WHO/CWS/93.4).

Rozendaal, J.A. (1997). *Vector control. Methods for use by individuals and communities*. Geneva, World Health Organization.

WHO (2003). *Guidelines for Dengue Surveillance and Mosquito Control*: Geneva, World Health Organization.

WHO (2002). *Global insecticide use for vector-borne disease control*. Geneva, World Health Organization (document WHO/CDS/WHOPES/GCDPP/2002.2).

WHO (1997). *Agricultural development and vector-borne disease*. Geneva, World Health Organization.

WHO (1993). *A global strategy for malaria control*. Geneva, World Health Organization, 1993.