C. Conclusions and recommendations

We, the participants of the "Regional workshop to implement the integrated management of disease vectors (IVM)", organized at the Vector Control Research Centre, Puduchery, and in collaboration with the Central Integrated Pest management Centre in Tiruchirapalli, Tamil Nadu, India, during 18-21 December 2006, representing the Governments of Bangladesh, Bhutan, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand and Timor Leste,

- **Recognizing** that achieving the Millennium Development Goals (MDGs) will require halving, between 1990 and 2015, the proportion of people whose income is less than one dollar a day (*MDG 1: Eradicate extreme poverty and hunger; Target 1);* Increasing the proportion of the population in malaria-risk areas using effective malaria prevention, to halt by 2015 and begun to reverse the incidence of malaria and other major diseases (*MDG 6: Combat HIV/AIDS, malaria and other diseases; Target 8*); Integrating the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources by maintaining biological diversity (*MDG 7: Ensure environmental sustainability; Target 9*); and implementing a multi-sectoral approach;

- **Taking into account** that WHO s' new Global Strategic Framework on Integrated Vector Management (IVM) sets out new and broad principles and approaches to vector control that are applicable to all vector borne diseases, seeking to improve the efficacy, cost-effectiveness, ecological soundness and sustainability of disease vector control. That IVM is based on the premise that effective control is not the sole preserve of the health sector but requires the collaboration of various public and private agencies and community participation. And that the Global Strategic Framework on IVM considers the engagement of communities as a key factor in assuring sustainability. (*Global Strategic Framework on Integrated Vector Management (IVM), WHO, 2004*);

- **Aware of** the World Health Assembly Resolution WHA50.13, which urges Member States to take steps to "reduce reliance on insecticides for control of vectors of human diseases through promotion of integrated pest-management approaches in accordance with WHO guidelines, and through support for the development and adaptation of viable alternative methods of vector control; to ensure that the use of DDT is authorized by governments for public health purposes only, and that, there is no diversion of DDT to entities in the private sector" (*WHO, May 1997*);

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[1] ***Integrated Vector Management or IVM****: Through evidence-based decision-making, IVM rationalizes the use of human and financial resources and organizational structures for the control of vector-borne disease and emphasizes the engagement of communities to ensure sustainability. It encourages a mult- disease control approach, integration with other disease control measures and the considered and systematic application of a range of interventions, often in combination and synergistically.*

Implementation of this strategy will require effective public health regulation and legislation, allied to a strong commitment and concerted action by the World Health Organization, working in coordination with the Food and Agriculture Organization of the United Nations, the United Nations Environment Programme, other United Nations agencies and donors, and Member States (WHO, 2004).

- **Fulfilling the commitments** of the Stockholm Convention on Persistent Organic Pollutants (POPs) to which eight of the 11 SEAR Member States are Parties to, notably to the development and implementation, especially for women, children and the least educated, of educational and public awareness programmes on POPs, as well as on their health and environmental effects and on their alternatives. *(Stockholm Convention on Persistent Organic Pollutants, Article 10*);

- **Committed to achieve the** aim of the World Summit on Sustainable Development (WSSD), by 2020, that the use and production of chemicals are done in ways that lead to the minimization of significant adverse effects on human health and the environment, and by implementing the Strategic Approach to International Chemicals Management (SAICM);

- **In harmony with** the mission statement of Decision VI/26 of the Conference of the Parties to the Convention on Biological Diversity to which nine of the SEAR Member States are Parties - which aims at achieving by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national levels as a contribution to poverty alleviation and to the benefit of all life on Earth;

- **Aware of** the need to prepare local communities to the potential increase in the transmission from climate sensitive vector-borne diseases such as malaria and dengue resulting of climate variability and climate change, as reported by the Intergovernmental Panel on Climate Change (IPCC), emphasizing the need for local adaptation to cope with this change;

- **Noting** the success and cost-effectiveness of the Farmer Field School approach promoted by FAO and other agencies, aiming at implementing Integrated Pest Management or IPM in agricultural systems by strengthening farmers' skills in analysis and adaptive management of crop health with the aim to increase productivity, while helping preserve ecosystem integrity and encouraging the propagation of natural enemies of pest species;

- **Aware** that the probable malaria cases in SEAR total 20 million and that the current national vector control programmes only reach a minority of the population who are at risk;

- **Conscious** of the call in the Revised Malaria Control Strategy for SEAR (2005), endorsed by all SEAR Member States in 2005, for reaching and

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[2] *The **Farmer Field School** approach is a form of adult education, which evolved from the concept that farmers learn optimally from field observation and experimentation. It was developed to help farmers tailor their Integrated Pest Management (IPM) practices to diverse and dynamic ecological conditions. In regular sessions from planting till harvest, groups of neighbouring farmers observe and discuss dynamics of the crop's ecosystem. Simple experimentation helps farmers further improve their understanding of functional relationships (e.g. pests-natural enemy population dynamics and crop damage-yield relationships). In this cyclical learning process, farmers develop the expertise that enables them to make their own crop management decisions. Special group activities encourage learning from peers,*
and strengthen communicative skills and group building.

[1] ***Integrated Pest Management or IPM** is a knowledge-intensive and farmer-based management approach that is based on four objectives: (1) grow healthy crop, (2) regular field observation, (3) conservation of natural enemies, and (4) farmers become experts in their own field.*

- Pest and Vector Management or IPVM , since 2003 (*Evaluation Report of the Integrated Pest and Vector Management Project in Sri Lanka, WHO/SEARO, 2006*);

- **Based on** the need to act upon WHO's statement confirming that: "An estimated 42% of the global malaria burden could be prevented by environmental management' (*"Preventing disease through healthy environments: Towards an estimate of the environmental burden of disease", WHO, 2006*);

- **Taking into account** the accelerating decentralization processes in the health sector as well as in other sectors in some SEAR countries and the need to ensure active community participation in developing capacity to find local solutions;

- **Aware** of the GEF funded national and regional projects aimed at the "Reduction in the use of DDT and other pesticides by Enhancing Capabilities for the implementation of Integrated Vector Management";

- **Having experienced,** during this workshop, the validity and cost effectiveness of the Farmer Field School approach, evidenced by the capacity of farmers to self-manage and protect their agroecosystem, as a result of the IPM programme carried out by the Ministry of Agriculture, India,

We conclude that:

1. The inter-relationship between the environment, agriculture and health is key to the identification and implementation of sustainable strategies for effectively protecting agriculture from pests, communities from some vector-borne diseases and protecting ecosystems from hazardous chemicals;

2. Community empowerment programmes (knowledge and skill development through capacity development programmes) through FFS have an immense opportunity for sparking off rural development;

3. IPM, IVM and IPVM are key strategies for achieving the 2015 MDGs, the 2020 goal of the WWSD/SAICM, and the implementation of the Stockholm Convention, for preserving biodiversity in a sustained manner and for preparing communities to respond to the potential increase of disease burden triggered by climate change;

4. There is an urgent need to reduce reliance on use of pesticides in agriculture and public health to protect human health and the environment;

5. IPM, IVM and IPVM are cost-effective approaches that ensure minimal exposure to pesticides and to sustained increase in local income;

6. IPM and IVM can be implemented separately or in an integrated manner as IPVM, depending on the local ecological conditions and other criteria. Therefore evidence-based decision-making needs to be conducted locally, involving the agricultural and health sectors and local communities;

[4] ***Integrated Pest and Vector Management or IPVM:*** *Is a combination of IPM and IVM, whereby the community-based, FFS-like approach is used to prevent and control crop pest and human disease outbreaks.*

7. The Farmer Field School (FFS) approach has a proven record in many countries. FFS programmes are seen to foster group dynamics and enhance community networking thus aiding in strengthening community inter-personal relationships. Such social dynamics are observed to be indispensable for the success of a programme. Thus, FFS should be used to implement IVM and IPVM schemes to reduce both, the burden of vector-borne human diseases and crop pests;

8. In areas where agroecosystems are not the major contributing factor for production of disease vectors and in areas where other types of water habitats are the perennial source for vector breeding, community-based interventions need to be encouraged and sustained by linking the programme with potential income generating schemes;

9. Capacity building programmes for the prevention and control of disease vectors should aim at increasing community empowerment;

10. More attention should be given to learn from experiences of NGOs/farmers' organizations, engaged in promoting community-based development, to implement IVM;

11. IVM and IPVM Pilots linked with operational research allow learning by doing. This way of gaining experience should be promoted;

12. Sharing information on IVM, as effectively facilitated during this workshop, is a key factor that needs to be strengthened by broadening existing IPM networks;

Therefore, we, the participants of the Workshop,

RECOMMEND to SEAR Member States:

1. To allow the programmes of different ministries/ authorities in charge of vector and pest management to follow a holistic approach rather than a sectoral approach in implementing their programmes;

2. To officially declare Integrated Pest Management, Integrated Vector Management and Integrated Pest and Vector Management as the preferred national strategies to reduce the health consequences and economic burden on account of vectors of human diseases and crop pests, and to commit national funds for their implementation;

3. To aim at rural development through community empowerment by building capacities (knowledge and skill development to enhance the power of decision making);

4. To ensure that community empowering approaches such as Farmer Field School be adopted to implement Integrated Pest and Vector Management programmes, with the aim to achieve sustainable agricultural production and further reduction of the disease burden from vectors;

5. To support and implement FFS-like approaches and to use them in other health promotion and rural development programmes;

6. To implement IVM/IPM as a means to reduce and phase out the use of POPs and other pesticides in agriculture and public health in the curricula aimed at training the professionals;

7. To advocate IPM and IVM for protecting, conserving and promoting human and environmental health through promoting IPM and IVM in school education curricula/eco-clubs.;

8. To increase the role and accountability of local communities in the management of environmental health by means of participatory learning approaches such as the FFS;

9. To promote an ecosystem approach to ensure achieving the Millennium Development Goals;

10. To propose adoption of IVM, in combination with IPM wherever feasible, as a preferred option to ensure the effective management of disease vectors, at the WHO Regional Committee meeting in August 2007;

11. To fully support the implementation of GEF-funded national and regional projects aimed at the "Reduction in the use of DDT and other pesticides by Enhancing Capabilities for the implementation of Integrated Vector Management", and initiate action by conducting national Vector Management Needs Assessments.

II. RECOMMEND to the World Health Organization

I. To play a catalytic role in encouraging Member States to accord high priority and political will to address environmental health as a human development objective in the SEA Region;

II. To strengthen its existing linkages and co-ordination with FAO, UNEP, UNDP and other agencies, many of which already support programmes based on Integrated Vector Management, to create a strong and effective advocacy for IVM;

III. To convene inter-ministerial meetings with regional agencies at local and regional levels, towards implementing of IVM, IPM and IPVM in the SEA Region;

IV. To support, mainly through the existing WHO Collaborating Centres and other national institutions, research and documentation of success stories to increase the knowledge base and further advocate for resource mobilization for implementation of IVM, IPM and IPVM schemes;

[5] ***Vector Management Needs Assessment***: *Carried out by a National Steering committee which will also include representatives and consider inputs of local communities.Steps: 1. Stratify areas according to the national malaria situation; 2. Determine needs for vector management in each eco-epidemiological stratum and in current local circumstances; 3. If there is a need for vector management, identify the specific vector(s) in each stratum; 4. Determine which integrated management methods (within the IVM and/or IPVM strategies) are best suited for the prevention and control of each concerned vector; 6. Develop local, district, sub-regional and national plans for monitoring and evaluation of the intervention's impact on the disease burden.*