
CSIR-National Environmental Engineering Research Institute
Nehru Marg, Nagpur. 440020
UNEP funded Project on “Non-POPs alternatives to DDT in Vector Control”

Report on Vector control expert meeting to develop module on alternatives to DDT

Nagpur - 17 December 2019



On 17th December 2019 a meeting of Vector control experts / Senior Entomologists from UNEP / CPCB / NVBDCP / ICMR-NIMR / NCDC / VCRC / MoH&FW / State Public Departments and other Ministries / Departments was organized at ICMR-National Environmental Engineering Research Institute, Nagpur to share their expertise, propose the scientific contents for the training modules and to prepare an essential backbone of the training modules for vector control management as alternatives to DDT on the project “non-POPs alternatives to DDT in vector control” funded by UNEP.

The meeting was chaired by Dr. Rakesh Kumar, Director CSIR-NEERI and in his guiding address brought to notice the environmental damage cause by the pesticides where one of the pesticides used in mass was DDT and lack of awareness about the importance of relation between the way one writes modules and the way ones communicates should always have correlation. He also mentioned that drawings and cartoons can be one of the parts to aware people about Vector Borne Diseases.

Dr. A. N. Vaidya, Co-Ordinator of Stockholm Convention Regional Centre & Head, Solid & Hazardous Waste Management Division, CSIR-NEERI briefed the program mentioning about all the aspects and areas where NEERI will work. Dr. A. Ramesh Kumar, Senior Scientist, SHWMD, CSIR-NEERI introduced the background of the programme as well as the objectives. He gave the brief description on DDT and about health impact of DDT on Environment as well as on human being.

Role of UNEP was explained by Dr. Jitendra Sharma, UNEP India where he explained the working and goals to be achieved in a given time period.

During Technical session Dr. Vijay Kumar, Consultant (Sr. Scientist E) RMRI-ICMR, Patna presented report on pilot study being done in certain regions of Bihar where effects of different insecticides on mosquito breeding and found that Malathion showed no effect even though it is one of the best insecticides to manage mosquitoes. On the other hand most effective insecticide was observed to be alphacypermethrin.

Dr. R. S. Sharma explained about the design and units to include in modules (a) Definition of IVM, IVPM (b) Larval management (c) Category wise vector control measures (d) Components of IVM (e) Insecticide residual spraying (IRS) (f) Long lasting insecticidal Nets (LLINs) (g) Larval source management (LSM) (h) Personal protective measures and (i) Field Farmer Schools.

Dr. L. J. Kanhekar, Project Consultant, CSIR-NEERI deliberated on strategies and prevention measures of vector borne diseases keeping in view proposed project.

Dr. N. Balakrishnan, Ex-Joint Director, NCDC briefed on importance of KFD / CCHF and emerging diseases while executing control measures.

Dr. P. T. Joshi, Ex State Entomologists (Gujrat) deliberated on vector control measures in urban and semi urban setups as well as proposed 3 types of programmes of duration *i. e.* 30 days, 5 days and 2 days FFS programme for 30 participants farmer and local community in paddy cultivation areas in one batch, and field training of one day once in a week to farmers. where minimum 30 farmers should be present. He emphasized involvement of State government, Taluka officers and district level officers for execution of modules.

It has been suggested

- Modules should be trainer friendly and trainee friendly

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- Data for ecology and bionomics of mosquitoes is very important for knowing the behaviour of disease carrying mosquitoes with the change in environment and recent development, to know the insecticide resistance and to make management strategies accordingly. Management strategies can only be Chemical/ plant based or can be mechanical. In case of coordination there should be a level of hierarchy from central to State to District level and then to local levels and the categorization should be up to village level. Basic awareness programme should start from grass root like Asha. The management and awareness programme should be site specific and region specific.
 - Preparation of two modules i.e. one for learners and one for tutors.
 - Module 5th should be on SOP (Standard Operating procedure) and that the basic information can be kept in Annexure.
 - bio-efficacy of products are main factors to consider while making vector management strategies.
 - Use of LLINs (Long lasting insecticidal nets) based on vector biology.
 - Diagrammatic representation of control measures should be depicted in the form of graphs and diagrams in addition to text form.
 - Field Farmer Schools were proposed in IVPMP programme to train Farmers and local community as the paddy cultivation areas remain manifested with breeding of vector mosquitoes.
 - Three years epidemiological data may be collected of pilot project site.
 - Priority to vector control rather than focusing on diagnosis and treatment.
 - Need to emphasize on the technique, IRS plan, monitoring and evaluation, impact on the disease and target dose.
 - Insecticides proposed by NVBDCP may be considered for vector control and any other proposed insecticides in a project should be registered with CIB to include in the modules.
 - While implementing quality of spray, conditions of nozzle tip, discharge rates etc should be monitored.

14 vector control experts from different institutes and health organizations participated in meeting and shared inputs for preparation of modules. Finally, a vote of thanks was proposed by Dr. L. J. Kanhekar for active participation and their presence.

