

National Public Health Authorities and Public Health Pesticide User Panel

Ima Braga

An overview of vector borne diseases and their control in Brazil was given. There is a lot of insecticide use in Brazil with more organophosphates being used than pyrethroids. They have also been using Bti and are now starting to use IGR's for *Aedes aegypti* control. They have a problem of resistance in *Ae. aegypti* but have a monitoring program that guides their choice of insecticide for dengue control. The main problem faced is the loss of chemistries available for vector control.

Aziz Lagnaoui

An overview of the challenges faced by public health pesticide users including the 'disconnect' between sectors was given including:

- the need for capacity building and pesticide management: mobilizing well trained teams, restricted career paths for entomologists.
- local regulations are often weak or inexistent and where they do exist there is little enforcement: leakage of public health pesticides into agriculture.
- quality assurance and compliance: few countries test the quality of the products they buy, if they do test them and find out they are substandard they have to return the product, which can lead to implementation delays.
- Donor policies may involve compliance, which is difficult to adhere to.
- Procurement of pesticides is often done on an emergency basis: communication problems between different ministries, procurement of non-registered or inappropriate products that are not used properly, lack of storage facilities.
- Operational issues: small projects are not well funded, big projects often have complex logistics; when they end the country often cannot deal with logistics without funding in place.

John Millner

An overview of PMI was given with particular attention to the primary vector control tools used, IRS and insecticide treated nets (mainly long lasting nets, LNs):

- IRS faces many challenges because it is so labour intensive; there is a big need to map and target the IRS programme, complete environmental assessments, microplanning and the need for community involvement. Taking belongings out of the house can be an implementation issue in some places. Pesticide selection and procurement is a very small part of everything else and the real focus is how many structures can be sprayed within a certain time period.
- There is a disconnect between the number of nets delivered and where these nets have ended up. There is a plan for 270 million nets to go into countries in the following months, which have many logistical issues. At the country level the biggest issue is to distribute the nets that have been received. There may be sustainability problems with net programmes when nets are being given for free and no plans have been made for replacement of nets. Local regulations are an issue; the US government requires an international bid for products, which may favour the local producer. This may be good for the country but not necessarily PMI.

The market is growing fast; there is an expectation that the commercial sector will step-up and start to resolve some of these issues on their own.

Richard Tren

We still need good vector control products, even where we have effective solutions, such as vaccines. The PH insecticide market is small and difficult to engage in and there has been a lot of successful opposition for their use in Public Health. Advocacy for and against Public Health insecticides was discussed:

- A timeline of advocacy against PH insecticides since the 1970s was discussed, including reasons for the reductions in use of DDT. PAN seeks to replace insecticides, even where alternatives do not exist but it is not clear on whose behalf are they acting. There has been a lot of successful advocacy against insecticides and not much argument from the malaria community. PAN called for the precautionary principle under directive 91/414; ultimately this will lead to decision making from the politicians and wider public and not the scientists, which we should ignore at our peril.
- Advocacy for insecticides was discussed mainly in relation to LNs; WHO continues to discuss the problem of resistance but without real ideas for the way forward. Likewise, RBM has no roadmap for the future. There is not enough recognition of the range of actions of insecticides. There is a need for a strong, science-based public advocacy for insecticides.

Alexandra Chaskopoulou

The mosquito control programme and associated operational challenges in northern Greece was discussed:

- Mosquito problems are both nuisance-based and vector-related as there are competent malaria, dengue and Chikungunya vectors in the region.
- The only approved mosquito-control method in Greece is larviciding, which was previously done with Temephos but this product is no longer available. The programme is now being challenged and they are

running out of methods.

- They decided to do adulticiding (aerial spraying), but this method is not registered and has to be proven to be safe and effective before it can be registered.
- Aerial spraying can be very effective if it is properly applied, which involves knowledge of the weather conditions for targeting control.
- It will take a minimum of 4 years from concept to registration and the question remains in the meantime, what would happen if a disease outbreak occurred?

Questions

Bob Wirtz: There has been a lot of talk about control of adult mosquitoes by aerial spraying, such as in Brazil and Greece. Could resources be used in other ways for the control of adults?

Ima Braga: Annual dengue epidemics in Brazil require this intervention to break the transmission cycle

Ole Skovmund: A large area in southern France is being controlled using Bti because they are not allowed to control adults.

Alexandra C: If aerial spraying is properly applied it will kill a lot of mosquitoes and not harm the environment, but it has to be applied properly.

Egon Weinmueller: Can you get a special permit to use Temephos in Greece?

Alexandra C: They applied for a permit but were rejected.

Jessica Rockwood: Selection of insecticides in some countries are not scientifically based so where does insecticide resistance management and monitoring fit in?

John Millner: IRS was put together by RTI and they will now be doing monitoring but this was not planned originally.

Janet McAllister: The dengue control programme in Brazil uses organophosphates for adulticiding so how do you choose what to use for larviciding?

Ima Braga: We started by using BTi and are now introducing IGRs. Where we have resistance to pyrethroids, we use malathion.

Paul Whyllie: PMI appears to be pushing the logistical priorities as opposed to doing the scientific job correctly, which could be a disincentive for progress.

John Millner: PMI considers resistance monitoring as very important and has now folded all of this activity into RTIs activities.

Paul Whyllie: What does Richard think about the 2007 intervention of the WHO advocating for DDT use?

Richard Tren: I am happy that they took that position. Some of the most strident and outspoken advocacy for DDT came out of South Africa but I am not aware that the WHO's statement has had a large effect on the use of DDT. We need to explain the risks properly.

John Millner: I am a great advocate for DDT but it comes with so much baggage.