



Background information on integrated vector management for malaria prevention

At present, nearly half of the world population (3.3 billion)ⁱ is at risk to malaria, a vector-borne disease. Other diseases transmitted by vectors are: dengue, yellow fever, West Nile virus, sleeping sickness and lymphatic filariasis. Malaria is mainly endemic in Sub Saharan Africa. The groups most vulnerable to malaria are children below five and pregnant women. The consequences of malaria have an effect on the livelihood of families and for example schooling, businesses and economies through ill health and absenteeism. Malaria is estimated to cost Africa alone \$12bnⁱⁱ per year in GDP.

History has taught us that there is no silver bullet to control infectious diseases. There is a risk that the same mistakes will be repeated as in the past. For example, the World Health Organization's (WHO) malaria eradication program of the 1950's relied on one vector control measure; DDT via indoor residual spraying (IRS) and one drug therapy; quinine. Malaria has long since resurged but many people are now advocating a rather similar approach to malaria control. In particular in vector control the wide distribution of long-lasting insecticide treated nets (LLITNs) as the front line preventative measure is supported by unprecedented levels of international donor aid.

Issues such as insecticide resistance in malaria mosquitoes and lack of sufficient local resources are serious threats to long term and sustainable prevention of vector-borne diseases. Syngenta's insecticides coupled with advanced delivery technology ensure that we continue to provide national malaria control programs with the most advanced tools for preventative activities. Syngenta has long been at the forefront of creating novel and effective tools for the control of insect vectors. Research and development (R&D) is at the heart of Syngenta and we continuously work to develop sustainable and environmentally friendly plant protection products and seeds. In 2009 Syngenta plans to spend in the order of \$1 billion in R&D.

No one product fits all situations and it is therefore essential to have a 'toolbox' of effective interventions to choose from to maximize the impact of the product following implementation. Countries should be free to choose what is best for their local situation rather than be swayed by the latest preferred and/or fashionable intervention. Syngenta therefore provides a number of mosquito control intervention products including: ICON[®]10 CS for indoor residual spraying, ICON[®] Maxx for long lasting insecticide treatments for mosquito nets and ACTELLIC[®] for larval control. The use of insecticides to control the insect vectors is currently the most practical and cost-effective tool to prevent disease transmission.

Strategies to control vector-borne diseases must ideally combine *curative* and *preventative* measures including interventions targeting control of the insect vectors as well as health training of clinical and medical staff. Each year, Syngenta trains more than 9,000 people in health and hygiene education and on the safe use and application of its public health vector control products. Training in the field and local support are crucial to guarantee long terms goals.

Syngenta actively supports integrated vector management (IVM). IVM takes into account the available health infrastructure and resources, and integrates all available and effective measures, whether chemical, biological, or environmental. Furthermore, IVM is an ideal strategy to reduce or interrupt transmission of vector-borne diseases. Its characteristic features include:

- Collaboration within the Ministries of Health, local communities and other public and private sectors

- Extended health training and local support in the safe use of insecticides and the correct means of hanging mosquito nets
- Selection of methods based on knowledge of local vector biology, disease transmission and morbidity control
- Rational use of insecticides

On a practical level, a number of tools will be required to meet total population coverage targets as described in the Roll Back Malaria Partnership's Global Malaria Action Plan. Effective and rapid scale up of IRS campaigns and LLITN distribution remains a major challenge for many countries. Supply issues also remain with a theoretical requirement for 700 millionⁱⁱⁱ nets before the end of 2010 and a global production capacity in the region of 130-150 million^{iv} per annum. Long lasting insecticide treatment for nets such as ICON[®] Maxx can help to fill this gap whilst also providing a valuable programmatic tool whereby existing nets can be retreated during campaigns.

Syngenta's vector control tools are all recommended by the WHO for use in public health and malaria prevention programs and adhere to strict quality specifications. Countries can therefore use the products with confidence knowing that these interventions have met the safety, effectiveness and quality requirements of the WHO. As part of the procured package Syngenta also provides technical and practical support given by dedicated local specialists for both the applicators and the communities living in these environments.

80% of the beneficiaries of vector control interventions live in malaria endemic countries. Consequently Syngenta takes this issue seriously and has a dedicated team which deals with public health diseases. Our academic experts are active in different working groups around the globe, and we work very closely with various institutes in terms of vector control management and its consequences for human beings. We will continue to invest in R&D to ensure a long term and sustainable future for vector control and maintain partnerships with organizations such as the Innovative Vector Control Consortium (IVCC).

ⁱ www.who.int/malaria

ⁱⁱ www.rbm.who/int

ⁱⁱⁱ www.africafocus.org/docs09

^{iv} www.africafocus.org/docs09