

## Why Malaria?

1. Malaria is one of the leading public health problems in the world. In 2006, it was estimated to be the cause of nearly a million deaths, most of them young children in Sub-Saharan Africa. Malaria is commonly associated with poverty and it causes poverty. DSSA studies in selected locations have confirmed that a combination of prevention and treatment can be very successful without the use of DDT.
2. Prevention is a powerful and cost-effective means to fight malaria. Availability and use of insecticidal bed nets, indoor residual spraying and the use of environmental management approaches, must be promoted together with community awareness about malaria prevention.
3. Artemisinin-based combination therapies (ACTs) are extremely effective, and are thought to slow development of drug resistance.

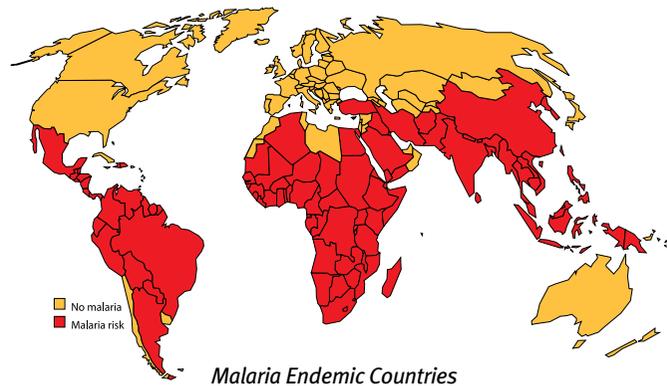
Larger phenomenon such as ecosystem disruptions due to global climate change and population movements and displacement contribute to increased malaria burden and threatens emergence of the disease in currently non-endemic regions.



*Dipping for mosquito larvae is an important method for evaluating the effectiveness of some vector control interventions.*

## The Global DSSA Program at a Glance

The Global DSSA partnership between WHO and UNEP aims at introducing and promoting sustainable alternative approaches to DDT for vector control by various regional projects. The DSSA Program will last till 2015 and the Global Environment Facility-GEF will fund about 32 million US\$. Combined with the estimated 45 million US\$ from other sources, the DSSA Program provides an important contribution to the implementation of the Stockholm Convention. The following countries form part of or are planned to be included in regional initiatives:



**Africa:** Eritrea, Ethiopia, Madagascar, Mauritius, Mozambique, Morocco, Namibia, Senegal, South Africa, Swaziland, Uganda, Yemen, Zambia;

**Asia:** India, Papua New Guinea, Solomon Islands, Thailand, Vanuatu, Vietnam, Philippines, Sri Lanka;

**Middle East and North Africa:** Djibouti, Egypt, Jordan, Morocco, Islamic Republic of Iran, Sudan, Syria, Yemen;

**Southern Caucasus and Central Asia:** Georgia, Tajikistan, Kyrgyzstan;

**Mexico and Central America:** Belize, Costa Rica, El Salvador, Guatemala, Honduras, México, Nicaragua, and Panamá.

Other initiatives under the DSSA Program will be developed and might include the development of a Decision Support Tool for Governments, cost efficiency assessments between the various alternative approaches, and strengthening Civil Society and Non Governmental Organizations to support multi-stakeholder implementation of the Stockholm Convention in countries using DDT.

## Practical and Effective Alternatives to DDT for Malaria Prevention

### Environmental Management Control:

This approach has a substantial effect on transmission if it is possible to eliminate nearly all the breeding sites. This is never easy, especially when the breeding sites of the local vectors are numerous, scattered and shifting, but it can be possible in situations where the breeding sites are few, fixed, and easy to identify. The two key concepts are '**opportunism**' and '**don't make it worse**':

### Opportunism:

Situations where the breeding sites of the vectors are few, fixed, and easy to identify are the exception, not the rule, but when this is the case, environmental management can play a leading role in malaria control. It is important to spot these opportunities and exploit them.

### Don't make things worse:

In many places, especially urban or development areas, many breeding sites are man-made, created inadvertently by people who are unaware that they are responsible for creating a health hazard. Household defense against mosquitoes:

- Sleeping under a mosquito-net, especially an insecticide treated net;
- Mesh-screening, or cloth curtains impregnated with a recommended insecticide, can be hung over doors, windows and eave-gaps;
- Ceiling boards can help in some types of houses;
- Skin repellents and mosquito coils can give worthwhile additional protection before bedtime.

Integrated Vector Management (IVM) is a very promising approach combining several of the above mentioned examples. IVM promotes a systematic approach to vector control with several attributes but two main pillars: its contextual characteristics (ie it designs and implements combinations of measures, including Indoor Residual spraying and Insecticide Treated Nets, in response to local ecological and epidemiological conditions) and it uses cost-effectiveness as its main decision making criterion. Community awareness and participation are key principles of IVM.

Combined with effective treatment of malaria cases and vector control with adoption of IVM approach, substantial reductions in malaria can normally be achieved without the application of DDT or any other Persistent Organic Pollutant.

## Dichloro-Diphenyl-Trichloroethane (DDT) and Malaria Prevention

DDT has long been used as an insecticide to protect populations against malaria by targeting the mosquitoes transmitting the disease when biting people.

The derivatives of DDT persist in the environment for many years and can accumulate in living organisms. They are transported through the water cycle by rainfall and surface water runoff, and can be carried to remote areas throughout the global ecosystems.

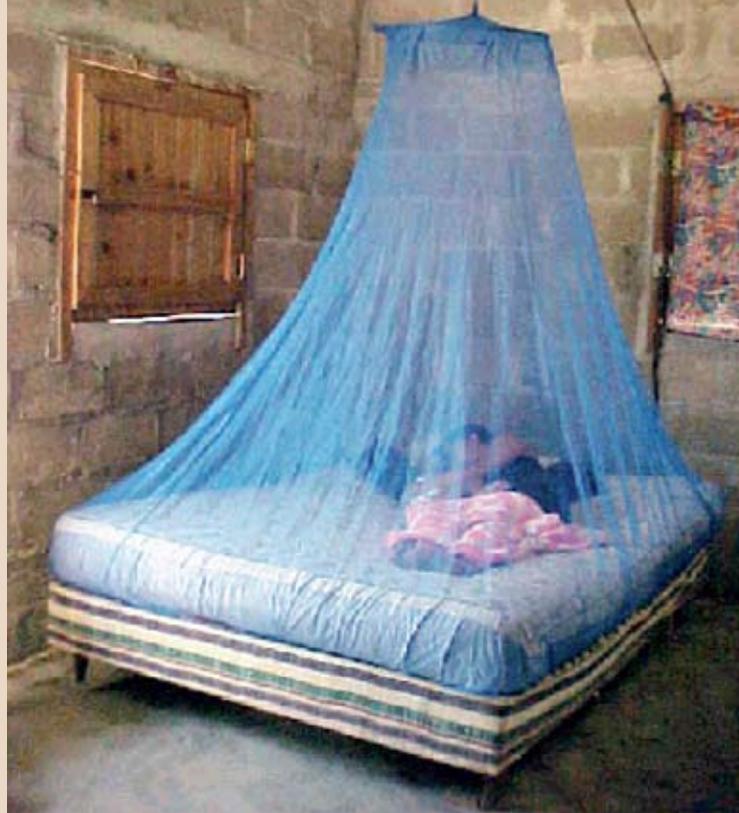
DDT is known to be harmful to the environment and to some animals; there is now increasing support for suspicions that it may also be harmful to human health. The problems of persistence and bioaccumulation related to DDT are widely acknowledged, and with this the need to reduce reliance on insecticides like DDT.

Therefore, the Stockholm Convention on Persistent Organic Pollutants has restricted the use of DDT, under strict conditions, to disease vector control only.

## Why are Environment and Health working together?

The WHO is the UN agency for human health. The United Nations Environment Program is the lead UN authority for the environment.

The DSSA partnership, with support from the Global Environment Facility, the lead financier of the global environment and the interim financing mechanism of the Stockholm Convention, will promote and demonstrate realistic alternative approaches to DDT with an aim to reduce and eventually eliminate the use of DDT in vector control.



### Towards DDT-free malaria control

**Reduced use and eventual elimination of DDT for malaria prevention**

**Global Program** : Demonstrating and Scaling-up of Sustainable Alternatives to DDT in Vector Control Management (DSSA)

## Towards DDT-free malaria control

**2009: Two African children die of malaria every minute.**

In the 70 years since DDT was invented in 1939, other approaches to prevent malaria have been developed. There are now relatively few circumstances where the use of DDT is still considered indispensable, either as a routine or as a reserve intervention for use in emergencies. For these situations, the global DSSA Program has been developing and promoting more sustainable methods of malaria prevention.

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