

OUR IMPACT

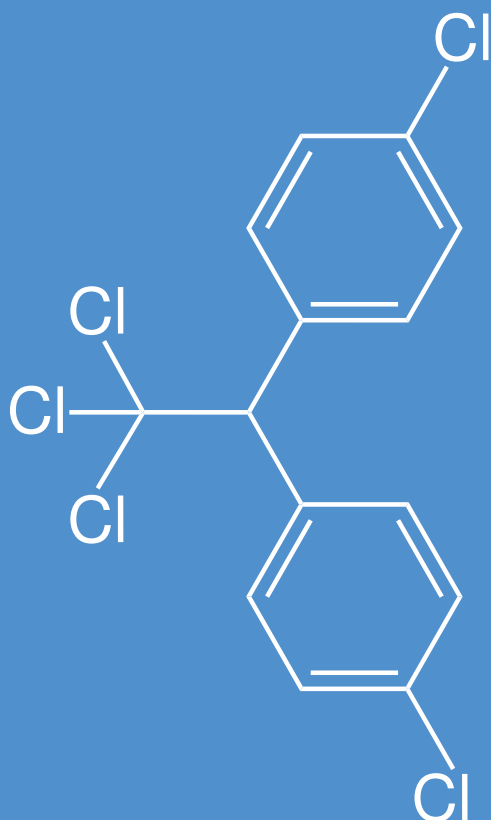
37

countries assisted to
manage their DDT stocks

9

multiregional projects
addressing DDT issues

\$71.3M

budgeted for addressing
DDT challenges since
2003

DDT

A TOXIC LEGACY

Only 18 countries worldwide still use Dichlorodiphenyltrichloroethane, or DDT, to control vector-borne diseases like malaria. But long-term exposure to DDT, a toxic chemical, threatens the wellbeing of both humans and the environment.

UNEP's goal is to protect people and nature from DDT toxic hazards, and from vector borne diseases. Through the work of the GEF Chemicals and Waste Unit, UNEP develops projects that raise awareness on the risks of being exposed to DDT, that develop alternatives for protecting people from diseases, and that eliminate old dangerous stocks of toxic chemicals.

- o DDT is only used as a public health insecticide in small number of countries in Africa and Asia.
- o Long-term exposure to DDT has been associated with chronic health effects, including cancer in humans.
- o DDT causes birds' eggshell thinning and is acutely toxic to fish and marine invertebrates.
- o The UNEP Road Map to DDT Alternatives guides efforts at all scale for a sustainable transition away from DDT.
- o UNEP GEF Chemicals and Waste projects address DDT across all the priority areas of the DDT Roadmap in all global regions.

DDT

UNEP GEF CHEMICALS & WASTE

DDT: A TOXIC CHEMICAL

DDT was originally developed as an insecticide to control insect-borne diseases like malaria, and later used as an [agricultural and household pesticide](#). Because of its properties like persistency, bioaccumulation, toxicity to humans and the environment along with potential for long range environmental transport, DDT is listed for restriction under the [Stockholm Convention on Persistent Organic Pollutants](#).

HEALTH & THE ENVIRONMENT

Because of its high stability and persistence, decades of DDT use around the globe mean toxic residues can now be found everywhere, from Himalayan glaciers to the Antarctic. Long-term exposures to DDT have been associated with chronic health effects, including cancer in humans. Decades after its release into the environment, DDT has been detected in breast milk, raising serious concerns about potential effects on infant health.

DDT's best-known toxic effect on wildlife is eggshell thinning in bird populations. It has also been demonstrated to be acutely toxic to fish and marine invertebrates, bio-accumulating in the food chain, leading to the risk of ingestion by humans.

In 2019, over 400,000 people died of malaria globally (WHO).

India is the only reported DDT manufacturer and exporter, and its main user.

GLOBAL CHALLENGES

Governments and international actors have been fighting to phase out DDT since the 1970s. The wide-scale use of DDT ended in most countries in the 1980s, motivated by health concerns and the increasing development of insecticide resistance and residual malaria transmission. Only 18 countries worldwide, [14 of them in Africa](#), have registered an exemption to use DDT as a public health insecticide under [Annex B of the Stockholm Convention](#). Under this clause, DDT is permitted for use in indoor vector control via indoor residual spraying (IRS), especially where there are no affordable, effective alternatives. However, researchers and practitioners now recognize the need for diversified malaria/vector control strategies, as long-lasting insecticidal nets (LLINs) and IRS may not be sufficient to eliminate malaria in countries where it is endemic.



Photo: UNEP / Colin Coster

UNEP SOLUTIONS TO A GLOBAL PROBLEM

Stockholm Convention DDT Road Map

At the request of the Stockholm Convention, in 2013 UNEP prepared a [Road Map for the Development of Alternatives to DDT](#). The Road Map guides efforts at all scales for a sustainable transition away from DDT and towards safe, effective, affordable, and environmentally sound alternatives. The Road Map was adopted by Member States in 2015 at the 7th Conference of the Parties of the Stockholm Convention.

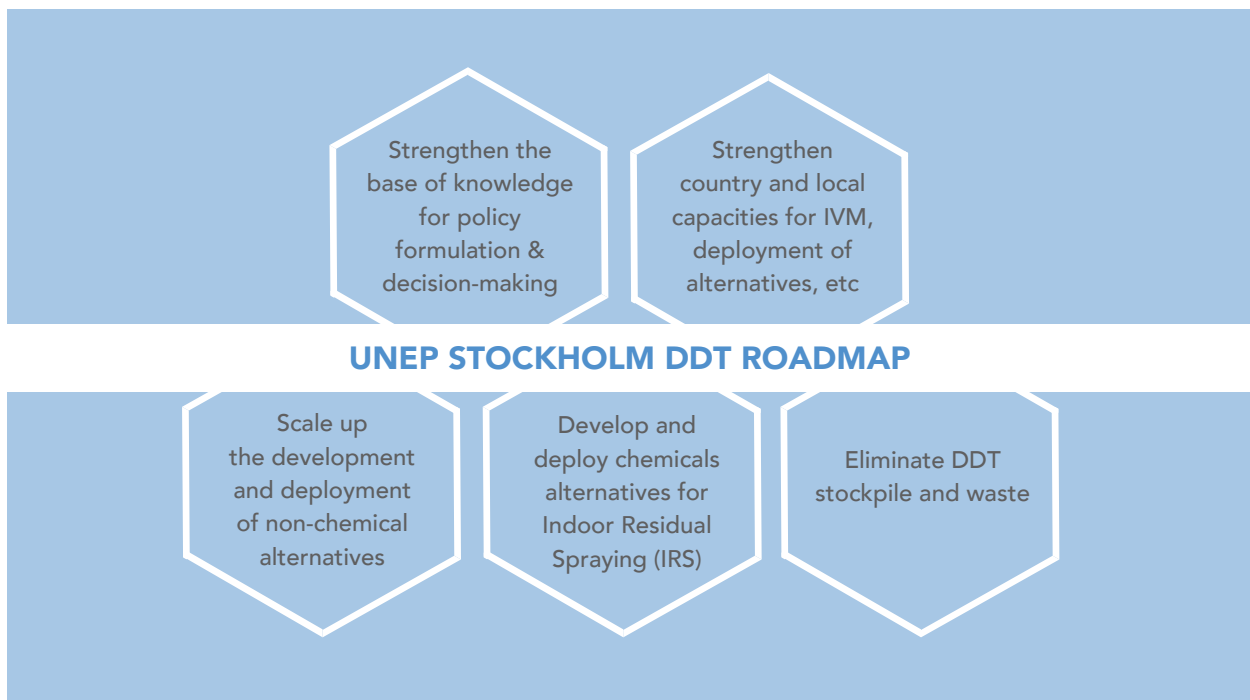
UNEP's GEF-funded support to the Road Map

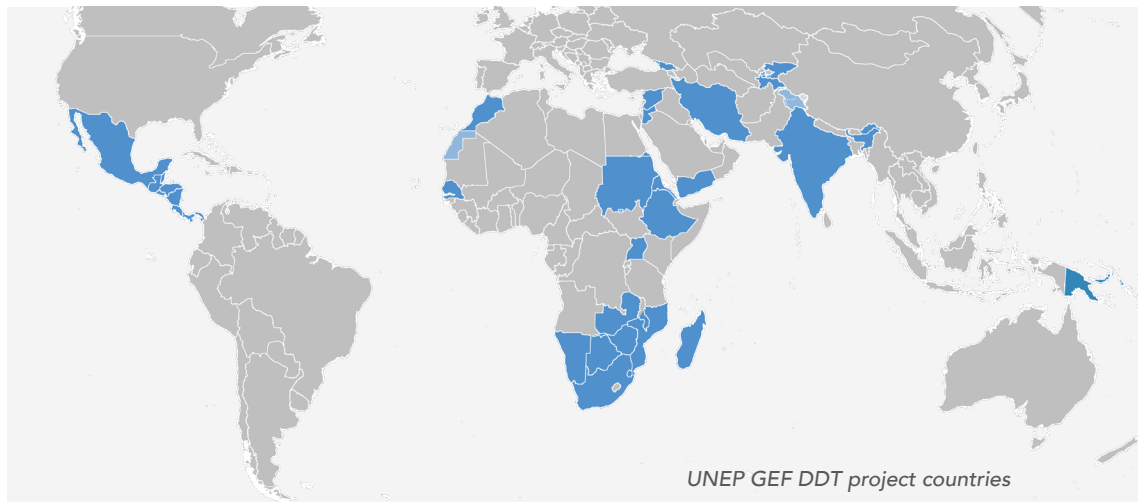
The [UNEP GEF Chemicals and Waste Portfolio](#) has been implementing multiple projects to help countries that are party to the Stockholm Convention to establish control over their DDT use and stocks since 2003. The objective of the Portfolio is to support countries to progress in all the areas of the Road Map: preventing unauthorized uses of DDT (such as in agriculture), ensuring the environmentally sound management of obsolete stocks, managing stocks which have been sent for inappropriate disposal, and encouraging the promotion of safer alternatives to DDT in disease vector control.

The UNEP GEF Chemicals and Waste Portfolio systematically addresses DDT across all the priority areas of the DDT Roadmap worldwide.



Photo: Veolia ES Field Services Ltd





THE UNEP GEF PORTFOLIO ON DDT

Current projects:

[GEF ID 4612: India DDT \(\\$1.7 million\)](#)

- o Country: India
- o Introducing bio-and botanical pesticides as first step for reduction and eventual elimination of dependency on DDT. Also, promoting Integrated Vector Pest Management (IVPM) at national level, along with supporting the country to identify legal requirements for DDT alternatives. Co-implemented with UNIDO.
- o Expected results: 5,000 tonnes of DDT production, use and export avoided.

[GEF ID 4668: AFRO II \(\\$9.5 million\)](#)

- o Countries: Botswana, eSwatini, Ethiopia, Gambia, Kenya, Liberia, Madagascar, Mozambique, Namibia, Senegal, Tanzania, Uganda, South Africa, Zambia, Zimbabwe
- o Demonstrating alternative, safe interventions, and strengthening national capacity for innovative integrated vector management (IVM) for disease prevention and control in the WHO AFRO Region.
- o Expected results: 300 tonnes DDT avoided; 14 IVM policies adopted (eight to date).

[GEF ID 9080: Chemical Observatories \(\\$3.9 million\)](#)

- o Country: Ethiopia
- o Repackaging and export for environmentally sound disposal of DDT from sites scattered across Ethiopia, including significant cash contribution from the Ethiopia Ministry of Health to support elimination of DDT from Ethiopia.
- o Expected results: Removal of 1,500 tonnes obsolete DDT in Ethiopia in 2022.

[GEF ID 9421: Central Asia DDT \(\\$ 15.2 million\)](#)

- o Countries: Tajikistan and Kyrgyz Republic
- o Testing industrial Supercritical Water Oxidation (iSCWO) non-combustion technology for POPs disposal.
- o Expected results: 5,000 tonnes of DDT stockpiles and associated waste to be removed.

[GEF ID 10267: ISLANDS Pacific \(Budget to be confirmed\)](#)

- o Country: Papua New Guinea
- o Repackaging, shipping, collection, and sound disposal of 15 metric tonnes of DDT stored in various locations in Papua New Guinea.
- o Expected results: Removal of 15 tonnes obsolete DDT in Papua New Guinea.

Past projects (2003-2018) :

(\$41 million, combined budget for four projects).

- o [GEF ID 1331: Africa](#) (Eritrea, Ethiopia, Madagascar)
- o [GEF ID 3614: Southern Caucasus and Central Asia](#) (Georgia, Kyrgyzstan, Tajikistan)
- o [GEF ID 1591: Mexico and Central America](#) (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama)
- o [GEF ID 2546: Middle East and North Africa](#) (Djibouti, Egypt, Islamic Republic of Iran, Jordan, Morocco Sudan, Syrian Arab Republic, Yemen)

80% of the 31 project countries have terminated the usage of DDT. Only four countries still had remaining DDT stockpiles.

35% of the participating countries have adopted IVM strategies (house improvement and larval source management).

OUR WORK WITH WHO

The UNEP GEF Chemicals and Waste Portfolio works closely with the [World Health Organization](#) (global and regional) and with Ministries of Health and Ministries of the Environment to eliminate risks and establish national collaborations to fight malaria and the use of DDT.

WHO Africa is the Executing Agency of the UNEP GEF projects [Chemicals Observatories](#) and [AFRO II](#).

The AFRO II project will sustain its impact by communicating successful demonstration results to global malaria funders, to shift funding toward integrated and diversified strategies and away from reliance on IRS and DDT.

Our partners include:



STORIES & PUBLICATIONS

- o Web story: [Bees, bans and broad-spectrum Pesticides](#)
- o Web story: [The local hero protecting Papua New Guinea from DDT](#)
- o Web story: [Natural weapons put malaria on notice: Eco-friendly insecticides in eSwatini](#)
- o Journal article: [van den Berg, H., Manuweera, G. & Konradsen, F. Global trends in the production and use of DDT for control of malaria and other vector-borne diseases . Malar J](#)
- o Journal article: [Nkya et al. Malaria in Eswatini, 2012–2019: a case study of the elimination effort. Malar J](#)

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