CHEMICALS AND WASTE

© Neil Palmer Photography

From shampoo to toothpaste, clothing to cosmetics, and light bulbs to food, almost every product we buy involves the use of chemicals in some form or other.

These chemicals have many benefits. Yet, of the over 100,000 chemicals in use today, a significant number have not been assessed for their impact on human health and the environment. There is emerging evidence that the production, use and disposal of many chemicals can pollute the air we breathe, the water we drink and the land on which we grow our food.

The harmful impacts of such chemicals on human health and our natural resources are particularly felt in countries with developing economies, where regulation and safety measures are not well established. It is here that the threats to health and the environment are greatest.

Managing chemicals and waste is a global challenge. But it is a challenge we can meet if we work together. The UN Environment Chemicals and Health Branch and the Global Environment Facility (GEF) have been working with countries around the world for the past 25 years to address the issue of hazardous substances. Together we have collaborated on some 150 projects across 141 countries, investing over $200 million in promoting the sound management of chemicals and waste to protect both human health and the environment.

CASE STUDY Containing Tajikistan's toxic legacy

In Tajikistan, over 30% of the population lives below the national poverty line. A sick family member, a poor harvest or lost livestock can mean the difference between struggle and survival for many of the nation's 8 million citizens.

So when sheep and cattle started dying in remote Khatlon Oblast, the impact was immediate.

"I lost one cow, but one of my neighbours lost many sheep and cattle," local herder Ish Mohammed says. "I would have sold the cow to buy food for the family and winter grazing for the animals. It had a serious impact for our family."

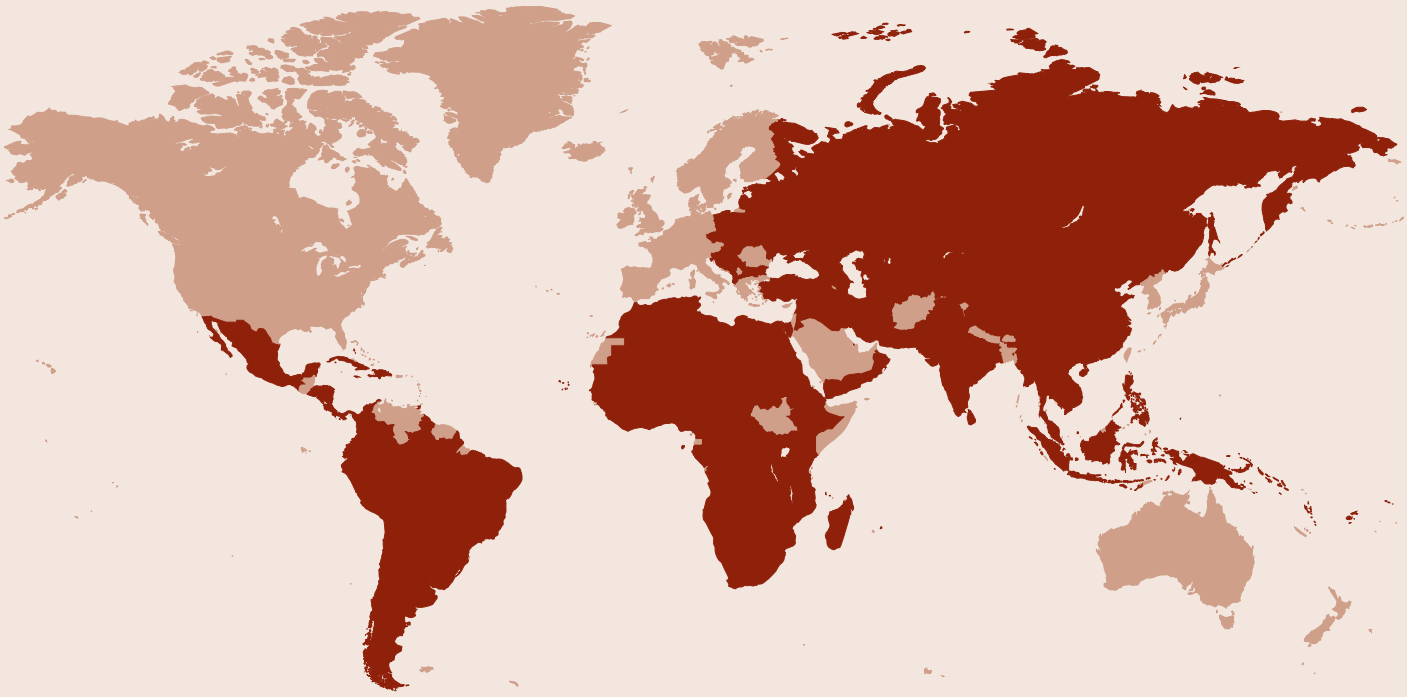
The poison at the roots of the villagers' problem was DDT. The sprawling Vahksh site in Khatlon is just one of an estimated 70 obsolete pesticide burial sites around Tajikistan, deadly legacies of the country's past.

Obsolete pesticides pose a significant threat in many former Soviet nations, where poorly managed and contained storage sites hold some of the world's largest stockpiles of these hazardous chemicals. While Tajikistan heavily restricts DDT under the Stockholm Convention on Persistent Organic Pollutants, illegal use of the chemical is common. Much of the black-market supply is mined from pesticide burial sites. The Vakhsh site alone reportedly contains over 4,000 tonnes of obsolete pesticides, including large volumes of DDT.

With support from the Global Environment Facility, UN Environment and partners have been working with local authorities to contain these sites, and manage the health and environmental threats posed by DDT and other hazardous chemicals.

A central storage facility has been built at Vakhsh and the site securely fenced off, ending the illegal chemical mining that was once commonplace. The fences keep livestock away from the site, stopping them from grazing on the site's toxic soil and drinking from the heavily polluted standing water in its excavation pits.

"I am very thankful for the government and agencies who have been involved in solving this problem," Ish Mohammed says. "People have been informed of the health dangers – that it can affect people as well as livestock. Since then I have been very careful about this issue."



UN Environment-GEF Chemicals and Waste project countries

The UN Environment-GEF partnership in Chemicals and Waste

Over the past 30 years, the international community has started to address dangerous pesticides and other harmful materials through voluntary mechanisms and Multilateral Environmental Agreements that promote the safe management of chemicals and waste. UN Environment has played an influential role in the development and evolution of these global policy instruments.

It is these instruments that provide the framework within which the UN Environment Chemicals and Health Branch and the GEF have collaborated for many years: working in partnership towards achieving the aims of the 2030 Sustainable Development Agenda.

© Lisa Murray / UN Environment

This partnership has continued to develop over the last three GEF funding cycles, with total GEF investment in UN Environment-led Chemicals and Waste projects to date reaching more than $221 million.

The projects that the partnership undertakes vary from small-scale activities that enable others to act (under $1 million) to regional and global projects and multi-agency and multi-focal area programmes (up to $45 million).

Projects include:

- Assisting countries to produce National Implementation Plans and reports needed to meet their commitments under the Stockholm Convention on Persistent Organic Pollutants and the Minamata Convention on Mercury
- Helping countries to monitor the impacts of hazardous chemicals through the Stockholm Convention Global Monitoring Plan
- Ending the use of mercury in artisanal and small-scale gold mining
- Implementing a global programme to eliminate hazardous materials like the pesticide dichlorodiphenyltrichloroethane (DDT) and toxic compounds such as polychlorinated biphenyls (PCBs)

This wide range of activities demonstrates how the partnership applies a flexible approach to project identification and design, recognizing the specific needs of individual countries in overcoming the challenges of controlling and disposing of hazardous chemicals.

All dollar ($) amounts refer to US dollars.

Why UN Environment?

UN Environment is one of the few GEF agencies with a dedicated programme in chemicals management, including the sound management of hazardous wastes through the International Environment Technology Centre based in Osaka, Japan. It offers countries a unique set of resources, underpinned by sound scientific assessments in key areas of international chemical and waste management.

Our ongoing contribution to policy, in-depth technical expertise and a solid track record in project implementation all underpin the ability of the UN Environment Chemicals and Health Branch to help mitigate the threat posed by hazardous chemicals internationally. Together with an extensive network of partnerships and excellent cooperation with proven external agencies, these strengths support and complement the GEF Chemicals and Waste Focal Area Strategy.

Global policy

UN Environment has been an active participant in negotiating and implementing the Multilateral Environmental Agreements relevant to hazardous chemicals, including having led negotiations on the text of the Minamata Convention. UN Environment currently hosts the secretariats for a number of relevant international agreements, including:

- Stockholm Convention on Persistent Organic Pollutants (the GEF serves as the financial mechanism)
- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal
- Minamata Convention on Mercury (UN Environment is the interim host, and the GEF serves as the financial mechanism)
- Strategic Approach to International Chemicals Management

"The Strategic Approach to International Chemicals Management, under the leadership of the United Nations Environment Programme, remains a significant overarching global policy framework whose strength lies in its multi-stakeholder approach."

Rolph Payet, Executive Secretary, Basel, Rotterdam and Stockholm Conventions

Technical expertise and resources

Recognized as a leading expert in chemicals and waste, UN Environment has developed guidelines on monitoring persistent organic pollutants for the Basel, Rotterdam and Stockholm Conventions, and produced a series of flagship technical reports and assessments including:

- **Roadmap for the Development of Alternatives to DDT:** Produced at the request of the 6th Basel Convention COP, the roadmap provides a framework for a global transition away from DDT and towards safe, effective, affordable and environmentally sound alternatives
- **Mercury Inventory Toolkit:** A guide for governments to develop inventories of mercury releases as a basis for policymaking, the toolkit has now formed the basis of mercury inventories in 24 countries
- **Global Chemicals Outlook:** The result of a two-year process bringing together governments, industry, academics and civil society, the Global Chemicals Outlook is being used by decision makers globally to build capacity and implement policy change to protect the environment and human health. GCO II is currently under development
- **Toolkit for Identification and Quantification of Releases of Dioxins, Furans and Other Unintentional Persistent Organic Pollutants:** This toolkit has been used extensively by countries in the preparation of their National Implementation Plans under the Stockholm Convention
- **Practical Sourcebook on Mercury Waste Storage and Disposal:** Providing valuable reference data to states about to embark on the development of the Minamata Initial Assessment process, the sourcebook is being used by countries to identify storage and disposal solutions under the Minamata Convention

Project highlights

- **Persistent Organic Pollutants:** UN Environment is a world leader in the global monitoring of Persistent Organic Pollutants, with 20 years of experience in the management and elimination of these hazardous substances. Our partnership with the GEF has achieved the destruction of over 3,500 tonnes of Persistent Organic Pollutants from Africa, Central Asia and Latin America, alongside approved GEF funding for projects to destroy a further 14,000 tonnes
- **Mercury:** Together with the World Health Organization, UN Environment established the GEF-funded Global Mercury Partnership in 2005. Having played a key role in catalyzing global action on mercury in the development of the Minimata Convention, current activities aim to reduce mercury releases by 170 tonnes and include: remediation work on contaminated land around the Mediterranean, and a global programme on artisanal and small-scale gold mining
- **Strategic Approach to International Chemicals Management:** UN Environment hosts the secretariat of the Strategic Approach, which is a policy framework for the safe use of chemicals. Together with the World Health Organization, we have established the Global Alliance to Eliminate Lead Paint and work with private sector and governments to reduce risks from the use of chemicals in the textile sector

Towards a non-toxic future

Although international agreements have already led to significant action and results (the reduction of the hole in the ozone layer being a well-known success), we can't afford to be complacent. The UN Environment-GEF partnership will continue to prevent the exposure of humans and the environment to harmful chemicals and waste. Together we are working to identify and address new hazards as they emerge and provide safer alternatives for the future.

Just some of the emerging issues we are developing initiatives to address include:

- **Artisanal and small-scale gold mining:** Building on the successful framework of the GEF 6 GOLD programme, UN Environment and partners will expand into new regions such as the Amazon, Congo Basin and Pacific, integrating aspects of land degradation, biodiversity and climate change into these new programmes
- **Mercury mining and trade:** Based on our experiences in Kyrgyzstan, we will work with countries to phase out mercury extraction and identify alternative livelihoods. We will also work with partners on the mercury trade in Asia and Latin America and its links to the artisanal and small-scale gold mining sector to promote more sustainable mining practices at the global level
- **Mercury emissions to atmosphere:** Collaborating with other UN Agencies and development banks, we will work with countries to reduce mercury emissions to the air from coal-fired power stations, non-ferrous metal smelting and commercial boilers
- **Mercury use in medical devices:** In collaboration with the World Health Organization, the dental industry and other UN Agencies, we will work with countries to phase out the production and use of mercury in the health sector
- **Electronic waste:** In collaboration with major electronics manufacturers and the World Economic Forum, we will work with countries to reduce e-waste. By adopting a circular economy approach, as set out in the Platform for Accelerating Circular Economy (jointly chaired by UN Environment, the GEF and Phillips), we will aim to maximize the recycling of valuable materials from electronics, provide effective mechanisms for the management of hazardous wastes from electronics and work with manufacturers to phase out the use of the most hazardous materials currently found in everyday items
- **Textiles and toys:** Working with industry and trade associations, we will aim to scale up our efforts to reduce the use of hazardous and persistent chemicals (such as flame retardants) used in many products

- **Drugs, pharmaceuticals and nano-materials:** Our work on emerging policy issues under the Strategic Approach to International Chemicals Management has identified poor wastewater treatment as the key factor in the release of these chemicals. In partnership with development banks and the UN Environment-GEF International Waters team, we will build on our existing work to improve wastewater treatment, reducing the release of these materials into the marine environment and the food chain
- **Chemicals in agriculture:** In collaboration with FAO, the pesticides and plastics industries and other key partners, we will work to minimise the negative impacts from use of chemicals in food production systems. This will include working with governments to strengthen regulations, farmers to look for alternatives to chemicals and plastics and with the pesticide industry to promote less harmful alternatives to most hazardous chemicals used in food production systems

Countries are increasingly looking for a more integrated approach when addressing their environmental concerns, in line with the vision of the 2030 Agenda for Sustainable Development. In response, the Chemicals and Health team is working with colleagues across UN Environment – including experts in climate change, international waters, land degradation, biodiversity, ecosystem management and microfinance – to provide comprehensive solutions. We are also working closely with other UN agencies, civil society groups and the private sector to identify, develop and implement projects to meet the pressing issues of today and the emerging challenges of tomorrow.

Our overall aim is to build the sound management of chemicals and waste into sustainable development processes at the national, regional and global level. The close partnership of UN Environment and the GEF will continue to provide a first-class service to countries, working together to reach the goals of the 2030 Sustainable Development Agenda.

To find out how to work with us, please contact:

Kevin Helps
GEF Portfolio Manager, Chemicals & Waste
Tel: +254 20 762 3140
Email: kevin.helps@unenvironment.org
UN Environment
P.O. Box 30552 - 00100
Nairobi, Kenya

SUSTAINABLE DEVELOPMENT GOALS

gef

UN environment