ANNUAL REPORT 2023

Working to reduce pesticide suicides worldwide
It has been another busy and exciting year for the team at the Centre for Pesticide Suicide Prevention (CPSP).

For the first time, we were able to bring our entire group together for an in-person meeting, in Naivasha, Kenya. We welcomed 31 colleagues, including our global partners, with representation from five different continents. It was inspiring to hear about ongoing work and to discuss our shared vision for the future.

We have continued to grow our team, appointing six new colleagues. This includes a significant expansion to our team in India, a key focus for our work going forward.

It has also been a year of international action on highly hazardous pesticides (HHPs). In May, the World Health Assembly passed a resolution that recognised pesticide suicide as a global health problem and acknowledged the need to regulate HHPs. In July, the World Health Organization (WHO) and Food and Agriculture Organization (FAO) then published joint guidance supporting the use of pesticide regulation to prevent suicides.

Later in the year, delegates at the 5th International Conference on Chemicals Management (ICCMS5) of the Strategic Approach to International Chemicals Management (SAICM) agreed on a target, calling on countries to take measures to phase out HHPs in agriculture by 2035. They also passed an important resolution to form a Global Alliance on HHPs. CPSP delegates supported the formulation and passing of these outcomes. We now look forward to further engagement around implementation.

Even more significantly, a number of countries have announced new bans on acutely toxic pesticides, including Bangladesh, India and Nigeria. I would like to pass on my congratulations to these countries. I have no doubt that their bold action will lead to lives being saved.

Prof. Michael Eddleston
DIRECTOR, CENTRE FOR PESTICIDE SUICIDE PREVENTION (CPSP)
2023 HIGHLIGHTS - CPSP

Team Expansion
6 new CPSP team members recruited

Research
15 academic research publications

FIRST CPSP IN-PERSON GROUP MEETING HELD IN NAIVASHA, KENYA

INDIA TEAM EXPANSION WITH FOUR NEW APPOINTMENTS

DELIVERY OF A TRAINING WORKSHOP FOR PESTICIDE REGULATORS IN ASIA

PRODUCTION OF TWO NEW FILMS SHARING CPSP WORK IN NEPAL

PARTICIPATION IN THE 5TH INTERNATIONAL CONFERENCE ON CHEMICALS MANAGEMENT

ACKNOWLEDGEMENT IN WHO/FAO JOINT GUIDANCE ON PESTICIDE SUICIDE
JANUARY
Bangladesh announces a ban on the carbamate insecticide carbofuran.

MAY
The World Health Assembly passes a resolution which explicitly recognised pesticide suicides as a major global problem.

JULY
The World Health Organization (WHO) & Food and Agriculture Organization (FAO) publish joint guidance on use of pesticide regulation to prevent suicide.

OCTOBER
The fifth International Conference on Chemicals Management (ICCM5) adopts a target on HHPs and passes a resolution to form a Global Alliance.

OCTOBER
India bans four pesticides, including monocrotophos. The state of Odisha introduces a temporary ban on paraquat.

NOVEMBER
Nigeria announces a ban on paraquat.
CPSP TEAM

Mounika Bhukya  
Project & Policy Officer

Shweta Dabholkar  
Project & Policy Officer

Mark Davis  
Director of Agriculture & Regulatory Outreach

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University of West Indies

Charles Ssemugabo  
Makerere University School of Public Health

Dr Manjula Weerasinghe  
Rajarata University

CPSP ANNUAL REPORT 2023
OUR GLOBAL REACH

COUNTRY WORK
- Bangladesh
- China
- India
- Malaysia
- Nepal
- Pakistan
- Sri Lanka
- Suriname
- Uganda
- Tanzania
- Zimbabwe

REGIONAL WORK
GROUPINGS OF REGULATORS
- East African Community (EAC)
- West African Pesticides Registration Committee (WAPRC)
- Southern African Pesticide Regulators Forum (SAPReF)
- Asia & Pacific Plant Protection Commission (APPPC)
- Coordinating Group of Pesticide Control Boards of the Caribbean (CGPC)

OTHER REGIONAL COLLABORATORS
- Centre for Environment Justice and Development (CEJAD) - work in southern and east Africa regions
- Pan American Health Organization (PAHO)
- South Asian Clinical Toxicology Research Collaboration (SACTRC)
- The University of the West Indies (UWI) - work in the Caribbean region
- University of Cape Town (UCT) - evaluating surveillance systems & supporting regulation across Africa

INTERNATIONAL COLLABORATORS
- World Health Organization (WHO)
- Food and Agriculture Organization of the United Nations (FAO)
- Pesticide Action Network UK (PAN-UK)
- University of Bristol - global health and epidemiological research
CPSP has been working in collaboration with an FAO project on pesticide risk reduction in Bangladesh. Activity has included a workshop on pesticide poisonings, treatment and surveillance, held in December 2023.

CPSP also contributed to a workshop on pesticide life cycle management and risk reduction at the FAO headquarters in Rome in September. This was attended by representatives from Bangladesh's pesticides regulatory department and Ministry of the Environment.

We are also continuing to support a large-scale clinical trial in Bangladesh, exploring new treatments for patients with organophosphorus or carbamate poisoning.

In September, we received a letter from the pesticide regulator in Bangladesh, acknowledging CPSP’s contribution to work in the country. The letter also confirmed there will be no new registration of products containing paraquat.

CHINA

CPSP has ongoing collaborations with pesticide regulators and the Chinese Center for Disease Control and Prevention (CCDC).

New research, led by CCDC with input from CPSP, was published in September (see publications). This showed a 60% fall in pesticide suicides between 2006 and 2018, following the introduction of regulations to remove access to some acutely toxic highly hazardous pesticides.
CPSP has significantly expanded its presence in India, appointing three new Project & Policy Officers and an external consultant to work at both central and state level.

**Central level work**

In October 2023, the Central Government announced bans on four pesticides, including monocrotophos, the number one problematic pesticide for poisoning in India.

CPSP is establishing collaborations with national research institutes and scientific advisors. These collaborations will support data collection and research into pesticide usage, alternatives to HHPs, poisoning cases, and the impact of bans on health and agriculture.

**State level work**

In March 2023, Tamil Nadu announced temporary bans on six pesticides, with the specific aim of preventing suicides. Work is now underway to evaluate the impact of these bans.

In Maharashtra, CPSP’s Project and Policy Officer was nominated to join the committee that is framing the State Mental Health Policy of Maharashtra. Her work supported the inclusion of ‘means restriction’ for suicide prevention, through regulation of HHPs, as a policy recommendation.

A collaboration has been formed with the Government of Chhattisgarh. This will enable work to improve data collection, build capacity for the medical management of pesticide poisoning, and to develop sensitisation to the issue of pesticide suicide.

A tripartite collaboration has also been agreed with the Government of Karnataka and National Institute of Mental Health & Neurosciences, enabling CPSP to initiate work in the state. This work aims to improve suicide data collection, identify pesticides responsible for poisonings, and support pesticide regulation by the state.

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**Powers of states to prevent pesticide-related harms**

CPSP commissioned an external analysis* of India’s pesticide regulation and legislation.

The pesticides sector in India is primarily regulated by the Central Government, however the review identified several powers that states can use to prevent pesticide-related harms:

1. Implement temporary bans on pesticides.
2. Implement permanent bans on pesticides not registered for agricultural use.
3. Submit proposals to Central Government to ban a pesticide.
4. Prohibit pesticide use that diverges from CIB&RC guidance on pest-crop combinations.
5. Use taxes and subsidies to limit and discourage pesticide use.
6. Use the domestic environmental law framework.
7. Implement organic farming laws

*Available from: https://edin.ac/3SMbv06
NEPAL

Monitoring impact of 2019 bans

Work continues to monitor the impact of the 2019 pesticide bans. Data collection from forensic laboratories is ongoing and will be used to understand if there has been a change in suicide rates and whether banned compounds are still being used in suicide cases.

National police data are reported every August and importantly show a reduction of 20-30% in poisoning suicides over the last two years, following the bans. Agricultural input data have been collected to understand the impact of the bans on selected crops yield. Overall, our preliminary results suggest a marked benefit from the bans with fewer poisoning deaths and no change to crop production.

Interviews and focus group discussions have also been carried out with vendors, farmers and agricultural extension officers to explore stakeholders’ views and experiences of HHP bans in Nepal and to understand successes and challenges of the implementation. Early results indicate compliance with the bans, however further research is required. These findings will serve as the basis for future work.

CPSP has also been involved in broader suicide prevention work in Nepal, providing advise on the suicide registry and producing two new films to help communicate our work.

MALAYSIA

In June, the National University of Malaysia published findings of their study into the early impact of a national paraquat ban (see publications). This work had been supported by CPSP.

The study provided early evidence that the country’s 2020 paraquat ban had helped to save lives. It found that, after the ban, the proportion of pesticide poisoning cases using paraquat decreased from 36% to 24%. There was also a reduction in deaths, with the overall case-fatality falling from 21% to 17%.

COUNTRY WORK

Training manual for plant protection officers

CPSP is supporting work by WHO in Nepal to develop a new training manual for Plant Protection Officers, in partnership with the Plant Quarantine and Pesticide Management Centre (PQPMC).

This new training for trainers (TOT) manual will increase knowledge of government employees on elimination and reduction of HHP use and will improve implementation of the 2019 pesticide bans.

Monitoring impact of 2019 bans

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**COUNTRY WORK**

**PAKISTAN**

In April 2023, CPSP published a literature review on pesticide self-poisoning in Pakistan (see publications). The study aimed to identify the most problematic pesticides in relation to national pesticide regulations.

CPSP has also formed a collaboration with the University of Multan to undertake research on the nature and extent of pesticide suicides in the country. As part of this agreement, a survey was carried out in two provinces and thirteen districts on intentional and occupational poisoning cases over the last five years. Around 2,000 interviews were conducted, with data analysis now underway.

**SRI LANKA**

CPSP is continuing to support a large study testing whether gate-keeping training for pesticide vendors is an effective way to reduce pesticide self-poisoning in rural Asia. Data collection ended in October and analysis will be completed in early 2024. If found to be effective, the training will be introduced more widely worldwide.

CPSP is also supporting epidemiological research by the University of Bristol, exploring trends in methods of poisoning and suicide rates in Sri Lanka.

**SURINAME**

CPSP co-drafted a project proposal for pesticide suicide prevention in Suriname, in collaboration with WHO, PAHO, FAO, and relevant national agencies, including the Registrar of Pesticides.

A formal request from the Ministry of Health to initiate the project has been sent to the WHO office in Suriname and is currently under development.
COUNTRY WORK

TANZANIA

In March 2023, CPSP delivery's partner, the Centre for Environment Justice and Development (CEJAD) and the Tanzania Plant Health and Pesticides Authority (TPHPA) conducted an inception meeting to introduce the CPSP project on pesticide suicide prevention to relevant stakeholders.

In June 2023, CEJAD and TPHPA held the first physical meeting of the Technical Working Group for the project to endorse the road map and work plan.

UGANDA

CPSP continues a collaboration with Makerere University School of Public Health, to identify pesticides used in acts of self-poisoning between 2017-2021. The study includes a review of highly hazardous pesticides registered in Uganda, with the aim to remove the most problematic pesticides from agriculture.

The preliminary results were obtained in October 2023 and are currently being analysed.

ZIMBABWE

We are working with the Government of Zimbabwe to strengthen national capacity for HHP management, with a focus on suicide prevention.

In July 2023, CPSP delivery partner CEJAD held the first physical meeting of the Technical Working Group for the project in Zimbabwe to endorse the road map and review the work plan. They also visited WHO and FAO country offices in Zimbabwe to continue the collaboration.
REGIONAL GROUPINGS OF PESTICIDE REGULATORS

We are continuing to develop our work with regional groupings of pesticide regulators in Africa, Asia and the Caribbean.

Southern African Pesticide Regulators' Forum (SAPReF)
Our work in Southern and East Africa is supported by our delivery partner, the Centre for Environment Justice and Development (CEJAD). CEJAD have taken a lead role in Southern Africa, supporting SAPReF to prepare a regional HHP strategy. The strategy has been endorsed by SAPReF and is currently awaiting Ministerial endorsement in the Southern African Development Community (SADC).

East African Commission (EAC)
A second meeting of the HHP Technical Working Group of EAC was held in February 2023 with the support of CPSP. This meeting facilitated the second drafting of the strategy, which continues to be led by CEJAD. It was followed by a two-day workshop and training on regional HHP management, led by FAO. The current draft is in the process of being endorsed.

West African Pesticides Registration Committee (WAPRC)
CPSP hired a consultant in June 2023 to focus on strengthening regional capacity and collaboration in West Africa. To date, an agreement has been made with the WAPRC secretariat on a work plan to address HHPs and to support the development of a harmonized list of registered pesticides. CPSP is also currently working on a situational analysis of the available data and data sources in the region.

Asian & Pacific Plant Protection Commission (APPPC)
A new CPSP consultant was recruited in February 2023 to work with the APPPC Secretariat to engage with member countries. Working with the FAO, CPSP also supported a training session for nine countries of the region on the Pesticide Registration Toolkit.

Consultative meetings and consultations have been held with registrars in a number of Caribbean countries. This includes Barbados, where a draft action plan for control actions on HHPs has been drafted, with CPSP support. A collaboration has also been formed with the University of West Indies to support activities in the region.

Coordinating Group for the Pesticide Control Boards of the Caribbean (CGPC)

AMERICAS REGIONAL COLLABORATION

WHO, FAO and CPSP are collaborating with the Pan American Health Organization (PAHO) to support pesticide suicide prevention in the Americas region. This collaborative group is working directly with Suriname and is discussing collaborations with additional countries. In October 2023, the first meeting of the group was held to discuss an implementation plan.
SPECIAL INTEREST PROJECTS

COMMERCIAL DETERMINANTS OF HEALTH

CPSP is supporting academic research into the commercial determinants of health - the ways that commercial actors’ strategies and practices impact on health and the environment.

While industries such as tobacco have been researched extensively, little attention has been given to the pesticide industry.

We contributed to a paper*, published in April 2023, that proposed a framework to help guide efforts to conceptualise, research, and address the commercial determinants of suicide.

ROLE OF ALCOHOL IN PESTICIDE SUICIDE

Alcohol is a risk factor for self-harm, but little is known about its involvement in pesticide self-poisoning.

In July, we published findings from a scoping review*, exploring the role of alcohol in pesticide suicide and self-harm. The study found that alcohol consumption contributes to pesticide self-poisoning, with alcohol involved in one third of cases. Co-ingestion also increased the risk of death. However, the review revealed insufficient research on the issue.

We also published a commentary* exploring why toxicologists should pay more attention to co-ingestion and the wider social and commercial aspects.

PARAQUAT

Paraquat is one of the most commonly used herbicides worldwide. It is also highly toxic and fatal when ingested.

Following a series of deaths due to unintentional ingestion, a vomiting agent named PP796 was added to standard paraquat products in the 1970s. In December 2022, we published the findings* from a new study that found no evidence that the inclusion of the vomiting agent helps to save lives.

We are also currently conducting a scoping review on paraquat regulations and their impact on the protection of health and prevention of poisonings.

POLICY & HUMAN RIGHTS

Safe use of pesticides is often not possible for vulnerable people living in LMIC. We are currently investigating the concept of pesticide ‘misuse’, where instances of harm are blamed on the users, such as farmers and agricultural workers.

We are also undertaking studies to explore compliance and how bans can be successfully implemented, gathering global case studies to share successes and challenges.

Research findings are due to be published next year.

*Links to all publications can be found on page 18
CPSP continues to support PAN-UK to research and publish data on alternatives to acutely toxic HHPs in crop protection. A review paper from PAN-UK demonstrating the viability of replacing paraquat with alternative methods of crop protection, without adverse effects on agricultural productivity, was published in January 2023 (see publications). The PAN-UK team are now focusing on papers covering phosphide rodenticides and organophosphorus insecticides.

PESTICIDE ACTION NETWORK (PAN) UK

PAN-UK’s T-MAPP

CPSP is supporting the testing of an app, developed by PAN-UK, in Sri Lanka and Nepal. PAN-UK’s T-MAPP (Tool for Monitoring Acute Pesticide Poisoning) aims to make data collection more efficient. It will collect data on locations, products or practices that are linked to high incidence of acute pesticide poisoning, enabling more effective targeting of resources to tackle the problem. In December, training for the app was conducted with officials from two provinces in Nepal.

Identifying alternatives

CPSP also continues to support PAN-UK to research and publish data on alternatives to acutely toxic HHPs in crop protection. A review paper from PAN-UK demonstrating the viability of replacing paraquat with alternative methods of crop protection, without adverse effects on agricultural productivity, was published in January 2023 (see publications). The PAN-UK team are now focusing on papers covering phosphide rodenticides and organophosphorus insecticides.

UNIVERSITY OF BRISTOL

Epidemiological research

CPSP is collaborating with Bristol University to carry out epidemiological reviews of data and systematic reviews of publications addressing the issue of pesticide self-poisoning and agricultural effects of pesticide bans.

Four research projects are currently underway:

1. A systematic review of the international evidence of the impact of bans on pesticide suicide.

UNIVERSITY OF CAPE TOWN

Capacity building

We are continuing to collaborate with the Division of Environmental Health at the University of Cape Town, supporting their programmes to develop capacity for risk reduction from pesticides and other chemicals in low- and middle-income countries.

Our support centres on two taught programmes - Diploma in Pesticide Risk Management and Masters in Chemical Risk Management - and includes:

• financial support for a two-year lectureship;
• contributing to course material;
• three bursaries for students who are focusing on pesticide suicide prevention.

Review of African surveillance systems

CPSP is also supporting a scoping review to assess pesticide surveillance methods used across Africa.

CPSP is also supporting a number of collaborative projects, primarily delivered by our international partners.
COMMUNICATIONS

There is regular activity to promote and share CPSP work across a variety of communication channels, helping to enhance our reach and impact.

In 2023, we launched a CPSP e-newsletter and mailing list. Newsletters are sent twice a year, keeping subscribers up to date with our latest news and research. Join our mailing list: https://centrepsp.org/join-our-mailing-list

1.5k
Monthly page views on the CPSP website

56%
Increase in followers across all social media platforms

4.1k
Video views on YouTube, 267% more than 2022

11
Blogs & articles published on CPSP & external sites
EXTERNAL ENGAGEMENT

FILMMAKING

Three new films have been produced by our filmmaker to help communicate CPSP’s work and issues relating to pesticide suicide.

The good, the bad & the ugly: Sri Lanka’s pesticide bans explained

A short animation explaining why Sri Lanka’s successful bans on highly hazardous pesticides shouldn’t be confused with its poorly executed move to organic farming in 2021 – a policy that has been linked to Sri Lanka’s economic crisis.

Banning pesticides to prevent suicides in Nepal

A documentary exploring Nepal’s journey to identify and ban lethal pesticides responsible for deaths. These bans were the result of years of research, campaigning and policy engagement, made possible through the work of clinicians, data collectors, campaigners and policy-makers.

Her name was Sita

A documentary exploring the concept of a virtuous woman and how culture, shame and honour can lead to self-harm and suicide in Nepal. It is dedicated to a 16-year-old girl who died trying to prove she was worthy of love.

All videos can be found on the CPSP YouTube channel: [www.youtube.com/channel/UCKY6cwYXUuYXpNnxbl5rp4g](http://www.youtube.com/channel/UCKY6cwYXUuYXpNnxbl5rp4g)
EXTERNAL ENGAGEMENT

Conferences & Events

>20 international events attended

ASIA PACIFIC ASSOCIATION OF MEDICAL TOXICOLOGY CONFERENCE

INTERNATIONAL ASSOCIATION FOR SUICIDE PREVENTION WORLD CONGRESS

INTERNATIONAL SUMMIT ON SUICIDE RESEARCH

CONFERENCES OF THE PARTIES TO THE BASEL, ROTTERDAM AND STOCKHOLM CONVENTIONS

FOURTH MEETING OF THE INTERSESSIONAL PROCESS (IP4) FOR SAICM

‘HER NAME WAS SITA’ FILM SCREENING AT THE UNIVERSITY OF EDINBURGH


Horgan FG, Vu Q, Mundaca EA, Dabholkar S, Davis M, Settele J, Crisol-Martínez E. Escaping the lock-in to pesticide use: do Vietnamese farmers respond to flower strips as a restoration practice or pest management action? Sustainability, 2023; 15, 12508. https://doi.org/10.3390/su151612508


Horgan FG, Mundaca EA, Hadi BAR, Crisol-Martínez E. Diversified rice farms with vegetable plots and flower strips are associated with fewer pesticide applications in the philippines. Insects, 2023; 14:778. https://doi.org/10.3390/insects14100778


All our latest publications can be found on the CPSP website [www.centrepsp.org/category/publications](http://www.centrepsp.org/category/publications).