

# POLICY BRIEF

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## Managing Persistent Organic Pollutants in the Asia-Pacific Region: A Multi-Level Approach

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### Highlights

The issue of persistent organic pollutants (POPs) is critical in the Asia-Pacific region, given its extensive use of these toxic substances, their transboundary movement, and their transportation as hazardous waste from developed countries, mainly to the Asia-Pacific and Africa. Sustained efforts are essential for managing POPs, at the national, regional, and global levels.

#### Recommendations:

- Strengthen national POPs management and monitoring capacity, to enable the establishment of evidence-based policymaking processes and/or effective evaluation of current regulations in line with the Stockholm Convention.
- Establish regional and sub-regional POPs monitoring networks, and joint programmes to share capacity and establish data repositories for multi-country approaches.
- Establish an extensive global network — connecting public and private sector stakeholders within and beyond the region — to foster integrated approaches and sustainable solutions for the sound management of POPs.

### A Persistent Issue

Persistent organic pollutants (POPs) are toxic substances that have serious health effects on living organisms. They are intentionally produced as pesticides and as chemicals in various industrial processes. They can also be unintentionally released from incomplete combustion or reaction processes. Regardless of their origin, POPs are a global concern because they present a transboundary problem, as once POPs are discharged into the environment they can easily cross national boundaries. This is of particular concern in Asia and the Pacific, as POPs have been used extensively in the region to support growing populations and economies as well as for food security. Practical solutions to these challenges are urgently needed.

The Basel, Rotterdam, and Stockholm Conventions (which entered into force in May 1992, February 2004, and May 2004, respectively) focus on protecting human health and the environment from hazardous chemicals and waste including POPs. In particular, the Stockholm Convention commits all Parties to eliminate or restrict the production, trade, use, and waste of specific POPs. In the Asia-Pacific region, most countries have completed ratification, acceptance, approval, or accession to the convention. The National Implementation Plan requires each Party to develop a policy framework for effective management of POPs.

At the same time, it is crucial for all countries to identify pollution levels and contaminant sources that are closely linked to present or previous political and administrative actions. This is effective for assessing those actions as well as keeping track of the transboundary movements of pollutants.

Monitoring systems and analysis play a vital role. However, considering the current state of POPs' use and regulation in the region, further actions are needed to ensure that they are managed in an environmentally sound fashion.

## Challenges in Asia and the Pacific

Countries in the Asia-Pacific region share similar problems regarding POPs management. Article 16 of the Stockholm Convention requires monitoring at both the regional and global levels for generating comparable data to evaluate the effectiveness of convention implementation. There are many countries that lack sufficient funds, advanced technology, knowledge, or personnel to develop regular monitoring and research on the release of POPs and their impacts on the environment and public health. Also, the current technical level and knowledge of specialists in the region fall short of the necessary standard for advanced research and analytical techniques on POPs.

Only a handful of countries in the region — China, Japan, and the Republic of Korea — have comprehensive POPs monitoring data. Some countries are currently developing their monitoring and inventory programmes, while others are mainly relying on inventories for understanding trends or developing models to simulate future exposure to POPs.

## A Multi-Level Approach to Managing POPs

Given the global nature of the issue, multi-level and sustained efforts are essential. Recommendations are presented below for effective strategies at the national, regional, and global levels.

### 1. National Level

*Policy recommendation: Strengthen national POPs management and monitoring capacity, to enable the establishment of evidence-based policymaking processes and/or effective evaluation of current regulations on POPs in line with the Stockholm Convention.*

- **Enhance Capacity.** Countries in the region need to prioritize and strengthen their capacities to manage POPs, especially for developing chemical analysis and establishing analytical methods. Key elements for such capacity building include: human capacity, inter-calibration tests, sampling and analysis, infrastructure of existing laboratories for analyzing core media, and quality assurance. Public–private partnerships are essential for enhancing infrastructure and capacity for POPs management. With the support of industries with abundant scientific knowledge and technologies, it is feasible to establish standard POPs analytical methods and develop a sustainable nationwide monitoring capacity. Mechanisms for sharing technological capabilities — especially regarding laboratory facilities and analytical instruments — should be encouraged.

Countries should strengthen partnerships with international organizations that focus on chemical and waste management, as well as public health — such as UNEP, UNITAR, and UNIDO — to develop effective approaches for the delivery of sound management of chemicals and waste at the national level.

Regional POPs monitoring programmes of such organizations provide valuable resources and knowledge for developing chemical analysis, monitoring, and inventory capacities. The benefits of such programmes, including the results of monitoring, should be shared with relevant scientific laboratories in various sectors. Such sharing mechanisms can be the basis of national POPs monitoring networks, which would have the potential to become national chemical monitoring programmes and establish evidence-based policymaking processes and/or effective evaluation of current regulations on POPs.

### 2. Regional Level

*Policy recommendation: Establish regional and sub-regional POPs monitoring networks, and joint programmes to share capacity and establish data repositories for the development of multi-country approaches.*

Technical and technological capacity, as well as knowledge, should also be shared and transferred between countries within the Asia-Pacific region.

- **Expand regional POPs monitoring programmes.** At present, there are only a limited number of regional POPs monitoring programmes in the Asia-Pacific region, but those providing support include

the Research Centre for Toxic Compounds in the Environment (RECETOX), the POPs Monitoring Project in East Asian Countries of the Ministry of the Environment of Japan, the Northwest Pacific Action Plan of UNEP, and the Monitoring and Management of POPs in Asia project of UNU-IAS. There is also a network of 16 regional and subregional centres (SCRCs) operating under the Stockholm Convention. In the Asia-Pacific region, the regional centres are located in China, India, and Indonesia. These programmes and institutions provide necessary education and knowledge for implementing POPs monitoring. Through participation in such programmes, Japan has introduced environmental monitoring of persistent toxic substances and the Republic of Korea has established a “warehouse” of POPs in East Asian countries as a repository of monitoring information on POPs of the region — and both initiatives have been incorporated into their respective national frameworks for chemical management. It is strongly recommended for countries that have not participated in the regional POPs monitoring programmes as well as the programmes of the SCRCs to do so. In addition to providing scientific capacity and knowledge, such programmes establish sustainable regional scientific networks that foster partnerships between academia and governments.

Further, countries that lack technical and technological capacity and knowledge should seek to actively learn from countries that have demonstrated them through such networks.

- **Improve regional communication and information-sharing.** It is important for representatives of different countries to meet regularly to share POPs information and improve regional communication. The existing regional POPs monitoring programmes operate with limited technological and financial resources. Linkages between these programmes for resource sharing, including laboratory facilities as well as collaborative work, should be reinforced, in order to maintain regular monitoring and strengthen the regional POPs monitoring network.
- **Establish a monitoring database.** An open-access monitoring data repository and effective data sharing should be established, for assessing the regional environmental distribution of POPs. An establishment of data warehouses that store POPs monitoring data of countries in the region under RECETOX and the Republic of Korea schemes are examples of successful initiatives. Such data sharing would enable

development of a stable, extensive regional monitoring network to deliver regional assessment of POPs concentration and transboundary transport of POPs.

Regional cooperation through sharing and transfer of knowledge and capacity brings multi-country approaches not only to sound management of POPs but also to the effective management of various chemicals. Japan and the Republic of Korea are drawing upon their extensive experience in developing national monitoring of POPs to support other countries in the Asia-Pacific region to establish a regional framework for chemical management.

### 3. Global Level

*Policy recommendation: Establish an extensive global network — connecting governments, non-governmental organizations, academic institutions, and the private sector within and beyond the region — to bring integrated approaches and sustainable solutions to the sound management of POPs.*

- **Capitalise on the Stockholm Convention.** Since the Stockholm Convention came into force in 2004, the 182 Parties have been making efforts to protect human health and the environment from the POPs listed under the convention. Under the convention, most countries in the Asia-Pacific region include “information exchange, public education, communication, and awareness raising of POPs” among their priorities. The Parties to the convention should develop national action plans on management of POPs that reinforce and incorporate public participation mechanisms. The persistent nature of POPs, their public health implications, and the transboundary nature of the problem require an immediate response from all states. Strengthened public participation mechanisms could easily be expanded across borders, and the development of various partnerships is accelerating. This has led to more integrated approaches and sustainable solutions to the sound management of POPs, although there is more progress to be made.
- **Leverage platforms for global collaboration.** With the adoption of the UNEP Strategic Approach to International Chemicals Management (SAICM), a global framework that promotes chemical safety, various actors and multi-stakeholder partnerships have been accelerating their activities on chemical security, to achieve the 2020 goal of the SAICM. Further, as part

of the 2030 Agenda for Sustainable Development, Member States have committed to achieving a more sustainable future, including sound management of chemicals and waste.

To advance the sound management of chemicals and waste, including POPs, countries should investigate possible means of raising public awareness and promoting a public participation process that enables people at all levels to take necessary actions. The Sustainable Development Goals (SDGs) provide a common framework for communication, and extensive multi-stakeholder networks, which can be leveraged to bring integrated approaches and sustainable solutions to the sound management of chemicals such as POPs.

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#### References

- Cleemann, M., Riget, F., Paulsen, G.B., Klungsøyr, J., Dietz, R., 2000. Organochlorines in Greenland marine fish, mussels and sediments. *Sci. Tot. Environ.* 245: 87-102.
- Ito, O., Ishikawa-Takashita, E., Iino F., Shibata, Y., M, Morita., 2016. Monitoring and Governance of Persistent Organic Pollutants in Asia. United Nations University.
- Magulova, K., Priceputu, A. 2016. Global monitoring plan for persistent organic pollutants (POPs) under the Stockholm Convention: Triggering, streamlining and catalyzing global POPs monitoring. *Environmental Pollution* 217.
- RECETOX Lectured for South East Asian Countries. <http://www.recetox.muni.cz/index-en.php?pg=news&aid=665>
- Regional overview of PTS and POPs issues of ecological concern in the NOWPAP region. <http://pomrac.nowpap.org/Pub/DOC/2014/PTS%20%202015.pdf>
- Strategic Approach to International Chemicals Management. SAICM Texts and Resolutions of the International Conference on Chemicals Management. [http://www.saicm.org/Portals/12/Documents/saicmtexts/New%20SAICM%20Text%20with%20ICCM%20resolutions\\_E.pdf](http://www.saicm.org/Portals/12/Documents/saicmtexts/New%20SAICM%20Text%20with%20ICCM%20resolutions_E.pdf)
- The 2nd POPs monitoring Report Asia-Pacific Region. <http://chm.pops.int/Implementation/GlobalMonitoringPlan/MonitoringReports/tabid/525/Default.aspx>
- The Stockholm Convention Regional and Subregional Centres. <http://chm.pops.int/Partners/RegionalCentres/Overview/tabid/425/Default.aspx>
- The National Implementation Plan transmitted pursuant to Article 7(b) of the Stockholm Convention. <http://www.pops.int/documents/implementation/nips/submissions/>
- The United Nations Sustainable Development Platform, 2015. Chemical and Waste. <https://sustainabledevelopment.un.org/topics/chemicalsandwaste>
- Transforming our World: The 2030 Agenda for Sustainable Development. <https://sustainabledevelopment.un.org/post2015/transformingourworld/publication>

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