

Interpreting the Mandate for Action on Pesticides in the Kunming-Montreal Global Biodiversity Framework (KMGBF)

Pesticide Action Network International (PAN) and Third World Network (TWN)

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This briefing aims to aid national policy makers in the interpretation of pesticides-related targets agreed in the KMGBF and in Parties' development of National Biodiversity Strategies and Action Plans (NBSAPs) including subsequent monitoring and reporting.

Key Messages

1. Transformative action on pesticides and agricultural sector reform is a central element of countries' commitments under the landmark Kunming-Montreal Global Biodiversity Framework (KMGBF) agreed at the fifteenth Conference of the Parties to the Convention on Biological Diversity (CBD) in December 2022.¹
2. To meet the mandate of the KMGBF on pesticides, **Parties need to:**
 - ◆ **reduce the overall use and toxicity of pesticides (pesticide load / toxic load) by at least half by 2030. PAN/TWN recommend that the most effective single action Parties can take to achieve this is to phase out the use of Highly Hazardous Pesticides (HHPs);**
 - ◆ **dramatically increase investment in and implementation of agroecological farming practices, including organic farming, at scales enabling the pesticide risk reduction target;**
 - ◆ **eliminate subsidies and other incentives that support pesticide use, and redirect incentives to implement agroecology and non-chemical alternatives to pesticides;**
 - ◆ **ensure companies monitor, assess and publicly disclose the biodiversity impacts of their pesticides-related activities, and inform pesticides consumers how to reduce pesticide use and toxicity.**

These requirements are embedded in **KMGBF Targets 7, 10, 15, and 18**, which mandate Parties to take strong measurable action on inter-linked drivers of biodiversity loss relevant to pesticides, namely; pollution, agriculture, corporate practices, financial and other incentives harmful for biodiversity.

These actions need to be clearly reflected in Parties' revised National Biodiversity Strategies and Action Plans (NBSAPs) by COP16 in 2024 and in country and global reporting under the KMGBF Monitoring Framework thereafter.

Indicators relevant to pesticides in the Monitoring Framework for the KMGBF are currently insufficient and should be optimized by the Ad-Hoc Technical Expert Group on Indicators (AHTEG). [PAN/TWN have developed separate recommendations on how KMGBF Monitoring Framework indicators should be improved.](#)

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Pesticides and the KMGBF 2030 Targets

Pesticides are a key driver of biodiversity loss and ecosystem degradation worldwide. Achieving the biodiversity Goals and associated Targets of the KMGBF will not be possible without concerted global action to substantially reduce pesticide use and toxicity.

Pesticides are explicitly mentioned in Target 7 and coordinated action on pesticides is implicit across multiple other targets.

Targeted action on pesticides should be included in Parties' National Biodiversity Strategies and Action Plans (NBSAPs) and country reporting across at least Targets 7, 10, 15, and 18.

In cases, the wording of KMGBF Targets relevant to pesticides leaves room for different interpretations that could undermine their purpose. This briefing is therefore designed to aid national policy makers in the interpretation of the targets, development of NBSAPs and subsequent monitoring and reporting, in relation to pesticides.

[A separate, complementary briefing provides PAN/TWN's recommendations on Optimizing Monitoring Framework Indicators for Pesticides in the Kunming-Montreal Global Biodiversity Framework \(KMGBF\).](#)

Target 7: Pollution and Pesticides

Target 7 commits Parties to reduce 'the negative impact of pollution from all sources by 2030, to levels that are not harmful to biodiversity and ecosystem functions and services...'

Clause (b) specifically mandates Parties to do this, in part, by '**reducing the overall risk from pesticides and highly hazardous chemicals by at least half**, including through integrated pest management...'

Two reductions, not one

Some may interpret the 'at least half' risk reduction requirement as applying to pesticides and highly hazardous chemicals combined – without prescribing which of these categories of chemical substances should involve what proportion of that singular reduction.

However, this interpretation is not justified in the text, nor by the Target 7 Science Brief, or by guidance prepared by the CBD Secretariat.ⁱⁱ

Target 7 mandates a reduction in the risk from pesticides alone by at least half by 2030. Clause (b) requires an at least half risk reduction for pesticides, as one category of pollutants, and another at least half risk reduction for other highly hazardous chemicals, as another category.

The Science Brief on Target 7 produced for the CBD Secretariat in May 2022 advised that pesticide risk reductions of up to 50% can be achieved through pesticide substitution and efficiencies, without redesigning production systems.

However, the Brief also indicated that redesign should also occur, stating that 'pesticide-free production systems can greatly reduce pesticide use while increasing farmer's incomes', and that 'enhancing biodiversity in agricultural systems can help to greatly reduce pesticide inputs and should play an important role in redesign.'ⁱⁱⁱ CBD Secretariat guidance on Target 7 reiterates this, stating that actions on pesticides under Target 7 'should be a part of wider sustainable agriculture and food systems transitions'.

Reducing 'risk' means reducing use and toxicity (pesticide load / toxic load)

Target 7 mandates an at least half reduction by 2030 in the combined use and toxicity of pesticides – also referred to as the Pesticide Load, or Toxic Load.

While clause (b) mandates a quantified 'risk reduction' rather than a 'quantity' reduction, risk is to be measured by a combination of pesticide use and toxicity.^{iv}

CBD Secretariat guidance states that Target 7 '*focuses on the risks and impacts of pollution rather than absolute amounts of pollutants, in terms of the different toxicity and/or hazards posed by different types pollutants*'^v

'Risk reduction' was codified in clause (b) following recommendations in the Target 7 Science Brief, which explicitly and repeatedly links pesticide risk to toxicity and use.^{vi}

Indicators highlighted as measures of environmental risks from pesticides relevant to biodiversity include Denmark's *Pesticide Load Indicator*; the *Total Applied Toxicity (TAT)* indicator; and a *Risk Score (RS)* indicator. Data underlying these indicators include '*substance-specific pesticide use data based on sales at the country level as well as pesticide toxicity data*'.

Agriculture must be the focus of most pesticide use and toxicity reductions

The Target 7 Science Brief makes clear that agriculture *'contributes to more than 80% of total pesticide used; by far the largest share'* of *'pesticide use and risks'*. It concludes that *'because agriculture is the most important source of nitrogen, phosphorus and pesticide pollution, it is also the most important leverage point for reducing these forms of pollution.'*

The brief advises that globally *'about two thirds of agricultural land is at risk of pesticide pollution by more than one active ingredient, and about a third is at high risk'*. It rightly recognises that *'redesign of agricultural systems as well as novel pesticide-free production systems can greatly reduce pesticide use while increasing farmer's incomes.'*

Action on Target 7 therefore needs to prioritise dramatic reductions in pesticide use and toxicity (pesticide load) in agriculture specifically, in order to enable the 'at least half' overall risk reduction.

Phasing Out Highly Hazardous Pesticides (HHPs) – a critical first step

Phasing out the use of Highly Hazardous Pesticides (HHPs) will be the most effective single contribution to achieving the 'at least half' reduction in the use and toxicity of pesticides by 2030, and is likely essential in many countries to achieving that outcome.

Target 7 refers to 'highly hazardous chemicals', for which an over 50% risk reduction is also mandated (see 'Two reductions, not one', page 2).

While 'highly hazardous chemicals' are not well-defined, HHPs are chemicals that meet criteria agreed by the Joint Meeting of Pesticides Management (JMPM) – a body under the auspices of the World Health Organization (WHO) and the Food and Agriculture Organization (FAO). These criteria are widely recognised and accepted by international chemicals governance stakeholders and multilateral instruments.^{vii} PAN International maintains a list of HHPs building on the JMPM criteria.^{viii}

There is global recognition that pesticides meeting the JMPM HHP criteria cause disproportionately much greater harm due to their particularly high toxicity and need to be the focus of concerted global action.

Box 1: International recognition of the need to address HHPs

Target 7's focus on substantially reducing use of the most toxic pesticides reflects growing international recognition of the need to phase out and eliminate risks from HHPs.

On 30 September 2023, the fifth meeting of the UN's International Conference on Chemicals Management (ICCM5) agreed and adopted the Global Framework on Chemicals (GFC), as the successor instrument to the Strategic Approach to International Chemicals Management (SAICM).^{ix}

Target A7 of the GFC commits stakeholders, including governments, to a path to phase out HHPs in agriculture. ICCM5 also adopted a resolution to establish a Global Alliance on HHPs, that would facilitate the HPP phase out set out under Target A7.^x

While Target A7 on HHPs of the newly adopted GFC of the ICCM does not stipulate that HHP phase-outs must be completed by 2030, it is clear that countries seeking to deliver their KMGBF Target 7 obligations should work to do so.

Prioritising reductions in use of the most toxic pesticides is the explicit recommendation of the Target 7 Science Brief, which states that 'it is of utmost importance to base pesticide policies and indicators on the toxicity of pesticides applied'.



Hedgehog. Credit Billion Photos/Canva.com

Target 10: Agroecology

Target 10 commits Parties to *'Ensure that areas under agriculture, aquaculture, fisheries and forestry are managed sustainably ... through a substantial increase of the application of biodiversity friendly practices ... such as agroecological and other innovative approaches.'*

The substantial increase in the practice of agroecology is a core focus of Target 10.

The term 'managed sustainably' is, unfortunately, a highly contested concept, potentially providing for major variances in interpretation. Yet the fact is, agricultural practices reliant on significant use of toxic pesticides harm biodiversity.

Soils are the ecosystems on which nearly all agriculture is possible. One quarter of Earth's living organisms rely on and make up soils - one shovel full of which can contain more organisms than there are people on the planet. Yet over 70% of more than 2,800 scientific experiments detailed in nearly 400 published studies found pesticides were harming organisms critical to maintaining soil health, including the diverse bacteria, fungi, and soil fauna that provide nutrients to plants, including crops.^{xi}

The EU Environment Agency (EEA) reported in 2023 that pesticide use in industrial agriculture *'impacts human, animal and ecosystem health, as well as food security, in multiple and interacting ways'*, that *'pesticides are intrinsically harmful to living organisms'*, and *'impact ecosystems even when they are intended to exclusively target a specific pest'*.^{xii}

Fortunately, Target 10 reflects these facts, by **explicitly mandating Parties to deliver a 'substantial increase' in the application of agroecology**, as the very type of 'biodiversity friendly practices' required to ensure agricultural land is 'managed sustainably'.

To achieve coherence across Targets 7 and 10, the unquantified 'substantial increase' in agroecology will, logically, need to be substantial enough to achieve an at least half reduction in pesticide use and toxicity by 2030.

The scale of reform needed is clear in the Science Brief on Target 10, which states that achieving the aims of the target requires *'a transition to managing agricultural systems as ecological systems (agroecosystems)'* involving *'the systematic adjustment of agricultural, land use and fisheries policies and practices'*.^{xiii}

This will require a dramatic expansion in the provision of information, extension services and other support that rapidly mainstream and normalise agroecological practice in agriculture.

Action to increase agroecological practices can and should be facilitated by corresponding and complementary actions under Targets 15, on corporate practices, and Target 18, on incentives harmful to biodiversity.

Target 15: Corporate Practices

Action on pesticides also needs to be built into actions on Target 15, on corporate practices.

Target 15 mandates Parties to *'Take legal, administrative or policy measures to ... ensure that large and transnational companies and financial institutions:*

- a. *Regularly monitor, assess, and transparently disclose their risks, dependencies and impacts on biodiversity ... [and]*
- b. *Provide information needed to consumers to promote sustainable consumption ... in order to progressively reduce negative impacts on biodiversity...'*

While Target 15 is not sector specific, the activities of companies involved in producing, trading, or using pesticides, or products produced through their use, or financing such activities, will influence the ability of Parties to meet the mandate on pesticides and agroecology embodied in Targets 7 and 10.

Parties need to ensure their laws and policies require companies to monitor, assess and publicly disclose their pesticides-related impacts on biodiversity, and inform pesticides consumers (for example, farmers, agri-commodity traders, major food companies, etc.) how to reduce pesticide use and toxicity in their value chains, including through the increased uptake of agroecology.

Instituting and enforcing policies setting binding parameters for corporate sales and use of HHPs, and other synthetic pesticides in line with an at least half reduction in use and toxicity in agriculture will be needed for Parties to meet these commitments.

Passing strong corporate due diligence and sustainability monitoring and reporting legislation will also be essential for Parties to deliver on their mandate.

Target 18: Incentives harmful for biodiversity

Action on pesticides, including the requisite increase in agroecological practices, is also highly relevant to Target 18 of the KMGBF, on incentives harmful to biodiversity

Target 18 mandates countries to *'Identify by 2025, and eliminate, phase out or reform incentives, including subsidies, harmful for biodiversity, ... while substantially and progressively reducing them by at least \$500 billion per year by 2030, starting with the most harmful incentives, and scale up positive incentives for the conservation and sustainable use of biodiversity.'*

The use of HHPs and the high toxic loads of other synthetic pesticides widely used in conventional agriculture are inherently harmful for biodiversity, and these practices have been driven and supported by financial and other incentives schemes provided by states and multilateral agencies for decades.

A 2021 FAO and UNDP study found that 87% of the \$540bn of annual agricultural subsidies worldwide are harmful to biodiversity, with subsidies for pesticides significantly contributing.^{xiv}

A 2023 World Bank study reported explicit agricultural subsidies in just 84 countries amounting to US\$635 billion, and estimated a further US\$2.1 trillion in implicit subsidies from pollution, pesticides, and antimicrobial resistance linked to agriculture.^{xv}

A 2020 study found that, between 2016 and 2018, only 10.6% of Green Climate Fund (GCF) investments in agricultural projects supported transformative agroecology, that no EU transfers to the FAO, IFAD or the WFP supported transformative agroecology, while 79.8% of the EU support to the FAO, IFAD and WFP and 79.3% of the GCF's agriculturally relevant investments supported conventional intensive agriculture.^{xvi}

National budgets and tax regimes also need reforming to support the roll out of agroecology and support to small producers, while removing incentives driving up toxic pesticide use.

For example, companies producing and selling pesticides in Brazil have for decades benefited from up to US\$ 2.2 billion in annual savings from just Value Added Tax (VAT) and industrial products tax exemptions and discounts – an amount nearly four times the annual budget of the country's environment ministry. In some Brazilian states, these pesticide-linked tax exemptions are larger than the entire state budget.^{xvii}

Action under Target 18 should include the phase out of subsidies and other incentives that support pesticide and HHP use (as 'the most harmful incentives'), so as to contribute to required outcomes under Target 7.



Butterfly. Credit Min An via Pexels/Canva.com

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Red-eyed tree frog. Credit Life on White/Canva.com



Pesticide Action Network International (PAN)

is a network of over 600 participating non-governmental organizations, institutions and individuals in over 90 countries working to replace the use of hazardous pesticides with ecologically sound and socially just alternatives.

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Third World Network (TWN)

is an independent non-profit international research and advocacy organisation involved in bringing about a greater articulation of the needs, aspirations and rights of the peoples in the South and in promoting just, equitable and ecological development.

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