POLICY BRIEF

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THE IMPACTS OF PESTICIDES ON CHILDREN'S HEALTH AND RIGHTS IN BRAZIL

Children are among those most exposed to, and least protected from, the effects of pesticides. Worldwide, pesticide use has more than doubled since 1990, while protections for children have failed to keep pace[1]. Despite this, the true scale of the harm remains underestimated and underreported, including in official data systems. Framing pesticide exposure as a children's rights issue—rather than only an environmental or public health concern—makes obligations visible that already exist under Brazilian and international law and creates a basis for accountability. This policy brief summarises the key findings of the report Silent Exposure and sets out recommendations for policymakers in Brazil and the European Union (EU).

PESTICIDE USE IN BRAZIL

Brazil is one of the world's largest consumers of agricultural chemicals. This is due to the power of the agribusiness sector, which receives enormous public funding and tax incentives to expand export-oriented monocultures such as soy and sugarcane. The pesticide market is controlled by a few transnational corporations, such as Syngenta, Bayer, BASF, and Corteva, that also dominate the seed market and profit from this model, while the social and environmental costs, from pollution to violence against Indigenous and peasant communities, fall on the people living near the plantations.[2]

Between 2010 and 2021, the volume of pesticides consumed in Brazil rose by 87%, with over half being used for soy production[3]. According to the Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA), in 2024, 825,800 tonnes of pesticides were sold in Brazil, representing a 9.3% increase compared to 2023. Figures from the Ministry of Agriculture and Livestock reveal that in 2025, the number of pesticides approved also rose: 912 new products were registered, representing a 38% increase in relation to 2024. In 2025, Brazil also recorded its highest number of pesticide poisonings in over a decade; between 2015 and 2025, children aged 1 to 4 accounted for about a quarter of all recorded cases. These figures are widely considered to be underestimates.[4]

While European legislation uses stricter criteria for the approval and use of these chemicals, Brazilian legislation allows various active ingredients banned in the EU to be registered. Even though the EU restricts the use of pesticides within its territory, it does not prohibit them from being exported to other countries. According to an investigation by Public Eye and Unearthed, in 2024, 14,644 tonnes of EU-banned pesticides containing 27 different active ingredients were exported from the EU to Brazil.[5]

PATHWAYS AND CONTEXTS OF CHILDREN'S EXPOSURE TO PESTICIDES

Children are one of the population groups most vulnerable to the effects of pesticides. Specific factors related to the context of exposure and their own physiological characteristics make them particularly sensitive to pesticides. Because their bodies are still developing, their organs, immune systems and detoxification mechanisms are not yet fully formed, which makes them far more vulnerable than adults. Proportionally, they also absorb higher doses of toxic substances, and behaviours typical of early childhood, such as hand-to-mouth contact and playing on contaminated ground, increase their exposure further[6]. Children are susceptible to environmental exposure to pesticides through soil, air, and water pollution; occupational exposure in situations of child labour or while helping with farming activities; and food-related exposure through the ingestion of contaminated water and food.[7]

In rural areas, children's risk of exposure is higher, for example, when their homes or schools are located near plantations where pesticides are used. This is especially the case for regions where aerial spraying is used, as the area of contamination is larger. This contamination can occur during the prenatal period through transplacental exposure, as well as during breastfeeding, and throughout childhood via environmental, food-, and work-related exposure[8]. During field research in the Cerrado region of Piauí in 2026[9], representatives of rural communities[10] explained that:

> "Before the agribusiness companies arrived, we didn't have to worry about land grabbing. The water from the river was clean and safe to use. One serious impact was the pollution of the water by agribusiness's toxic chemicals, which also contaminate our crops. We need healthy food to have food security, and we know that the food we grow is healthy, from the preparation of the soil right through to harvest."

> "The pesticides harm our territories, our lives, our crops, the fish, and the water. The water in the rivers that comes down from the mountains is polluted by agribusiness's plantations. There is also aerial spraying, when the wind carries the chemicals into our communities. Then this poison kills our plants and makes people ill. The strong smell and feeling sick affect families and cause headaches, stomach aches, itching, and diarrhea in the children."

Various studies link pesticide exposure to health problems in children, ranging from acute poisonings to chronic illnesses. Documented chronic effects include neurodevelopmental, endocrine, respiratory and immune system disorders, congenital malformations, and various types of cancer, primarily leukaemia. Studies also link exposure to adverse perinatal outcomes such as low birth weight and premature birth, and to harm to reproductive health. Both acute and chronic health problems are underreported, and it is estimated that the real numbers are significantly higher.[11]

PESTICIDE EXPOSURE AS A VIOLATION OF CHILDREN'S RIGHTS

The main legal instruments for protecting children's rights under Brazilian legislation are the Federal Constitution of 1988, the Statute of the Child and Adolescent, and the UN Convention on the Rights of the Child. The exposure of children to pesticides violates the right to health, which is guaranteed by both Brazilian and international law. Pesticide exposure can compromise the right to education due to its impacts on neurological and cognitive development. Another issue is the violation of the right to the protection of motherhood and childhood, also enshrined in Article 6 of the Federal Constitution. Exposure to pesticides infringes on the right to adequate food and to food and nutritional security. Furthermore, the exposure of children to pesticides violates their right to a clean, healthy, and sustainable environment.

It is also necessary to prevent the risk of occupational exposure of children to pesticides by combating child labour in rural areas. Exposure to pesticides is linked to the violation of the territorial rights of Indigenous peoples and traditional, Quilombola, and peasant communities.

POLICY RECOMMENDATIONS AT THE NATIONAL LEVEL

1. Ban pesticides that may be harmful to health and eliminate the regulatory double standard between the legislation of Brazil and the EU. This measure aims to ensure that all children, regardless of the country where they live, have the same level of protection against exposure to hazardous substances.
2. Prohibit the aerial spraying of pesticides nationwide, including by drones and other aerial spraying technologies, extending protections already provided for in state legislation.[12]
3. Establish pesticide-free zones in which all methods of applying pesticides are prohibited and define minimum distances to protect schools, healthcare facilities, homes, recreational areas, water recharge areas, population centres, rural communities, and areas of agro-ecological and organic production.
4. Promote healthy, sustainable, and pesticide-free food systems and ensure that children have universal access to safe drinking water and healthy food free from pesticide residues, both at home and in school.
5. Reorient public funding policies, credit, tax incentives, and other economic tools so that they promote healthy, sustainable food systems; eliminate subsidies and other incentives for the manufacture, sale, and use of pesticides, and limit the expansion of monocultures that depend on these inputs.
6. Strengthen healthcare provision to children and pregnant women exposed to pesticides and ensure that health services take into consideration their vulnerabilities to the impacts of pesticides on neurological, endocrine, immune and reproduction systems, mental health, and other developmental processes. Train health professionals to prevent, identify, diagnose, notify, and treat the effects of exposure to pesticides.
7. Ensure accessible and effective mechanisms for investigating complaints of pesticide spraying in cases of environmental pollution and harm to health.
8. Protect the territories of Indigenous, Quilombola, and peasant communities by adopting measures to prohibit the spraying of pesticides in surrounding areas.
9. Reinforce mechanisms to protect human rights and environment defenders. Ensure protection for defenders against intimidation, threats, violence, and other forms of retaliation when they lodge complaints about the impacts of pesticides.

POLICY RECOMMENDATIONS AT THE LEVEL OF THE EUROPEAN UNION

1. Fulfil the commitment made in 2020 in the Chemicals Strategy for Sustainability to “lead by example, and, in line with international commitments, ensure that hazardous chemicals banned in the European Union are not produced for export, including by amending relevant legislation if and as needed”[13] and ensure the consistent application of the precautionary principle, enshrined in Article 191 TFEU, by presenting, without further delay, a legislative proposal to prohibit the production and export of all pesticides banned in the EU to protect human health, human rights, and the environment, and ban the import of foods containing residues of these substances.

2. Implement the EU's commitment to "use all its diplomacy, trade policy and development support instruments" to promote the "phasing out" of pesticides no longer approved in the EU and "promote low-risk substances and alternatives to pesticides globally,"[14] including through engagement with the Global Alliance on Highly Hazardous Pesticides, which aims to phase out highly hazardous pesticides in agriculture and support the transition to safer alternatives.[15]
3. Support trading partners, especially Global South countries, in line with the EU's commitment to "engage actively" and "accompany the transition towards the more sustainable use of pesticides,"[16] by promoting alternatives such as Integrated Pest Management, Integrated Weed Management, agroforestry and agroecology—ensuring farmers in low- and middle-income countries are not exposed to higher crop-loss risks or forced to source hazardous chemicals elsewhere.
4. Contribute to a more effective functioning of the Rotterdam Convention, which currently suffers from "a paralysis" as a handful of countries persistently block the listing of new hazardous chemicals, "despite the desire and efforts of the majority of the Parties to strengthen the Rotterdam Convention."[17]
5. Address the structural gap underlying these commitments through horizontal legislation prohibiting EU exports of all products whose sale, use, or consumption is banned within the EU's own territory, developed through diplomatic engagement with Global South countries and affected communities, and accompanied by transition-support measures grounded in prior sustainability and human rights impact assessments.[18]
6. Ensure that all EU trade, chemicals, and development policies are consistent with the UN Convention on the Rights of the Child by preventing EU companies from contributing to children's exposure to hazardous pesticides abroad. In accordance with the UN Convention on the Rights of the Child and General Comment No. 26 (2023), children's best interests should be a primary consideration in all decisions affecting their health and environment, including decisions relating to the production and export of hazardous pesticides.[19]

NOTES AND REFERENCES

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[10] The names of the people interviewed have not been revealed for security reasons.

[11] Fernando Ferreira Carneiro, Lia Giraldo da Silva Augusto, Raquel Maria Rigotto, Karen Friedrich, and André Campos Búrigo (organizers). (2015). Dossiê ABRASCO: um alerta sobre os impactos dos agrotóxicos na saúde. https://www.epsjv.fiocruz.br/sites/default/files/l241.pdf.

[12] Ceará is currently the only Brazilian state that prohibits aerial spraying of pesticides by manned aircraft on its territory, and this regulation was validated by the Supreme Court. Aerial spraying with drones is, however, still permitted, subject to federal regulation. In addition, some Brazilian municipalities approved laws prohibiting or restricting aerial spraying of pesticides, but they apply only at the local level.

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