SILENT EXPOSURE:

The impacts of pesticides on children's health and rights in Brazil



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Research and text: Teresa Paris and Maria Luisa Mendonça

Editorial support: Daniela Stefano

Photos: Bárbara Cruz, Fernando Bonatto, Fernando Frazão, Geirlys Silva, Julia Gimenez, Juliana Adriano, Leandro Molina, Leandro Taques and Vytoria Pachione

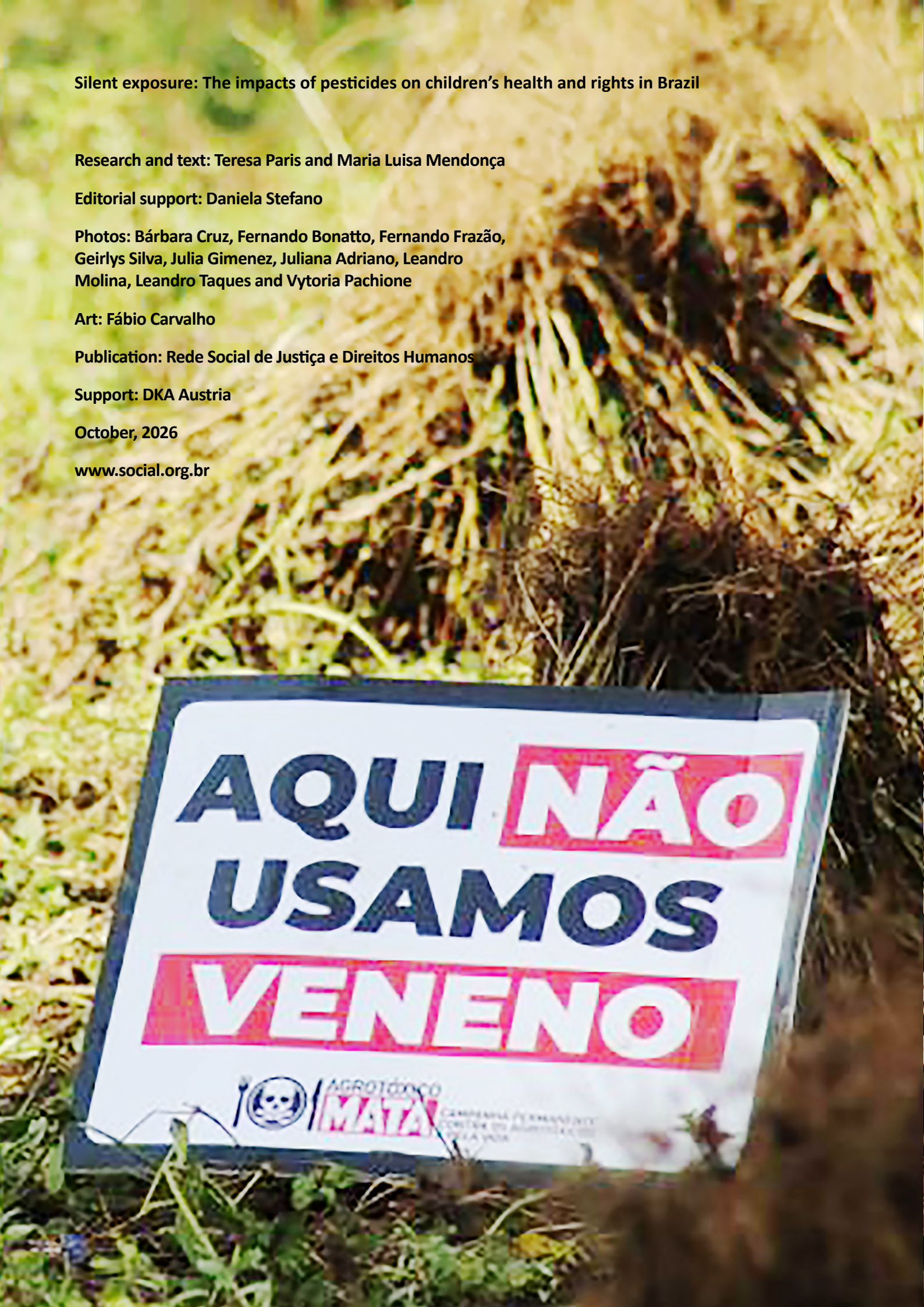
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Foto: Leandro Taques

Introduction



Photo: Bárbara Cruz.

Children are among those most exposed to, and least protected from, the effects of pesticides. Yet global pesticide use has expanded far faster than the safeguards meant to protect them: Worldwide, pesticide use has more than doubled since 1990, while protections for children have failed to keep pace[1]. Children's still-developing bodies absorb proportionally higher doses of toxic substances than adults', their detoxification systems and organs are not yet fully formed, and behaviours typical of early childhood—such as hand-to-mouth contact and playing on contaminated ground—increase their exposure further. This exposure often begins before birth, continues through breastfeeding, and persists throughout childhood via contaminated food, water, and air. Unlike adults, children cannot consent to or avoid the risks they face, and they depend entirely on adults and the state to protect them. Despite this, the true scale of the harm remains underestimated and underreported worldwide, including in official data systems.[2] Framing pesticide exposure as a children's rights issue—rather than only an environmental or public health concern—makes visible obligations that already exist under Brazilian and international law and creates a basis for accountability. This report responds to a gap in the existing literature: While the political economy and environmental impacts of pesticide use in Brazil are increasingly well documented, their specific consequences for children, and the corresponding violations of children's rights, remain underexplored.

[1] UNICEF. (2026). *Underestimated and Overlooked: The Silent Impacts of Pesticides on Children*. https://www.unicef.org/reports/underestimated-and-overlooked.
[2] Ibid.

This report presents an overview of the effects of pesticides on children's health in Brazil, based on a review of scientific publications, technical reports, and news articles, as well as an analysis of data and legislation on the subject. Interviews were also conducted in rural communities in the Cerrado biome to document the impacts of pesticides used by agribusiness corporations in the region. The expansion of agribusiness monocultures is driving violations of the rights of local communities and environmental destruction in the Cerrado, a biome essential for the protection of biodiversity and rivers in Brazil. The report also includes a summary of the main Brazilian laws and international mechanisms for the protection of children's rights and recommendations to policymakers both in Brazil and the European Union (EU).



Photo: Reproduced from the internet.

Pesticide use in Brazil



Photo: Leandro Taques.

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 amounts of public funding and tax incentives to expand the production of a few agricultural crops grown primarily for export, such as soy and sugarcane. Cotton monocultures have also expanded significantly in the country, consuming large amounts of pesticides.

The expansion of these monocultures in recent decades has caused environmental pollution and violence against Indigenous and peasant communities. The growing use of pesticides in Brazil, driven by the expansion of monocultures and the intensification of their application, contaminates people and territories, leading to serious impacts on human health and the environment. Between 2010 and 2021, the volume of pesticides consumed in Brazil rose by 87%, with over half being used for soy production, the crop grown on the largest area of farmland in the country. Soy, sugarcane, corn, and cotton monocultures account for 83% of pesticides sold in the country.[3]

According to data from 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

[3] Heinrich Böll Foundation. (2024). *Atlas of Pesticides: Facts and figures on the use of these substances in agriculture*. https://br.boell.org/pt-br/atlas-dos-agrotoxicos.

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.[4]

The agricultural commodity production chain—including the seed and chemical inputs sector - is heavily concentrated in the hands of transnational corporations. The global pesticides market is controlled by a few transnational corporations that also dominate the industrial seed market, most of which are genetically modified and developed to resist the pesticides produced by the same companies. Corporations such as Syngenta, Bayer, BASF, and Corteva control most of this market and impose an agricultural system that increases dependency on chemical fertilizers, patented seeds, and pesticides.

The Brazilian government provides the agribusiness sector with incentives for pesticide use, such as tax exemptions, logistical infrastructure, and subsidized farm credit. The National Congress has boosted the sector's power by weakening the regulations on pesticide use through the adoption of the "Poison Package" (Law nº 14,785, of 27 December 2023).

Many of these toxic substances are either banned or authorized for use in much smaller quantities in the EU than in Brazil due to their serious effects on human health and the environment. This reveals disparities between Brazilian and EU legislation regarding the regulation and use of pesticides.[5] 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 and used in the country, resulting in serious health and environmental problems. Even though the EU restricts the use of pesticides within its territory, it does not prohibit them from being exported to other countries. Corporations headquartered in the EU sell these products on markets with fewer controls through exports and factories set up in countries such as Brazil. According to an investigation by Public Eye and Unearthed, in 2024, 14,644 tonnes of EU-banned pesticides containing 27 different active ingredients have been exported from the EU to Brazil[6].

[4] Felipe Andrade. (September 1, 2026). *Ministry of Agriculture approves record volume of pesticides in 2025*. Datagro.com. https://cms.datagro.com/news/ministry-of-agriculture-approves-record-volume-of-pesticides-in-2025/; Hélen Freitas. (February 3, 2026). *Brazil sets record for pesticide poisoning in 2025: 27 per day*. Repórter Brasil. https://reporterbrasil.org.br/2026/03/brasil-recorde-intoxicacao-agrotoxico/.

[5] Larissa Mies Bombardi. (2017). *Geografia do uso de agrotóxicos no Brasil e conexões com a União Europeia*. https://ecotoxbrasil.org.br/wp-content/uploads/2023/09/Atlas_compressed.pdf; Larissa Mies Bombardi. (2021). *Geography of Asymmetry: the vicious cycle of pesticides and colonialism in the commercial relationship between Mercosur and the European Union*. https://terrapapers.com/wp-content/uploads/2022/12/mercosur-asymmetry-study.pdf.

[6] Public Eye. (n.d.). *Banned pesticides notified for export from the EU (2024)*. https://www.publiceye.ch/en/topics/pesticides/weltkarte/.

Impacts and disproportionately affected groups



Photo: Vytoria Pachione.

As pesticide use in Brazil continues to rise and new toxic substances are authorized for use, the profits of transnational corporations grow, while the social and environmental costs mount, both in commodity-producing regions and in people's food supply. These impacts affect the general population everywhere, even in countries that have banned such substances domestically but import agricultural commodities or processed foods from countries where they are still permitted.[7]

The impacts of pesticides affect certain groups more severely. Farm workers directly involved in agricultural production are among the most affected, as they have the highest level of exposure because of their direct contact with the chemicals. Continuous occupational exposure to pesticides has been linked to cases of work-related poisonings, illnesses, and deaths.[8] Rural communities located near plantations that use pesticides are also one of the most vulnerable groups because these substances contaminate the water and the soil.

Exposure to pesticides has specific health implications for other population groups due to certain physiological traits. According to the Abrasco Dossier on Reproductive Health (2024), "certain factors, such as age, gender, the route and dose of exposure, increase individual vulnerability, which means that children, the elderly and women of reproductive age are population groups particularly at risk in relation to pesticides."[9]

These population groups, especially in rural areas, are subject to occupational and environmental exposure to pesticides through the contamination of air, water, soil, and food. In 2025, Brazil recorded the highest number of pesticide poisonings since 2010, according to data from VSPEA/Ministry of Health.[10] A total of 11,714 cases were reported, of which 2,068 involved children aged 0 to 14 years and 1,032 children aged 0 to 4.

It is important to note that these figures do not fully reflect the size of the problem. Se-

[7] Larissa Mies Bombardi. (2017). *Geografia do uso de agrotóxicos no Brasil e conexões com a União Europeia*. https://ecotoxbrasil.org.br/wp-content/uploads/2023/09/Atlas_compressed.pdf; Public Eye. (2020). *Banned in Europe: how the EU exports pesticides too dangerous for use in Europe*. https://www.publiceye.ch/en/topics/pesticides/banned-in-europe.

[8] 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.

[9] Ibid.

[10] Government of Brazil Ministry of Health. (n.d.). *Health Surveillance of Populations Exposed to Pesticides*. https://www.gov.br/saude/pt-br/composicao/svsa/saude-do-trabalhador/renast/vspea.[16] Repórter Brasil. Agrotóxicos: órgãos públicos fazem operação abafa após intoxicação em escola de Sinop (MT). Disponível em: https://reporterbrasil.org.br/2022/12/agrotoxicos-orgaos-publicos-fazem-operacao-abafa-apos-intoxicacao-em-escola-de-sinop-mt/.

veral scientific reports and studies by civil society organizations point to the underdiagnosis and underreporting of pesticide poisonings and their impacts on health as important limitations. This is especially the case for chronic effects, as identifying them and establishing a causal link are more complex. Therefore, these studies conclude that the official records are lower than the total cases of illnesses related to pesticide exposure.[11]

In addition to the limitations of the information systems, there are gaps in scientific research on the impacts of pesticides in Brazil, as revealed by the Abrasco Dossier on Reproductive Health (2024). This report observes that studies on the impacts of pesticides on human reproductive health are concentrated mainly in the south and southeastern regions, which account for more than half of the publications by universities, laboratories, or research centres in the country on the topic. Studies conducted in other regions of Brazil—precisely where agribusiness is driving the expansion of the so-called "agricultural frontiers" and pesticides are heavily used—are, however, still scarce.[12]

The report also reveals inequalities in the populations studied. Most research focuses on urban-rural populations. There is insufficient research on Indigenous, Quilombola, riverine, and peasant communities, especially when one considers the impacts caused by agribusiness corporations' intensive use of pesticides in areas near these communities. This gap helps to keep these groups' high vulnerability to the social and environmental impacts of pesticides invisible.

Furthermore, the Dossier observes that little research has been done on differences in exposure and social vulnerabilities. Most studies concentrate on the direct relationship between exposure and effects. For example, the serious impacts of pesticides on reproductive health are still invisible or neglected in Brazil due to both insufficient scientific research and the limitations of the records of the Notifiable Diseases Information System[13] (SINAN).[14]



Photo: Juliana Adriano.

[11]Abrasco and ENSP. (2024). *Dossiê Danos dos Agrotóxicos na Saúde Reprodutiva: conhecer e agir em defesa da vida*. https://www.abrasco.org.br/wp-content/uploads/2024/12/Dossie-Abrasco_Danos-dos-Agrotoxicos-na-Saude-Reprodutiva.pdf.
[12] Ibid.
[13] Sistema de Informação de Agravos de Notificação.
[14]Abrasco and ENSP. (2024). *Dossiê Danos dos Agrotóxicos na Saúde Reprodutiva: conhecer e agir em defesa da vida*. https://www.abrasco.org.br/wp-content/uploads/2024/12/Dossie-Abrasco_Danos-dos-Agrotoxicos-na-Saude-Reprodutiva.pdf.

Pathways and contexts of children's exposure to pesticides



Photo: Geirlys Silva.

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.[15] 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.[16]

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. Children living in rural areas are exposed to pesticides on an ongoing basis. 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.[17]

Regarding **environmental exposure** in Brazil, there are numerous cases of rural communities and schools that have been affected by aerial spraying of chemicals, which has caused harm to human health. One emblematic case occurred in 2013, when airplanes dumped pesticides on the São José do Pontal rural municipal school, in Rio Verde (GO), affecting hundreds of people, mostly children, who had to be hospitalized.[18] In 2019, pesticides were sprayed from the air over the community school and the entire area reclaimed by the Guarani and Kaiowá Guyraroká Indigenous people in Caarapó, Mato Grosso do Sul, poisoning most of the local population.[19]

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[15] UNICEF. (2026). Underestimated and Overlooked: The Silent Impacts of Pesticides on Children. https://www.unicef.org/reports/underestimated-and-overlooked.

[16] Abrasco and ENSP. Op. cit; Gláucia Carvalho Moraes and Nelson Gouvei. (May 2025). *Children's exposure to pesticides in Brazil: a scoping review*. Ciência & Saúde Coletiva. https://www.scielosp.org/article/csc/2025.v30n5/e15052023/pt/; Paula de Novaes Sarcinelli. *A exposição de crianças e adolescentes a agrotóxicos*. In Peres, F. and Moreira, JC (organizers). É veneno ou é remédio?: agrotóxicos, saúde e ambiente. Rio de Janeiro: Editora FIOCRUZ, 2003, pp. 43-58; Maria Goreti Finkler, Iara Denise Endruweit Battisti, and Zélia Anastácio. (December 2019). *Exposição de crianças a agrotóxicos: uma revisão integrativa*. International Journal of Developmental and Educational Psychology, v. 1, n. 2, pp. 147-156.

[17]Abrasco and ENSP. (2024). *Dossiê Danos dos Agrotóxicos na Saúde Reprodutiva: conhecer e agir em defesa da vida*. https://www.abrasco.org.br/wp-content/uploads/2024/12/Dossie-Abrasco_Danos-dos-Agrotoxicos-na-Saude-Reprodutiva.pdf.

[18] Bruno Stankevicius Bassi. (May 30, 2019). *Pesticides approved by the government poisoned 92 children and staff at a school in Goiás.* De Olho Nos Ruralistas. https://deolhonosruralistas.com.br/2019/05/30/agrotoxicos-liberados-pelo-governo-intoxicaram-92-criancas-e-funcionarios-em-escola-de-goias/.

[19] Leandro Barbosa. (October 4, 2019). *The Ordeal of Guarani Kaiowá*. El País. https://brasil.elpais.com/brasil/2019/08/02/politica/1564773673_055738.html.

In 2022, the Silvana Municipal Elementary School in Sinop (MT) was hit by the spraying of pesticides. Students, teachers, and employees of the school reported symptoms of acute poisoning.[20] More recently, the Vitalina Motta School in Belterra (PA) has been targeted by aerial spraying on different occasions, such as in 2024, when students and staff exhibited symptoms of poisoning.[21]

These cases of contamination occur in areas where agribusiness is expanding its monocultures, which exacerbates the violations of the rural communities' rights. These situations can lead to the abandonment or closure of rural schools, which have become a target of attacks by agribusiness corporations as part of their attempt to drive out the communities.[22] Pesticide spraying is used as a kind of "chemical weapon," as agribusiness corporations often deliberately pollute the environment as a way of inflicting violence on rural populations. Data from the Pastoral Land Commission (CPT) reveal that peasant, Quilombola, and Indigenous communities have been victims of this type of attack. In 2024, the CPT registered 276 incidents of this kind, which affected 17,027 families.[23]

Agribusiness corporations tend to treat these cases as "accidents," but it is obvious that the spraying of toxic substances has serious impacts on health and the environment. Data from other studies also reveal many cases of schools and communities that have been affected by pesticides, through both exposure to large quantities with immediate impacts and frequent exposure to smaller amounts with negative effects on health appearing in the medium and long term.[24]



Photo: Arquivo *Campanha Permanente Contra os Agrotóxicos e Pela Vida.*

[20] Helen Freitas and Fernando Martinho. (December 12, 2022). *Pesticides: Public agencies conduct 'cover-up' operations after poisoning at a school in Sinop (MT)*. Repóter Brasil. https://reporterbrasil.org.br/2022/12/agrotoxicos-orgaos-publicos-fazem-operacao-abafa-apos-intoxicacao-em-escola-de-sinop-mt/.

[21] CPT. (June 14, 2024). *For the third time, students and teachers have been contaminated by pesticides at a school in the rural area of Belterra, in western Pará*. https://cptnacional.org.br/2024/06/14/agrotoxicos-belterra-2024/.

[22] Julia Dolce. (June 22, 2026). While rural schools are being closed, agribusiness educational programs are spreading across the country. O Joio & O Trigo. https://ojoioeotrigo.com.br/2026/06/enquanto-escolas-do-campo-sao-fechadas-programas-educacionais-do-agronegocio-se-espalham-pelo-pais/.

[23] Comissão Pastoral da Terra (CPT). (April 2025). Conflitos no Campo Brasil 2024. https://cptnacional.org.br/wp-content/uploads/2025/04/CPT2024_ConflitosNoCampo-web.pdf.

[24] 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, p. 135.

During field research in the Cerrado region of Piauí in 2026,[25] representatives of rural communities[26] we interviewed 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 ... they 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. They use poison, and when it rains, the runoff drains down into our rivers. The poison pollutes the water because it's a toxic substance. The poison also evaporates in the heat and then falls again when it rains, damaging our crops.

"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."

"Other risks of contamination appear in the daily lives of the children of communities near areas affected by heavy pesticide use. For example, it is common for children to be in contact with the soil and plants, when they play in the dirt and put their hands in their mouths. This type of contact can lead them to ingest residues of the toxic substances, and children are particularly vulnerable because their bodies are still developing. The absorption of these substances can have severe consequences for children's health.[27]

Children may also become victims of the impacts of pesticides through **occupational exposure**. Official data reveal that the number of children and adolescents working on farms in Brazil is high. This risk is related to the problem of child labour, which increases exposure to and contamination from pesticides. This situation is made worse by the lack of information and the abusive



Photo: Fernando Frazão.

[25] Rede Social. (n.d.). *The resilience of Cerrado communities in building a world without poisons.* https://social.org.br/documento/a-resistencia-das-comunidades-do-cerrado-para-a-construcao-de-um-mundo-sem-venenos/.
[26] The names of the people interviewed have not been revealed for security reasons.
[27] MST. (July 27, 2018). Pesticides: Birth defects and precocious puberty, a cursed legacy of agribusiness. Special interview with physician and professor Ada Pontes Aguiar. https://mst.org.br/2018/07/27/agrotoxicos-ma-formacao-congenita-e-puberdade-precoce-uma-heranca-maldita-do-agronegocio/.

practices of agribusiness corporations that promote these poisonous substances.[28]

The article "Children's Exposure to Pesticides in Brazil: a Scoping Review"[29] shows that 85.5% of children between 5 and 9 years of age involved in child labour work in the agricultural sector.[30] It is common for children to accompany their parents to work in rural areas, which increases their exposure to the effects of pesticides. In addition to these forms of direct contact, Sarcinelli (2003) documented cases of para-occupational exposure, where rural workers bring pesticides into their home on their clothes or accessories. This increases the risk of the contamination at home and the vulnerability of children.

There is also a serious risk of exposing children to pesticides **through food**. Studies show that this type of exposure can occur through breastfeeding and, later on, the ingestion of contaminated water and food during childhood. Researchers analyzed the level of pesticide residues in breastmilk in Brazil and detected the presence of persistent organic compounds, which are "an indicator of women's exposure to pesticides and a predictor of harm to overall health and reproductive and child health, since breastmilk is the main source of food in the first months of life."[31]

Breastfeeding and transplacental passage are particularly concerning routes of pesticide exposure due to the high sensitivity and often greater susceptibility of fetuses and children to chemical toxins.[32] Early exposure to neurotoxins has been associated with neurological and cognitive disorders. In addition to systemic toxic effects, there is concern about long-term effects, including carcinogenic potential.

The Programa de Análise de Resíduos de Agrotóxicos em Alimentos (PARA, the Programme for the Analysis of Pesticide Residues in Food), coordinated by the Agência Nacional de Vigilância Sanitária (Anvisa, the Brazilian Health Regulatory Agency), monitors the presence of pesticide residues in fruits and vegetables to reduce the health risks of exposure to these substances. The programme assesses situations of noncompliance and potential health risks based on the results of tests performed on collected samples.

This programme has its limitations, as the article "Danos dos Agrotóxicos na Saúde Reprodutiva – conhecer e agir em defesa da vida" (Harmful Effects of Pesticides on Reproductive Health – get informed and take action in defence of life, 2015) points out. One key problem is the assumption that there is a "satisfactory" level of pesticides



Photo: Fernando Bonatto.

[28] Paula de Novaes Sarcinelli. A exposição de crianças e adolescentes a agrotóxicos. In Peres, F. and Moreira, JC (organizers). É veneno ou é remédio?: agrotóxicos, saúde e ambiente. Rio de Janeiro: Editora FIOCRUZ, 2003, pp. 43-58.

[29] Gláucia Carvalho Morales and Nelson Gouveia. Exposição de crianças aos agrotóxicos no Brasil: revisão de escopo. Ciência & Saúde Coletiva, Rio de Janeiro, 2025, v. 30, n. 5. https://www.scielosp.org/j/csc/i/2025.v30n5/?section=ARTIGO%20DE%20REVIS%C3%83O.

[30] Fundação Abrinq. (2017). O Trabalho Infantil no Brasil – O desafio do trabalho infantil nas atividades agrícolas. https://livredetrabalhoinfantil.org.br/wp-content/uploads/2017/06/Versão-Final-Trabalho-Infantil-no-Brasil-Desafio-Trab-Inf-Ativ-Agrícolas-1.pdf.

[31] Abrasco and ENSP. (2024). Dossiê Danos dos Agrotóxicos na Saúde Reprodutiva: conhecer e agir em defesa da vida. https://www.abrasco.org.br/wp-content/uploads/2024/12/Dossie-Abrasco_Danos-dos-Agrotoxicos-na-Saude-Reprodutiva.pdf (p. 76).

[32] Paula de Novaes Sarcinelli. (2003). A exposição de crianças e adolescentes a agrotóxicos. In Peres, F. and Moreira, JC (organizers). É veneno ou é remédio?: agrotóxicos, saúde e ambiente. Rio de Janeiro: Editora FIOCRUZ, 2003, pp. 43-58. https://books.scielo.org/id/sg3mt/pdf/peres-9788575413173-04.pdf.

that can safely be consumed, which relativizes the effects of chronic exposure to these chemicals over a lifetime. In addition, insufficient consideration is given to cumulative effects, which are the result of exposure to multiple pesticides at the same time.

Brazil is one of the world's largest consumers of pesticides. The permitted levels of pesticide use on food are much higher in Brazil than in the European Union. The country's regulations on pesticide use are more lenient, both in terms of the types of substances permitted and the parameters used to determine the maximum permitted levels. This increases the population's risk of exposure to pesticides through food.

Despite its limitations, PARA is an important initiative, as it is the only systematic source of data that can be used to assess pesticide contamination in fresh produce, especially fruits and vegetables. In the PARA report for the 2023 cycle,[33] tests were performed on 3,294 samples of vegetables consumed in Brazil, collected in 23 states and the Federal District, to test for 338 types of pesticides. The data revealed that 63% of the samples contained pesticide residues, 36.9% of which were within the limits authorized by Anvisa, and 26.1% exceeded the limits established by Anvisa. The substances detected include active ingredients whose use is restricted or banned in other countries, pesticides not authorized for use on certain crops, and pesticides prohibited in Brazil.

PARA does not monitor the presence of pesticides in animal products and industrially processed foods, which are consumed by a growing proportion of the Brazilian population, including children. However, there are studies in Brazil that have detected, for example, the presence of pesticides in processed baby food.[34] Water for human consumption is also a common route of exposure to pesticides for children. In Brazil, the maximum allowable concentrations (MACs) of pesticide residues in drinking water are highly permissive and much higher than the limits in the European Union.

A prime example is glyphosate, the most widely used pesticide in Brazil and one that is applied intensively to genetically modified crops. Glyphosate has been classified by the IARC/WHO as "probably carcinogenic to humans," and the maximum concentration permitted in drinking water in Brazil is 5,000 times higher than that authorized in the EU. This toxic substance has been linked to serious neurological problems, especially in childhood, and can cause motor and behavioural disorders.[35] Atrazine, which is also widely used and has been detected in drinking water in Brazil, is classified as a potential carcinogen and is banned in several countries.[36]

A study[37] on Brazilian drinking water standards demonstrated that the MACs of pesticides have not been established with the goal of protecting the health of children and adolescents. The study highlights that all top-selling pesticides in Brazil that are subject to monitoring in drinking water are associated with serious and potentially irreversible impacts on human health, including endocrine disorders and carcinogenicity.

Moreover, there is no legislation limiting the concentration of pesticide residues in baby food in Brazil. The reference values used to assess the supposedly "safe" intake of pesticide residues, such as acceptable daily ingestion rates, are calculated using the body weight of a 60-kg. adult as a reference. This means that children are a particularly vulnerable group because their body weight is lower and their bodies' physiological systems are still developing. Thus, when children and adults consume food with the same concentration of pesticides, children's exposure is proportionally higher, and, as a result, the potential risk is also greater.[38]

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[33] National Health Surveillance Agency (Brazil). (2023). Pesticide Residue Analysis Program in Food: PARA Multi-Year Plan 2023-2025: 2023 Cycle. https://www.gov.br/anvisa/pt-br/assuntos/agrotoxicos/programa-de-analise-de-residuos-em-alimentos/arquivos/relatorio-2013-para-2023.

[34] Monica Tarantino. (January 13, 2023). Research identifies pesticide residues in baby food. Journal da Unicamp. https://www2.unicamp.br/estatico-2023/ju/noticias/2023/01/12/pesquisa-identifica-residuos-de-pesticidas-em-papinhas-infantis/.

[35] Larissa Mies Bombardi.(2023). Agrotóxicos e Colonialismo Químico. Elefante. https://editoraelefante.com.br/produto/agrotoxicos-e-colonialismo-quimico/.

[36] Tote Nunes. (November 21, 2025). Global study reclassifies herbacide atrazine as carcinogenic. Journal da Unicamp. https://jornal.unicamp.br/noticias/2025/11/21/estudo-mundial-reclassifica-herbicida-atrazina-como-cancerigeno/; Larissa Mies Bombardi.(2023). Agrotóxicos e Colonialismo Químico. Elefante. https://editoraelefante.com.br/produto/agrotoxicos-e-colonialismo-quimico/.

[37] Cristina Simões Schlinker, Sergio Rabello Alves, and Ana Cristina Simões Rosa. (2022). *Brazilian drinking water regulation: analysis of pesticides limits allowed in water from children's health perspective*. FAO Agris. https://agris.fao.org/search/es/records/671229a27f591113e2a4984f.

[38] National Research Council (US) Committee on Pesticides in the Diets of Infants and Children. (1993). *Pesticides in the Diets of Infants and Children*. https://ncbi.nlm.nih.gov/books/NBK236276/.

Health impacts of pesticide exposure on children



Photo: Juliana Adriano.

Various studies identify the links between pesticide exposure and health problems in children, ranging from acute poisonings to chronic illnesses. Children are particularly vulnerable to these effects, as their bodies are still growing and developing and their organs and systems are still forming. Cases of both serious and chronic health problems are underreported, and it is estimated that the real numbers are significantly higher. According to the ABRASCO Dossier: a warning about the impacts of pesticides on health (2015, p. 126)[39]:

> "The exposure of children may differ from the exposure of adults, as children's unique physiology and behaviour can influence the level of their exposure. Children are particularly sensitive to pesticides, as their intestines are highly permeable and their detoxification system is not fully developed (ATSDR, 2000). These differences must be taken into consideration when assessing the risk of pesticides."

Acute poisonings can cause various types of symptoms, such as gastrointestinal and respiratory problems, allergic reactions, and headaches, which are frequently reported in cases of poisoning in children. In more serious cases, it can even lead to death. Data[40] show that acute poisoning accounts for 89% of pesticide poisonings reported between 2015 and 2025.

The chronic effects associated with exposure to pesticides tend to appear years later, after repeated exposure to small quantities over an extended period. This makes it difficult to establish a direct connection to the pesticides and contributes to underdiagnosis.[41] The chronic and more

[39] 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.
[40] Hélen Freitas. (February 3, 2026). *Brazil sets record for pesticide poisoning in 2025: 27 per day*. Repórter Brasil. https://reporterbrasil.org.br/2026/03/brasil-recorde-intoxicacao-agrotoxico/.
[41] Lopes and Albuquerque (2018) affirm that most studies on pesticides' harmful effects on human and environmental health in Brazil focus on the type of occupational exposure and acute effects of exposure to these substances; little research has been conducted on chronic exposure at work, to contaminated food and long-term exposure. Finkler, Battisti, and Anastácio (2019) identify, as a gap in Brazilian literature, the absence of cohort studies (a type of observational study designed to examine the relationship between exposures—such as habits, environmental factors, or treatments —and the development of certain outcomes over time) that investigate the issue of the negative impacts of pesticides on child health. See in Carla Vanessa Alves Lopes and Guilherme Souza Cavalcanti de Aluuquerque. (2018) *Agrochemicals and their impacts on human and environmental health: a systematic review*. Saúde em Debate, v. 42, n. 117, p. 518-534. https://www.scielo.br/j/sdeb/a/bGBYRZvVVKMrV4yzqfwwKtP/?lang=pt.

"silent" effects of child exposure often reported include neurodevelopmental disorders, endocrine disorders, malformations, respiratory and immune system problems, as well as various types of cancer.

The "Harmful Effects of Pesticides in Reproductive Health – get informed and take action in defence of life" report compiled evidence of harm to human reproductive health caused by pesticide exposure in Brazil. In relation to child health, the main findings were grouped into outcomes such as neoplasms, genetic alterations, perinatal outcomes, endocrine disorders and reproductive problems related to fertility and pregnancy, as summarized below[42]:

Neoplasms: Occupational and at-home exposures to pesticides were found to be related to neoplasms in children, primarily leukaemia.

Studies have found, for instance, a significant association between the use of pesticides and the increase in the incidence of and death from cancers, mainly leukemia, lymphoma, and cancers of the central nervous system, as well as leukemia associated with the occupational exposure of mothers to chemical products (in the agricultural, chemical, and petrochemical industries), and links between pesticide use during pregnancy and higher risk of certain types of leukemia in children under 2.

Genetic alterations: Studies have identified risks of congenital disorders and even death due to malformations of the cardiovascular and central nervous systems. This investigation was carried out in regions where pesticides are used and assessed maternal and paternal exposure.

Analyses of the malformation rates from different decades confirmed that the population's exposure has increased over time, which has caused the incidence of congenital disorders to rise. Studies show, for example, a relation between groups with high and medium levels of pesticide use and a higher risk of congenital anomalies at birth, in comparison to the group with low pesticide use. There are significant correlations between per capita pesticide use and rates of mortality due to malformations in rural micro-regions. This includes a relation between greater exposure of mothers or fathers to pesticides and higher rates of congenital malformations in their children.

Perinatal outcomes: Data on the perinatal period confirm the impacts of exposure to pesticides on the incidence of low and very low birth weights, premature and preterm births. Studies in rural areas found a correlation between per capita sales of pesticides and a higher prevalence of children born with low or very low body weights, as well as a connection between higher levels of pesticide use and premature births. Another aspect is the relationship between gut microbiota at birth and the concentrations of pollutants in maternal blood or the umbilical cord, which indicate fetal (intrauterine or perinatal) exposure in the development of the newborn's microbiota. Researchers also observed a relation between breastfeeding and the presence of pollutants in infants' stool, suggesting that breast milk can be a source of exposure.

Endocrine disorders: The report cites studies on a relation between children's exposure to different types of organochlorines and significant increases in serum total T3 concentrations and between T4 levels and the exposure to specific types of organochlorines.[43]

Reproductive disorders affecting fertility and pregnancy: The study[44] provided evidence of the connection between high levels of pesticide use and endocrine-disrupting effects capable of affecting reproductive health.

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[42] More details can be found in "Dossiê Danos dos Agrotóxicos na Saúde Reprodutiva: conhecer e agir em defesa da vida" (2024). This report presents evidence of the negative impacts of pesticides on reproductive health based on a scoping review of the scientific literature published in Brazil over a period of 43 years, since 1982, with the general objective of mapping and identifying studies in the available literature that present this kind of evidence in the country and a summary of their main findings. In total, after applying the eligibility criteria, the researches identified 67 articles published between 1980 and 2023, of which 20 focused on children. (Abrasco and ENSP. (2024). Dossiê Danos dos Agrotóxicos na Saúde Reprodutiva: conhecer e agir em defesa da vida. https://www.abrasco.org.br/wp-content/uploads/2024/12/Dossie-Abrasco_Danos-dos-Agrotoxicos-na-Saude-Reprodutiva.pdf)

[43] Abrasco and ENSP. (2024). Dossiê Danos dos Agrotóxicos na Saúde Reprodutiva: conhecer e agir em defesa da vida. https://www.abrasco.org.br/wp-content/uploads/2024/12/Dossie-Abrasco_Danos-dos-Agrotoxicos-na-Saude-Reprodutiva.pdf.

[44] Ibid.

Pesticide exposure as a violation of children's rights

Children, especially those living in rural areas, are one of the groups most vulnerable to exposure to pesticides, which may occur as a result of environmental, occupational, or food- and water-related contamination. Their exposure to these toxic substances is associated with a range of acute and chronic health problems, including neurodevelopmental disorders, a greater risk of cancer, congenital anomalies, endocrine disorders, respiratory problems, and impaired fetal and early childhood development, which, in some cases, can lead to death. As such, exposure to pesticides undermines the exercise of children's fundamental rights, such as the right to life, to health, and to development, which are interdependent with other rights. It also undermines children's right to a clean, healthy, and sustainable environment.[45]

We present below a brief overview of some of the main legal instruments for protecting **children's rights** under Brazilian legislation —the Federal Constitution of 1988 and the Statute of the Child and Adolescent—and the U.N. Convention on the Rights of the Child. These instruments reaffirm the need to ensure comprehensive protection for children, considering their high vulnerability to the risks of pesticide exposure, whose impacts can affect their health from the time of their conception, throughout their childhood and adolescence, and even in their adult lives.

The right to life, which is universally recognized as a fundamental human right, is enshrined at a national level in Article 5 of the Federal Constitution, which establishes it as an inalienable fundamental right that the state has an obligation to protect and promote. Article 7 of the Statute of the Child and Adolescent states that children and adolescents have the right to the protection of life and health through the implementation of public social policies that ensure them a healthy and harmonious birth and development in conditions of dignity. Article 6 of the U.N. Convention on the Rights of the Child establishes that state parties shall recognize that every child has the inherent right to life and shall ensure to the maximum extent possible their survival and development.



Photo: Comunicação do MST no Paraná.

The exposure of children to pesticides violates **the right to health**, which is guaranteed by both Brazilian and international law. Article 6 of the Federal Constitution recognizes health as a social right. More specifically, Article 196 defines it as a "right of all and a duty of the State and shall be guaranteed through social and economic policies aimed at reducing the risk of illness and other hazards, as well as universal and equal access to actions and services for its promotion, protection and recovery." Thus, the protection of health not only includes the provision of treatment, but it also imposes on the state the duty to adopt preventive measures to eliminate or reduce factors that put the population at risk, including expo-

[45] Criança e Natureza. (2022). O Direito das Crianças e dos Adolescentes à Natureza e a um Ambiente Saudável. Angela Barbarulo and Pedro Hartung (organizers). https://criancaenatureza.org.br/wp-content/uploads/2022/07/Legal_Policy_Brief_Natureza.pdf and UNICEF. (November 2022). Children, Adolescents and Climate Change in Brazil – 2022. https://www.unicef.org/brazil/relatorios/criancas-adolescentes-e-mudancas-climaticas-no-brasil-2022.

sure to pesticides. Given children's greater physiological vulnerability to the effects of pesticides, the state must fulfil its duty by adopting measures to prevent exposure, especially in high-risk situations, such as in rural areas and regions where these toxic substances are heavily used.

Article 24 of the U.N. Convention on the Rights of the Child recognizes the right of all children to the highest attainable standard of health and requires states parties to ensure access to treatment and rehabilitation services, without discrimination. There is an explicit link between the enjoyment of this right and **access to nutritious food and clean drinking water**. The Convention imposes the duty on states to adopt measures to combat disease and malnutrition, while taking into consideration the dangers and risks of environmental pollution. This provision is particularly important given the scientific evidence on water, food, and environmental contamination by pesticides. This reinforces the state's obligation to prevent children from being exposed to these substances, which is essential for guaranteeing the right to health.

Exposing children to pesticides violates not only their right to health but also other social rights guaranteed by the Federal Constitution of 1988. Article 6 guarantees **the right to education, food, work, housing, transportation, leisure, security, social welfare, protection of motherhood and childhood, and assistance to the destitute**. As these rights are interdependent, the violation of the right to health affects the enjoyment of other fundamental rights.

Pesticide exposure can compromise the **right to education** due to its impacts on neurological and cognitive development. Exposure may happen gradually, over time, or suddenly, as in the cases of rural schools and communities hit by aerial spraying of pesticides. In these cases, children, teachers, and other education professionals were intoxicated by pesticides and required medical treatment, even hospitalization. It also disrupted school activities and exposed students and staff to serious risks. The right to play, leisure and full development is also affected when children live in territories affected by the spraying of pesticides. Environmental contamination makes it impossible to use public spaces safely.

Another issue is the violation of the **right to the protection of motherhood and childhood**, also enshrined in Article 6 of the Federal Constitution. Protecting pregnant women from exposure to toxic substances is fundamental to ensure the mother's health and a healthy life for the child. Scientific evidence confirms the connection between the exposure of pregnant women to pesticides during the prenatal period and congenital anomalies in infants, a higher risk of diseases such as cancer, developmental disorders, and low birth weights. These risks underscore the need to adopt preventive measures to reduce exposure to pesticides.

Exposure to pesticides infringes on **the right to adequate food and to food and nutritional security**. Article 6 of the Federal Constitution recognizes food as a social right, and article 227 guarantees special protection during childhood. Article 4 of the Statute of the Child and Adolescent stipulates that it is the duty of the family, society, and state to ensure the fulfilment of this right. Article 24 of the U.N. Convention on the Rights of the Child states that state parties shall adopt measures to combat malnutrition by providing adequate nutritious food and clean drinking water, while taking into consideration the risks of environmental pollution.

Furthermore, the exposure of children to pesticides violates their **right to a clean, healthy, and sustainable environment.** Protecting this right is fundamental, especially since children are more vulnerable to environmental risks. To ensure the enjoyment of this right, urgent environmental protection measures are required to guarantee a healthy life for present and future generations. States must implement effective policies to halt environmental pollution and reign in the economic power of corporations that produce and market pesticides.

General Comment nº 26 (2023) of the Committee on the Rights of the Child emphasizes the obligations of states to implement measures to ensure children's right to a clean, healthy, and sustainable environment—which is interrelated with several other rights, such as the right to life, survival, development, and the highest attainable standard of health—while taking into account the dangers and risks of environmental pollution. This right is violated directly when children are exposed to pesticides.

Article 225 of the Federal Constitution of 1988 establishes that "All have the right to an ecologically balanced environment, which is an asset of common use and essential to a healthy quality of life, and both the government and the community shall have the duty to defend and preserve it for present and future generations.

Article 225 and 227 of the Federal Constitution contain supplementary provisions.[46] Article 227 states that "It is the duty of the family, society, and the State to ensure children, adolescents, and young people, with absolute priority, the right to life, health, nourishment, education, leisure, professional training, culture, dignity, respect, freedom, and family and community life, as well as to guard them from all forms of negligence, discrimination, exploitation, violence, cruelty, and oppression."

Article 225 determines that it is the duty of the state to protect the environment for present and future generations. Article 227 requires this protection to be implemented as a matter of high priority when the rights of children and adolescents are at risk. Given the greater susceptibility of children to the effects of pesticides, the state has a constitutional obligation to adopt environmental protection measures aimed at preventing their exposure to protect their fundamental rights to life, health, and development.

Article 17 of the U.N. Convention on the Rights of the Child establishes that states parties shall ensure that children and adolescents have access to information that promotes their health and well-being. This includes guaranteeing that clear, accessible, and appropriate information about the risks of pesticide exposure and how to prevent it is provided, especially to children living in high-risk areas.

It is also necessary to prevent the risk of occupational exposure of children to pesticides by **combating child labour** in rural areas. Article 32 of the U.N. Convention on the Rights of the Child recognizes the right to protection from economic exploitation, child labour, and dangerous activities that could be harmful to their education, health, or physical, mental, spiritual, moral, or social development. Therefore, state parties have the obligation to adopt measures to protect children from work that involves the use of pesticides or that may result in their exposure to these substances.

Exposure to pesticides is linked to the **violation of the territorial rights of Indigenous peoples and traditional, Quilombola, and peasant communities**. These communities are affected by pesticide spraying, which pollutes the soil, water, and food. These impacts are particularly severe for children, as numerous cases documented in Brazil have shown.[47] Environmental destruction and harm to health caused by agribusiness corporations worsen when these communities lose their right to land. Traditional and Indigenous communities protect the environment, agroecology, and biodiversity and organize to defend their rights.

To protect children's rights, stronger measures to combat social and economic inequality are needed. The Federal Constitution of 1988, the Statute of Racial Equality, and the International Convention on the Elimination of All Forms of Racial Discrimination recognize the need to promote racial equality. However, the impacts of pesticides on children's health fall disproportionately on Indigenous, Quilombola (Afro-Brazilian), and peasant communities.

The concentration of land ownership is one of the main factors exacerbating social, environmental, and economic inequality in Brazil. Aerial spraying of pesticides is a major problem caused by agribusiness corporations that use large amounts of chemical inputs. These impacts affect the health of people in Brazil and violate land rights of Indigenous and peasant communities, with serious impacts related to the global climate crisis.

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[46] Criança e Natureza. (2022). O Direito das Crianças e dos Adolescentes à Natureza e a um Ambiente Saudável. Angela Barbarulo and Pedro Hartung (organizers). https://criancaenatureza.org.br/wp-content/uploads/2022/07/Legal_Policy_Brief_Natureza.pdf.

[47] RAMA, FETAEMA, and LEPENG/UFMA. (2024). *Guerra Química no Maranhão:Pulverização de Agrotóxicos Sobre Comunidades* (2024). https://www.rederama.org/_files/ugd/670ab5_e559f3ce606b4cf580ded8582f3a51fb.pdf ; Guarani Yvyrupa Commission (CGY). (April 28, 2023). *Impacts of agricultural commodity production on Avá-Guarani communities*. https://www.yvyrupa.org.br/2023/04/28/impactos-da-producao-de-commodities-agricolas-as-comunidades-ava-guarani-2023-comissao-guarani-yvyrupa/; FIAN Brasil et al. (January 2025). *Agrotóxicos e Territórios Indígenas: Subsidíos Para Uma Regulamentação Protetiva*. https://fianbrasil.org.br/wp-content/uploads/2025/04/Final-Nota-tecnica-1_2025-Agrotoxicos-e-territorios-indigenas.pdf.

Policy recommendations at the national level



Photo: Leandro Molina.

- Ban pesticides that may be harmful to health and eliminate the regulatory double standard between the legislation of Brazil and the EU. Prohibit the production, export, import, registration, sale, and use of substances that are not authorized in their countries of origin. 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.
- Prioritize the banning of pesticides that pose risks to health, especially those affecting the most vulnerable groups, such as children and pregnant women, including ones associated with neurotoxicity, endocrine disruption, carcinogenicity, and reproductive and developmental toxicity.
- Prohibit the aerial spraying of pesticides nationwide, including by drones and other aerial spraying technologies, extending protections already provided for in state legislation.[48]
- 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.
- 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.

[48] 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.

- Support the transition to ecological food production systems by implementing the Programa Nacional de Redução de Agrotóxicos (Pronara, National Programme for the Reduction of Pesticides). This includes providing funding, credit, research, technical assistance, and incentives for family farmers and Indigenous, Quilombola, and peasant communities, while valuing their knowledge about protecting biodiversity and their territories.
- Ensure healthy and sustainable school meals through programmes that give priority to the procurement of pesticide-free and organic food produced locally by family farmers. Ensure that all children have access to sufficient, healthy, and culturally appropriate food at school.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.
- Ensure that companies that manufacture and sell pesticides and the state are effectively held accountable for the harm that pesticides cause to human health and the environment by guaranteeing effective prevention and monitoring mechanisms, as well as full redress, access to justice, and compensation for the victims.
- Guarantee the right to information about the risks of pesticides for health and the environment. Publish data on pesticides used in agriculture and residue levels in food and water.
- Develop educational programmes on the risks of pesticides and sustainable alternatives for farmers, rural workers, health and education professionals, children, and adolescents. Challenge false narratives about the supposed "safe use" of pesticides, since even exposure to low doses can cause chronic and irreversible effects, especially during pregnancy and childhood.
- 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.
- Reinforce public health surveillance of populations exposed to pesticides, giving special priority to children, pregnant women, and communities in high-risk situations. Expand programmes such as Vigilância em Saúde de Populações Expostas a Agrotóxicos (VSPEA, Health Surveillance of Populations Exposed to Pesticides) to include monitoring of chronic, cumulative, and simultaneous exposure to multiple pesticides. Hold educational activities on community health regularly.
- Improve programmes that monitor pesticide residues in water and food by including criteria to protect children.
- Strengthen the notification and diagnosis of pesticide poisonings. Establish protocols to protect children, pregnant women, and other vulnerable groups.
- Ensure accessible and effective mechanisms for investigating complaints of pesticide spraying in cases of environmental pollution and harm to health.
- Protect the territories of Indigenous, Quilombola, and peasant communities by adopting measures to prohibit the spraying of pesticides in surrounding areas.
- 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



Foto: Julia Gimenez.

- 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"[49] 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.
- 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,"[50] 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.[51]
- 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,"[52] 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.

[49] European Commission. (2020). Chemicals Strategy for Sustainability Towards a Toxic-Free Environment. https://environment.ec.europa.eu/strategy/chemicals-strategy_en.
[50] European Commission. (May 20, 2020). A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0381
[51] Global Alliance on Highly Hazardous Pesticides. Available at https://www.chemicalsframework.org/page/resolution-v11-highly-hazardous-pesticides [49] European Commission. Communication accompanying the *Chemicals Strategy for Sustainability*. Disponível em: https://eur-lex.europa.eu/resource.html?uri=cellar:ea0f9f73-9ab2-11ea-9d2d-01aa75ed71a1.0001.02/DOC_1&format=PDF
[52] European Commission. (May 20, 2020). A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0381.

- 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."[53]
- Address the structural gap underlying these commitments through a 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.[54]
- Ensure that all EU trade, chemicals, and development policies are consistent with the U.N. 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 U.N. 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.[55]

[53] United Nations. (March 27, 2023). UN experts urge Parties to Rotterdam Convention to adopt amendment listing hazardous chemicals (Press release). https://www.ohchr.org/en/press-releases/2023/03/un-experts-urge-parties-rotterdam-convention-adopt-amendment-listing.

[54] SOLIDAR. (September 26, 2024). Toxic Double Standards: How Europe Sells Products Deemed Too Dangerous for Europeans to the Rest of the World. https://www.solidar.org/publications-page/briefing-paper-toxic-double-standards/.[52] UN Committee on the Rights of the Child. *General Comment No. 26 (2023) on children's rights and the environment, with a special focus on climate change*. UN Doc. CRC/C/GC/26, 22 August 2023.

[55] United Nations. (August 22, 2023). CRC/C/GC/26: General comment No. 26 (2023) on children's rights and the environment with a special focus on climate change. https://www.ohchr.org/en/documents/general-comments-and-recommendations/crccgc26-general-comment-no-26-2023-childrens-rights.



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