PESTICIDES IN LATIN AMERICA: VIOLATIONS AGAINST THE RIGHT TO ADEQUATE FOOD AND NUTRITION

2020 REGIONAL REPORT

FIAN BRASIL

EXIGIR DIREITOS, ALIMENTAR A VIDA

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Pesticides in Latin America: Violations against the right to adequate food and nutrition. The 2020 Regional Report has been carried out by FIAN Brasil in partnership with FIAN Colombia and in collaboration with the other FIAN sections and groups in Paraguay, Ecuador, Honduras, Guatemala, Mexico and Haiti.

Editors
Valéria Torres Amaral Burity
Juan Morales González

Authors
Leonardo Melgarejo
Juan Carlos Morales González
Valéria Torres Amaral Burity
Lucas Alegretti Prates
Nayara Côrtes Rocha

Copy editing
Julia May

Translated from Portuguese and Spanish into English
Pedro Branco

Proofreading
FIAN Brasil

Proyecto gráfico y diagramación
CASAVERMELHA COMUNICAÇÃO CRIATIVA

FIAN Brasil – Organization for the Human Right to Adequate Food and Nutrition.

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Human rights advisors: Nayara Côrtes Rocha, Paulo Asafe C. Spínola

fianbrasil.org.br
facebook.com/FianNoBrasil
youtube.com/FianBrasil
+55 61 3224.0454 / fian@fianbrasil.org.br
Adress: SCLN 413, Bloco A, Salas 219/220, Brasília (DF)

Summary

Acronyms

AAI International Agricultural Alliance
Abia Brazilian Food Industry Association
Abrasco Brazilian Association of Public Health
Adin Direct action of unconstitutionality
Agrocalidad Ecuadorian Agro Quality Assurance Agency
AHCC Honduran Alliance against Climate Change
Anvisa National Health Surveillance Agency
ASECSA Community Health Services Association
ASOSEPRODI Association Services for Development and Research Programs
ASTAC Union of Agricultural Workers and Peasants
ATX Pesticides
BHC Hexachlorobenzene
BNDES National Bank for Economic and Social Development
CESCR Committee on Economic, Social and Cultural Rights
CF Federal Constitution
CICOPLAFEST Commission for the Control of Production and Use of Pesticides, Fertilizers and Toxic Substances
CIDH Inter-American Commission on Human Rights
CIF Interinstitutional Committee against Fumigations
CODEHUPY Paraguay Human Rights Coordination
COFEPRIS Federal Commission for the Protection against Sanitary Risks
CONDRAF National Council for Sustainable Rural Development
CONGCOOP Coordination of NGOs and Cooperatives
CONROA National Coalition of Environmental Networks and Organizations
CONSEA National Council for Food and Nutritional Security
CPT Pastoral Land Commission
CTNBio National Technical Commission on Biosafety
DDT Dichlorodiphenyltrichloroethane
DDV Plant Defense Department
DISE Direction of Seeds
EC Constitutional amendment
ETNs Transnational companies
FAO United Nations Food and Agriculture Organization
FARC Revolutionary Armed Forces of Colombia
FBSSAN Brazilian Forum on Food and Nutritional Sovereignty and Security
Fiocruz Oswaldo Cruz Foundation
FNC National Peasant Federation
FPA Parliamentary Front of Agriculture
FPAS Joint Parliamentary Front for Food and Health
GM Genetically modified
GMO Genetically modified organism
GO Goiás (Brazilian state)
HCB Hexachlorobenzene
HCH Hexachlorocyclohexane
HHP Highly Hazardous pesticide
IARC International Agency for Research on Cancer
IBAMA Brazilian Institute for the Environment and Renewable Natural Resources
IBGE Brazilian Institute of Geography and Statistics
ICA Colombian Agriculture and Livestock Institute
ICESCR International Covenant on Economic, Social and Cultural Rights
ICMBio Chico Mendes Institute for Biodiversity Conservation
ICMS Tax on Circulation of Goods and Services
IDEAR Institute of Agricultural and Rural Studies of Guatemala
IICA Inter-American Institute for Cooperation on Agriculture
ILO International Labor Organization
INCA National Cancer Institute
INCRA National Institute of Colonization and Agrarian Reform
INEN Ecuadorian Institute for Standardization / normalization

INIAP National Institute for Agricultural and Livestock Research
INS National Health Institute
ISAAA International Service for the Acquisition of Agri-biotech Applications
LMR Maximum residue limit
LOA Annual Budgetary Law
Losan Organic Law on Food and Nutrition Security
MAG Ministry of Agriculture and Livestock
Mapa Ministry of Agriculture, Livestock and Supply
MARNDR Ministry of Agriculture, Natural Resources and Rural Development
Massvida Southern Environmental and Social Movement for Life
MCC Citizen Science Movement
MMA Ministry of the Environment
MP Provisional measure
MS Mato Grosso do Sul (Brazilian state)
MS Ministry of Health
MT Mato Grosso (Brazilian state)
NGOs Non-governmental organizations
OAS Organization of American States
OECD Organization for Economic Cooperation and Development
Ofat Cotton and Tobacco Inspection Bureau
PAHO Pan American Health Organization
Para Program for Analysis of Pesticide Residue in Food
PEC Proposed amendment to the Constitution
PIB Gross Domestic Product
PITPPA National Project for Participatory Technological Innovation and Agricultural Productivity
PL Bill (legislative)
Pleapo State Plan for Agroecology and Organic Production
Pnae National School Feeding Program
Pnapo National Policy on Agroecology and Organic Production
Pnara National Pesticide Reduction Policy
POPs Persistent organic pollutants
Pronaf National Program for Strengthening Family Farming
Pronara National Pesticide Reduction Program
PTSM Pastoral of the Land of the Diocese of San Marcos
RAP-AL Network for Pesticide Action and its Alternatives for Latin America
Resepag Strengthening Public Agricultural Services
RS Rio Grande do Sul (Brazilian state)
RTF Human right to adequate food and nutrition
SDG Sustainable Development Goals
Seam Secretariat for the Environment
Senase National Service for Agri-food Health and Safety
Senave National Service for Quality and Vegetable and Seed Health
Sinan Notifiable Diseases Information System
Sindiveg National Union of Plant Protection Products Industry
Sisan National Food and Nutritional Security System
SNVS National Health Surveillance System
SAN Food and nutrition security
SSAN Food and nutritional sovereignty and security
UCCSNAL Union of Scientists Committed to Society and Nature in Latin America
UGP Union of Production Guilds
UN United Nations
WFP World Food Program
WHO World Health Organization

INTRODUCTION

The idea for this document arose during a regional meeting, in Quito, Ecuador, of the FIAN's sections, coordinations and groups in Brazil, Paraguay, Colombia, Ecuador, Honduras, Guatemala, Mexico and Haiti.

At the meeting, the rise in human rights violations by companies was discussed, and foreign capital associated with the agribusiness in the violation of these rights was brought to the fore. Encouraging commercialisation and the excessive use of pesticides is a common practice of the agribusiness in the region, and this has compromised the human right to food and nutrition in all of these countries. From this came the common effort of the above organisations to carry out this report.

The first chapter addresses the central issue of the document. It defines the Human Right to Adequate Food and Nutrition (the RtF) and determines how the use of pesticides violates this right. In this chapter, the FIAN Brazil Team presents the concept of the RtF, addressing its different components: availability; accessibility; adequacy; sustainability; food sovereignty; nutritional aspects/capabilities and, finally, structural elements of gender and race/ethnicity. Furthermore, the team points out how each of these areas undergo violations due to the use of pesticides in general terms.

The second chapter, written by Leonardo Melgarejo, with the contribution of the eight countries involved in this report, provides a case by case comprehensive, technical and political analysis of the data that demonstrates the use and commercialisation of pesticides in each of the participating countries. It alerts to an increase, driven by the advance of monocultures such as soy, sugar cane, corn, palm, cotton and eucalyptus. Based on data and specialised literature, Melgarejo exposes the causes and impacts of the expansion of the use of pesticides. The consequence of this expansion is the increasing appropriation of the dynamics of representative democracy by large corperations, generating a vicious cycle, the result of which is the violation of rights.

Based on these findings, Juan Carlos Morales González writes the third and final chapter, focusing on the RtF violations generated by the use of pesticides. The State's difficulties in dealing with the agribusiness and its inability to propose a new agrifood model are highlighted. Here, the author consistently highlights the international regulations the States agreed upon and shows how they have failed to fulfil their obligations, which are to respect, protect and carry out the RtF. Finally, recommendations are made for how States could prevent pesticides from continuing to restrict this right.

We are aware that this report brings worrying diagnoses. However, we also believe, due to scientific evidence, local expressions and legal bases, that we can fight harder, gathering and determining efforts to reverse this situation. Therefore, we hope that this document will be more than an informative document. We hope it will be useful in supporting the struggle against the commercialisation of pesticides in Latin America and the Caribbean, implementing the idea that we need more rights and less poison in our lives.

We hope you enjoy reading this report.

CHAPTER 1 WE HOPE YOU ENJOY READING THIS REPORT.

Valéria Torres Amaral Burity (FIAN Brasil)
Lucas Alegretti Prates (FIAN Brasil)
Nayara Côrtes Rocha (FIAN Brasil)

What is the Human Right to Adequate Food and Nutrition (the RtF) and how does the use of pesticides violate this right?

The concept of the Human Right to Food has been polished in recent decades, both within society and the scope of international human rights organisations. An important milestone in this evolution is General Comment No.12, a document created by the Economic, Social and Cultural Rights Committee of the United Nations (UN). It interprets article 11 of the International Covenant on Economic, Social and Cultural Rights (Icescr) and defines this right, mentioning other aspects related to the RtF such as State obligations and strategies for its implementation (UN, 1999).

Another fundamental and more recent milestone occurred in 2014, in the final report of the former UN Special Rapporteur on the Right to Food, Olivier De Schutter, where the right was defined as the following:

> *The right to food is the right of every individual, alone or in a group, to access both physically and economically, on a permanent basis, sufficient, adequate and culturally acceptable food, produced and consumed in a sustainable manner, preserving access to food for future generations (De SCHUTTER, 2014, p. 4).*

In this report, we use the term Human Right to Adequate Food and Nutrition to clarify the relationship of this right with its nutritional element and also with other topics such as gender equality, race/ethnicity and food sovereignty, as we shall see below.

Even in cases where there is consensus on food being a right, there is no consensus on how this right should be interpreted and guaranteed. Therefore, to take on the banner of adequate food and nutrition as a human right is to adopt a political stance on how this right should be implemented.

There are two aspects of **the RtF**, which should be considered: the right freedom from hunger and the right to adequate food and nutrition. Although hunger is a determinant of several diseases and is responsible for the death of millions of people worldwide, the RtF is not merely restricted to a biological condition. Thus, in addition to determining the quantity and quality of food, one must speak of the second aspect in relation to the entire food process: production and access to goods and productive resources, transformation, commercialisation, stock, consumption and, finally, the use of food by those who consume it.

Thus, the RtF is widely understood and can not be reduced to merely not starving. It is also necessary that the entire food process (the whole set of social, economic and cultural processes that involve food) allows for the promotion of human dignity.

To effectively guarantee the RtF, the entire food process must be socially and environmentally sustainable, and its purpose must be to guarantee, for the entire population, the consumption, by its own means and in an emancipatory way, of adequate, healthy, nutritious and culturally acceptable food, without discrimination due to race, ethnicity, gender, generation, or because of economic and social issues.

Based on these assumptions, the **fundamental elements of the RtF** are:

1. **Availability;**
2. **Accessibility;**
3. **Adequacy;**
4. **Sustainability;**
5. **Food Sovereignty;**
6. **Nutritional Aspect/Capabilities;**
7. **Structural elements of gender and race/ethnicity.**

This perspective on the RtF is a parameter for assessing the different dimensions of violations caused by the use of pesticides. Below we will analyse concrete examples of human rights violations through the use of pesticides, from the perspective of each of the aforementioned elements.

1. Availability

Availability refers to the need for adequate and healthy food to be available to the population in a stable and permanent manner. In other words, food needs to be produced and put into circulation. To do so, it is necessary to put the conditions for producing and/or harvesting food in place, as well as for effecting "efficient distribution, processing and sale systems that can transport food from its origin to where it is needed, according to demand." (UN, 1999)
Therefore, in order for food to be available, it is also necessary to have land, seeds, water and other inputs available to those who produce food in a healthy way (farmers/family members, indigenous traditional peoples and communities, for example). Bearing that in mind, it is possible to see how the use of pesticides prevents the availability not only of healthy food, but also of the necessary inputs for its production. To that end, it is important to highlight the process of contamination of productive soils.

The earth is a living organism, and it is this life that feeds the plants and makes the soil fertile. Agribusiness, however, treats the land as a simple physical support for planting its pesticide-dependent transgenic seeds. The impact of pesticides is harmful to the land because, in addition to killing the soil, pesticides also eliminate *indicator plants and animals,* which, in another system, such as agroecology,

would serve to demonstrate the weaknesses to be observed in each productive land space. The more pesticides are used in the soil, the weaker it becomes, which means that larger amounts of pesticides and fertilisers are used to control the so-called "pests," and to feed the plants that can no longer thrive off the land. This logic creates and maintains a vicious cycle of pesticide and fertilizer use.

In addition, **the accumulation of more and more land by the agribusiness** fundamentally impacts this first aspect of the RtF. This is because the accumulation of land in the hands of a few people or companies expels peasants, indigenous people, *quilombolas* and other traditional populations from their ancestral territories in order to transform these territories into areas of monocultural production for the agribusiness.

According to the United Nations' Food and Agriculture Organisation (FAO), Latin America and the Caribbean is the region with the most unequal land distribution on the planet: the Gini coefficient, which measures inequality applied to land distribution in the region as a whole, registered 0.79, well above Europe (0.57), Africa (0.56) and Asia (0.55). The organisation also states that land concentration has increased and that the recognition of land ownership rights and their distribution is a necessary step in eradicating hunger in the world (FAO, 2017).

The impact of pesticides on water also negatively affects the availability of quality food for the population as, without quality water, it is not possible to produce food. For example, when the pesticides are sprayed, regardless of the method used (e.g. aerial, mechanised land or coastal), part of the poison will always evaporate and another part will penetrate the soil, ending up in groundwaters. Thus, not only surface water is contaminated by pesticides, but also underground water, which in turn impacts food production.

This same problem occurs with regard to water directly available for human consumption. For example, in 2019 an investigation carried out in Brazil using official data from the Ministry of Health identified a cocktail of different pesticides in the water of one in every four cities in the country between 2014 and 2017. Although almost half of the municipalities did not carry out the analysis, 1,396 municipalities detected all 27 pesticides that by law, are required to be tested. In fact, 27 is a low number since there are more than 470 types of pesticides registered in Brazil, most often used in combination, leaving the population exposed to a poisonous cocktail (ARANHA e ROCHA, 2019).

One must take into account, therefore, that the established parameters for water potability are not able to determine the real exposure to which people are subject in Brazil. In the other countries participating in this report, the analysis was not even carried out frequently.

Water contamination by pesticides is identified as a problem in Colombia, Ecuador, Mexico and Paraguay and, even though it is the result of the inappropriate

use of pesticides, it is usually accompanied by a lack of inspection and analysis of water quality, in a double violation of rights, which includes the lack of information and the lack of quality water for consumption and various other fundamental needs, such as agriculture, food, hygiene, etc. There are also reports of the contamination of rivers, groundwater and aquifers, which cause imbalance in the entire ecosystem on which human life depends. The populations of these countries are at risk of contamination through simple contact, either for use or consumption, with one of nature's most important elements: water.

2. Accessibility

If we consider that the world currently produces twice as much food as is needed to feed its entire population and yet there are about 820 million people affected by hunger, (meaning they do not have access to food), then the existence of food is not the main issue. In addition to food existing, it must also be accessible.

Food must be available to the population both physically and economically. *Physical accessibility* means that food must be accessible to all people, including individuals in vulnerable physical situations, such as children, the elderly, people with disabilities, the terminally ill and people with health problems and who need special food. *Economic accessibility,* in turn, means that there must be access to the resources necessary to obtain adequate and healthy food, either through purchase, production or donation (where it is not possible to produce or purchase). The effects of pesticides on the access to adequate food and nutrition are dire. Although industry and the agribusiness in general may argue that pesticides make it possible to produce more food and end hunger, this is a lie. The increase in food production does translate to greater access.

The use of pesticides is part of a larger trend - the Green Revolution[1]. It tends to demand more resources from farmers and, ultimately, excludes those who do not have these resources from agriculture, while maintaining the predominance of large-scale monoculture *commodities*, which do not serve as food for the people.

The pressure to use pesticides, and the prevailing belief that they are needed for agricultural production as well as the lack of support for production without pesticides, means that they are also widely used when cultivating food for human consumption.

Thus, structural conditions are created for hunger and malnutrition to prevail in Latin American societies, and also for a good part of the food that reaches people's tables to be contaminated by pesticides.

1 The Green Revolution was a set of technological initiatives that transformed world agricultural production, starting in the 1940s, making it dependent on the use of agricultural inputs such as pesticides, fertilisers, chemical fertilisers, genetically modified seeds (sometimes infertile) as well as irrigation and mechanisation. Under the pretext of increasing food production to end hunger and driven by monoculture and high economic and technological concentration, the Green Revolution never solved the problem of hunger, while it produced more hunger and misery in rural areas by expelling peasant families from their lands. In addition, it hurt the food sovereignty of several countries where food production came to depend on a few companies that supply agricultural inputs.

3. Adequacy

The concept of adequacy consists of a number of elements: an individual's dietary needs, the absence of adverse substances, cultural acceptability and the right to information. The term *dietary needs* relates to the need for an individual's diet to be in accordance with his or her physiological needs at each specific stage of life (UN, 1999).

The *absence of adverse substances* refers to the fact that food should not contain adverse substances that are harmful to health. To that end, the regulatory role of the State is essential in preventing the consumption of food that contains toxic substances - pollutants resulting from agricultural and industrial processes, residues of veterinary drugs, growth promoters and hormones, among others. Generally speaking, the use of pesticides implies, in practice, the contamination of food, also violating this aspect of the RtF.

Regarding *cultural acceptability*, food, in the context of the human right to adequate food and nutrition, must contain values associated with food preparation and consumption. Here, the focus is food itself. Not only its nutritional value but its value as a symbol of beliefs, ideals and identities.

The use of pesticides and the context of their use often affects the traditional ways of producing and consuming food of native peoples or of those who have historically settled in a certain region. This is the case of foods traditionally produced or spontaneously generated on the land, which made up the traditional diet of indigenous and traditional peoples, communities and peasants, and which have disappeared with the increase in the use of pesticides in recent years. Ultimately, a loss of biodiversity is also a loss of cultures and traditions.

Finally, the *right to information* means that the consumer must know what their food is made up of and where it comes from, information that is almost always denied, especially regarding the number and types of pesticides used in fresh foods such as fruits and vegetables.

4. Sustainability

The agrifood system (the way food is produced, distributed and consumed) must be economically and environmentally sustainable. From the point of view of **environmental sustainability,** it is necessary to highlight that pesticides contaminate the entire environment, which includes not only soil and water, as previously analysed, but also the existing wildlife.

The effect on bee populations is noteworthy, as they have been systematically wiped out worldwide by the use of pesticides. Bee mortality is extremely worrying, as it can drastically affect production systems and the environment as a whole. After all, of the world's 57 largest crops in terms of production volume, 42% are pollinated by at least one species of native bee, and it is estimated that

90% of flowering plants depend on animal pollination (YAMAMOTO, 2009). An article published in the international magazine *Apidologie* identified 250 species of pollinating animals in 75 agricultural crops in Brazil, 87% of which were bees. Still, if bees are dying from poisoning, it is likely that honey also contains pesticide residues, which is again a violation of the right to access quality food.

In the accounts from countries participating in this Report, violation of the environmental sustainability aspect of the right to food is especially present. This is because the contamination of the ecosystem is a more direct and visible consequence of the use of pesticides, especially if it is indiscriminate and unregulated, as described in most cases.

We can highlight at least two central reasons for this, one being the toxic nature of the substances in question and the second being the role of the countries analysed in this context, which have as their backdrop the logic of the international food trade. The toxic nature of pesticides, whose objective is to exterminate beings that are not suitable for the market production of food but which are part of the natural ecosystem, causes an ecological imbalance in itself because such toxicity is not specific. It affects many other beings. However, for commercial logic, such an imbalance is not of great importance since the primary focus is profit.

The other reason comes from the fact that the countries analysed are part of a periphery of capitalism whose attribution in this scenario is to produce large-scale *commodities* for export. This causes productivity to prevail over the health of workers and consumers, land, water or the balance of the ecosystem where these "goods" are produced. It also enables, for example, pesticides banned in Europe to be allowed in Brazil.

A striking example of this logic is Paraguay, which, despite being a country of small dimensions, occupies the 6th global position among producers of transgenic grains, which is strictly related to the increase in the use of pesticides, as will be described later. In this country, 90% of cultivable areas are used for export, while 70% of food for human consumption is imported. The increase in the last years of the contamination of the environment and of diseases related to the use of pesticides has not mobilised an effective inspection of the use of pesticides by the public power. Even with robust legislation for the use of pesticides, there is no control or inspection of their execution, nor are there systems for monitoring water contamination, for example.

From the perspective of **economic sustainability**, in addition to the points already mentioned, which relate to production costs for pesticides and the disruption of farming practices of family groups, indigenous and traditional peoples and communities and the consequent forced eviction from their territories they face, undermining their livelihoods and traditional ways of life, we also highlight the issue of **tax and financial exemption**. To give a concrete example, in Brazil, while the population pays a large amount of direct and indirect taxes, pesticide

companies and the poison itself are exempt of 60% of the Tax on Circulation of Goods and Services (ICMS). In addition, pesticides are completely exempt from the Tax on Industrialized Products (IPI).

The result of these disastrous actions by the Brazilian State is that the damage caused by the contamination by pesticides is paid for by society as a whole. A very striking example to illustrate this is the study published by economist Wagner Soares (IBGE, 2013), who showed, in his research, that, for every USD 1 (one dollar) spent on the purchase of pesticides in the state of Paraná, the Unified Health System (SUS) spends USD 1.28 (one dollar and 28 cents) on expenses related to acute poisoning. In other words, companies profit from the sale of pesticides and the population, through taxes collected by the State, is economically responsible for solving part of the problems resulting from the use of pesticides. We say "part" of the problems because, in this case, the researcher identified only the expenses with acute intoxications, which means to the chronic ones, which are a huge problem, were not the object of the study, which means the expenses are undoubtedly even greater.

Although we do not have access to specific data on tax exemption in the other countries analysed, information on damage and economic unsustainability is abundant, both with regard to the expulsion of farmers and traditional peoples and communities from their territories, generating poverty and rural misery, and with regard to the presence of representatives of pesticide companies within national governments, lobbying for the use of these products. This implies the use of economic and political power to increase pressure for adopting pesticides despite their unsustainability for many socially and economically vulnerable groups.

5. Food Sovereignty

The right to food sovereignty is systematically violated by the agribusiness model, especially when dealing with the process of dependence that pesticides create in the production system so that, in order to produce food, the purchase of poisons, fertilisers, and hybrid or transgenic seeds becomes a requirement, which takes away power and autonomy in the production of quality food from peasant families and traditional peoples and communities. The people's food autonomy is thus lost.

The use of pesticides illustrates this loss: the great leap in the application of these poisons occurred with the Green Revolution. Since then, it has become very common for farmers around the world to, in practice, be forced to buy certain "technological packages" from large companies in the industry in order to produce food. This is because the countries' central governments have started to offer large subsidies to each agribusiness sub-industry. Thus, a food production model was forced on farmers, who lost the power to determine how food would be produced (with or without certain substances or inputs, such as pesticides) because the model imposed by the agribusiness has come to be forcibly sold as the only economically viable one.

The consequences of the predominance of the agribusiness, in turn, increasingly cause loss of food sovereignty. According to the Right to Food and Nutrition Watch, in the 08/2016 edition of the publication "Keeping seeds in people's hands" (published by FIAN in partnership with several other organizations), throughout the 20th century, about 75% of the world's plant genetic diversity was lost as peasants were forced to abandon their local varieties and breeds, which were replaced by genetically uniform and supposedly high-yielding varieties. This process generates a worldwide loss of six cattle breeds each month, so that 30% of cattle breeds are at risk of extinction. Another frightening piece of information is that, in 1999, 75% of food consumed in the world was generated by only 12 types of plants and 5 species of animals. Therefore, the process of violation of the right of the population to control productive resources to guarantee the food process is visible, so that the risk of people completely losing their food and nutritional sovereignty and autonomy to large food and nutrition companies and agribusiness is increasing every day.

6. Nutritional Aspect/Capabilities

The nutritional aspect refers not only to the nutrients that we need to ingest every day, but to everything that adequate nutrition enables human beings to do or be. Currently, the big nutrition companies have taken on the debate around the topic to argue that they can ensure good nutrition for all people in the world and that nutrition is merely a matter of having the nutrients. In view of this, we seek to re-politicise this debate: contrary to the discourse put forward by companies, only an agri-food system that respects the RtF in all its elements can put the possibilities of life (capabilities) of human beings (how to grow, learn, socialize, work, etc) into effect.

To that end, the use of pesticides prevents carrying out these possibilities of life by, for example, causing illness among workers who administer poison, as well as, ultimately, among people who consume food grown with these poisons.

The underreporting of contamination by pesticides worldwide is recognised by the World Health Organization itself (WHO, 1990). In Brazil, to give an example, the Ministry of Health estimates that, for each notified pesticide poisoning case, 50 other poisoning cases were not reported/registered in official systems, so that the actual number of pesticide poisonings is always far greater than what is disclosed (PERES, 1999). This data makes it clear, therefore, that pesticides prevent the well-being of the population as a whole by causing intoxications, as well as chronic diseases.

Information on intoxication and high rates of illnesses related to the use of pesticides, as well as the absence of reporting spaces for these cases, is quite numerous in practically all countries that have participated in this report.

7. Structural elements of gender and race/ethnicity

Tackling the three major factors of social inequality (class, gender and race) is essential for the implementation of the right to food. In the case of pesticides, along the chain of use and consumption of these products, these are the three factors that most determine who will be contaminated in the short or medium term.

With regard to gender, we refer to the inequalities and violations of rights that occur when women are discriminated against simply because they are women. In this sense, women are affected by contamination with pesticides either by direct intoxication or by indirect exposure and are still generally responsible for the health care of the whole family when a family member becomes ill.

In areas of intense application of pesticides, women are usually affected by these, in addition to the diseases common to all people, which are themselves the cause of great suffering due to specific health damage to the physiology of their bodies, such as spontaneous abortions, the generation of fetuses with malformation and the contamination of breast milk (STOPPELLI and MAGALHÃES, 2005; PALMA, 2011). These health outcomes cause, in addition to physical suffering and intense psychological suffering related, among other factors, to the social role assigned to this gender in society.

When talking about pesticides, many other types of material inequalities and examples of discrimination that affect the right to food can be mentioned. Within the working class, for example, it is notable that the most direct and serious consequences of contamination by pesticides occurs with rural workers who apply such products, as they are in direct contact with such substances – be it during their application, when preparing for it or when washing equipment and containers afterwards.

Economic (social class) inequalities are also noticeable at various stages in the food process, including consumption. It is notable that, unfortunately, consuming products without pesticides (that is, organic and/or agro-ecological products) is still a privilege, largely due to the higher prices charged for such foods in supermarkets and even at street fairs. It is true that this higher price is due to a number of reasons that we cannot analyse here but this situation is sufficient to demonstrate that, in fact, wealthy people can choose better quality food (and, therefore, without pesticides) and pay more for it. Thus, the burden of consuming food full of pesticides befalls the poor majority of the population.

Across Latin America and the Caribbean, the history of European colonisation and exploitation has produced economic and social scars on the populations of these countries that still resonate today in deep economic and social inequalities between different ethnic groups. It is worth noting that the agribusiness is predominantly an activity developed by wealthy white men, while family farming, in turn, tends to be non-white, with a different ethnic composition among the

countries of this continent. Due to this general profile, it is possible to infer that an important part of the populations most affected by these poisons are the non-white working populations of rural areas, traditional peoples and communities and indigenous peoples. They are also the groups most affected by the lack of guarantee of their territories, lack of conditions to produce and consume food respecting their traditional form and lack of access to other indivisible rights linked to the human right to adequate food and nutrition.

Throughout this report, it is possible to notice numerous violations of human rights and, in particular, of the human right to adequate food and nutrition in its different dimensions. From a broad perspective, it is possible that both the distribution of land and the predominant rural production model in the countries of central capitalism are very different from those of the countries analysed here. In a somewhat simplistic way, although it does not seem unwarranted, it is possible to reflect that, on the periphery of capitalism, human rights occupy a different place from that which they occupy in the countries at the center of the capitalist system. The role of most states in Latin America in favoring the production of commodities (in any case) seems to outweigh their role in protecting the human rights of the populations of these countries. Such an inference is possible if we consider all the effort and resources directed towards promoting the use of poison packs in comparison to the immense omission regarding the inspection and monitoring of these products, highly toxic to humans and nature. Even worse is the neglect of these States when the populations and nature, affected by the unbridled use of these substances, need repair. In some cases, whistleblowers are even denounced, which is, again, an overlap of violations of human rights to health, to food, to a balanced environment, to information, to claiming their rights, etc.

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CHAPTER 2 PESTICIDES AND HUMAN RIGHTS

Leonardo Melgarejo (Movimento Ciência Cidadã)

INTRODUCTION

In this report, we examine the use and marketing of pesticides and their impacts on human rights (HRs) in Latin American countries where FIAN's sections, coordinations or groups are present: Brazil, Colombia, Ecuador, Guatemala, Haiti, Honduras, Mexico and Paraguay. The information was obtained from specialised literature and from an information bank made available by representatives of the entity in the various countries considered. The Brazilian case was adopted as a detailed reference because the country is experiencing the most well-documented and radical changes in terms of the volume of pesticides and of their impacts on human rights. Highlights include changes in social contracts and legislative agendas to hide the damage and facilitate the use of pesticides, which tend to extend to other countries.

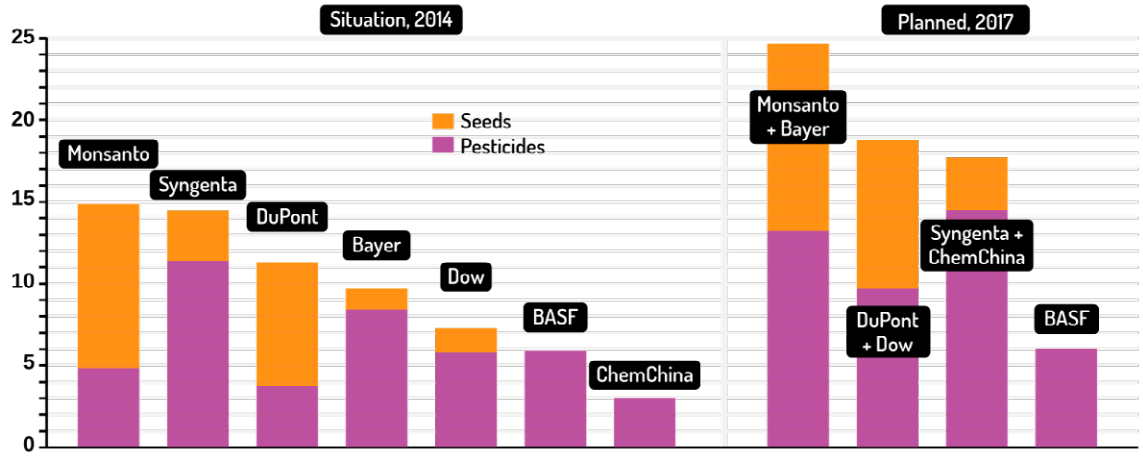
FAO data allows correlation between the registered usage volumes and the types of products to establish the hypothesis that the transformations in progress are similar throughout Latin America, requiring the edification of partnership networks and of multilateral articulations in defense of development and of human dignity.

This hypothesis is supported by the work of Villagra (2012) who, examining the role of the markets related to agribusiness, unmasks the mechanism that hides the actors whose actions and interests determine what has been happening in the southern territories. Designated as commodity producing areas and structurally altered for this purpose, they suffer ruptures of historical and socio-cultural ties, promoting irrational models of nature exploitation. The hypothesis is corroborated by studies by Pignati et al. (2014; 2017), Naranjo Márquez (2015), Bombardi (2017), Bejarano González (2017) and Souza and Folgado (2018), among other authors.

In these and other references suggested throughout the text, evidence can be obtained, all of which related to HRs, in terms of displacement of populations; criminalisation of social
movements; changes in land access and use legislation; and the promotion of policies to support transgenic crops and associated pesticides, with credit facilitation, debt rollovers, tax exemptions and concealment of damage to the health of the people and the life necessary for soil fertility and water quality.

This is the globalisation of markets, in which GM crops expand and allow companies that have control over seeds and pesticides to expand their power and profitability. The agglutination movement (SANTOS; GLASS, 2018), facing the sovereignty of nations, allows four conglomerates to control global agricultural production and GDP.

Figure 1. Participation of pesticides in the profits of companies that control the transgenic seeds and pesticides associated with them (in USD billion, 2014).



Source: Santos; Glass (eds.), 2018.

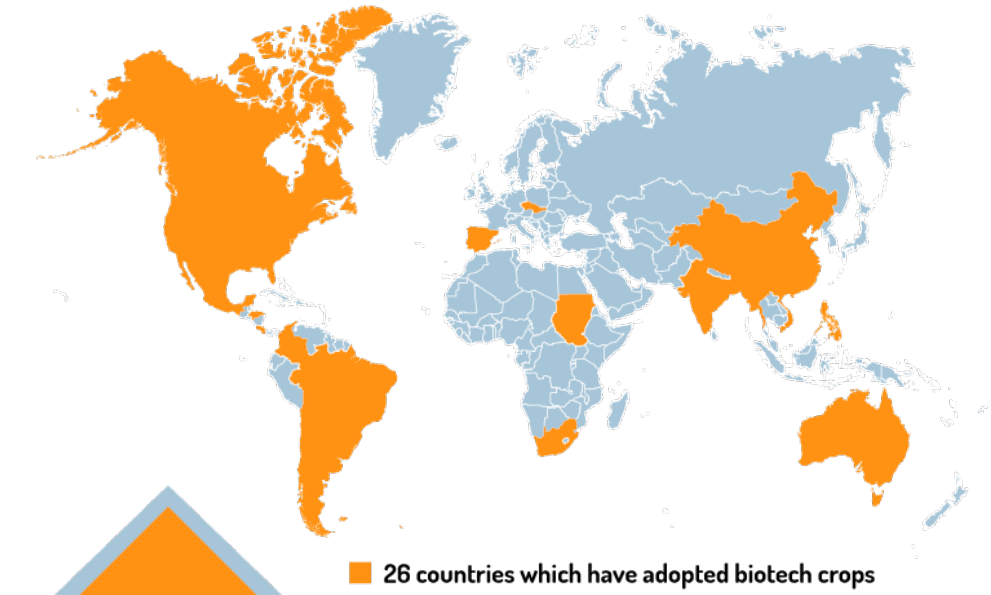
In Brazil, legislative changes aim at facilitating the expansion of the agribusiness and the use of agrochemicals, which imply the alienation of land (PL 4.059/2012 and PL 229/2007), the displacement of indigenous peoples and traditional communities (MP 870/2019 [1]), and making the pesticides law more flexible (MP 6.299/2002 [2]), which accelerates the release of genetically modified organisms (GMOs), without risk analysis (RN 16, 2018, CTNBio [3]) and criminalizes farmers, environmentalists and their leaders (PL 9.604/2018). There are also legal propositions, which point to property rights over seeds and seedlings typical of family farming (PLs 2,325/97 and 827/2017), as well as a clear favoring of agribusiness interests on the Ministry of the Environment's agenda [4]. These themes are repeated in all Latin American countries where the advance of pesticides is associated with the expansion of transgenic crops in general, and of soybeans in particular, with acceleration in the use of glyphosate-based herbicides.

Dramatic impacts on human rights related to the use of pesticides follow the trail of transgenic crops dominated by a few transnationals that control the technological packages of GM seeds. The simplification of eating habits, the destruction of cultural practices and the knowledge and impacts on health and the environment are concentrated in countries that export commodities (basically soy, corn, cotton and rapeseed) dominated by those transnationals. It is worth remembering the almost total absence of transgenic crops in Europe [5] and the fact that the main importer, China, occupies the seventh position among growers, sowing an area inferior to that which is cultivated in Paraguay (Figure 2).

1. http://www.in.gov.br/materia/-/asset_publisher/Kujrw0TZC2Mb/content/id/57510830
2. http://www.ihu.unisinos.br/578667-mpf-aponta-serie-de-inconstitucionalidades-no-pacote-do-veneno ; http://www.ihu.unisinos.br/572525 ; https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=46249
3. http://www.lex.com.br/legis_27603963_RESOLUCAO_NORMATIVA_N_16_DE_15_DE_JANEIRO_DE_2018.aspx
4. https://www.redebrasilatual.com.br/ambiente/2019/01/agenda-do-ministerio-do-meio-ambiente-nao-tem-espaco-para-ambientalistas
5. Of the 27 members of the European Union (EU), only four countries maintain GM crops, which are restricted to a variety of maize, MON 810. Spain (94.6%) and Portugal (5.2%) account for almost the entire area occupied by those crops (ISAAA, 2016, p. 74).

Most of the Highly Hazardous Pesticides (HHPs) produced in Europe and applied in Latin America are not allowed to be used on that continent. They are transferred to countries where concern for human rights is subordinate to economic interests.

Figure 2. Distribution of the area cultivated with GMOs, 2016.



26 countries which have adopted biotech crops

3% increase from 2015

In 2016, global area of biotech crops was 185.1 million hectares, representing an increase of 3% from 2015, equivalent to 5,4 million hectares.

50,000 hectares, or more	
1. USA	72,9 million
2. Brazil*	49,1 million
3. Argentina*	23,8 million
4. Canada	11,6 million
5. India*	10,8 million
6. Paraguay*	3,6 million
7. Pakistan*	2,9 million
8. China*	2,8 million
9. South Africa*	2,7 million
10. Uruguay*	1,3 million
11. Bolivia*	1,2 million
12. Australia	0,9 million
13. Philippines*	0,8 million
14. Myanmar*	0,3 million
15. Spain	0,1 million
16. Sudan*	0,1 million
17. Mexico*	0,1 million
18. Colombia*	0,1 million

Less than 50,000 hectares	
Vietnam*	Bangladesh*
Honduras*	Costa Rica*
Chile*	Slovakia
Portugal	Czech Republic

* Developing countries

Source: ISAAA, 2016, p. 14.

Pesticides and their impacts: The Brazilian case

The growth of transgenic corn, cotton and soybean crops disproportionately drives the trade of pesticides in Brazil, which currently exceeds 1 million tons/year [6]. The Brazilian Institute of Geography and Statistics (IBGE, 2015) shows that the regions interpreted as richer and more vigorous, from the agribusiness perspective, are exactly those that are most subject to health problems and environmental degradation. In the states of São Paulo, Mato Grosso and Goiás, the average use of pesticides ranges from 7 to 10 kilograms (kg) per cultivated hectare (ha) (2009-2012, underestimated data), surpassing these rates in the regions with the highest productivity. Class III (dangerous product) and II (very dangerous) poisons accounted for 64.1% and 27.7%, respectively, of the total sold in these environments. This categorisation was revised by Anvisa in 2019 [7], establishing priority to criteria of mortality due to acute intoxication. As a result, about 400 pesticides have moved from high or extreme toxicity to low, which will increase risks to human and environmental health.

New generations of transgenic plants have tolerance to multiple extremely dangerous herbicides (class I), such as dicamba and 2,4-D [8]. This situation, aggravated by the accumulation of varieties that are tolerant to various herbicides, indicates a tendency of expansion in the use of mixtures of active ingredients, generating poisonous syrups with synergistic effects (VASCONCELOS et al, 2017), about whose toxicity there is no consolidated scientific information [9] [10].

There is a wide range of circumstances involving acute and chronic poisoning of workers and inhabitants of rural and urban areas, including babies (BOMBARDI, 2017). The documented cases show aerial spraying over rural schools and indigenous villages, as well as over access routes and water supply locations, among other cases (LONDRES, 2011).

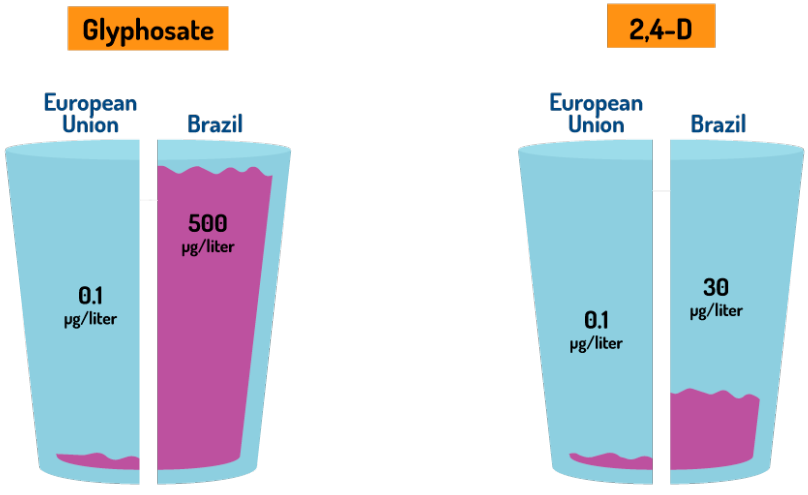
In May 2019, pesticides dumped near the village led to the hospitalisation of children and adolescents, and to the death of animals, at the indigenous school in the village Guyraroka, in Mato Grosso do Sul [11]. The situation seconds previous cases, which occurred in 2006, when aerial spraying with paraquat (see LONDRES, 2011, p. 83) caused acute poisoning in children and the elderly in Lucas do Rio Verde (MT), and in 2013, when close to 100 people were intoxicated in a school in Rio Verde (GO).

6. Such data disregard the use of pesticides that enter the country for contraband. According to Sindag, this volume corresponds to about 20% of the total use.
7. https://www.redebrasilatual.com.br/sem-categoria/2019/07/anvisa-afrouxa-criterios-para-avaliacao-e-classificacao-de-agrotoxicos/
8. See list of transgenic plants already released in Brazil and their characteristics. Consider the tendency of expansion in the use of those seeds, for the other countries contained in our field of interest.
9. In September 2018, the National Technical Biosafety Commission (CTNBio) complied with DOW›s request (Process 01250.009573/2016-95) approving the request for commercial release of MON 89034 x TC1507 x MIR162 x NK603 x DAS-40278-9 corn. Expressing the toxins Cry1A105, Cry2Ab2, Cry1F and Vip3Aa20 and containing the transgenes pat, cp4 epsps and aad-1, this GMO would be tolerant to the herbicides glufosinate ammonium, glyphosate, 2,4-D and haloxifop-R.
10. The international bibliography presents MON89034 X TC1507 X NK603 X MIR162 X DAS40278 (trade name: Power Core x MIR162 x Enlist) as containing the following characteristics: glufosinate herbicide tolerance, glyphosate herbicide tolerance, lepidopteran insect resistance, mannose metabolism, 2, 4-D herbicide tolerance.
11. https://cimi.org.br/2019/05/agrotoxicos-despejados-perto-aldeia-levam-criancas-jovens-guarani-kaiowa-hospital

In August 2010, the Labor Court ordered the companies Shell and Basf to pay medical treatment and compensation to former employees of a pesticide factory in Paulínia (SP). At the time, of the thousand registered employees who would be entitled to receive treatment and compensation, 64 had died while the investigation that resulted in the compensation sentence was still ongoing. All of them were younger than 60 years old (LONDON, 2011).
A report by the Federal University of Ceará's Faculty of Medicine (UFC) identifies the presence of pesticides in water tanks and cisterns for human consumption in the Apodi region (CE) and in the Jandaíra aquifer, located between Ceará and Rio Grande do Norte and used by inhabitants of at least eight municipalities in those states [12].

Due to their dangerousness, approximately 25 to 30% of the most used pesticides in Brazil are not sold in their countries of origin (BOMBARDI, 2017, p. 39; CARNEIRO et al, 2015) [13]. In addition, the maximum residue limits (MRLs) in water considered to be potable for human consumption differ to an alarming extent. To restrict the analysis to the two herbicides most used in Brazilian crops, both associated with transgenic crops (glyphosate [14], with annual sales exceeding 200 million liters, and 2,4-D [15], with sales exceeding 50 million liters/year), it is worth noting that the difference is, respectively, 5,000 times and 300 times that which is allowed in the European Union [16].

Residue limits in water for human consumption



Source: Bombardi, 2017.

12. http://agenciabrasil.ebc.com.br/geral/noticia/2016-07/pulverizacao-aerea-de-agrotoxico-provoca-danos-persistentes-dizem. Additional information can be obtained on the Map of conflicts involving environmental injustice and health in Brazil, available at http://www.conflitoambiental.icict.fiocruz.br. See also http://antigo.controsagrotoxicos.org/index.php/materiais/estudo/agrotoxicos-violacoes--socioambientais-e-direitos-humanos-no-brasil/detail
13. See also https://www1.folha.uol.com.br/ambiente/2019/09/30-dos-ingredientes-de-agrotoxicos-liberados-neste-ano-sao--barrados-na-ue.shtml
14. Classified as a probable carcinogen by the National Cancer Institute (Inca) and the International Cancer Research Agency (Iarc). For details, see Carneiro et al. (2015) and Ferment et al. (2015).
15. Associated with the "orange agent", classified as an endocrine disruptor and associated with genetic alterations (PINHEIRO, 1989). For details on these herbicides, see Ferment et al. (2015).
16. Bombardi (2017).

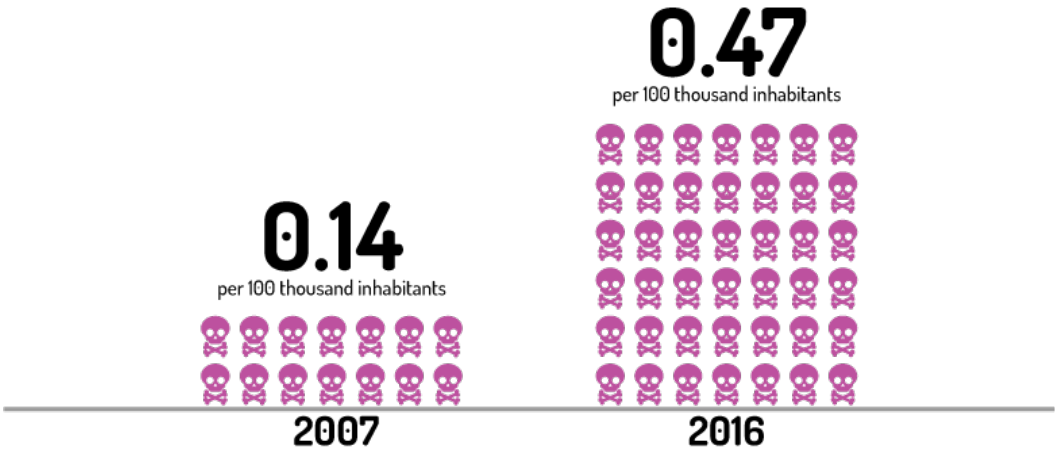
Recent surveys (AGUIAR, 2017) report on intoxications of babies by maternal exposure, during or after pregnancy, pointing out their concentration in areas of agribusiness prevalence with the presence of aerial spraying (for example, the Apodi region in Ceará). Studies by Pignati et al. (2014; 2017) point to the presence of glyphosate in breast milk and rainwater in the state of Mato Grosso, similarly to the findings by Alonso et al. (2018) in rainwater and water sources in the Argentine Pampa –both regions with intense use of pesticides. Solid estimates (LONDRES, 2011; BOMBARDI, 2017) maintain that, for each case notified by the health system, there would be another 50 unregistered cases in Brazil[17].

Intoxications: 2007 to 2014

Source: Bombardi, 2017.

The main source of these intoxications is related to glyphosate herbicides, the main component of technological packages involving transgenic crops, whose advance between 2007 and 2016 is associated with the strong evolution in the number of registered cases of intoxications by the substance.

Recorded cases of glyphosate poisoning



Source: Ministry of Health.

The consumption data come from the companies that sell the products (LONDRES, 2011; CARNEIRO et al, 2015; BOMBARDI, 2017). Therefore, in addition

17. Bombardi (2017, p. 56) estimates that the registration of 343 intoxicated babies between 2007 and 2014 (average of 42 cases per year) would be hiding a reality of more than 17 thousand cases.

to the risk of underestimation or concealment, there is the risk of irregular marketing either by clandestine manufacture or by direct smuggling. According to the National Union of Plant Protection Products Industry (Sindiveg), in 2015, at least 20% of the pesticides consumed in Brazil would have an illegal, off the records origin [18].

From this perspective, we adopted a projection that is based on average rates of effective application of the main pesticides recommended for the 21 main agricultural crops, weighting them by the area cultivated in key municipalities (PIGNATI et al, 2014). With this methodology, Pignati et al. (2017) demonstrated that the use of pesticides in Brazil reached the number of 899 million liters in 2015, as shown in Table 1. This volume does not consider the use of pesticides in urban areas, in the cleaning of railways, irrigation channels and electrical networks.

Table 1. Planted area, average pesticide use per hectare and total, by type of crop in Brazil, 2015.

Agricultural crop	Planted area (hectares)	Pesticides (liters/hectare)	Pesticide consumption (liters)
Soy	32,206,787	17.7	570,060,129.90
Corn	15,846,517	7.4	117,264,225.80
Sugar cane	10,161,622	4.8	48,775,785.60
Cotton	1,047,622	28.6	29,961,989.20
Wheat	2,490,115	10	24,901,150.00
Tobacco	406,377	60	24,382,620.00
Rice	2,162,178	10	21,621,780.00
Coffee	1,988,272	10	19,882,720.00
Citrus	766,516	23	17,629,868.00
Bean	3,130,036	5	15,650,180.00
Banana	484,430	10	4,844,300.00
Tomato	63,626	20	1,272,520.00
Grape	78,026	12	936,312.00
Sunflower	111,843	7.4	827,638.20
Papaya	30,445	10	304,450.00
Watermelon	97,910	3	293,730.00
Pineapple	69,565	3	208,695.00
Mango	64,412	3	193,236.00
Melon	20,837	3	62,511.00
Total	71,227,136	-	899,073,840.70

Source: Pignati et al, 2017, p. 3,285.

18. For details see: https://www.oeco.org.br/reportagens/organizacoes-internacionais-lucram-milhoes-com-contrabando-de-agrotoxicos. Accessed on: 30 jan. 2019.

The composition of use of these poisons, for the main crops of ten municipalities selected from the main producing region of these commodities in Brazil, is summarized below (Tables 2 and 3).

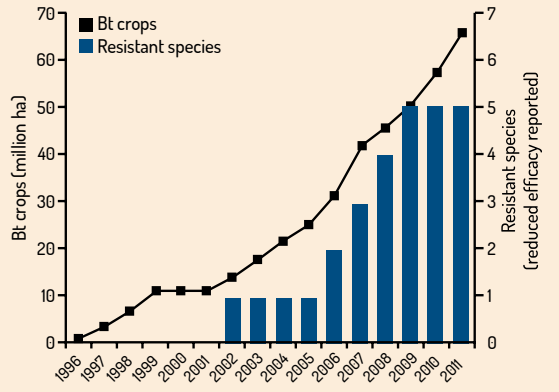
Table 2. Cultivated area and consumption of pesticides for selected crops (average for 10 municipalities in Mato Grosso, year 2012).

Culture	Area (hectares)	Pesticide Volume (kg)	Average (kg/ha)
Soy	2,852,509	34,737,949	12.17
Corn	1,028,533	6,318,576	6.14
Cotton	371,334	8,861,720	23.86
Sugar cane	188,816	914,955	4.84

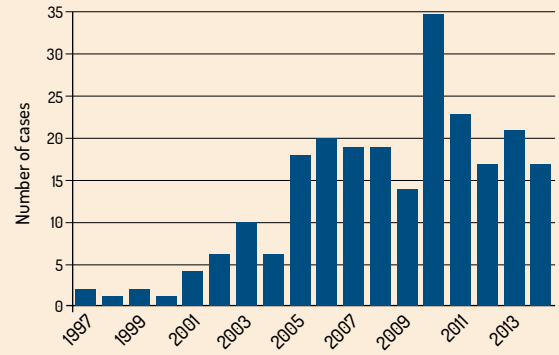
Source: Pignati et al. 2014, p. 4,673.

The qualitative composition of pesticides does not change in a relevant way, despite their quantitative evolution. The growth of 12.17 litres (l) of pesticides per hectare of soy (2012, Table 2) to 17.7 (2015, Table 1) is explained by the population explosion of glyphosate-tolerant plants and insects that no longer are controlled by the Bt toxins present in those cultures (Figure 3).

Figure 3. Negative selection processes resulting from the massive use of Cry toxins (A) and glyphosate-based herbicides (B) lead to the emergence of resistant populations that open the market for new generations of transgenic plants.



Annual data on the number of new cases of insect species resistant to Cry toxins and expansion in the area cultivated with Bt-type transgenic plants.



Annual data on the number of new cases of glyphosate-tolerant adventitious plants.

Source: http://paraquat.com/portugues/knowledge-bank/ervas-daninhas-resistentes-ao-glifosato.

We can see in the table below that, according to the Brazilian Institute of the Environment and Renewable Natural Resources (Ibama [19]), the most widely used pesticides in Brazil, in order of magnitude, correspond qualitatively to those observed in the state of Mato Grosso (PIGNATI, 2017).

Table 3. Ranking of the most used pesticides (in volume sold in 2015). Estimated from cultivated areas, according to the methodology of Pignati et al. (2014; 2017).

Brazil, 2016	% over total	State of Mato Grosso, 2012-2016			
Active Ingredient/BR		Ranking	Active Ingredient/MT	Class. Use	Toxicological Class
Glyphosate	38.17	1	Glyphosate	Herbicide	IV
AI not disclosed	11.25	2	Chlorpyrifos	Insecticide	I
2,4-D	10.98	3	2,4-D	Herbicide	I
Mancozebe	6.83	4	Atrazine	Herbicide	III
Atrazine	5.88	5	Mineral oil	Adjuvant	IV
Mineral oil	5.72	6	Mancozebe	Fungicide	II

Sources: Ibama, 2016; Pignati et al, 2017.

This logic imposes a mechanism that is repeated for the supply of grains across all regions of Latin America, where the same technological packages and associated agrochemicals are hegemonic, with similar implications. What changes, eventually, concerns the internal legislation, which has also been undergoing a process of homogenization. Repercussions, such as the erosion of the health of environments, ecosystems, ways of life and socio-cultural relations, are also repeated, varying only according to the speed with which they are being established in each country.

In all cases, the most used pesticide is glyphosate. This herbicide, which is being reevaluated in Brazil (ANVISA [20]) and under threat of being banned in France [21] and in other European Union countries [22], is classified as a carcinogen by the International Agency for Research on Cancer (IARC) and, in Brazil, by the National Cancer Institute (Inca) [23]. Civil society has been speaking out. In Brazil, this is happening through the Permanent Campaign Against Pesticides and for Life [24], the

19. Active ingredients most used in Brazil. Total estimated by Ibama: 486,260.6 tons. Available at: www.ibama.gov.br/phocadownload/qualidadeambiental/relatorios/2016/Revisado-2018-Os_10_IAs_vendido_2016.xls
20. http://portal.anvisa.gov.br/noticias/-/asset_publisher/FXrpx9qY7FbU/content/anvisa-ira-reavaliar-Glifosato-e-outros-quatro--agrotoxicos-utilizados-no-pais/219201/acessibilidade
21. https://www.terra.com.br/economia/tribunal-frances-proibe-comercializacao-de-herbicida-da-bayer-a-base-de-glifosato,f-9faade91d47f2a694dee292859dc45bzv3qnt1l.html, and https: // g1.globo.com/economia/agronegocios/noticia/2019/01/15/corte-fran Francesa-cancela-licenca-de-herbicida-da-monsanto-por-motivos-de-seguranca.ghtml
22. "... ministers of agriculture and environment from France, Belgium, Greece, Luxembourg, Slovenia and Malta reiterated their concerns about the risks of using glyphosate. (...) Referring to the initiative of the European citizen signed by more than one million people who demanded the ban of the substance as well as a resolution of the European Parliament calling for measures until 15 December 2022." https://www.agrolink.com.br/noticias/glifosato--seis-paises-europeus-querem-alternativas_403195.html
23. http://www1.inca.gov.br/inca/Arquivos/comunicacao/posicionamento_do_inca_sobre_os_agrotoxicos_06_abr_15.pdf
24. http://controsagrotoxicos.org

National Council for Food and Nutritional Security (Consea) [25] and the National Forum for Combating Pesticides and Transgenics [26], among others.

Table 4. Pesticide consumption (liters), listed according to the respective active principle, per hectare of soy, corn, cotton and sugar cane in selected municipalities in the state of Mato Grosso, Brazil, 2012 [27].

Active ingredient	Use	Toxic. Class.	Envir. Risk	Soy		Corn		Cotton		Sugarcane	
				Campo Verde	Lucas Rio Verde	Campo Verde	Lucas Rio Verde	Campo Verde	Lucas Rio Verde	Barra do Bugres	Nova Olímpia
2,4 D	H	I	III	0,9	1,1	0,1	0,1	-	-	0,3	0,2
Acephate	I	II	III	0,1	0,1	-	-	0,2	0,8	-	-
Amicarb	H	III	III	-	-	-	-	-	-	-	0,1
Atrazine	H	III	III	-	-	3,4	3,7	-	-	-	-
Azafenidin	H	III	III	-	-	-	-	-	-	-	0,2
Carbofuran	I	I	II	-	-	0,1	0,1	0,1	-	-	0,3
Carbendazim	F	II	II	0,2	0,2	-	-	0,2	0,1	0,2	0,2
Cypermethrin	I	III	I	0,2	0,1	-	-	-	0,2	-	-
Clomazone	H	II	II	0,1	-	-	-	3,5	4,1	-	0,2
Chlorpyriphos	I	I	I	-	0,1	0,2	0,3	6,1	6,4	-	-
Diuron	H	III	II	-	-	-	-	0,7	1,7	0,4	0,5
Endosulfan	I	I	I	1	0,5	0,4		3,6	3,1	-	-
Etephon	RC	II	II	0,1	-	-		0,6	1,4	0,2	-
Fipronil	I	II	II	0,1	0,1	-		0,1	0,1	-	-
Flutriafol	F	II	III	0,2	0,3	-		-	-	-	-
Glyphosate	H	IV	III	4,9	6,1	0,2		-	-	0,8	1,8
Imazapic	H	II	III	-	-	-		-	-	0,1	-
Isoxaflutole	H	III	II	-	-	-		-	-	0,1	0,1
Malathion	I	III	III	-	-	-		0,6	-	-	-
Methamidophos	I	I	II	1,3	1,2	-		0,4	0,9	-	-
Methilparation	I	I	III	1	0,4	-		0,1	1,2	-	-
Methomyl	I	I	II	-	-	0,3		0,8	1,9	-	-
Metribuzin	H	IV	II	-	-	-		-	-	0,5	0,5
MSMA	H	III	III	-	-	-		-	0,8	0,1	0,4
Mineral Oil	A	IV	III	0,2	0,2	-		1,5	0,2	-	-
Paraquat	H	I	II	0,3	0,3	-		0,6	-	-	-
Permethrin	I	III	II	-	0,1	-		-	-	0,3	0,2
Metolachlor	H	I	II	0,4	-	-		0,5	0,5	-	-
Tebuthiuron	H	II	II	-	-	-		-	-	0,2	0,6
Tebuconazole	F	III	II	0,7	0,5	0,2		-	-	-	-
Triflurallin	H	II	II	0,8	-	-		2,1	3,1	0,4	0,6
Total				12,6	11,1	4,9		21,7	26,5	3,6	5,9

Source: Pignati et al, 2014, p. 4,674.
* Note: H = herbicide, I = insecticide, F = fungicide, A = Adjuvant, GR = Growing Regulator.

25. Regarding Consea›s position, which was officially extinguished by the Bolsonaro administration (https://idec.org.br/noticia/consea-permanece-extinto-apos-manutencao-do-veto-de-bolsonaro), it is worth remembering that civil society keeps the Council active, holding popular conferences in all states, resulting in a national meeting schedule (https://fbssan.org.br/2019/07/carta-convocatoria). For the previous discussion, see: http://www2.inca.gov.br/wps/wcm/connect/4d2cdd80480c51eea389ef9ba9e4feaf/Oficio+n%C2%BA+151+-2015+CONSEA%2C+de+13-04- 2015.pdf? MOD = AJPERES & CACHEID = 4d2cdd80480c51eea389ef9ba9e4feaf
26. http://www.canalrural.com.br/noticias/agricultura/ministerio-publico-quer-banir-Glifosato-brasil-56002
27. The 31 pesticides listed account for more than 90% of the consumption of 202 types used in MT, which accounts for 20% of the total sold in the country.

The relevance of threats to human health and the environment resulting from the cultivation of about 30 million hectares of soybeans in Brazil, where the average records (2012) are 9 litres of herbicides, 2.4 l of insecticides and 1.1 l of fungicides per hectare, is evident.

The advance of social awareness regarding these problems can be evidenced, on the one hand, by the emergence of bills proposing a ban on the use of herbicides, a ban on the registration of pesticides not allowed in their countries of origin, the establishment of pesticide and transgenics free areas and the implementation of social awareness/clarification campaigns, as well as the establishment of formal mechanisms for risk assessment and compensation for damages, with penalties for those responsible. The Bill 6.670/2017, known as Pnara, acronym for National Pesticide Reduction Policy [28], stands out [29]. Its approval evolves [30] slowly in view of the pressure of the interests defended by the ruralist coalition [31].

Bills consistent with Pnara move forward in the states of the Federation, dealing with aspects contemplated there, such as those banning the use of 2,4-D-based herbicides (PL 21.273/2015 in Bahia [32] and PL 262/2014, in Rio Grande do Sul [33]); those preventing the aerial spraying of pesticides (PL 21.314/2015, in Bahia, and PL 263/2014 [34], in Rio Grande do Sul); and those requiring the specification of the pesticides used in the production processes in labels to be evaluated by the consumer at the time of purchase (PL 21.317/2015 in Bahia and PL 44/2015 [35] in Rio Grande do Sul).

Successful examples include the creation of the State Plan for Agroecology and Organic Production (Pleapo) [36] in Rio Grande do Sul and the recent promulgation, in Ceará [37], of State Law 16,820/19, which prohibits aerial spraying [38] of pesticides. This outcome, celebrated throughout the country, followed the dissemination of studies (AGUIAR, 2017) showing situations in which 97% of rural workers were exposed to pesticides, with 60% showing cases of acute poisoning [39]. There are also initiatives underway or coming into force at a municipal level,

28. http://controsagrotoxicos.org/sdm_downloads/pnara-politica-nacional-de-reducao-de-agrotoxicos
29. https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=2120775
30. https://alimentacaosaudavel.org.br/pnara-e-aprovada-em-comissao-da-camara-dos-deputados
31. Fundamental group for the coup that brought down President Dilma Rousseff and for the election of Jair Bolsonaro, it brings together 236 acting politicians (39.7% of the 594 congressmen), spread over 18 parties, according to a survey by the newspaper O Estado de S Paulo. Of these, 210 are deputies, but only 119 of them assume they are connected to the sector. The sectoral articulation operates in the Mixed Parliamentary Front of Agriculture (FPA). The Front, created in 2015 with the signatures of 198 deputies and 27 senators, has demonstrated the capacity to reach 260 votes, surpassing the 257 (absolute majority) required for especially delicate matters. https://especiais.estadao.com.br/canal-agro/agrocenarios/agronegocio-tem-a-bancada-mais-bem-organizada
32. http://www.al.ba.gov.br/ividade-legislativa/proposicoes?numero=&palavra=&tipo=PL.&deputado=&exDeputado=359&outros=&dataInicioBR=&dataFimBR=
33. http://www.al.rs.gov.br/legislativo/ExibeProposicao.aspx?SiglaTipo=PL&NroProposicao=262&AnoProposicao=2014&Origem=-Dx
34. http://www.al.rs.gov.br/legislativo/ExibeProposicao.aspx?SiglaTipo=PL&NroProposicao=263&AnoProposicao=2014&Origem=-Dx
35. http://www.al.rs.gov.br/legislativo/ExibeProposicao.aspx?SiglaTipo=PL&NroProposicao=44&AnoProposicao=2015&Origem=Dx
36. https://www.sdr.rs.gov.br/rio-grande-agroecologico
37. https://www.brasildefato.com.br/2019/01/10/governador-do-ceara-sanciona-lei-que-proibe-pulverizacao-aerea-nas-lavouras
38. https://www.abrasco.org.br/site/sem-categoria/pulverizacao-aerea-de-agrotoxicos-abrasco-enaltece-o-ceara/39333
39. https://www.brasildefato.com.br/2018/12/19/assembleia-legislativa-proibe-pulverizacao-aerea-de-agrotoxicos-no-ceara-entenda

such as the criminalisation of storage and application of any type of pesticide on the Island of Santa Catarina, part of Florianópolis [40].
There are also proposals being processed which aim at changing tax advantages (tax exemptions) granted to these products [41] – the case of the Provisional Measure of "Green Taxation" of the government of Santa Catarina [42], as well as a wide campaign to propose state and municipal laws [43] restricting their use.

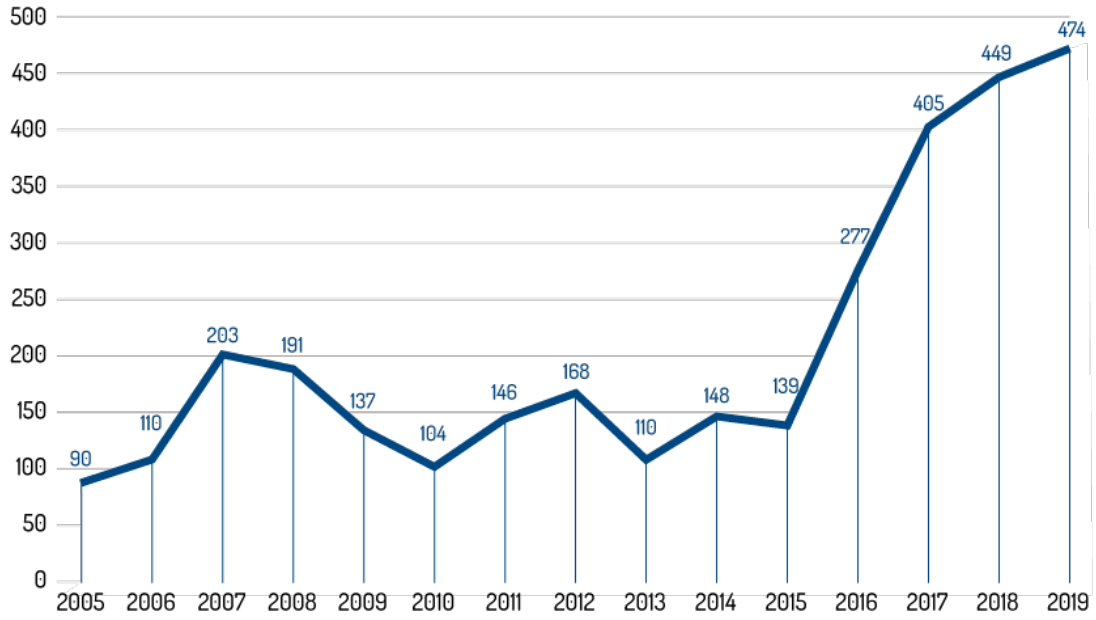
On the other hand, there is a deterioration of the current legislation, with bills that try to make the use of pesticides more flexible [44], hinder their evaluation, relieve their use, hide information from society and criminalise social organisations that act in the opposite direction. PL 6,299/2002 [45], known as the "Venom Package", incorporates PL 3,200/2015 [46] and other more specific bills, of equal intentionality, determining a brutal change in the Agrochemicals Law [47] and associated constitutional commitments. The proposal, which will certainly dramatically affect the health of the population, ecosystems and possibilities for future development, has faced reactions from organised civil society, the Federal Public Ministry, Ibama and the Public Defender's Office, among dozens of other entities and organs of the Brazilian State [48].

In June 2018, five United Nations rapporteurs sent a statement to the government and the National Congress expressing concern about the proposals. The document warned that the intended changes would violate the human rights of rural workers, local communities and food consumers [49].

Recent decisions by the Ministry of Agriculture, Livestock and Supply (Mapa) and Anvisa have served as a shortcut to achieve the objectives of PL 6,299. The authorisation of the use of 40 new commercial pesticide products in early 2019 [50] have already signaled an even higher rate of arrival of poisons on the market than that of the government of Michel Temer (MDB). In fact, the first year under the presidency of Jair Bolsonaro (elected by the PSL, currently without party affiliation) has been a new record in the release of pesticides. There were 474 registered, as opposed to 449 in 2018 [51], the last year of the Temer government (Figure 4).

40. https://portrasdoalimento.info/2019/10/14/como-florianopolis-se-tornou-o-primeiro-municipio-brasileiro-livre-de-agrotoxicos/#. See also https://agroecologia.org.br/2019/10/29/enfraquecida-no-ambito-federal-politica-de-agroecologia-tem-estados-e-municipios-como-vias-possiveis
41. http://www.mpf.mp.br/pgr/noticias-pgr/audiencia-publica-discute-isencao-fiscal-de-agrotoxicos
42. https://politica.estadao.com.br/noticias/geral,governador-cria-icms-verde-e-irrita-bolsonaristas,70003048856
43. https://controsagrotoxicos.org/sdm_downloads/como-criar-um-projeto-de-lei-estadual-ou-municipal-para-reduza-os-agrotoxicos
44. http://www.ihu.unisinos.br/572525
45. https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=46249
46. https://www.camara.leg.br/proposicoesWeb/fichadetramitacao?idProposicao=1996620
47. http://www.planalto.gov.br/ccivil_03/LEIS/L7802.htm
48. http://www.ihu.unisinos.br/78-noticias/578696-projeto-de-lei-6299-2002-que-flexibiliza-registro-de-agrotoxicos-afetara--saude-e-meio-ambiente -firms-mpf ; regarding the dispute raised by PL 6,299, regarding the name of pesticides, see: https://apublica.org/2019/01/agrotoxico-veneno-defensivo-entenda-a-disputa-pelo-nome-desses-produtos-agricolas
49. https://nacoesunidas.org/mudancas-na-lei-de-agrotoxicos-no-brasil-violariam-direitos-humanos-afirmam-relatores-da-onu
50. https://brasil.elpais.com/brasil/2019/01/22/politica/1548111806_421640.html
51. https://www1.folha.uol.com.br/ambiente/2019/12/numero-de-agrotoxicos-liberados-no-brasil-em-2019-eo-maior-dos-ultimos-14-anos.shtml

Figure 4. Evolution in the number of pesticides registered for use in Brazil.



Source: Mapa, 2019.

Note: In 2018, of the 450 pesticides registered in Brazil, only 52 were considered to be of low toxicity according to the classification then in force.

In July 2019, Anvisa approved new criteria for the assessment, classification and toxicological labeling of products in Brazil. Comprising three resolutions of the collegiate board (RDCs) and a normative instruction (IN), the new regulatory framework for pesticides expanded the toxicity categories from four to five, in addition to establishing the "unclassified" nomenclature. The skull image is now restricted to the packaging of those considered highly or extremely toxic, whereas the labels must detail the dangers. The word "poison", previously applied to all classes, is no longer used.

According to the Agency, alignment with the rules of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) consolidates international regulatory convergence in this area, increases comparability and favors sector exports. Supporters claim that the change protects those who handle the substances and increases the rigor of future releases, as these could only contemplate similar ones in less toxic classes. Critics, on the other hand, argue that the new signaling is inadequate in view of the schooling gap in rural areas and that the categorisation disregards the medium and long-term impacts of the applications.

The reclassification applied to 1,924 of the 1,942 evaluated products. More than 600 came out of the red label [52], which indicates higher risk. A survey showed

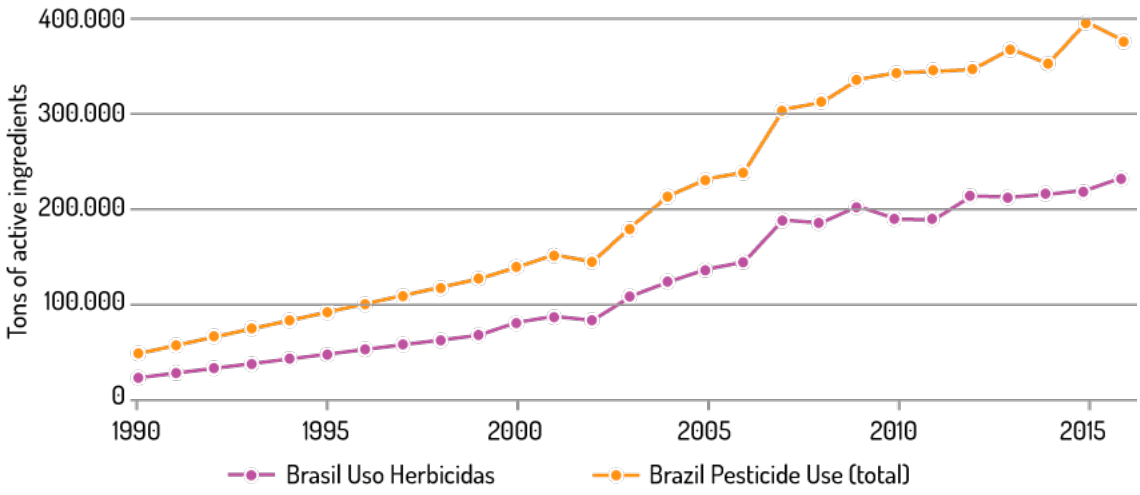
52. https://g1.globo.com/economia/agronegocios/noticia/2019/08/02/anvisa-reclassifica-mais-de-1900-agrotoxicos-e-tira--600-produtos-dos-rotulos-de -more-risk.ghtml

that 93 glyphosate-based products had their risk assessment downgraded, contrary to what has been happening globally [53].

An exception to the scant record of penalties was the conviction of Syngenta and other companies by the Federal Justice of Goiás in 2018 for aerial spraying on a secondary school in Rio Verde (GO), five years earlier [54].

In a similar case, the Federal Court of Mato Grosso do Sul condemned a farmer, a pilot and the company C. Vale for spraying a Guarani and Kaiowá village with fungicide in Caarapó (MS). The sentence determines the payment of BRL 150 thousand to the Tey Jusu community for collective moral damages. The indigenous people recorded the spraying in April 2015 and delivered the video, in which the aircraft's prefix appears, to the Federal Public Ministry, which initiated a public civil action [55].

Figure 5. Sales of pesticides in general, and herbicides in particular, in Brazil, period 1990-2015.

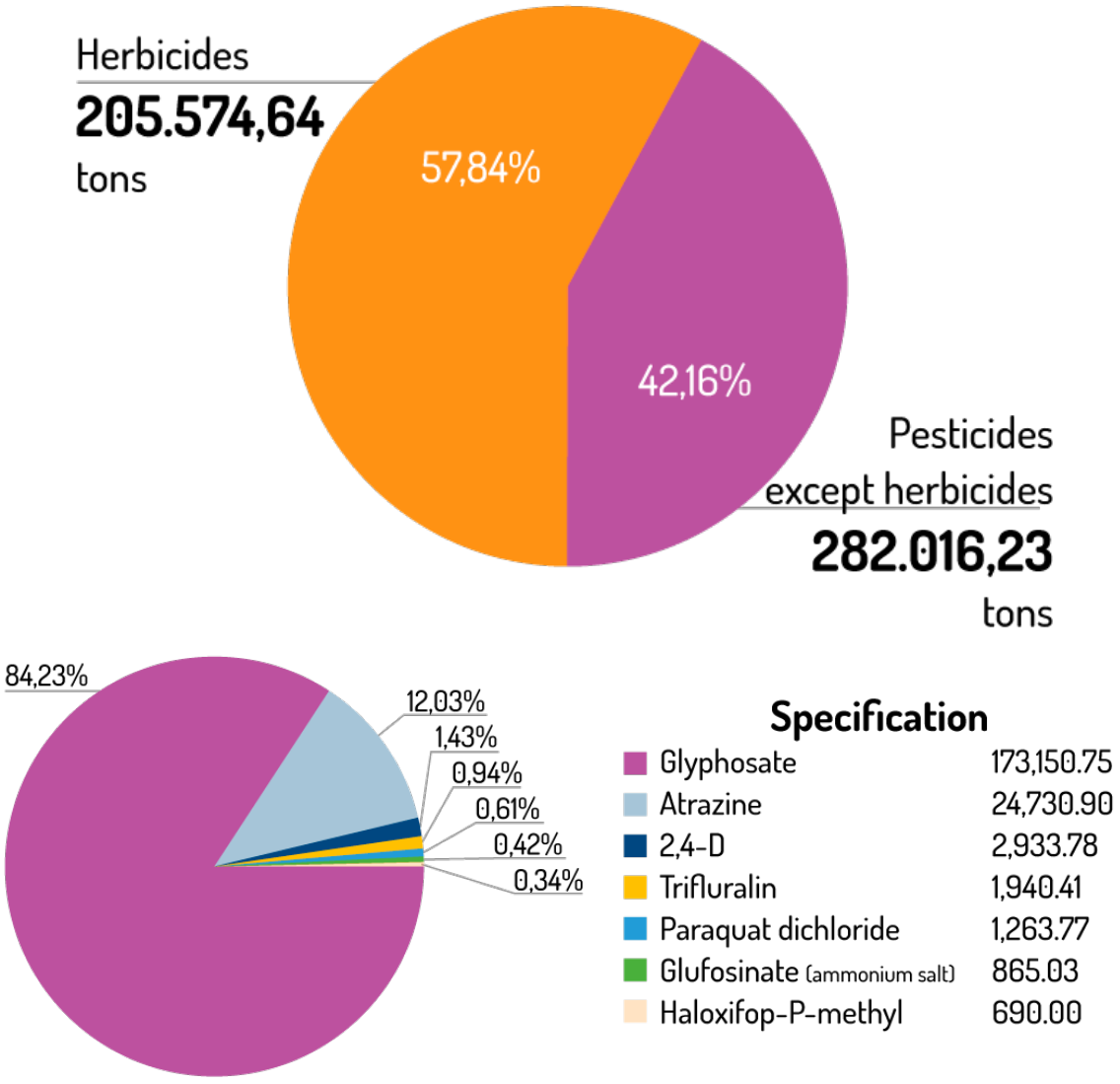


Source: FAO, 2019. Data available at: http://www.fao.org/faostat/es/#compare. Accessed on: Jan. 30, 2019.

For the adoption of FAO data, in parallel with other sources used in the examination of the Brazilian situation, consider the data from the Ministry of the Environment (more precisely, from Ibama [56]) in terms of the composition of ingredients (Figure 5 and Figure 6).

53. https://apublica.org/2019/10/glifosato-deixa-de-ser-considerado-extremamente-toxico-apos-mudanca-da-anvisa
54. Sentence link: http://www.mpf.mp.br/go/sala-de-imprensa/docs/not2216-sentenca.pdf
55. https://portrasdoalimento.info/2020/01/22/em-decisao-inedita-indigenas-vitimas-de-chuva-de-agrotoxico-recebem-r-150-mil-de-indenizacao/#
56. http://www.ibama.gov.br/phocadownload/qualidadeambiental/relatorios/2017/05.Vendas_ingredientes_ativos_UF_2017.xlsx. In 2015, glyphosate accounted for 38% of the total.

Figure 6. Sales of pesticides in Brazil, according to Ibama. Emphasis on herbicides, year 2017.



Source: Ibama/Consolidation of data provided by registration companies for technical, pesticide and related products, according to art. 41 of Decree 4.074/2002.

In short, for Ibama, herbicides account for 42% of the total volume sold (for FAO, just over 50%). Glyphosate accounts for 84% of this volume, about 35% of total sales of pesticides in the country. Taking into account the volumes obtained by irregular means (smuggling and clandestine manufacture or commercialisation without invoices), these numbers are close.

These results are also consistent with estimates obtained by Pignati et al. (2014, 2017). Adopting the methodology recommended by him, which is based on the

average consumption declared by crop, for representative municipalities, weighted by the area cultivated with these crops, for the main crops, it appears that GM crops [57] account for 80% of the total use of pesticides (Table 5).

Table 5. Estimated use of pesticides in the main Brazilian crops, year 2015.

Agricultural crop	Planted area (hectares)	Pesticides (liters/hectare)	Pesticides (liters)	Percent
GM crops (*)	49,100,926	14.61	717,286,345	80%
Sugar cane	10,161,622	4.80	48,775,786	5%
Others (**)	11,964,588	11.12	133,011,710	15%
Total	71,227,136	12.62	899,073,841	100%

Source: Table 1 of this document. Data estimated by Pignati et al, 2017.
(*) GM crops correspond to soybeans, corn and cotton.
(**) Other crops correspond to wheat, tobacco, rice, coffee, citrus, beans, bananas, tomatoes, grapes, sunflower, papaya, watermelon, pineapple, mango and melon.

The advance of GM crops is of particular interest to companies that supply inputs, implying high risks even for those who adopted the technological package, as warned by Almeida et al. (2017). This is because the increase in the use of poisons, costs and damages corresponding to health, the environment, water quality and soil productivity is not associated with productivity gains. Between the years 2012 and 2015, the consumption of pesticides per hectare, in soybean crops, grew 45% (from 12.17 to 17.7 liters per hectare –see tables 1 and 2), with no record of income gains.

Similar situations tend to occur in the other countries evaluated by FIAN, associated with the advancement of transgenic crops and the volumes of pesticides applied in them to meet the interests of transnational companies. Since the only common database comes from FAO [58], the information obtained there is then used and interpreted based on the collection of contents carried out by FIAN Brasil. In view of the fragility of the comprehensive information provided by the UN entity, as well as the absence of details, it is emphasised that the pattern has been repeated so clearly that it allows considering the reality and mechanisms described for Brazil as being extended to the other countries where the topic is being evaluated.

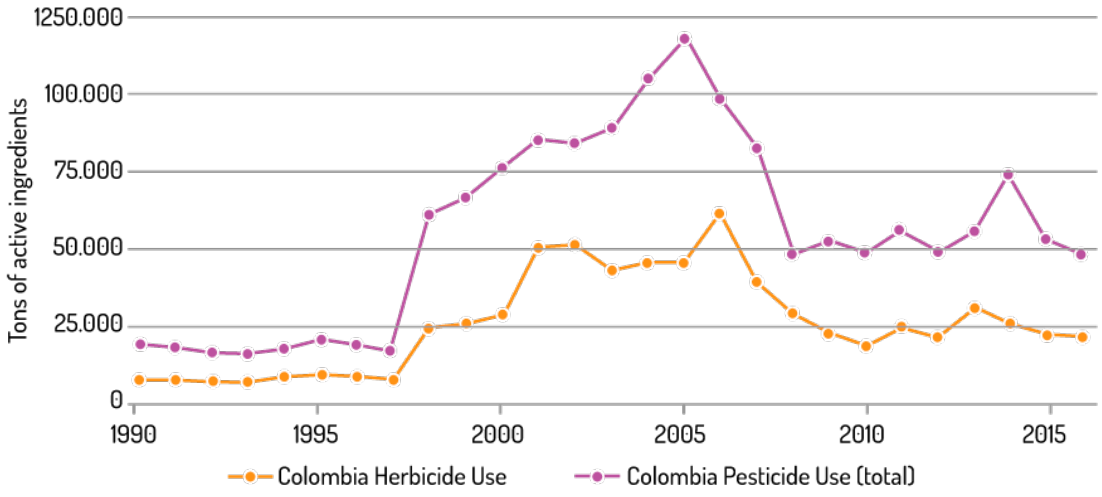
57. All GM soy, corn and cotton crops are assumed to adopt the technology. It is estimated that approximately 5% of the soy area, 15% of the corn area and just under 20% of the cotton area will maintain the use of conventional or agro-ecological technologies.
58. http://www.fao.org/faostat/es/#compare

Pesticides and their impacts: The Colombian case

The information obtained regarding the volume of pesticides used in Colombia respect the proportion observed in Brazil (Figure 6), with a predominance of herbicides sold by the same companies, directly or through local agents. With equivalent active principles, the impacts on health and the environment remain consistent with what has already been described, although the density of use may be different – in Colombia, an important portion of the herbicides would be used as defoliants, to control drugs or to fight guerrillas.

No convincing explanations were found for the fall in the volume of defoliants since 2005 (Figure 7), since it would not be related to the strategy to combat the FARC. Another decrease in the use of defoliants is noticeable from 2015. This time, yes, the reduction seems to be related to the prohibition of aerial spraying of glyphosate to combat guerrillas and to attempt to eradicate illegal crops (coca, poppy and marijuana, practices common since the 1990s), as explained below.

Figure 7. Sales of pesticides in general and herbicides in particular, in Colombia, period 1990-2015.



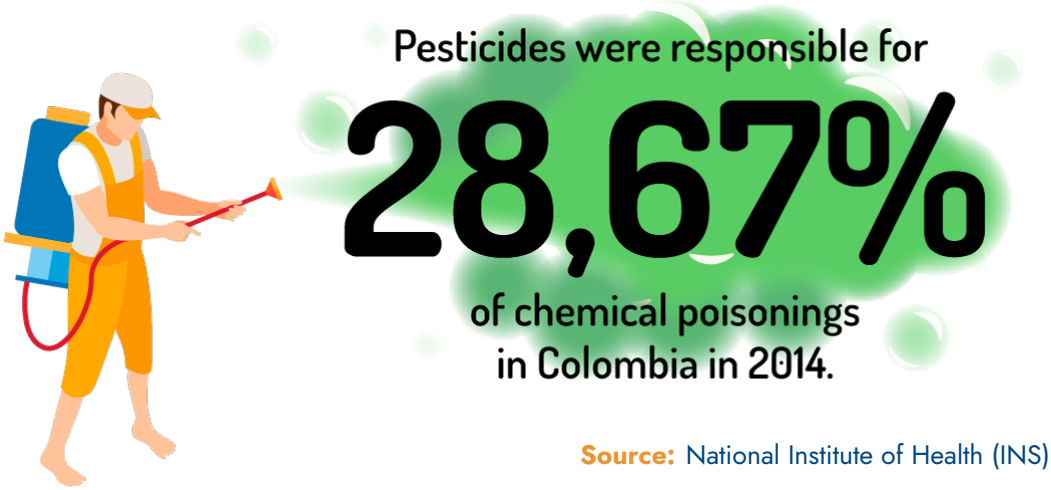
Source: FAO, 2019. Data available at http://www.fao.org/faostat/es/#compare. Accessed on: 28 jan. 2019

The pesticides used in Colombia are associated with technological packages aimed especially at products of relevance to its trade balance, although they also occur in food products destined for the domestic market. Noteworthy are the crops of potatoes, coffee, rice, sugar cane, palm oil, vegetables and fruits, especially bananas. The recent introduction of soy and technological packages involving intensive animal production acts as an important source of environmental contamination. The problem affects the production of bovine milk, pork and

confined poultry meat and eggs. The production of conventional and genetically modified flowers is also registered as a source of contamination by the intensive use of agrochemicals.

Aerial spraying (glyphosate and 2,4-D, among others) to eliminate clandestine coca, poppy and marijuana plantations, as well as defoliation of forests, has a great impact because it is concentrated in the country's most social and ecologically biodiverse areas, the example of the Amazon regions (departments of Amazonas, Putumayo, Guaviare, Meta, Caquetá, Vichada and Vaupés), the Pacific (Nariño and Cauca) and the Eastern Plains (Santander, Norte de Santander and Boyacá), as well as in the Sierra Nevada de Santa Marta. Most of the natural parks are concentrated in these places, as well as indigenous reserves and nuclei of black populations, whose autonomy and possibility of subsistence [59] is compromised. Aerial spraying of herbicides in sugarcane monocultures in the Cauca Valley and rice in Tolima and Huila also occur, affecting the health of the populations established there due to the destruction of crops, contamination of water sources and soils, in addition to the damage to ecosystems and biodiversity.

In general, agrochemicals are used without technical assistance and without protective equipment, with no storage precautions. The acute and cumulative effects are aggravated, with records of contamination of water, milk and meat intended for human consumption. There are no specific programs under the control of the population.



Source: National Institute of Health (INS)

The Pesticide Epidemiological Surveillance Program works to prevent and monitor risks, with periodic evaluations (only cholinesterase tests), which are insufficient even to measure the damage caused by organophosphates and carbamates to the central nervous system (situations associated with those tests).

The products are treated in the set of sanitary measures provided for in Law 9 of 1979 [60]. The registration and control of pesticides for agricultural use are assigned

59. http://www.mamacoca.org/docs_de_base/Fumigas/Ricardo_Vargas_Meza_Fumigaciones_y_politica_de_drogas_en_Colombia.htm

60. Subsequent regulations conducted by the Ministry of Health include Decree 775 of 1990 and Decree 1,843 of 1991.

to the Ministry of Agriculture and Rural Development, through the Colombian Agricultural Institute (ICA). The legal framework follows international conventions, such as the Stockholm Convention on Persistent Organic Pollutants (POPs) and the Rotterdam Convention on the Prior Informed Consent Procedure (PIC) Applied to Certain Pesticides and Hazardous Chemicals Subject to International Trade. This deals with Law 1,159, 2007, the regulations of the Andean Community of Nations (CAN) and Decision 436 of 1998 –regulated by Decree 502 of 2003 (of the ICA) and Resolution 630, which establishes the Technical Manual for Registration and Control of Pesticides for Agricultural Use.

The main national regulation issued by ICA is its Resolution 3,759 (December 16, 2003), establishing guidelines for the registration and control of chemical pesticides for agricultural use, and Decree 1,071 of 2015 [61].

It is also worth mentioning the following protocols from the National Institute of Health (INS):

- Surveillance and control of pesticide poisoning (2010), referring to the Public Health Surveillance and Control Group [62];
- On intoxication by chemical substances (2016), referring to the Environmental Risk Factors Group [63].

Among the legislative changes, aimed at making the use of pesticides more flexible, we highlight (1) Resolution 1,669 of 1997, "which authorises the use of products based on endosulfan exclusively for the control of the coffee borer (Hypothenemus hampei)"; (2) the 643/2004 Agreement, which modifies Article 1. Resolution 2,152 of 1996 to "authorise the import, sale and use of methyl bromide exclusively in quarantine treatment for pest control in fresh vegetable fabrics and wooden packaging at ports and borders"; (3) ICA Resolution 1580 of 2004, "which raises the suspension of the product Larvin 375 SC by Bayer Cropscience for the control of the Guatemalan potato moth (T. solanivora)", which was in force since 2002 (Resolution 1,681, articles 2nd and 3rd).

After glyphosate was classified as probably carcinogenic, the National Council of Narcotics issued its Resolution 6/2015, "ordering the suspension of the use of the herbicide glyphosate in operations to eradicate illicit crops by aerial spraying." A practice used since 1999, in the framework of the war against drugs and the insurgency, from Plan Colombia, financed by the USA, land spraying, even in these cases, has not been suspended. US President Donald Trump has been calling for resumption of aerial fumigation in view of the advancement of those

61. Single regulatory decree of the Administrative, Agricultural, Fisheries and Rural Development Sector in its chapter 1 on registration and control of chemical pesticides for agricultural use. There are also regulations on Resolution 3,079 of 1995, "by which provisions are established on the industry, trade and application of biological inputs and related products, fertilisers, soil amendments and pesticides" and on the use of generic agrochemicals, such as Law 822 of 2003. There is also Document 3,577, of 2009, of the National Council for Economic and Social Policy (Conpes), National Policy for the Rationalisation of the Component of Production Costs Associated with Fertilisers in the Agricultural Sector. Available from: https://www.ica.gov.co/getattachment/b527d0c9-e862-4c26-8347-e5076fd9b1a9/2009CP3577.aspx

62. https://www.minsalud.gov.co/comunicadosPrensa/Documents/INTOXICACION_POR_PLAGUICIDAS.pdf

63. http://www.ins.gov.co/lineas-de-accion/Subdireccion-Vigilancia/sivigila/Protocolos%20SIVIGILA/PRO%20Intoxicaciones.pdf

crops (188,000 hectares in 2016). The ban on aerial spraying with glyphosate does not extend to legalised crops, such as sugar cane, rice, corn and GM cotton.

As a positive point, in 2001 the ICA canceled the sales records for products based on endosulfan (Aventis Cropscience Colombia). In 2004, the fungicides Benlate OD and WP (Dupont) were canceled.

Some cases involving pesticides and human rights

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- DEFENSORÍA DEL PUEBLO. **Informe sobre desplazamiento y conflicto armado**. Bogotá: Defensoría del Pueblo, ago. 2002.
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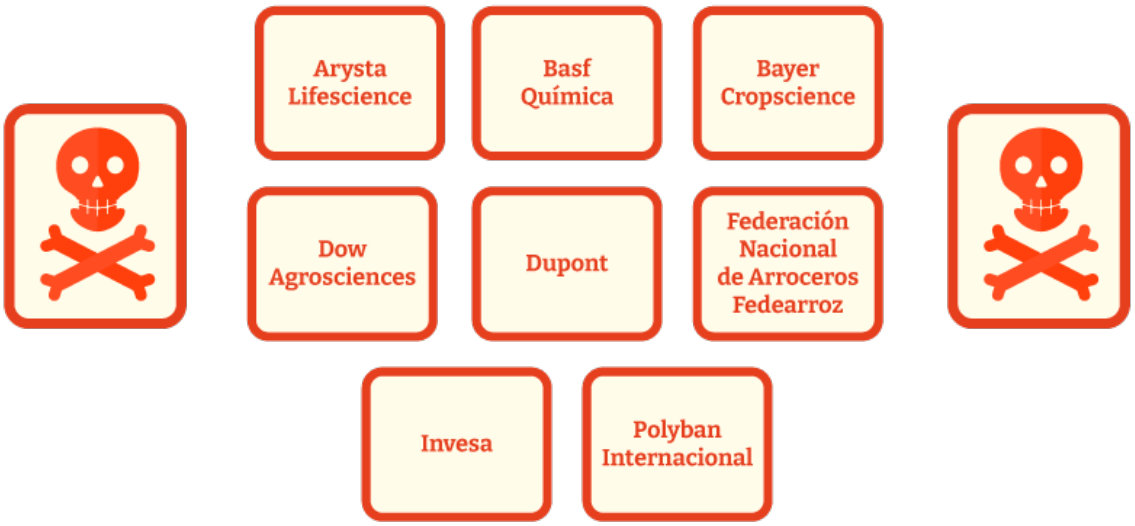
Leading manufacturers and traders of pesticides in Colombia



In the authors' opinion, the fact that these companies are the main manufacturers and traders in Colombia, constituting an oligopoly, gives them great power to influence legislative processes and policies, which can contribute to the weakening of the national legal frameworks for pesticide control.

Information is insufficient for both producers and consumers, threatening common goods and degrading ecosystems that go beyond national boundaries. This has been causing border problems with Ecuador due to the drift of aerial spraying with glyphosate and other herbicides since 2000. In 2008, the neighboring country denounced Colombia in the International Court of Justice in The Hague, demanding respect for its national sovereignty [64]. In 2013, the lawsuit was suspended by Ecuador due to an agreement in which Colombia would pay USD 15 million in economic compensation for environmental damage in the border area.

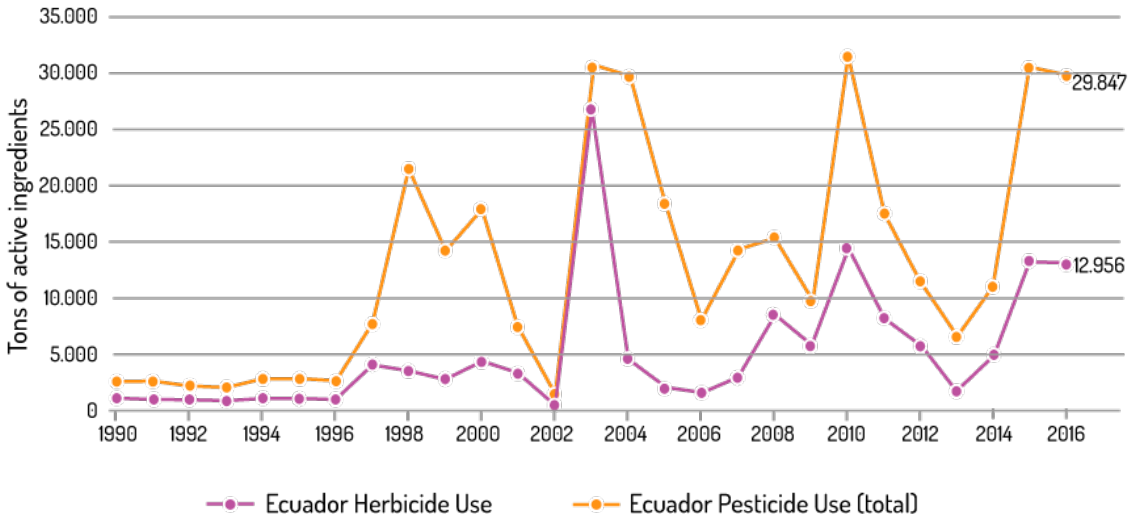
The popular reaction has been timid. It is worth mentioning that, since 2003, the Organisation of Indigenous Peoples of the Colombian Amazon (Opiac) demands respect for the rights of access to information such as prior and informed consultation on immaterial goods and the protection of fundamental rights [65] reportedly being violated by spraying herbicides on illegal crops. In 2013 there was a national strike (Paro Nacional Agropecuario) in protest at the high cost of inputs, uniting large producers with peasants. The articulation of these internal manifestations, with similar demands in other countries, could be made possible, according to the information received, through the Environmental Justice Network in Colombia.

64. http://www.ecuadorinmediato.com/Noticias/news_user_view/texto_de_la_demanda_de_ecuador_contra_colombia_ante_corte_internacional_de_justicia--74862
65. https://justiciaambientalcolombia.org/2013/11/25/agroquimicos-envenenan-suelos-en-colombia

Pesticides and their impacts: The case of Ecuador

The information obtained regarding the volume of pesticides used in Ecuadorian territory (Figure 8) also respects the proportion observed in Brazil, which is why the hypotheses already suggested are supported. The information accessed will now be commented.

Figure 8. Sales of pesticides in general and herbicides in particular, in Ecuador, period 1990-2016.



Source: FAO, 2019. Data available at: http://www.fao.org/faostat/es/#compare. Accessed on: 20 jan. 2019

The advance in the use of pesticides in Ecuador (FAO data) presents fluctuations that cannot be interpreted without access to a specially detailed database. Even so, it is possible to affirm that, in recent times, this use is stimulated by policies conducted by state actions. There are those developed by the National Project for Participatory Technological Innovation and Agricultural Productivity [66] (PITPPA), contemplating agricultural technological innovation actions, which refer to the distribution of 1 million subsidized kits (of seeds and other inputs [67]); the Organic Law on Agrobiodiversity, Seeds and Promotion of Sustainable Agriculture, which ends the moratorium on GMOs, allowing imports and research with GMOs; the New Productive Matrix (NMP), which promotes agro-industrial production for exports in a model similar to that discussed for cases in Brazil and Colombia; and the organic law to stimulate public-private partnerships, which seeks to attract international investments to the sector, as also occurs in other countries.

Damages associated with banana, palm, sugar cane and corn monocultures are expanding in the coastal region, among others. This encourages processes of

66. http://www.agricultura.gob.ec/proyecto-nacional-de-innovacion-tecnologica-participativa-y-productividad-agricola-pitppa
67. http://www.agricultura.gob.ec/gran-minga-agropecuaria-2/

land concentration, expulsion of workers and weakening the autonomy of local communities. The use of agrochemicals and machinery and the demand for land and water cause dramatic changes under economic, social, cultural and ecological perspectives. The expulsion of peasants, the contamination of soils and waters, the appearance of new pests and diseases are reported. Homogenisation processes in production and consumption threaten sovereignty and compromise the quality of food, which is contaminated by pesticides and difficult for poor people to access, due to income and price limitations. On a national scale, the social fabric has been eroded by welfare policies that increase the dependence on external inputs and hide damages related to the growing aerial spraying of pesticides, especially in the coastal region [68] and in the area bordering Colombia, as already reported.

Civil society has been systematically monitoring the impacts of agribusiness on indigenous and peasant populations, which are advancing with the support of public policies [69]. The great debate that took place in the border area with Colombia brought visibility to the topic of contamination by pesticides [70], generating a binational agreement [71] (in 2013) which also provides for compensation, which has not yet been enacted (see comment in the chapter of the Colombian case) [72].

The involved companies are the same as mentioned in the previous cases, with support from local companies. A dozen companies control two thirds of the pesticides and fertilisers market [73].

Companies that dominate Ecuador's pesticide and fertilizer market.

68. In 2010, the Manuela Espejo Mission (Vice-Presidency program) associated health and disability problems in youth and children in the municipality of Urdaneta, Los Ríos province, with aerial fumigation in banana plantations.
69. For example: (1) Organic Law on Agricultural Health; (2) Organic Code of Production, Trade and Investments; (3) Organic Environment Code; (4) Organic Law on Agrobiodiversity, Seeds and Promotion of Sustainable Agriculture; (5) Constitution of the Republic of Ecuador - 2008; (6) Ecuadorian Institute for Standardization (Inen). See http://www.agrocalidad.gob.ec/wp-content/uploads/2016/08/INEN-1898-plaguicidas-clasificacion-toxicologiga.pdf
70. Ecological Action Study (2001) demonstrated intoxication of 100% of the inhabitants established within 5 km of the sprayed areas. Reports point to damage to the digestive system, circulatory system, nervous system, eye system, respiratory system, heart, blood and connective tissue.
71. The agreement requested a protection margin of 10 km in relation to the border line.
72. See also http://www.accionecologica.org/soberania-alimentaria/transgenicos/documentos/2242-2017-12-02-17-54-20 and https://issuu.com/fs78/docs/la_verdad_fumigada
73. See https://www.agrocalidad.gob.ec/366-2/

The regulation of this market is subject to the Ecuadorian Agro Quality Assurance Agency (Agrocalidad) [74], the National Institute for Agricultural Research (Iniap), the Ministry of Agriculture and Livestock and the Ministry of the Environment.

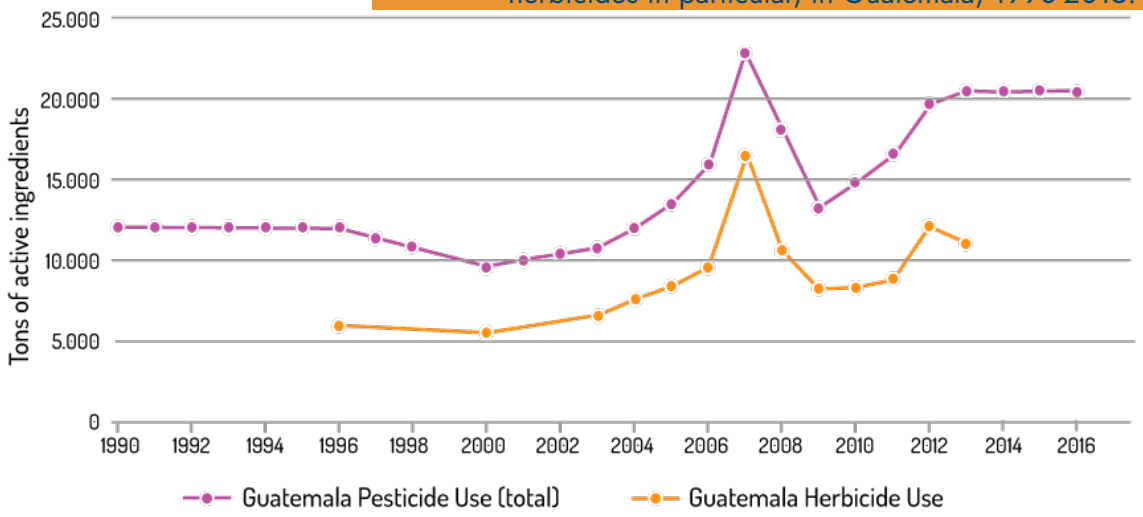
Socioeconomic and cultural damage has led to protests and complaints, especially in the Sucumbios region, on the border with Colombia. Also relevant is the activity developed by the Union of Agricultural and Peasant Workers (Astac), regarding working conditions in the banana plantation regions. Although with less visibility, complaints from the affected population are registered in the municipalities of Vinces, Baba, Urdaneta and Pueblo Viejo, in the province of Ríos [75].

In 2017, according to the FIAN group in Ecuador, the entity reported the problem in a letter to the United Nations special rapporteur on the right to food.

Pesticides and their impacts: The case of Guatemala

The only information obtained regarding the volume of pesticides used in Guatemala (Figure 9) comes from FAO and corresponds to aggregated data. Furthermore, the series is discontinuous and does not allow a strong relationship with dominant production lines in the country to be drawn. Even so, and even observing that in this series the pesticide/herbicide ratio is limited to the 1996-2013 period, it appears that the proportion observed in the cases of Brazil, Colombia and Ecuador is maintained there. It is admitted, then, that the hypotheses previously suggested are supported, allowing comparisons and interpretations of the other information collected by FIAN.

Figure 9. Commercialization of pesticides in general and herbicides in particular, in Guatemala, 1990-2015.



Source: FAO, 2019. Data available at: http://www.fao.org/faostat/es/#compare. Accessed on: 30 jan. 2019

74. The national sanitary, phytosanitary and food security authority is also responsible for food sovereignty. Qualifies, certifies, registers and controls the use of permitted or prohibited inputs in the country. See http://www.agrocalidad.gob.ec/la-institucion

75. http://www.elcomercio.com/tendencias/fumigaciones-bananeras-causan-polemica-rios.html

No information was available regarding the types and volumes of pesticides marketed in Guatemala. With regard to agrochemicals, the records focus only on fertilisers and allow us to highlight the permanence, for 15 years, of an official program of the Ministry of Agriculture, Livestock and Food that distributes chemical fertilizers and encourages the adoption of technological packages. It is noted that that policy contributes to expanding the use of pesticides, especially, but not only, in crops of greater economic value.

For FIAN Guatemala, the governmental option and the strength of the commercial agents lead the model to hegemony, while the distribution of seeds and support mechanisms to small farmers are restricted and tend to disappear.

Environmental and health damage, in this case, occurs notably on the south coast of the country, involving intensive use of fertilisers, insecticides and herbicides applied to monocultures of sugar cane, bananas and, more recently, African palm. These are regionally concentrated pressures, which are related to acute and cumulative health problems (notably the expansion of chronic kidney diseases) and environmental problems, via reduction of biodiversity [76], with important ecological impacts that already affect the food security of rural populations [77].

Even with scarce records, the impacts of pesticides on health, food and human rights in general are relevant. It is stated, for example, that "Guatemala registers the highest level of DDT in breast milk and human breast known in the world, 185 times higher than the limits that the World Health Organisation identifies as tolerable" and that "according to the Directorate of Epidemiology of the Ministry of Health, about 1,200 cases of acute poisoning occur annually in the country, of which between 150 and 200 end in death. Underreporting (non-tabulated cases) is considered to be 99 percent [78]."

The lack of public mechanisms related to quality control and the use of pesticides appears as an aggravating factor for the risks in question, as the State does not respond for damages, nor does it contemplate handling complaints related to negative impacts, in any dimension. For example, the information collected accounts for fish mortality records as a result of the use of pesticides in Rio de la Pasión [79], without preventive or accountable actions by the State, which would be complacent and permissive towards companies. Socioeconomic damage and impacts on riverside activities and populations were disregarded in that case.

The influence of agribusiness on public power can also be illustrated by the presence of former employees of the company Disagro[79] in agencies officially responsible for the purchase and distribution of fertilisers, in the program mentioned above. The monitoring of society is hampered by the lack of transparency, given the unavailability of channels for the defense of affected rights, and information

76. Flora and fauna have been reduced, compromising the natural biological cycles and causing the reduction of species important to people›s food. In this case, it is widespread in the country, according to the FIAN group in Guatemala.
77. http://www.fian.hn/fianhonduras/organizaciones-de-centroamerica-denuncian-ante-la-cidh-impacto-de-monocultivos-y--agrotoxicos-en-los-derechos-humanos
78. http://www.albedrio.org/htm/noticias/ep040705.htm
79 https://lahora.gt/hemeroteca-lh/maga-entregara-fertilizantes-en-medio-de-una-lucha-de-altos-mandos-con-prorural/

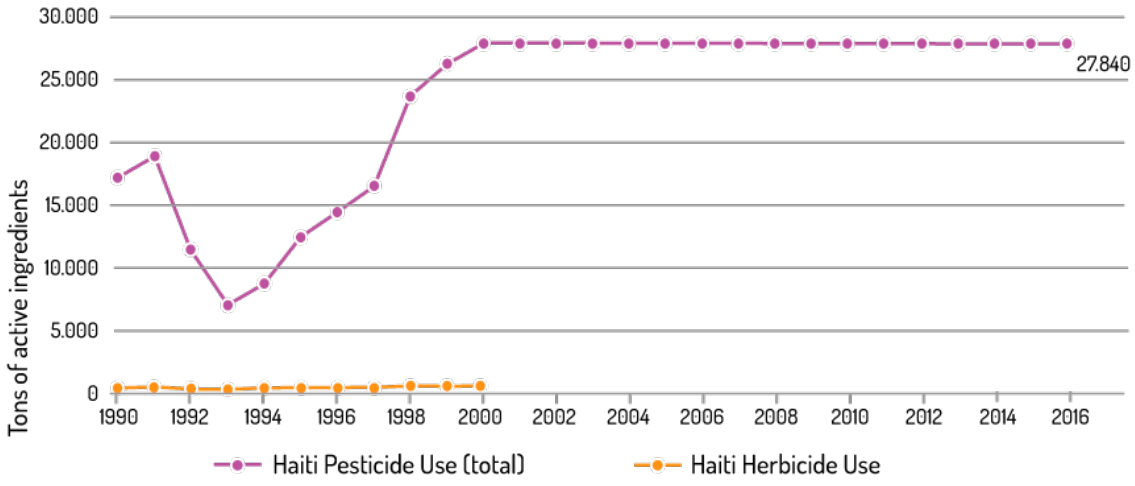
on volumes sold, as well as due to the lack of quality control and inspection bodies, safety and repercussion of the use of pesticides and fertilisers.

Among the support organisations, which can be articulated in defense of health and human rights protection actions, in relation to damages caused by the advance of agribusiness and the use of pesticides in Guatemala, are: Association of Community Health Services (Asecsa) ; Association for Development and Research Programs (Asoseprodi); Guatemalan Institute of Agricultural and Rural Studies (Idear); Coordination of NGOs and Cooperatives (Congcoop); Pastoral of the Land of the Diocese of San Marcos (PTSM); and Network of Communities and Organisations Affected by Oil Palm in the Northern Region of Guatemala (integrated by the municipalities of Ixcán Quiché, Sayaxché Petén, Chisec, Raxruhá and Fray Bartolomé de las Casas, in Alta Verapaz). The local FIAN group helped to prepare the document "Monocultures, agrochemicals and economic, social, cultural and environmental aspects in Central America" [81], presented to the IACHR in 2017.

Pesticides and their impacts: The case of Haiti

The information regarding the volume of pesticides used in Haiti does not allow a consistent assessment, reflecting difficulties experienced by the country given its recurring crises. Locally based data were not available, and even FAO records are fragile (Figure 10).

Figure 10. Commercialization of pesticides in general and herbicides in particular, in Haiti, period 1990-2015.



Source: FAO, 2019. Data available at: http://www.fao.org/faostat/es/#compare. Accessed on: 28 jan. 2019

80. Treated as an ecocide, this case is discussed at https://www.oxfamamerica.org/static/media/files/Impactos_de_la_Palma_Africana_en_Sayaxch%C3%A9_April_FINAL_SPANISH.pdf
81. Informed by the FIAN group in Guatemala.

The reconstruction of institutional normality in Haiti is supported by international collaborations directly affected by political and economic interests aligned with the pressures of agribusiness transnationals. Through market integration systems, the Haitian government has been importing and distributing certified seeds, as an alternative to increase the average productivity of national crops. With this, it favors the large transnational companies in the industry and expands the use of technological packages similar to those of the so-called Green Revolution. There, transgenic seeds and volumes of chemical and pesticide fertilisers are added, which impact production systems traditionally dominated by the local population, weakening them and destroying rural communities.

Most of the inputs distributed to farmers come from China, with no quality control systems or mechanisms for organising markets. This results not only in environmental and health impacts, but also in disconnections and negative synergies between policies that are contradictory in nature. While some local policies are supported by international cooperation programs that prevent the use of agrochemicals and encourage organic and agro-ecological practices, others operate in the opposite direction.

In any case, the positive or negative results depend on the proximity between the agents and the population dispersed in regions of difficult access, as well as on the continuity and scope of the programs, which are conducted there more significantly by the Technology Transfer Project for Farmers (PTTA [82]), the Strengthening of Public Agricultural Services (Resepag) and the International Agricultural Alliance (AAI) [83].

The characteristics of the country, with 65% mountainous territory, impose a reality of cultivation in small plots, dependent on access to water. As the flat areas are scarce and pesticides are used in them, the resulting problems tend to be punctual and concentrated. In these spaces, damage to the environment, human health and biodiversity tends to be especially relevant, threatening the preservation of endemic species and the maintenance of historically adapted cultural habits. Food quality is clearly threatened, but the presence of pesticide residues is difficult to detect, not only due to the lack of analysis and monitoring services but also due to the lack of food. The advance of hunger and malnutrition is a dramatic reality that imposes itself among the various human rights-related dramas in Haiti. Although the country ratifies most of the international conventions related to the problems caused by pesticides, like the Cartagena, Stockholm and Rotterdam conventions, the insufficiency of institutional mechanisms prevents those commitments from having an effective internal impact.

Among the few texts related to the theme, the FIAN group in Haiti mentions publications from the Ministry of Agriculture, Natural Resources and Rural Development (MARNDR), on products used in agriculture, on toxicology and ecotox-

82. http://agriculture.gouv.ht/view/01/IMG/pdf/informations_sur_le_ptta.pdf
83. https://www.upadi-agri.org/alliance-agricole-internationale-aai

icology and on phytosanitary and pesticide legislation (emphasis on chlordane, dieldrin, endrine, aldrin, HCH, DDT, heptachlor). The federal portfolio also published a document dealing with the storage and packaging of pesticides.

Legislative texts under the responsibility of the Ministry of Health are in preparation. These would be related to the Codification of Public Health Legislation, for chemical products in general, and on food additives in particular, having as reference the FAO norms and the Codex Alimentarius. In the strictly environmental area, the Ministry of the Environment prepares organic laws regarding all chemicals in use in the country. The table is completed by texts being prepared by the Ministry of Social Affairs and Labor, referring to occupational safety and the handling of chemical products, involving the Social Security Code on occupational diseases.
It is perceived incipience in the formulation of protective legal norms, in the midst of the process of reconstruction of the democratic structures of the country. Human rights linked to the topic tend to be weakened by policies to support the input market, and cases are covered up by a lack of supervision. There are no instances for complaints and analytical publications on cases of contamination.

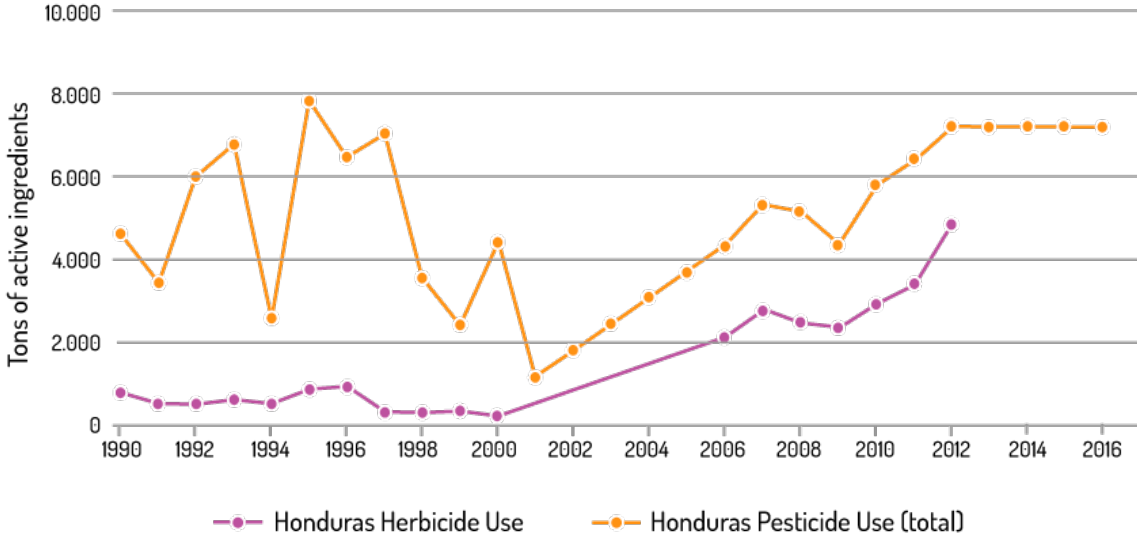
The main companies involved in the trade of these inputs have the participation of government agents and do not publish reports on volumes and values traded used in the country. In Haiti, a consolidated practice operates, facilitating and encouraging the use of pesticides. It is a diffuse orientation that starts from the presidency itself and runs through public policies and commercial organisations, which eventually have partners among government agents and that, as a whole, end up acting as a kind of informal legislation, of indirect and effective action, favorable to those products.

The information made available by the local FIAN group in Haiti, in relation to actions organised in defense of human rights with respect to damage caused by pesticides, attests to the lack of knowledge of organisations that have instituted legal demands in this regard, even if eventually some leader comments on the topic on radio or television. Apparently, the country also lacks additional support in this field, since only the entity would manifest a consolidated view in relation to the problem and its relationship with human rights.

Pesticides and their impacts: The case of Honduras

The information obtained regarding the volume of pesticides used in Honduras (Figure 11) also respect the proportion observed in Brazil, Colombia and Ecuador, at least until 2012, when the series was discontinued. Judging by the trend and the information provided by FIAN, it is admitted that the hypotheses worked on in the introduction and detailed in the evaluation of previous cases are maintained.

Figure 11. Commercialization of pesticides in general and herbicides in particular, in Honduras, period 1990-2016.



Source: FAO, 2019. Data available at: http://www.fao.org/faostat/es/#compare. Accessed on: 20 jan. 2019

As in the case of Haiti, little information is available on the topic. In Honduras, they would be regulated by the Law of Agricultural Modernisation (Decree 3192), by the Law of the Agricultural Sector (Decree 3-92) and by the law destined to the protection of plant breeders (Decree 21-2012), which seems similar to the Law of Protection of Cultivars (9,456/1997) [84], in force in Brazil, and to the Argentine seed law, which threatens the autonomy of farmers, extending rights of use and control of seeds and seedlings to breeders.

The FIAN group in Honduras recognises agriculture as one of the most dangerous productive occupations from the point of view of occupational health, and the general health status of agricultural workers is significantly compromised. Even so, the registered rates of illnesses and accidents would be underestimated due to geographical isolation, low income levels and general misinformation about the risks involved in handling agrochemicals.

According to the organisation, indicators of labor mortality in rural activities would show that those workers are subject to high rates of cancer in the stomach, liver, prostate, brain, skin, circulatory and lymphatic systems, which are related to the use of pesticides. Since 1986, samples of adipose tissue from patients in the Department of Oncology and Hematology at the Teaching Hospital in Tegucigalpa would reveal blood abnormalities in people from the rural area, in 78.3% of cases, involving seven types of organochlorines: DDT, lindane, chlordane, BHC, dieldrin, heptachlororepoxy and hydrochloride.

Organised reactions seem to be limited to legal demands by workers at the banana company Standard Fruit [85], who do not have government support and would have little chance of success.

84. http://www.planalto.gov.br/ccivil_03/LEIS/L9456.htm
85. Currently Dole Food Company - https://www.globalgap.org/uk_en/Profiles/de-Honduras

Those responsible for inspection (National Service for Health and Agri-food Safety – Senasa) are identified by the local FIAN group as ineffective and more committed to supporting the distribution of inputs than to controlling their impacts on health and the environment. Deaths from poisoning and kidney failure occur, as a result, in areas with monocultures of sugar cane and melon (five deaths in Guadalajara, Cantarranas, Francisco Morazán department).

According to the Pesticide Action Network and its Alternatives for Latin America (RAP-AL), in the Intibucá y Choluteca sector, the presence of cancer diseases and kidney failure associated with the use of pesticides in the melon industry grows. In the department of Yoro, there are cases of babies with hydrocephalus resulting from the use of pesticides in banana plantations.
In the context of scarce information on health damage, special importance is attached to a document entitled "Exploratory study on the prevalence of illnesses in communities located in the canary zones in the Southern Region of Honduras, 2012-2016."

These cases have been followed up by members of the National Coalition of Environmental Networks and Organisations (Conroa), the Southern Environmental and Social Movement for Life (Massvida) and the Honduran Alliance Against Climate Change (AHCC).

The legal framework in force in Honduras is attentive to product sales in agricultural stores [86]. There, guidelines related to commerce are established, stating that every place of sale must count on technical advice qualified to serve the consumer, based on what is established in organic law, defined by the Ministry of the Environment, which is scarcely known to the population. This results in the intermediation of market agents that ends up increasing the influence of commercial interests at the expense of concerns about health and the environment. Something similar to what occurs in the framework of the law to protect the rights of seed and seedling breeders. The most important companies in the trade of agricultural inputs are Cadelga, Tecnocer, Se-Agro and Cohorsil (Bayer). Sales reports are not available that allow evaluations of items and volumes traded.

There is no record of border conflicts related to the use of pesticides. In contrast, agreements are being established that tend to reduce risks of this nature, with the support of the International Regional Agency for Agricultural Health.

Pesticides and their impacts: The case of Mexico

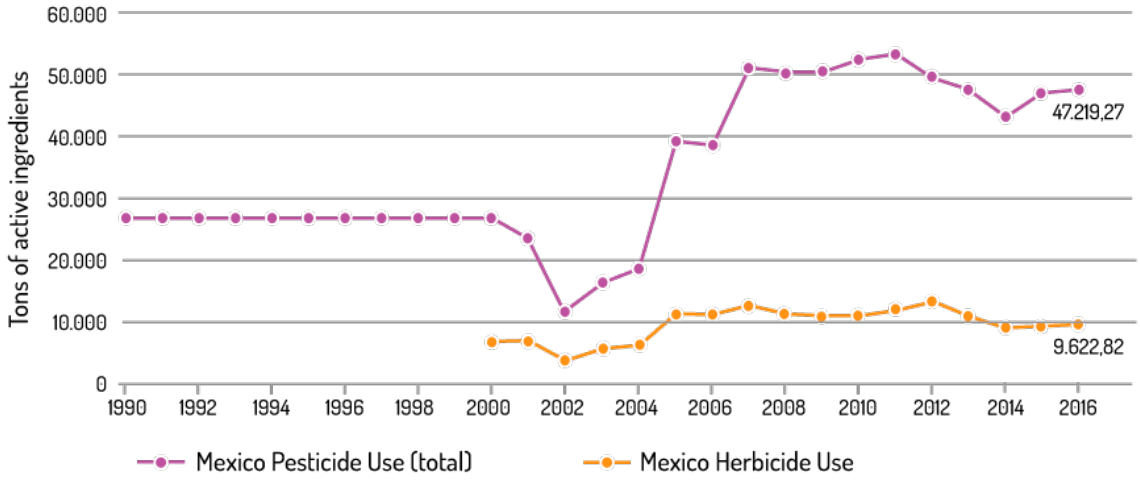
A hasty reading may suggest that information obtained from FAO, regarding the volume of pesticides used in Mexico (Figure 12), is significantly different, in terms of herbicide/total proportion, from what was found in Brazil and elsewhere.

86. http://cnpml-honduras.org/wp-content/uploads/docu_tecnicos/doc/Compendio_de_legislacion_de_plaguicidas_en_Honduras.pdf

However, if we consider that the ban on the cultivation of transgenic corn and soy removes vehicles that are extremely relevant to the dissemination of the use of glyphosate and 2,4-D herbicides from the Mexican market, a change in that pattern would be expected. For this reason, it is understood that the expansion in the use of pesticides, in Mexican territory, presents a heterogeneous configuration to that observed in regions where such crops are dominant.

However, the relative reduction in the participation of herbicides that would be applied in coverage on transgenic crops does not affect the demand for insecticides, fungicides or even herbicides applied in pre-emergence or selective, specific to narrow-leaf plants such as corn (monocotyledons), sprinkled in post-emergence on crops of broadleaf plants (dicots), or its opposite. In this sense, and taking into account the dominance of the same transnational companies, in that and other markets, the basic hypothesis that has already been suggested for other countries remains: the model of production dependent on agrochemicals impacts national sovereignty, bringing risks to health and the environment, which is why it is harmful to human rights.

Figure 12. Commercialisation of pesticides in general and herbicides in particular, in Mexico, period 1990-2016.



Source: FAO, 2019. Data available at: http://www.fao.org/faostat/es/#compare. Accessed on: 28 jan. 2019

Analyzing the information made available by FIAN Mexico, it appears that the promotion of the productive model adopted in this country responds to a mechanism established from schools of agronomy and research institutes, from which recommendations favorable to the use of agrochemicals (fertilisers and pesticides) systematically emerge. Adopted by professionals from technical assistance and commercial areas, these technological options are reinforced by systematic denial of scientific validity to agroecological-based processes, less dependent on external resources. Despite the growth of knowledge in the field of agroecology, that chain, once supported by the business chain and by a certain omission by

governments, results in an expressive preference for industrial agriculture that is reflected in the use of pesticides. The implications are known and coincide with the cases already reported.

Among the negative impacts, FIAN Mexico highlights reports of intoxications by rural workers and their families, as well as by populations in the areas surrounding the cultivated fields. The predominant reports range from symptoms of acute intoxication to hormonal, reproductive, congenital and cancerous changes, resulting from prolonged exposures of low intensity. The problems are extensive to urban populations, due to the consumption of contaminated food and water. The entity assesses that the situation tends to worsen, given the absence of public policies applied to the analysis and monitoring of pesticide residues. Environmental impacts resulting from the same process compromise the biodiversity, culture and way of life of rural populations and their native peoples.

There is optimism about the possible implementation of a law on the right to food recently passed in one of the chambers of the Mexican congress. It requires the absence of substance residues harmful to health and information to the population regarding the results of the analyses. It is about improving the current legal frameworks. Currently, the Health Law requires registration for pesticide producers, as well as the explanation of information about the content, the degree of toxicity and the necessary care in handling, in each case. However, its application has been restricted to a system of labeling of containers that proves to be scarcely informative and of low efficiency. In environmental laws, the norms related to water quality, plant health and agricultural promotion do not mention pesticides. It turns out that, although Mexico has ratified the Stockholm and Rotterdam conventions, including adopting some measures aimed at reducing and eradicating the use of certain pesticides, its global consumption is increasing (Figure 12).

Health damage monitoring has been carried out by groups of independent researchers, made up of university professors, NGOs such as Greenpeace and representative movements of peasants, peoples and traditional communities, as well as organisations in the fields of human rights and biotechnology, such as Grupo ETC, Rapam and Red Tecla.

Among the cases of health damage, there are occurrences in Sinaloa, involving genetic, chromosomal and physiological changes, as well as records of up to 80 new cases of childhood cancer each year (BEJARANO GONZÁLEZ, 2017, p. 192). In the Culiacán Valley, there is an empty packaging collection centre that occupies 280 ha and more than 50% of the accumulated volume corresponds to highly hazardous pesticides (HHPs). This fact illustrates not only the risks to the Valley but also highlights the absence of national or regional plans to control waste or to ban or gradually reduce the use of HHPs.

In the same vein, impacts of pesticides on human rights are observed in the Yaqui Valley (Sonora), in the cereal regions of Bajío de Guanajuato and in florists in the

state of Mexico (where 75% of the pesticides are HHP-type). Also in the Yuacatán Peninsula and in the Altos de Chiapas, similar effects are registered as a result of exposure to pesticide mixtures by peasants with little information about the risks and permanently stimulated to convert their traditional production systems to others, dependent on pesticides. (BEJARANO GONZÁLEZ, 2017 [87]).

Studies gathered in the publication cited show that pesticides and chemical fertilisers in Mexico are also controlled by a small group of transnationals and local agencies in the process of growing oligopolization. Bayer (202 pesticide records), Syngenta (133 records), Dow Agrosciences (92 records), Basf (85 records), Du-Pont (49 records), FMC Agroquímica de Mexico (93 records) and Velsimex (76 records) stand out among others. The 30 largest companies are registered to sell 1,726 products, of which 1,406 are for agricultural use.

The fact that 3,140 pesticides are allowed to be used in Mexico, which are controlled by 282 companies, hides the political and economic power of the largest among them (Bayer, Syngenta, FMC, Dow and Basf). For detailed access to tables detailing these reports, see Bejarano González (2017), p. 93-94.

As companies are not obliged to inform the volumes sold, there is no detail on this information, which makes it difficult to establish links with cases of intoxication. What remains to be considered are large numbers released on a national scale, like the FAO data that supported the figure above.

The rules of use, in relation to the production, commercialisation, handling, applications and monitoring of pesticides, are the responsibility of the departments of Health; Environment and Natural Resources; and Agriculture, Livestock, Rural Development, Fisheries and Food. Also noteworthy is the Intersecretary Commission for the Control of Production and Use of Pesticides, Fertilisers and Toxic Substances [88] (Cicoplafest) and the Federal Commission for the Protection against Sanitary Risks (Cofepris).

Currently, 140 pesticides banned in other countries are used in Mexico, 111 of which are classified as HHPs (highly hazardous pesticides). For details, see Bejarano González (2017), p. 344-348. Of these, the 42 most relevant (authorised in Mexico and banned in other countries) are examined on pages 98 and 99 of the study, published by Rapam.

Cofepris monitors the registration of pesticides at the Secretariat of Agriculture and acts in the issuing of labeling and packaging standards, even though it does not comment on residues in food. The lack of rules regarding the contamination of soils and waters results in a legislative vacuum regarding the preservation of ecological balance. Although epidemiological follow-up information on acute

87. Available at: http://www.movimentocienciacidada.org/documento/detail/51
88. Created to attend (unsuccessful with regard to the eradication of pesticides) the Stockholm conventions (https://www.mma.gov.br/seguranca-quimica/convencao-de-estocolmo) and Rotterdam (https://www.mma.gov.br/seguranca-quimica/convencao-de-roterda).

poisoning is available [89], this is not the case for low intensity contamination in long-term exposures.

The population's involvement in the fight against pesticides is confused with resistance to transgenics, especially in defense of corn, due to its importance for Mexican culture. In the case of transgenic soybeans, the cultivation ban also occurred, not as a result of the risks of contamination of non-GM crops but due to the violation of the right to prior and informed consultation by indigenous peoples. Among the arguments adopted, in the case of the soybean, the contamination of honey and other bee products was included.

These are two interesting precedents to be worked on by other countries, given the international awareness of the relevance of bees to the pollination of all plant species, as well as the fact that other regions are the center of origin for other cultures. In support of the fight in defense of human rights threatened by pesticides, we highlight the Pesticide Action Network and its Alternatives for Latin America (RAP-AL) in Mexico, the ETC group, the Tecla Network, Via Campesina and research organisations, who strive to highlight the absence and the need for public policies for the sector. There are popular actions applied to organisational processes that seek to stimulate adequate food, the expansion of agroecology, and the suspension in the use of pesticides and chemical fertilisers. The FIAN group in Mexico also actively participated in the drafting and promotion of the Right to Food Law, approved in one of the chambers that make up the Mexican Congress. The law states that food must be free of toxic substances.

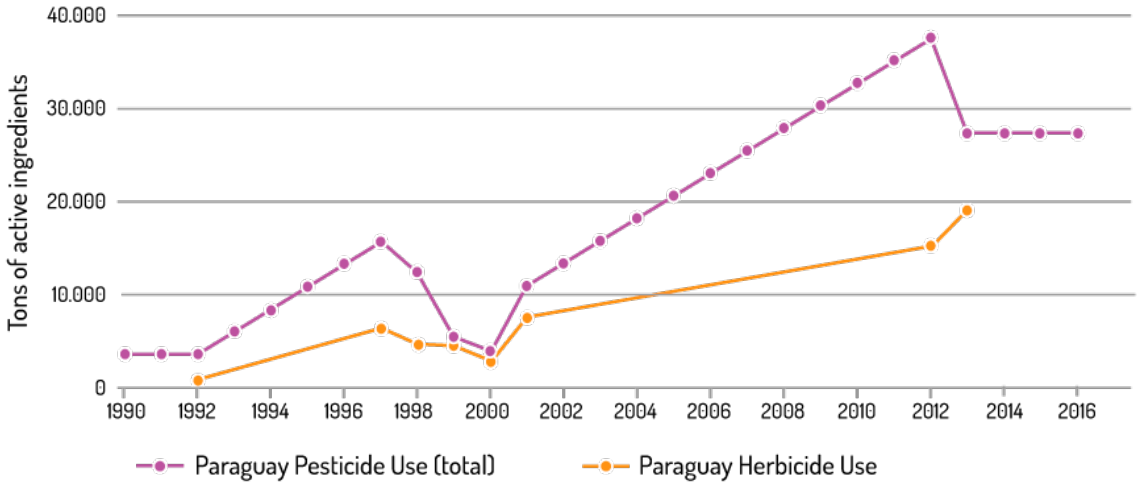
In the case of damage to be reported, it is worth mentioning an accident at a pesticide plant (Córdoba, Veracruz). The absence of a contingency plan and the unpreparedness of the teams of firefighters and support services led to the spillage of waste with contamination of rivers and damage to the health of the population. A similar accident occurred later in another region, also with national repercussions and similar implications.

Pesticides and their impacts: The case of Paraguay

The information obtained regarding the volumes of pesticides used in Paraguay respect the proportion observed in Brazil, although they present changes that suggest registration problems as of 2013 (Figure 13). However, the data series confirms proportionality between herbicides and other pesticides, associating them to the expansion of transgenic crops in a manner consistent with the previous reasons. This makes it possible to maintain the hypotheses already suggested, linking the expansion of agribusiness to threats to human rights, in the perspective discussed here.

89. There are no references to the gap between the number of registered cases and the actual occurrences (which in Brazil are of the order of 1:50).

Figure 13. Marketing of pesticides in general and herbicides in particular, in Paraguay, period 1990-2015.



Source: FAO, 2019. Data available at: http://www.fao.org/faostat/es/#compare. Accessed on: 28 jan. 2019

Policies for the development of the country are especially supportive of the implementation of export monoculture, livestock and forestation with pine and eucalyptus. The privilege to these sectors arises from the convergence of interests of local oligarchies with operators in the international commodities market and government agencies. They rely on technical justifications developed by multilateral cooperation agencies. The consolidation of public-private partnerships strengthens the influence of transnational corporations, relegating the role of the State to the secondary role of facilitating market operations. Deregulation processes are advancing to activities of interest to the internationalised agribusiness, which operates in Paraguay's territory in ways that are alien to the needs and demands of people and ecosystems, privileging productive systems that affect human rights, implying degradation of human health and dilapidation of common goods.

The current government has been deepening the mechanisms in question by loosening standards regarding modern biotechnology packages. Conflicts of interest are so relevant that public agencies and government officials in many cases act as simple local executors of decisions taken abroad. An example is the authorisation for commercial release of six varieties of transgenic maize, released by the OECD [90] before the Ministry of Agriculture and Livestock (MAG) had access to any documentation that would minimally simulate evaluation processes [91].

90. The Organisation for Economic Cooperation and Development (OECD) is an international cooperation body, composed of 34 member countries, which meet to exchange information and harmonize policies with the aim of maximizing their economic growth and collaborating in their development. The page mentioned by the MAG official, on which the 20 transgenic events published in Paraguay are published, is as follows: http://www2.oecd.org/biotech/byCountry.aspx

97. http://www.baseis.org.py/informe-tierra-agronegocios-y-dd-hh-n-5

In this environment, imports of pesticides are growing significantly [92], rising from 8.8 million litres in 2011 to 32.4 million in 2013, in the case of herbicides. This circumstance places Paraguay, with 7 million inhabitants, reduced geographical area and without sea ports, in the sixth global position among the countries that produce transgenic grains (being the fourth world exporter of GM soy and the sixth world exporter of GM corn). It is effectively a territory controlled by the interests that circulate around these crops, relieved of caution in relation to technical prescriptions or economic liability for damages resulting from the use of pesticides.

Between 2001 and 2008 the area of soybeans doubled, 64% of this territory being controlled by non-Paraguayan producers. The examples described for the Brazilian reality are repeated in Paraguay with increased intensity. The agro-export sector enjoys absolute impunity. Although the country has regulatory normative frameworks, they are not respected and there is no systematic monitoring, investigation of cases, accountability or concern with compensation. Spraying is carried out at any time of the day, with any climatic condition, regardless of minimum distances, living barriers, water sources, homes, roads and schools. Usage restrictions for highly hazardous pesticides (HHPs) are ignored, as well as for handling waste and cleaning equipment.

Environmental impacts can also be assessed by deforestation, with the replacement by soybeans of approximately 20 million hectares of native forests in the last 30 years. Livestock also participates in deforestation and accounts for a wide ecological disaster in the Chaco Paraguayan region.

Environmental imbalances are causing the emergence of new agricultural pests. In addition, natural selection processes are accelerated by multiplying populations of adventitious plants and harmful insects resistant to herbicides and toxins that accompany the technological packages of transgenic crops.

The biggest losses fall on family farmers, traditional peoples and communities, who do not want, or are unable, to keep up with the financial demands imposed by the production system stimulated by the government. In addition, these populations are direct victims of the massive use of pesticides, which they experience in the form of destroyed crops and animals that are dead or born with genetic alterations.

The damage is extensive to human health, causing a rural exodus that contributes to urban misery and the loneliness of monocultures in the countryside [93]. This results in overpopulation of rural communities without a service structure, increasing hunger, insecurity and disrespect for fundamental human rights. The emptying of the camp has often been caused by acts of violence, with the complicity or omission of the public authorities. The numbers are expressive. Between 1991 and 2008, about 100,000 families left their land. It is estimated that in 20 years about 300 thousand

92. Fluctuating between 42% and 937%, depending on the type of product.
93. In fact, in some cases, abuse of chemicals has been used by mechanised producers as a form of pressure to invade the land in the process of expanding the agricultural frontier. Families end up deciding to sell their land and move to the outskirts of cities or other countries.

hectares of jungles and forests have been replaced by monocultures (VILLAGRA, 2012, p. 20).

From the end of the 90s, notably after the entry of GM seeds, the soybean area went from 830 thousand hectares (1995) to 2.54 million ha (2008) (p. 32), in a growth rate that keeps until the present date. In 2016, the soybean area surpassed 3.6 million ha (ISAAA, 2016, p. 14). Between 2002 and 2008, 38,206 peasant family production units ceased to exist. A broader assessment reveals that between 1991 and 2008, peasants lost 30% of their territories to agribusiness, especially in recent years to soybean. Between 2004 and 2006 the crop advanced over 630,000 ha, closely followed by corn (+ 350,441 ha).

In parallel, the number of cases of childhood cancer grows in areas of monoculture [94], as well as genetic malformations and spontaneous abortions, blindness, renal, epidermal and neurological diseases [95]. Complaints expand, despite the persecution of doctors who make them [96].

The lack of surface and groundwater monitoring systems hides serious contamination problems in the Guarani Aquifer, whose recharge zone is located in a region covered by GM soy and corn. This will also impact populations in Argentina, Brazil and Uruguay. There are frequent reports of skin and vision problems among young people who bathe in streams that cut through that production area.

Malnutrition and food insecurity are also growing due to the fact that currently only 6% of the area explored with annual crops is intended for human consumption. While 94% of cultivated land is applied for export, the country imports 70% of the food consumed domestically, facts that characterise the government's lack of concern with such vulnerability and dependence.

Among the groups that can collaborate in work to protect the affected populations include Ñamoseke Monsanto, a collective that articulates 30 rural, urban and environmental organizations, as well as personalities committed to controlling the damage caused by the advance of agribusiness.

94. The FIAN group in Paraguay reports that José Luis Insfrán, from the hematology chair at Hospital de Clínicas, as well as other doctors concerned with the topic, have been persecuted for reporting health problems arising from the use of pesticides.
95. Confirmed by allergist and immunologist Joel Filártiga, according to the FIAN group Paraguay.
96. As in the case of pediatrician Stela Benítez Leite, whose research would have shown an increase in cases of mutagenicity and teratogenesis in populations exposed to pesticide spraying (FIAN Paraguay).

The robust Paraguayan legislation on the subject

- Law 2,459/04, which creates the National Service for Plant and Seed Quality and Health (Senave [97]), managing entity of international agreements and agreements related to the quality and protection of plant products and biotechnology patents.
- Law 2,457, which establishes the Senave mission [98], involving (Article 6) guaranteeing product quality and minimising risks to health and the environment; standardization and control of pesticides and fertilizers; and control of toxic waste within safe limits for health and the environment.
- Law 3,742/09, which defines the pesticide registration and control system [99] in all its dimensions [100], providing (art. 11) for refusal or revocation of permission to use in case of ineffectiveness, phytotoxicity/toxicity/acute or chronic ecotoxicity, and admitting possible cancellation of the operations of the company involved. It also provides (art. 12) partial suspension of authorisations for use and review of previous evaluations, when new scientific evidence appears. It establishes that a technical omission evaluator (CTE) chaired by Senave's Agrochemicals department will evaluate documentation contained in registration applications (arts. 19 and 20), taking into account Cosave's guidelines [101] and respecting the WHO toxicological classification, which prevents (in its article 22 °) the use of agrochemicals that imply high risks to human/animal health and/or the environment [102].
- Law 123/91, which requires actors to keep up-to-date records and prohibits the import/use/trade of products with pesticide residues above the maximum residue limits (MRLs) defined in Codex Alimentarius (FAO and WHO) [103].
- Law 166/69, which establishes a tax regime for the import of pesticides, fertilisers, raw materials for industrialisation, seeds and bulbs for cultivation.

In spite of this legislative orientation and the absence of bills for its flexibility, the controls are deficient and the application of the rules leaves something to be desired. Furthermore, the evolution of the treaty between the European Union and Mercosur tends to increase the influence of transnational companies that already operate in full freedom in the country, threatening human rights and weakening aspects of national sovereignty, to the detriment of the interests of the population.

97. Autarchy that brings together the Plant Defense Department (DDV), the Seed Department (Dise), the Cotton and Tobacco Inspection Office (Ofat) and the department that deals with standards and regulations related to the trade of products (and by-products)) from the Marketing Directorate of the Ministry of Agriculture and Livestock.
98. "To support the State›s agroproductive policy, contributing to the increase in the levels of competitiveness, sustainability and equity in the agricultural sector, by improving the situation of productive resources in terms of quality, plant health, genetic purity and prevention of effects in man, animals, plants and the environment, guaranteeing their safety." (article 4).
99. "Phytosanitary products for agricultural use."
100. Import or synthesis in the country, formulation, fractionation, transport, storage, labeling, marketing, advertising, use, packaging collection and waste disposal.
101. Regarding Cosave›s guidelines, the FIAN group in Paraguay records that Anvisa employees would object to the adoption of those parameters, in meetings for the preparation of regulations on pesticides, on the grounds that they are out of date.
102. According to the FIAN group in Paraguay, Law 3,742 has not yet been regulated by decree.
103. Establishes Senave›s responsibilities (and the possibility of agreements and covenants to do so), covering areas of inspection, technical assistance and partnerships, as well as application of measures for treatment and disinfection (Article 6), in addition to providing for the destruction of products not complying with the MRLs (Article 4). The owners of the places where pesticides are produced/stored/used are responsible for precautionary and control measures (article 9).

In some municipalities there are resolutions [104] protective measures that allow special situations, such as restrictions on use, as in the cases of José Fassardi (Guairá, since 2004), La Pastora (Caaguazú, since 2010), San Pedro del Ycuamandiyú (San Pedro, since 2012), Horqueta (Concepción, since 2015) and Villa Oliva (Ñeembucú, since 2016).

The case of greatest repercussion, involving judicial decisions of conviction for environmental crime, in view of the existing legislation, corresponds to the drama of the Talavera family. However, this is not an unprecedented case, and there are even lawsuits against peasants who oppose illegal fumigations [105].

To learn more about the Paraguayan case

- BASE-IS. **Con la soja al cuello** - informe sobre agronegocios en Paraguay. Informes 2015, 2016 e 2017. Asunción: Base-IS. www.baseis.org.py
- BENÍTEZ LEITE, Stela *et al*. 2010. Daño celular en una población infantil potencialmente expuesta a pesticidas. **Pediatria**, Asunción, v. 37, n. 2, p. 97-106, ago. 2010. https://revistaspp.org/index.php/pediatria/article/view/202
- BENÍTEZ LEITE, Stela; MACCHI, María Luisa; ACOSTA, Marta. Malformaciones congénitas asociadas a agrotóxicos. **Pediatria**, Asunción, v. 34, n. 2, p. 111-121, dez. 2007. http://scielo.iics.una.py/pdf/ped/v34n2/v34n2a02.pdf
- FRANCESCHELLI, Inés. La biotecnología en el mundo. En: PALAU, Marielle (coord.) **Con la soja al cuello** - informe sobre agronegocios en Paraguay 2013-2015. Asunción: Base-IS, 2015.
- FRANCESCELLI Inés. ¡Ovalema! ¡Ore Ñembyahyima! (¡Basta! ¡Ya tenemos hambre!) Derecho a la alimentación. *In*: CODEHUPY. **Yvypóra Derécho Paraguáipe – Derechos Humanos en Paraguay 2017**. Asunción: Codehupy, 2017, p. 203-218. http://codehu[redacted]rg.py/wp-content/uploads/2017/12/DDHH-2017_Web.pdf
- FRANCESCELLI, Inés. **El modelo agroexportador pone en riesgo la existencia del Paraguay**. Memoria del Simposio Internacional "Controversia científica: transgénicos, plaguicidas y salud humana" (adjunto).
- RULLI, Javiera *et al*. **Los refugiados del modelo agroexportador**. Asunción: Base IS, 2007. http://lasojamata.iskra.net/files/soy_republic/8_LosRefugiadosModeloAgroexportador_JavieraRulli.pdf
- VALIENTE, Hugo. **Comunidades en lucha**. Asunción: Base-IS, 2014.

The total volumes traded, by product type, in 2015 and 2016 are summarised in Tables 6 and 7, below.

104. Municipal laws and decrees.
105. http://www.abc.com.py/edicion-impresa/economia/imputan-por-impedir-fumigaciones-1224797.html

Table 6. Paraguay: Volume of imported pesticides, relative participation and their evolution in the 2015-2016 period.

Pesticides imported annually, by type, in kg			
Type	**2015**	**2016**	**Variation**
Herbicides	33,574,443	30,572,513	-8.9%
Insecticides	7,085,103	6,547,828	-7.6%
Fungicides	6,633,333	8,433,430	27.1%
Others*	456,622	19,460	-95.7%
Total	47,749,501	45,573,231	-4.6%

Source: data survey carried out by FIAN for this document.
(*) Acaricides, bactericides, molluscs.

We have found no explanations for the reduction in the use of agrochemicals, since the numbers contradict expectations related to the advance of deforestation and the areas occupied by soybeans and corn, among other export-oriented crops. There are no records of substitution of agrochemicals with a transition to products related to a lower volume of use per hectare. As a prospective speculation, the possibility of expansion in the volumes imported with deficient records is suggested, or as a result of internal elaboration or even coming from illegal trade/smuggling. These hypotheses are reflected in Table 8, since the reduction in the use of glyphosate would be incompatible with the expansion of transgenic crops and Paraguay's position in the international market for these commodities. Table 7 shows the relative importance of the main Paraguayan agribusiness companies [106].

Table 7. Paraguay: Volume traded and relative participation of the ten largest importers of pesticides in 2016.

Company	Kg (net)	%
Tecnomyl	6,080,455	13.3
Monsanto Paraguay	5,289,014	11.6
Glymax Paraguay	4,165,257	9.1
Matrisoja	3,384,310	7.4
Agrotec	2,823,664	6.2
Dow Agrosciences Paraguay	2,580,602	5.7
CHD's Agrochemicals	2,300,444	5.0
Somax Agro	2,078,685	4.6
Syngenta Paraguay	1,750,836	3.8
Bayer	1,601,802	3.5

Source: data survey carried out by FIAN for this document.

106. The cases followed involve a group of 80 pesticide importing companies, among which the ones mentioned in Table 8 stand out, responsible for 70% of the total volume.

Table 8. Paraguay: Volume of imported pesticides (kg of active ingredient), and their evolution in the period 2015-2016.

Active principle	2015	2016	Variation (%)
Glyphosate	15,006,356	13,213,273	-11.9
2,4-D	2,055,807	1,727,966	-15.9
Dicamba	13,157	4,310	-67.2
Ammonium glufosinate	3,000	23,600	686.7
Paraquat	10,395,477	8,397,343	-19.2
Others*	6,100,646	7,206,022	18.1
Total	33,574,443	30,572,514	-8.9

Source: data survey carried out by FIAN Paraguay for this document.
(*) Acaricides, bactericides, molluscicides.

The direct links between the territorial advance of the agribusiness, the use of pesticides and the expulsion of family farmers, indigenous peoples and traditional communities[107] go through expedients that include everything from the purchase of plots where the sprinkling of poison makes neighboring jobs unfeasible, contaminates water and threatens the health of the population, to direct threats, aggressions and selective assassinations of leaders. The impotence of communities is aggravated in view of government support to companies, with criminalisation of actions of resistance being registered even in cases in which the use of pesticides occurs in violation of the legislation.

The resistance of peasant organisations has been growing since the introduction of technological packages involving transgenics and pesticides. It started with complaints and search for legal solutions through legal means [108], demanding respect for legislation and constitutional rights. Subsequently, it began to take collective actions with a view to obtaining visibility that could result in government manifestations, which had hitherto been omitted in relation to judicial petitions for compliance with the legal rules regarding the use of pesticides. The results started to be opposite to the expected when, after the 2012 parliamentary coup, farmers, their leaders and organisations started to be criminalised [109] with the expansion of the agribusiness influence in the government.

107. It is estimated that half of the area currently cultivated with soy was occupied by peasants, who were expelled from their land (Glauser, 2009, p. 49).
108. From 2003 to 2008, the Paraguayan peasantry did not cease to publicly denounce these facts, without a positive result, (Ortega, 2008, p. 4).
109. The National Peasant Federation (FNC) reports that in 2016 more than 200 people were criminalized for the resistance offered to massive fumigations with pesticides (FIAN Paraguay).

Some conflicts recorded in the press

- Teacher denounces illegal use of pesticides near the school. His house is set on fire (Guarohy community, department of Caaguazu)
http://www.abc.com.py/nacionales/le-quemaron-la-casa-pero-aun-apuesta-por-guahory-1557286.html

- Self-consumption crops are destroyed by pesticide drift (San Pedro department)
http://www.abc.com.py/edicion-impresa/suplementos/centinela/denuncian-danos-a-causa-de-fumigaciones-de-soja-1226705.html

- Conflicts in the San Joaquin district, department of Caaguazú
http://www.abc.com.py/edicion-impresa/economia/conflicto-entre-campesinos-y-sojeros-1218120.html

- Conflict in the Independencia colony, Guairá department
http://www.abc.com.py/edicion-impresa/economia/frustran-intervencion-fiscal-en-conflicto-1218118.html

- Conflict in the Canindeyu department
http://www.abc.com.py/edicion-impresa/politica/campesinos-impiden-fumigaciones-1213011.html

- Farmers from the National Peasant Federation challenge the Minister of Agriculture to drink tereré with water collected from streams in the fumigated regions
http://www.abc.com.py/nacionales/ofrecen-fumigar-jardin-de-gattini-1216902.html

- Several actions of the Ñamoseke Monsanto collective showing environmental problems and impacts on the health of the populations

Recently conflicts have worsened and the Paraguayan Human Rights Coordination (Codehupy) denounced the Desc Committee (2017) about the impact of pesticides and their implications in terms of damage to human rights [110].

In 2015, the Committee had again unsuccessfully expressed its concern about the indiscriminate use of pesticides [111] in the country. In 2011, the Committee for the Elimination of All Forms of Discrimination against Women had demanded an official study and measures aimed at protecting rural women and their children. Four years later, the UN Special Rapporteur on the Rights of Indigenous Peoples Victoria Tauli-Corpuz, in her "Report on the situation of indigenous people in Paraguay,"

110. The Committee recommended that the State adopt urgent measures to control practices adopted in the cultivation of soybeans, which compromise rights recognised by international pacts. It also recommends observing the pesticides law and creating effective legal frameworks to protect the population and the environment from damage caused by these products.
111. The Committee reiterates its previous recommendation (E/C.12/PRY/CO/3, para. 27) and urges the State party to take the necessary measures to control the cultivation of soy, so that it does not imply prejudice to the enjoyment of economic, social and cultural rights, particularly the right to an adequate standard of living, food, water and health. The Committee urges the State party to adopt an effective legal framework for environmental protection, particularly against the indiscriminate use of pesticides, and to provide appropriate sanctions for those responsible and adequate compensation for those affected (NR 25).

denounced the occupation of indigenous lands by agribusiness sectors [112] and violations of their rights, conducted with the support of public organisations and with the granting of environmental rights [113] offensive to the country's legislation and international standards related to indigenous peoples.

In 2016, the UN Special Rapporteur on the Right to Food heard from doctor Stela Benítez and civil society organisations about the impact of pesticides on the lives of rural populations. In the special chapter dedicated to the theme in her report, she denounces that "the expansion of soy in Paraguay was accompanied by the excessive use of pesticides" and that "between 2009 and 2013 the importation of herbicides increased by 500%, and that of insecticides, by nearly 1,400%", wherein "in October 2016 alone 78,000 tons of pesticides were imported."

In her document, the rapporteur also highlights that, "although the right to a healthy environment is recognised in articles 7 and 8 of the Federal Constitution," this would not be respected because "exposure to pesticides can have dangerous impacts on human health, children and pregnant women being particularly vulnerable to its effects."

Apparently, the government did not take these observations into account, despite their international repercussions.

Pesticides and their impacts, a brief summary

Assessing the use of pesticides in selected countries reveals an overall trend that reflects geopolitical decisions related to the insertion of said territories in the international market for inputs and products. Designated for the production of raw materials, the countries of Latin America, are experiencing an increase in monocultures (soy, cane, corn, palm, cotton and eucalyptus), with an emphasis on transgenic crops (soy, corn and cotton). As a result, the volume of pesticides is growing and is concentrated in products marketed by companies that have ownership rights over GM seeds. As a result, rapid and drastic changes are taking place in living conditions and community relations. In addition, the prospects for human development in these countries are also altering.

Acting beneficiaries can be reduced to a strict number of transnationals, their agencies and local partners, who have been gaining increasing influence over the Executive, Legislative and Judiciary, with the protection of the mainstream media and the support of international agencies. Democracy is seriously threatened as the three State powers reveal structural preferences for interests outside the demands of the population and national interests, in a long-term perspective. In these circumstances, real problems are hidden from different points of view.

112. "The UN Special Rapporteur heard numerous complaints about indigenous lands being occupied by settlers, farmers or forestry companies, large producers or soy farmers and the resulting clashes. (...) The UN Special Rapporteur is concerned with reports of violations of indigenous people›s land rights by public institutions. In particular, references were made to the issuance of environmental licenses by the Secretariat for the Environment that are not in compliance with Paraguayan law or international standards related to the rights of indigenous peoples." Available at: https://www.ohchr.org/EN/HRBodies/HRC/RegularSessions/Session30/Documents/A_HRC_30_41_Add_1_ENG-.docx

113. On the part of the Secretariat of the Environment (Seam). Available from: https://documents-dds-ny.un.org/doc/UNDOC/GEN/G17/019/76/PDF/G1701976.pdf?OpenElement

Examples of problems caused by the model imposed by agribusiness

Technicians

Emergence of populations of plants and insects that are more difficult to control, which demand new generations of GM seeds and more intensive uses of pesticides

Economic

Increase in costs without equivalent response in terms of productivity, leading to the need for expansion in the size of crops

Environmental

Reduction of biodiversity, ecosystem services, quality and life of soils and waters, with the degradation of common goods

Social

Expulsion from families, degradation of the social fabric in the countryside, emergence of health problems, advances in cases of cancer, malformations, changes in hormonal, reproductive, digestive systems, etc.

Cultural

Mischaracterization of ways of life, loss of ancestral knowledge and breaking ties of solidarity between the men of the present and future generations

From other dimensions

Weakening peoples 'sovereignty and loss of families' food and nutritional security

These facts compromise the future of the population and undermine representative democracy, facilitating the control of territories by agribusiness transnationals. The relaxation of legislation is aggravated by the persecution and killing of activists, the criminalisation of social movements, the legalisation of crimes and the suppression of reactions. The conflicts of interest associated with such deviations from the scientific and political community are expressed in the omission or the outright fault of agencies in charge of controlling the quality of food, inputs and protecting health and the environment, establishing a vicious cycle where the aggravation of problems can be added to the decisions that worsen their causes.

The use of pesticides that are banned in the European Community is growing in our region, where it has been registered that at present, at least one third of the products most sold are Highly Hazardous Pesticides, which are vetoed in their countries of origin. The groups, leaders and activists who are dedicated to these issues have suffered threats and persecution, in some cases followed by death, making it necessary to create an extensive and articulated protection network (LIMA NETO, 2018) in all countries in America Latin.

Recommended accesses

- Permanent Campaign against Pesticides and for Life - http://controsagrotoxicos.org
- Citizen Science Movement (MCC) - http://movimentocienciacidada.org
- Union of Scientists Committed to Society and Nature in Latin America (UCCSNAL) - http://uccsnal.org
- Brazil and the 14th Convention on Biological Diversity: the tragedy announced to biodiversity - https://terradedireitos.org.br/acervo/publicacoes/boletins/49/o-brasil-ea-14-convencao-da-diversidade-biologica- the-tragedy-announced-the-biodiversity/22992
- "Carta de Goiás - 'Human rights are not asked for on their knees. Standing up '' - http://www.gwata.com.br/2018/12/22/carta-de-goias-direitos-humanos-nao-se-pede-de-joelhos-exige-se- standing
- Declaración del Encuentro "Science Worthy for the Health of Mother Earth" 2018: The technology and our future - http://www.biodiversidadla.org/Recomendamos/Declaracion-del-Encuentro-Ciencia-Digna-para-la-Salud- de-la-Madre-Tierra-2018-La-tecnociencia-y-nuestro-futuro
- Regularization of products - pesticides - http://portal.anvisa.gov.br/registros-e-autorizacoes/agrotoxicos/produtos/registro
- Robotox, the robot that tweets whenever the Federal Government releases a new pesticide registration - https://twitter.com/orobotox
- Stockholm Convention on Persistent Organic Pollutants - https://www.mma.gov.br/seguranca-quimica/convencao-de-estocolmo
- Rotterdam Convention on the Prior Informed Consent Procedure (PIC) Applied to Certain Pesticides and Hazardous Chemicals Subject to International Trade - https://www.mma.gov.br/seguranca-quimica/convencao-de-roterda
- Codex Alimentarius - Normas Internacionales de Los Alimentos - http://www.fao.org/fao-who-codexalimentarius/home/es
- Network of Action on Pesticides and their Alternatives for Latin America (RAP-AL) - https:// rap -al.org/historico/index3945.html?seccion=10&f=bases_plaguicidas_rapal.php
- Map of conflicts involving environmental injustice and health in Brazil - http://www.conflitoambiental.icict.fiocruz.br
- Pesticide commercialization reports - http://www.ibama.gov.br/agrotoxicos/relatorios-de-comercializacao-de-agrotoxicos
- Overview of data related to pesticides - https://agrotoxicos.eita.org.br
- Behind the Food - https://portrasdoalimento.info

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CHAPTER 3 IMPACTS OF PROMOTION AND USE OF ATXS ON THE RTF

Juan Carlos Morales González (FIAN Colômbia)

IMPACTS OF PROMOTION AND USE OF ATXS ON THE RTF

The previous chapter permits important observations. Firstly, the growing use of pesticides is a regional problem that is only possible due to: (1) tolerance, acquiescence and the active role of other states, translated into different forms of violence that allow pesticides to be used without control; (2) systematic and deliberate failure to comply with obligations in relation to the RtF and its related rights; and, (3) loyalty to a predatory and destructive economic model, as well as to the powerful economic and political actors that underlie it, as the promotion and use of pesticides is fundamental for their machinery. In summary, the different tragedies that the continent undergoes due to pesticides are, to a large extent, the responsibility of the States and their growing disregard for life and human rights.

The second finding is that the violation of the RtF, the consequence of an increased use of pesticides and of the permissiveness of the State, is complex, multiform and takes place in many moments of the food process, when considered holistically. That is to say, as we will see later in this chapter, it cannot be reduced to a problem that only affects humans and/or a single stage of the food process.

Based on these findings, this chapter will approach, from complementary perspectives, the complexity of the RtF violations derived from the promotion and use of pesticides. Firstly, showing how they relate to the weakness of the State to redress them, to the State's inability to think of a different model for agri-food matters, to the complicity with economic actors that encourage the use and expansion of pesticides and to the State's shortcoming in relation to its obligations towards the RtF. Secondly, we will see how the harm to people and communities, their territories and their food, constitute multiple and multifaceted forms of violations of the RtF.

Economic model, State weakness and non-compliance by the State with its obligations vis-à-vis the RtF

The promotion and use of pesticides, in the unreasonable, criminal and destructive way that currently takes place, as well as their relationship with the complete violations of the RtF and other human rights, are closely linked to the neoliberal model, extractivism, the growing power of transnational corporations (hereinafter: TNCs), the destruction of national sovereignties and populations, and the oligopolization within a corporatist agribusiness and nutritional system that tends to be hegemonic [1].

1. Among other elements, the agribusiness and nutritional system of a corporatist type comprises " a dense architecture of interests, actors, narratives, methods of economic management, policies, impositions, stripping strategies, forced generation of market scenarios, normative adjustment, cultural and consumer transformations, etc, all in function of the consolidation of political and economic power of corporations in food and nutritional matters "See: Morales González, Juan Carlos. Neoliberalism, corporate power, agribusiness and nutritional system of a corporatist type and challenges for the human right to adequate nutrition and nutrition. En: FIAN Colombia. Perspectives on the right diet and nutrition. Inversiones Cimaz SAS Bogotá. 2018. Q: 25.

The expansion of pesticides and the model that justifies this comes under an umbrella of mystifications around the ideas of "scientific-technical advances", "progress" and "development" that have been imposed upon us. Thus, they do not correspond to the aspirations and sovereignty of national populations, especially those who produce food. All in clear opposition to the Declaration of the Right to Development.

"The human right to development also implies the full realisation of the right of people to the free determination, which includes, subject to the relevant provisions of both international human rights agreements, the exercise of their inalienable right to full sovereignty over all their riches and natural resources." [2]

The production system driven by this model at a rural level, and in the field of food, is built around the agro-export obsession and the associated technological packages, based on the intensive use of pesticides, without regard to their consequent damage to the environment, human health and to the food needs, present and future, of the countries of the continent. This is contrary to the goals 15.1 and 2.4 of the Sustainable Development Goals, which all countries in the world should strive to respect.

"Until 2030], ensure the conservation, restoration and sustainable use of terrestrial ecosystems and indoor ecosystems of fresh water and their services, in particular forests, humid areas, mountains and arid areas [3]*."*

And,

"(...) [For 2020], ensure the sustainability of food production systems and to apply resilient agricultural practices that increase productivity and production, contribute to the maintenance of ecosystems, strengthen the capacity for adaptation to climate change, extreme weather phenomena, droughts, floods and other disasters, and progressively improve the quality of the land and of the soil" [4]

In the first chapter, this report showed that the increase in the use of pesticides is associated with the increase of monocultures and agricultural production based on transgenic crops. This situation, we insist, is the result of a production model that, if continued, puts at risk the resilience of the planet in the face of climatic collapse as well as the possibilities of sustaining food production, something the Paris Agreement has recognised as a global imperative.

"[The Agreement has, as a goal, among others], to increase the capacity of adaptation to adverse effects of climate change and to promote resilience to the climate and a form of development with low emissions of greenhouse gases, in a way that does not compromise the production of foods." [5]

2. UN. Declaration on the Derecho al Desarrollo. New York. 1986. Article 1, paragraph 2. Here and there, all the emphasis is on the authors of this report.
3. UN. Objectives of Desarrollo Sostenible. New York. 2015. Goal 15.1 Life of terrestrial ecosystems.
4. Ibíd. Goal 2.4 Hamburg right.
5. UN. Marco de las Naciones Unidas Convention on Climate Change. Acuerdos de París. Paris. 2015. Article 2, paragraph b.

It is also worth mentioning that the impetus for these activities, which are supremely harmful to the environment, happens without regard to the principle of minimum precaution, as stated in the Rio Declaration [6] and the Cartagena Protocol [7], instruments that legitimise other societies to oppose the implementation of any activity that could be expected to have negative consequences on the environment and biological diversity.

Another key element mentioned in the previous chapter is that the expansion in the use of pesticides, as well as the violations of human and environmental rights associated with them, is possible thanks to a transformation in the social contract of other countries, the legislative agenda, and several normative changes that have occurred to favour this situation and the interests of companies.

These normative changes, in addition to favouring a model and practice (the use of pesticides) that ends in serious violations of human rights, are actions contrary to the measures that the States must effectively adopt to protect, respect and implement economic, social and cultural rights, especially the RtF:

"Each of the States Parties in the present Covenant pledge to adopt measures, both separately and through international assistance and cooperation, especially economic and technical, to the maximum of the resources available to them, to progressively achieve, by all appropriate means, including in particular the adoption of legislative measures, the full effectiveness of the rights herein recognized." [8]

These measures, such as the guidelines on feeding, should include economic, agricultural and land use policies that seek not only to access their food and the means to produce them, but also to encourage the use and conservation of common goods:

"The States must put into practice economic, agricultural, fishing, forestry, and land use policies, and, where appropriate, policies of agrarian reform, which will allow farmers, fishermen, foresters and other food producers, particularly women, to obtain a fair income from their work, capital and management, and must encourage conservation and sustainable mining of natural resources, even in marginal areas[9]*."*

To a similar end, the Committee of Economic, Social and Cultural Rights (hereafter: CESCR), in the General Observation No. 12, clarified to the States that the strategies and measures related to the RtF must be consistent with parallel measures related to the right to health. This is extremely pertinent, because impacts, such as those caused by pesticides generated, on the RtF go hand in hand with human health.

6. UN. Declaration of Río. United Nations Conference on Environment and Development. Rio de janeiro Brazil. 1992. Principle 15.
7. Secretariat of the Convention on Biological Diversity - UN. Cartagena Protocol on biotechnology security at the Convention on Biological Diversity. Montreal. 2000. Article 1.
8. UN. International Covenant on Economic, Social and Cultural Rights. New York. 1966. Article 2.
9. FAO. Voluntary guidelines on the progressive implementation of the right to adequate food in the context of national food security. Pomegranate. 2004. Guideline 2.5

"The strategy will take care of all tests and critical measures related to all aspects of the food system, in particular the production, preparation, distribution, marketing and consumption of healthy foods, as well as the parallel measures in terms of health, education, implementation and social security. We have to try to manage and to more sustainably use natural food resources and other resources at national, regional, local and domestic levels[10]*."*

Considering the findings of this study, one can conclude that the prohibition, or the strong limitation of the use of pesticides, and the promotion of productive forms, which do not harm the environment or human health should be among the measures that States should adopt regarding the RtF. In fact, not taking measures to nullify or reverse these regulatory favours, which have made the set of damages and violations of the RtF (and well as other rights) possible, as a result of the promotion and use of pesticides, constitutes in itself a violation of Economic, Social and Cultural Rights, as indicated in the Maastricht Guidelines on Violations of Economic, Social and Cultural Rights.

"Violations of economic, social and cultural rights may also result from the omission or non-compliance of the State in relation to the adoption of the necessary measures derived from its legal obligations. Some examples of such violations are mentioned below (...) (b) The non-modification or revocation of any legislation that is clearly inconsistent with an obligation set forth in the Covenant; d) Non-regulation of the activities of individuals or groups to prevent them from violating economic, social and cultural rights.[11]*"*

Regulatory changes favorable to the expansion of pesticides at the hemispheric level have been strengthened in the framework of the signing of international trade agreements. In fact, to cite the example mentioned in the previous chapter, the EU-Mercosur Treaty, signed as a Strategic Association Agreement between Mercosur and the European Union in July 2019, seems to be the proof of a great threat that continues to spread throughout the continent. The mutation in regulatory measure, which allows for the increasing use of pesticides, to the detriment of the protection of our populations, their territories and the environment, goes against the RtF and is perfectly classifiable as a violation of that right by the States. In this regard, in General Comment No. 12, the CESCR warned that:

"Violations of the right to food may be caused by acts carried out directly by the States or by other entities insufficiently regulated by the States. These include: officially repealing or suspending the legislation necessary to continue enjoying the right to food; the denial of access to food for certain individuals or groups, whether discrimination is active or based on legislation; the prevention of access to humanitarian food aid in internal conflicts or other emergency situations; the adoption of legislation or policies that are manifestly incompatible with previous legal obligations related to the right to food; and the failure to control the activities of individuals or groups to prevent them from violating the right to food of other people; or,

10. CDESC. General Observation No. 12. The right to adequate food. Geneva. 1999. Paragraph 25.
11. Maastricht Guidelines on Violations of Economic, Social and Cultural Rights. Maastricht. 1997. Paragraphs 15b and 15d.

when it is the State, not taking into account its international legal obligations related to the right to food when concluding agreements with other States or with international organisations." [12]

Within the regulatory field, another shortfall of our States has to do with public policies. Indeed, the lack of commitment and political will of the States when it comes to protecting food production, as well as its natural, human and social substrate, against the damage and impacts of pesticides, can be seen in the lack of coherence among State public policies.

As previously mentioned regarding what happens in Haiti, there are policies supposedly orientated to stimulate organic or agro-ecological practices, while others promote the use of pesticides. Many of these actions are assistance-type policies that generate dependency on technological packages, as already mentioned in the Ecuadorian case.

Inconsistency in State action goes against what is recommended in General Comment No. 12 (paragraph 22) and the Right to Food Guidelines (guideline 5.2). Added to this is the poor role that national human rights institutions have had, with honorable exceptions, who have the obligation, as formulated by General Observation No. 10, to monitor the normative or policy actions of the States so that they do not go against economic, social and cultural rights, including the RtF.

"[Among the functions of national human rights institutions is] the careful examination of the laws and administrative provisions in force, as well as bills and other proposals, to ensure that they are compatible with the requirements stipulated in the International Covenant of Economic, Social and Cultural Rights." [13]

At present, as explained in the previous chapter in the cases of Honduras, Haiti, and Mexico, the States have abandoned their duty to have technical institutions for the detection and analysis of pesticides in food, or surveillance, monitoring and prevention in relation to the activity of companies that commercialise pesticides and the risks and impacts of their use. This issue is very important, by virtue of the right to health and the proven use on our continent of Highly Hazardous Pesticides (hereinafter: HHPs) that have been banned in several industrialised countries.

"The improvement of all aspects of environmental and industrial hygiene (...) entails, in particular, the adoption of preventive measures regarding (...) the need to ensure the adequate supply of clean drinking water and the creation of basic sanitary conditions, the prevention and reduction of the population's exposure to harmful substances such as radiation and harmful chemical substances or other harmful environmental factors that directly or indirectly affect the health of human beings." [14]

12. CDESC. General Observation No. 12. The right to adequate food. Op. Cit. Paragraph 19.
13. CDESC. General Observation No. 10. The function of national human rights institutions under the protection of economic, social and cultural rights. Geneva. 1998. Paragraph 3b.
14. CDESC. General Observation No. 14. The right to enjoy the highest possible health level. Geneva. Paragraph 15.

According to what is expressed by human rights mechanisms, such as the one cited above, the obligations of promotion and vigilance are unavoidable and their absence is explained precisely by the complicity of the state with the commercial interests behind the expansion of use of pesticides.

Surveillance and control actions should include permanent monitoring of the safety of foods produced using pesticides, which does not mean being limited to the production process of said foods. Rather, it implies monitoring the fact that contamination can be present at any point in the long food process, which includes final consumption by people. Regarding the breadth of surveillance and monitoring, the Right to Food Guidelines stated:

"States are encouraged to take steps to simplify institutional food control and food safety procedures at the national level and to eliminate gaps and overlaps in inspection systems and the legal and regulatory framework applicable to food. States are encouraged to adopt science-based food safety standards, including standards for additives, contaminants, residues of veterinary drugs and pesticides, and microbiological hazards (...) States should take measures to prevent contamination by industrial and other contaminants in the production, processing, storage, transportation, distribution, handling and sale of food." [15]

Another field of monitoring and surveillance, which is the responsibility of the state and where serious deficiencies are evident in the hemisphere, is the lack of information on the actual volumes of business sales of pesticides in our countries, as mentioned for the cases of Haiti, Mexico and Brazil. Additionally, the fact that it is suspected that there are a considerable amount of pesticides implicated in smuggling and clandestine manufacturing, as seen in this report for the case of Paraguay, calls into question both the responsibility of the companies and the role of the State in protecting our rights.

The lack of commitment of the States to confront the problem of pesticides impacts other areas of strategic importance for our countries. In effect, the States in the region have allowed the use of ATXs and associated technological packages to be promoted uncritically and with industry interference.

Therefore, the States go against an education, which as a right, should promote the protection of the environment, something that is a life or death situation for our species and the planet. Regarding this matter, the CESCR has indicated that:

"Education is an intrinsic human right and an indispensable means of implementing other human rights (...) Education plays a decisive role in the emancipation of women, the protection of children against labor exploitation, hazardous work and sexual exploitation, the promotion of human rights and democracy, the protection of the environment and the control of population growth." [16]

15. FAO. Voluntary guidelines on the progressive implementation of the right to adequate food in the context of national food security. Op. Cit. Guideline 9.3
16. CESCR. General Observation No. 13. The right to education. Geneva. 1999. Paragraph 1.

The paradox is that, while States support an educational model that presses towards a greater use of pesticides and its associated productive forms, from diverse spaces of academic institutionality, as was exposed in this report for the Mexican case, productive practices, such as agroecology, which constitute the only viable alternative for the current context of climate collapse, are delegitimised. This process of delegitimisation is also a dirty war strategy of the TNCs [17], fearful of the medium and long-term impacts of the already overwhelming evidence on the destructive effects of pesticides. This is not a matter of little relevance and, in fact, after issuing her concept on the impacts of pesticides on the RtF, the United Nations Special Rapporteur on the Right to Food, pointed out that one of the things that States they should urgently do is to:

"Encourage farmers to adopt agroecological practices to increase biological diversity and contain pests naturally, in addition to measures such as crop rotation, soil fertility management and the selection of crops suitable for local conditions." [18]

On the other hand, the weakness of the states of the region in the face of the problem of the use of pesticides and the multiple damages they cause, as well as the impunity that protects the commercial and political interests involved, is aggravated by the scarce judicial processes against the companies involved and the lack of effective mechanisms of justiciability.

The absence of these mechanisms is not only an obstacle that makes it impossible to confront and stop the vulnerability and violations of the RtF and other rights associated with the use of pesticides. It also prevents, as the CESCR warns in its General Comment No. 9, "giving legal effectiveness" to economic, social and cultural rights. [19]

On this matter, there is still a long way to go since, according to what is recommended by the CESCR, our states should build and facilitate access to an entire architecture of justice that allows us to demand, claim, be compensated and repaired, when, for example, our RtF is violated or violated as a result of the use of pesticides.

"Among the measures that could be considered appropriate, in addition to the legislative ones, is that of offering judicial remedies with regard to rights that, according to the national legal system, can be considered justiciable. The Committee notes, for example, that the enjoyment of recognised rights, without discrimination, will often be encouraged in an appropriate manner, in part through the provision of judicial remedies and other effective remedies." [20]

17. Pesticide News. The Journal of Pesticide Action Network UK. An international perspective on the health and environmental effects of pesticides. April 2019. No. 117. Q; 2. Available in: The Journal of Pesticide Action Network UK. An international perspective on the health and environmental effects of pesticides.
18. Consejo de Derechos Humanes. Report by the Special Rapporteur on food delivery. Plaguicides and the right to feed. Geneva. 2017. Paragraph 106 (o). Report prepared with the collaboration of the Special Rapporteur on the implications for human management and ecological elimination of sustenance and dangerous waste.
19. CESCR. General Observation No. 9. The Internal Application of the International Covenant on Economic, Social and Cultural Rights. Geneva. 1998. Paragraph 7.
20. CDESC. General Observation No. 3. The nature of the obligations of the States Parties to the International Covenant on Economic, Social and Cultural Rights Geneva. 1999. Paragraph 5.

Regarding compensation, our states should also accept as their own the recommendation that the UN Special Rapporteur on the Right to Food made to the Paraguayan State in 2017.

"Establish an effective legal framework for the protection of the environment, including, in particular, protection against the use of toxic agrochemicals, establishing appropriate sanctions for those who break the law and adequate compensation for affected persons and systems for monitoring for their implementation." [21]

Something that people and communities affected by pesticides, civil society, human rights defenders, and human rights protection bodies at the national and international levels must insist on is that the States of the region refrain from arguing that actions of justiciability, including compensation, will only be possible if the affected parties bear the full burden of proof. Given the asymmetry of power and technical and economic capacity, States have a great responsibility to assume the burden of proof that is necessary. This is sufficiently clear, especially after the Human Rights Committee formulated an opinion against the Paraguayan State in application of the Covenant on Civil and Political Rights. In that opinion, the Committee recalled that:

"(...) The burden of proof does not fall solely on the authors of a communication, all the more so since the authors and the State party do not always have the same access to the evidence and because the State party is often the only one who has the necessary information. In cases where the clarification depends on information available only to the State party, the Committee may consider that the allegations are well founded if the State party does not refute them by providing satisfactory evidence and explanations." [22]

Another element to highlight in terms of the role of the state in the problem of pesticides is that the set of deficiencies, omissions, intentional actions and, in some cases, criminals of the states, which have generated serious violations of the RtF and related rights is far from being fortuitous. Without a doubt, all of this is the consequence of corporate capture and state servility in favor of the interests of the TNCs and the production model associated with the pesticides. This state behavior implies serious breaches of its obligations regarding the protection of the RtF. Indeed, given the impacts of pesticides on the food process, food and nutrition, it is the duty of the state

"[To adopt] measures to ensure that companies or individuals do not deprive people of access to adequate food (...) States Parties, as a component of their obligation to protect basic food resources for the people, must adopt adequate measures to guarantee that the activities of the private sector and civil society are in accordance with the right to food." [23]

21. Consejo de Derechos Humanes. Report by the Special Rapporteur on the closure of food about her misery in Paraguay. Geneva. 2017. Paragraph 106d.
22. Human Rights Committee. Dictation approved by the Committee in accordance with article 5, paragraph 4, of the Optional Protocol, regarding the communication number. 2751/2016. Subject: Fumigation with agrochemicals and their consequences for life. Ginebra--Nueva York. 2019. Paragraph 7.2. This fall was in response to a denunciation of violations of human rights on peasant settlers, caused by the fumigation of agricultural exploitations surrounding a farming colony in which they inhabit.
23. CESCR. General Observation No. 12. The right to adequate food. Op. Cit. Paragraphs 15 and 27.

The ability of business activities to cause human rights violations is already fully recognised in various international instruments. In fact, in its General Comment No. 24, the CESCR reminded states that

"The obligation to protect means that States parties must effectively prevent any violation of economic, social and cultural rights in the context of business activities. This requires States parties to adopt measures, legislative, administrative, educational and other appropriate measures to ensure effective protection against violations of the rights enshrined in the Covenant related to business activities and to provide effective remedies to the victims of those abuses." [24]

Unfortunately, despite overwhelming evidence of the serious consequences of pesticide use, including negative impacts on human rights and the impunity that reigns over business actions, the ease with which States have allowed the use of pesticides to expand and the productive model that favours it is in all respects suspicious and possibly obeys complex networks of corruption. In this regard, General Comment No. 24 recalls that:

"The States would violate the obligation to protect the rights set forth in the Covenant, among other assumptions, in the event that they do not prevent or counteract the actions of a company that results in the violation of those rights or that could be expected to have that result (...) These violations are propitiated when there are not sufficient safeguards to deal with the corruption of public officials or between individuals or when, due to the corruption of the judges, human rights violations go unpunished." [25]

Finally, when talking about State responsibilities related to the violation of the RtF due to the promotion and use of pesticides, it should be remembered that they do not fall solely on the States where these violations occur. The States where the parent companies of pesticides companies are located also have a responsibility that they cannot avoid. In this sense, these States have extraterritorial obligations that should prevent, for example, the commercialisation and use in our countries of HHPs that are prohibited or limited in their own territories.

The complicit attitude of these states violates the RtF of our populations, destroys our territories, and goes against various recommendations in the field of human rights. Indeed, in General Comment No. 24, the CESCR indicated that:

"(...) The obligations of the States parties to the Covenant do not end at their territorial borders. States parties must adopt the necessary measures to prevent human rights violations abroad by companies domiciled in their territory and/or jurisdiction (already established under their legislation or having their registered office, central administration or commercial domicile. principal in the national territory), without violating the sovereignty or undermining the obligations of the host States under the Covenant." [26]

24. CESCR. General Observation No. 24. On the obligations of States in virtue of the International Covenant on Economic, Social and Cultural Rights in the context of business activities. Geneva. 2017. Paragraph 14.
25. Ibíd. Paragraph 18.
26. Ibíd. Paragraph 26.

In this same sense, the experts gathered around the formulation of the Maastricht Principles pointed out that:

"All States must adopt the necessary measures to ensure that non-state actors in a position to regulate (...) including individuals and private organisations, transnational corporations and other commercial companies, do not nullify or impair the enjoyment of economic, social and cultural rights. These include, but are not limited to, administrative, legislative, investigative, and adjudicatory measures. The other States have an obligation to refrain from nullifying or impairing compliance with this obligation to protect." [27]

Additionally, the permissiveness of the industrialised countries with regards to companies whose headquarters are located in their territory and who commercialise HHPs in our country, goes against what is indicated in the Rio Declaration on Environment and Development of 1992:

"States should cooperate effectively to discourage or prevent the relocation and transfer to other States of any activities and substances that cause serious environmental degradation or are considered harmful to human health." [28]

It is important to highlight that the extraterritorial commitment of the states in relation to the ATXs and the violations of the RtF and other rights, also includes the duty to facilitate access to resources (including justiciability) and reparation, as indicated in paragraphs 15, 34 and 41 of the General Observation No. 24 of the CESCR. The urgency of ensuring that pesticide-producing countries comply with their extraterritorial obligations regarding the RtF and other rights, and respond when they are responsible for extraterritorial violations of human rights, such as those that occurred with the legal or illegal export of these products, denotes how important it is for our populations that the current process towards the elaboration of a binding treaty on business and human rights ends successfully. However, regional and national human rights bodies may have a greater commitment to demand compliance with these obligations and, if applicable, carry out investigations and sanctions against the companies and responsible states.

At this point, it is necessary to specify how the promotion of the use of pesticides and the problems they generate reveal serious failures in the fulfillment of our states of their obligations to respect, protect and give effect to the RtF.

Breaching the obligation to respect the RtF regarding the promotion and use of pesticides

Several of the problems and cases mentioned in the first part of this document exemplify that states are not fulfilling their obligation to respect the RtF in relation to the uncontrolled promotion and use of pesticides.

27. Maastricht's Principles on Extraterritorial Obligations of States in the Area of Economic, Social and Cultural Derechos. Maastricht. 2011. Paragraph 24.
28. UN. Declaration of Río. United Nations Conference on Environment and Development. Op. Cit. Principle 14.

Of the aforementioned situations, the displacement of populations is of particular concern; aerial spraying over communities, biodiversity zones, crops, common goods and materials; and their use in the fight against drugs and counterinsurgents.

Regarding the first situation, it was mentioned that with the use of pesticides, populations have been relocated in Brazil, workers have been expelled in Ecuador and a large number of food production units have disappeared in the region. In some cases, as mentioned for Paraguay, this displacement has occurred in a violent manner and with State complicity.

Regarding this problem, it is necessary to mention that the RtF is violated in various social aspects. Directly, on rural producers, having displaced them with the consequent loss of access to their food or to the means to obtain it. Indirectly, there are also RtF violations in the general population as it depends on the food supplies resulting from the work of the displaced populations.

The displacement of food-producing communities, regardless of the motive, actor, or responsible social or economic dynamics, contradicts the state obligation to protect these populations. In this regard, the United Nations Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP) states in its article 17.4 that:

"Peasants and other people who work in rural areas have the right to be protected against any arbitrary and illegal displacement that takes them away from their land, their place of habitual residence or other natural resources that they use in their activities or need to to be able to enjoy adequate living conditions."[29]

Similarly, the UN has manifested itself in article 10 of the Declaration on the Rights of Indigenous Peoples, recalling that:

"Indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources. States must establish and execute assistance programs for indigenous peoples to ensure their conservation and protection, without discrimination. Indigenous peoples will not be forcibly displaced from their lands or territories." [30]

The second situation exemplified with respect to the failure of states to comply with their obligation to respect the RtF, is aerial spraying over communities or populations. In the first part of this report, it was mentioned that, in Brazil, there have been cases of fumigation of rural schools and indigenous peoples; in schools, at water sources and on houses in Paraguay; and, in biodiversity areas on which rural, black and indigenous populations depend, in Colombia.

29. UN. Declaration of the United Nations on the Derechos de los Campesinos and other people who work in rural areas. New York. 2018.
30. UN. Declaration of United Nations on the rights of indigenous people. New York. Article 29.

Because communities have been affected by their territories and livelihoods, which has allowed them to autonomously secure their RtF, states are responsible for the violation of the RtF by validating a production model that involves spraying with pesticides and deteriorating or destroying common property and the physical integrity of people and their population groups.

In this sense, they are not protecting, improving or preserving the environment as required by the Protocol of San Salvador in its article 11.2 [31], nor by refraining from polluting the air, water and land as required by the CESCR in paragraph 34 of the General Observation No. 14 on the right to health. [32]

The third situation, which consists of the use that has been given to pesticides in the fight against drugs and in the counterinsurgency war, denotes a serious complexity of human rights violations. These types of actions, for now suspended but very frequent in the recent history of Colombia, affected the production and access of food for the victimised populations, and even led to a strong diplomatic and legal dispute with the Ecuadorian state. Thus, Colombia violated what was agreed in the International Covenant on Economic, Social and Cultural Rights. Indeed:

"A State incurs a violation of the Covenant when it fails to comply with what the Committee on Economic, Social and Cultural Rights calls an essential minimum obligation to ensure the satisfaction of at least the essential minimum levels of each of the rights [...] For example, a State Party in which a significant number of people are deprived of essential food, basic health care, room and board or the most basic forms of education, incurs a prima facie violation of the Covenant." [33]

Furthermore, the behavior of the Colombian state is against clear precepts of human rights, such as Protocol II, annex to the Geneva Conventions:

"It is forbidden to employ, as a method of combat, the infliction of famine upon civilians. Consequently, it is forbidden to attack, destroy, shatter or render useless those goods essential for the survival of the civilian population, such as food articles and agricultural areas that produce harvest, installments and reserves of food, drinking water and water works." [34]

Given the geopolitical circumstances of the region, any form of aerial spraying of ATXs that leads to direct or indirect damage to civilian population, be it in the context of the war against drugs or any economic activity endorsed by the States, should be considered an act of war against the civilian population, be the respective country immersed in internal or international conflict or not.

31. OAS. Additional Protocol to the American Convention on Human Rights in the field of Economic, Social and Cultural Rights "Protocol of San Salvador." San Salvador. 1988.
32. CESCR. General Observation No. 14. The right to enjoy the highest possible health level. Op. Cit.
33. Maastricht Guidelines on Violations of Economic, Social and Cultural Rights Maastricht. Op. Cit. Paragraph 9.
34. Additional Protocol II to the 1949 Geneva Conventions on the protection of victims of armed conflicts of an international nature. Geneva. 1977. Article 14.

Failure to comply with the obligation to protect the RtF against the promotion and use of pesticides

The obligation of the States to protect the RtF in the context of the promotion and use of pesticides and associated productive activities, is also widely disregarded by States, as you may see in several of the examples and cases mentioned in the first section of this document.

The criminalisation of people, organisations and processes that fight against pesticides; the rupture of the social fabric of the communities; the alienation of community lands and the loss of national territories are a clear example of this.

In Brazil and Paraguay, for example, there have been several cases of criminalisation of social movements and of actions of resistance that communities or other actors develop to oppose pesticides and the productive model that underpins their irrational use. Even, as already mentioned, health professionals who denounced the health impacts of pesticides in Paraguay have been prosecuted.

This situation goes against that which is formulated in article 8.4 of the Declaration on the Rights of Peasants and Other People who Work in Rural Areas. Indeed, it is mentioned that people in rural areas have the right to be protected individually and collectively:

"The states will adopt all the necessary measures to guarantee the protection by the competent authorities of all persons, individually or in association with others, against all acts of violence, threat, retaliation, discrimination in law or in fact, pressure or any other arbitrary action resulting from the legitimate exercise and defense of the rights described in this Declaration."

The lack of protection of the movements, organisations and people who denounce human rights violations associated with pesticides negatively affects the social fabric that makes these actions of resistance possible, which, even without opposing it, struggles to survive in rural areas. It was mentioned in the first chapter of this report how rural economies have become fragile in Ecuador, or how the alienation of land in Brazil and Paraguay, sometimes through the use of physical violence, profoundly affect communities. This destruction of communities due to the loss of the link with their lands should be prevented by the States, as also stated in the Declaration on the Rights of Peasants and Other People who Work in Rural Areas:

"The States will provide peasants and other people working in rural areas with effective mechanisms to prevent and compensate any act that has the purpose or consequence of violating their human rights, arbitrarily dispossessing them of their lands and natural resources, or depriving them of their means of subsistence. and its integrity, and any form of sedentarisation or population displacement by force." [35]

35. UN. Declaration of the United Nations on the Derechos de los Campesinos and other people who work in rural areas. Op. Cit. Article 12.5.

The association between the agro-productive model that encourages the excessive use of pesticides and the loss of land should not be underestimated. Paraguay, for example, has become a country controlled by the interests of the sector that promotes GM crops, so that vast areas of its territory are under the control of foreigners. This runs counter to the very principle of development, sovereignty and self-determination:

'The States will adopt energetic measures to eliminate the massive and patent violations of the human rights of peoples and human beings affected by situations such as those resulting from apartheid, all forms of racism and racial discrimination, colonialism, domination and foreign occupation, aggression, foreign interference and threats against national sovereignty, national unity and territorial integrity, threats of war and the refusal to recognise the fundamental right of peoples to self-determination." [36]

The massive and profound nature of these violations seriously jeopardises the diet of the countries where they occur. The quickest ways are by general hunger, the loss of Food Sovereignty and regional armed conflicts.

Another example of this type of violation is the case of the Canindeyú department, in Paraguay. In 2019, the United Nations Human Rights Committee published a decision asking the government of Paraguay to investigate and punish pesticide fumigation in the location[37]. Family farmers in the region were contaminated and one person died of poisoning. The decision addresses the serious impact on the living and health conditions of the victims, in addition to the impact on the environment. The pesticides used also caused water and aquifer resource contamination, death of fruit trees and animals and damaged plantations. The decision declares that the Paraguayan State has failed to honor its obligation to protect the Rights to health, to physical and psychological integrity, to quality of life and to live in a healthy environment. The occurrence of these violations also highlights the violation of the obligation to protect the RtF regarding the availability, adequacy and sustainability of food.

Failure to comply with the RtF requirement regarding the promotion and use of pesticides

To show now how states neglect their obligation to carry out the RtF in the context of violations related to the use of pesticides, we will take the example of the problem of loss of land, and that of loss of control over common goods as important as seeds.

This report has shown that, in the case of the Ecuadorian coast, the land has been concentrated in a few hands on account of the expansion of monocultures; something that also happens in Paraguay, Colombia, Honduras and other countries on the continent. In these cases, instead of promoting functional normative changes to the expansion of monocultures, highly consuming technological packages of pesticides and concentration of land, what the States should be doing is complying with their

36. UN. Declaration on the Derecho al Desarrollo. Op. Cit. Article 5
37. Source: <https://nacoesunidas.org/comite-de-direitos-humanos-da-onu-responsabiliza-paraguai-por-violacoes-envolvendo-uso-de-agrotoxicos/>. Last access in: 18 aug. 2020.

obligation to make the permanence measures for populations on their territories effective, producing food in adequate conditions, and configuring true scenarios of Food Sovereignty.

Regarding domestic food production, the States of the region should strive to ensure that their procurement, transport and processing procedure is guaranteed, and that they are free of any toxic substance, including pesticides. Actions of this type would be in accordance with the provisions of the CESCR in General Comment No. 12 regarding guaranteeing the means that ensure the livelihoods of the populations. [38]

Facilitating the conditions for the internal generation of food, free from pesticides, would also be in line with what is suggested by the FAO guidelines to achieve better governance, related to human rights, land and other resources in the rural sector. In this regard, these guidelines indicate that states should "Create and maintain policy, legal, and organisational frameworks that promote responsible governance of tenure of land, fisheries, and forests." [39] They also indicate how important these measures would be in order to face climate change:

"States should ensure that legitimate tenure rights to land, fisheries and forests of all individuals, communities or peoples that may be affected, are respected and protected through laws, policies, strategies and measures. especially farmers, small-scale food producers and vulnerable and marginalised people, in order to prevent and respond to the effects of climate change, in accordance with the respective applicable obligations contained in the relevant framework agreements on climate change." [40]

Something similar should already be in place to promote the protection of native seeds, family farming and the defense of agroecology as the only viable alternative in the current reality of climate collapse. Regarding seeds, although the case of Mexico (the relative protection against some transgenic crops) is somewhat different from the continental generality, it is clear that the states must bet on legislative and political actions that protect native and Creole seeds, encourage their free use and circulation, and promote research and technical developments that really respond to the needs and requirements of the rural population, not those of companies. These types of actions are consistent with what is indicated in the Declaration of Rights of Peasants and Other People Who Work in Rural Areas:

"[Peasants have the right to] conserve, use, exchange, sell the seeds or the multiplication material that they have conserved after harvest.
(...) to maintain, control, protect and develop their own seeds and traditional knowledge.
(...) The States will recognise the rights of farmers to use their own seeds or other local seeds that they choose, and to decide the varieties and species that they wish to cultivate.

38. CDESC. General Observation No. 12. The right to adequate food. Op. Cit. Paragraph 15.
39. FAO. Voluntary guidelines on government responsibility for land tenure, fishing and forests in the context of national food security. Pomegranate. 2012. Guideline 5.1
40. Ibíd. Guideline 23.1

(...) States shall adopt appropriate measures so that agricultural research and development incorporates the needs of peasants and other people who work in rural areas and that they actively participate in determining research and development priorities and in carrying it out, taking into account their experience, and will increase investment in the research and development of orphan seeds and crops that respond to the needs of farmers and other people working in rural areas." [41]

Another serious problem, mentioned in the first chapter of this report, has to do with the broad nature of State support for the activities, models and technological packages that promote the use of pesticides. In effect, far from being satisfied by endorsing the narrative of the companies that justify the use of these compounds, our States fiercely promote the expansion of crops with genetically modified organisms, grant generous credits to companies and those who want to use them, and extend the exemption of taxes for the import and production of the associated pesticides. To put it another way, our own States and governments subsidise the destruction of the environment, territories, ways of life, rural populations and food possibilities. This is done while, of course, with these measures, they increase the profit share of the companies and individuals involved in the business.

The role of the States, in response precisely to the threats and damage caused by the pesticides and the productive model that supports it, should be aimed at facilitating access to credit for populations that produce real and healthy food, and facilitate its centrality in food systems. Thus, it is worth recalling the relevance of the definition of Food Sovereignty, formulated by La Via Campesina:

"Food sovereignty is the right of peoples to nutritious and culturally adequate, accessible food, produced in a sustainable and ecological way, and their right to decide their own food and production system. This places those who produce, distribute and consume food at the heart of food systems and policies, above the demands of markets and companies (...) Food sovereignty prioritises local economies and local markets and and empowers peasants and family farming, artisanal fisheries and traditional grazing, and places food production, distribution and consumption at the basis of environmental, social and economic sustainability." [42]

It should be recalled that the provision of the material and economic means necessary for the rural and other rural populations to maintain their ways of life, improve their economic activities and food production, are clearly suggested in General Comment No. 12 and the Guidelines on The right to food:

"The obligation to carry out (facilitate) means that the State must seek to initiate activities in order to strengthen access and use by the population of the resources and means that ensure their livelihoods, including food security." [43]

41. UN. Declaration of the United Nations on the Derechos de los Campesinos and other people who work in rural areas. Op. Cit. Article 19.1.d; 19.2; 19.5; 19.7
42. La Vía Campesina. Declaration of Nyéléni. Selingué, Mali. 2007. Available at: https://nyeleni.org/spip.php?article291
43. CESCR. General Observation No. 12. The right to adequate food. Op. Cit. Paragraph 15.

"When poverty and hunger fundamentally affect the rural population, States should focus on sustainable agricultural and rural development, through measures aimed at improving access to land, water, appropriate and affordable technologies, productive and financial resources, increase the productivity of poor rural communities, promote the participation of the poor in economic policy decision-making, distribute the benefits derived from increased productivity, conserve and protect natural resources and invest in rural infrastructure, education and investigation." [44]

At this point, it is necessary to show how the damage to the environments, territories, communities and food themselves, as a result of the use and promotion of pesticides, configure serious human rights violations by our states.

Damage and impacts on natural, human and community substrates, as an expression of violations of the RtF caused by pesticides.

In the first chapter of this report, various situations were mentioned, which highlight the human rights violations committed by the States of the region as a result of their permissiveness with the promotion and use of pesticides. However, the impacts and violations of the RtF and related rights can also be addressed by recalling the set of impacts on the natural environment that makes life possible, as well as those that affect human health.

In this sense, the extensive deforestation of millions of hectares in Paraguay was mentioned, for example, in order to adapt these lands, from which many families were displaced, to a crop as highly demanding of pesticides as soybeans. Deforestation destroys a multitude of food chains and living forms, among which pollinating animals stand out, which are important for the survival of many species, including some for food use.

Furthermore, in countries such as Ecuador and Paraguay, edaphological impacts due to the destruction of the wealth and natural characteristics of the soil have been denounced, which is associated with the appearance of new pests and diseases. This type of impact has at least two negative connotations for human consumption. On the one hand, it destroys the mineral and microbiological substrate that is necessary for the diversified and adapted production of food. On the other hand, it is a destruction that enhances the use of precisely one of the elements that ends up with the ground: pesticides. In this toxic and vicious circle, the entire natural environment is damaged: the waters, the ecosystems, the air, the landscapes.

It should be noted that these damages to forest wealth and soil drastically reduce the possibility of the people who inhabit these territories having access to food, which without radical changes in the landscape, nature itself offers them. This is the case of populations whose livelihood depends, in large or small quantity, on wild foods in which there has been no mediation of human-driven reproductive

44. FAO. Voluntary guidelines on the progressive implementation of the right to adequate food in the context of national food security. Op. Cit. Guideline 2.6

processes. Towns or communities that are dedicated to hunting, fishing and/or gathering, are an example of this. In those places where this type of damage spreads, the cultivation of basic products for immediate human consumption, or the rearing of live species for food use, is almost impossible for communities, due to the destruction of the environment and living materiality, including the soil, which would make it possible.

The set of damages and impacts on the natural environment and the respective territories leads to serious violations of the RtF and the right to life. Regarding the latter, the Human Rights Committee, in charge of ensuring the application of the International Covenant on Civil and Political Rights, has just stated that states have the obligation to protect people and take measures in order to face threats that they put at risk the necessary conditions to live with dignity. This includes protecting people from environmental damage and contamination caused by the activities of public and private actors.

"The obligation to protect life also implies that States should adopt appropriate measures to address general conditions in society that may pose direct threats to life or prevent people from enjoying their right to life with dignity. These general conditions may include the degradation of the environment, the deprivation of lands, territories and resources of indigenous peoples, the prevalence of life-threatening diseases, (...) widespread hunger and malnutrition, as well as extreme poverty and homelessness. Among the measures envisaged to address the appropriate conditions that protect the right to life are, as appropriate, measures to ensure people's prompt access to essential goods and services, such as food, water, shelter, health care.

(...) The fulfillment of the obligation to respect and guarantee the right to life, in particular life with dignity, depends, among other things, on the measures adopted by the States parties to preserve the environment and protect it against damage, pollution and climate change caused by public and private agents. Accordingly, States parties should guarantee the sustainable use of natural resources, establish and apply substantive environmental standards, carry out environmental impact assessments and consult the pertinent States on activities that could significantly affect the environment, notify disasters and cooperate with other natural states and emergencies, facilitate adequate access to information on environmental hazards, and take due account of precautionary criteria." [45]

It is clear, therefore, that the dynamics that favor the use of pesticides in the region, as well as the correlative lack of commitments of the States against their obligations in the matter of the RtF and the right to life, revolve around structural aggression against the environment and the natural environment that is necessary for that diet and life in conditions of dignity. Because the impacts are ecosystemic, it is not only human life that is questioned, which is why the human rights violations resulting from the promotion and use of pesticides must be analysed in connection with these other damages to the environment, environments and other living forms.

45. Human Rights Committee. Observación General No 36. Derecho a la vida. Geneva. 2018. Paragraphs 26 and 62.

Another group of damages and impacts has to do with human health. In the previous chapter it was mentioned that in the region our governments do not generate sufficient political will to evaluate these damages and impacts and that, as is the case for Brazil, there is a great underreporting in the numbers and magnitude of poisonings, whether these are collective or individual. In fact, all of this could be more like omission and deliberate concealment of information about health damage in populations as a result of the use of pesticides.

Based on the information collected by the FIAN sections that contributed to the preparation of this report, cases of intoxicated and hospitalised children and adolescents have been reported after aerial spraying in Brazil. Likewise, poisoning of babies after maternal exposure, during or after pregnancy, also in Brazil, and reports of contamination of breast milk on the southern coast of Guatemala. These latter cases indicate not only that there are serious effects on human health, but that the diet of the lactating population is being affected, which constitutes serious violations of the right to health and nutrition of the mother-infant pair.

Another population directly affected in its health by the pesticides is that of rural and agroindustrial workers. These situations have been reported in Brazil, Mexico, Paraguay and Honduras, as well as in some Brazilian workers of pesticide TNCs, where the companies were sentenced to pay for medical treatment and compensate the affected people. In all these cases, violations of the human right to work have also been configured, particularly with regard to safety at work, as recommended by the CESCR in General Comment No. 23.

"The prevention of occupational accidents and diseases is a fundamental component of the right to just and favorable conditions of work, and is closely related to other rights recognised in the Covenant, in particular with the right to the highest attainable standard of physical and mental health.. States parties should adopt a national policy to prevent work-related accidents and health damage by minimising risks in the workplace, and ensuring broad participation in the formulation, implementation and review of such policy, in particular of the workers, the employers and the organisations that represent them." [46]

All of these facts also demonstrate the serious violations of the right to health of workers, one of the rights most strongly interrelated with the RtF. In this sense, as indicated by the Committee on Economic, Social and Cultural Rights, States must:

"[Adopt] preventive measures regarding occupational accidents and diseases; the need to ensure an adequate supply of clean drinking water and the creation of basic sanitary conditions; the prevention and reduction of the population's exposure to harmful substances such as radiation and harmful chemical substances or other harmful environmental factors that directly or indirectly affect the health of human beings (...) [In addition] it covers the issue of housing proper and hygienic and safe working conditions, adequate food supply and proper nutrition." [47]

46. CDESC. General Observation No. 23. Due to equitable and satisfactory working conditions. Geneva. 2016. Article 7b.
47. CDESC. General Observation No. 14. The right to enjoy the highest possible health level. Op. Cit. Paragraph 15.

Another aspect to take into account in the great complexity of ways in which the promotion and use of pesticides violates the RtF, is the direct effect on food. According to the information collected in the previous chapter, in Guatemala pesticides are used en masse in sugarcane, banana and oil palm crops; in Colombia for the potato, banana, coffee, rice, sugar cane, palm oil, corn, vegetables and fruit crops; and, in Brazil, in the crops of sugarcane, wheat, rice, corn, coffee, beans, bananas, tomatoes, grapes, sunflower, citrus, mango, melon, pineapple and other fruit trees. As can be seen, there are several classes of food in the production of which there is a significant use of pesticides; from tubers to fruits, also through legumes, vegetables and oil-producing plants. If we add to these other foods such as soy, on which a large use of pesticides is concentrated, we will also see that, either directly or through further industrial processing, some of them end up being used for animal feed. In the long run, all kinds of food, on which human nutrition is based, has contaminated products, which have been affected by using pesticides.

The exposure of food to toxic substances, even from the production link in the food process, constitutes a clear violation of the RtF. In this sense, we must take a more comprehensive look at the concept of safety and absence of harmful substances, which expands on what is formulated in the General Observation 12 of the CESCR. This tool indicates that:

"By saying without harmful substances, food safety requirements and a range of protection measures are set by both public and private means to avoid contamination of food products due to adulteration and/or poor environmental hygiene or incorrect handling at different stages of the food chain. Efforts should also be made to determine and avoid or destroy naturally occurring toxins." [48]

At this point, when we talk about food, a special mention is required for something that is essential to life: water. As FIAN Colombia [49] recalls, water has a fourfold characteristic in terms of food: (1) it is essential for the existence of other living forms of food use; (2) it is a human food in itself; (3) a vehicle for the consumption of other foods (through soups, creams and other culinary preparations); and, (4) it is a metabolic by-product in the nutrition process.

Unfortunately, in the region the use and abuse of pesticides has been destroying water sources (even in strategic aquifers such as the Guaraní) and contaminating the waters available for immediate human consumption, as mentioned in the first chapter for the cases of Ecuador, Mexico, Paraguay and Brazil. All this happens while, as in the last of the mentioned countries, there is an official concealment or underestimation about the damage to the sources and the quality of the water. Regarding the damage to water and its sources as a result of the promotion and use of pesticides, our states are also failing to fulfill their obligation to protect said common good. According to the CDESC:

48. CDESC. General Observation No. 12. The right to adequate food. Op. Cit. Paragraph 10.
49. FIAN Colombia. La alimentación: procesos, closure, amenazas. Conference before Facultad de Nutrición students. Universidad Nacional de Colombia. Bogotá. 30/V/2019

"The obligation to protect requires that States Parties prevent third parties from undermining in any way the enjoyment of the right to water. Third parties means individuals, groups, companies and other entities, as well as those who act on their behalf. The obligation includes, among other things, the adoption of legislative or other measures that are necessary and effective to prevent, for example, that third parties deny equal access to drinking water and contaminate or exploit in an unequal manner water resources, including natural sources, wells and other water distribution systems." [50]

This omissionate attitude of the states towards the respect and protection of the right to water, and its role as food under the RtF, could be described as criminal behavior, even more so now that we are in a climate collapse. At this point and given the gray panorama that hangs over all living forms, including our species, the permissiveness of the States of the region against the use of pesticides, many of them expressly prohibited in the countries where the headquarters of the production companies cannot continue to be tolerated by our populations, their governments and international human rights bodies.

Subsistance crops, animal deaths and/or their genetic malformations must be added to the destruction of water sources, where pesticides are highly suspected. The destruction of crops has been very notorious, without being the only cases, in countries such as Colombia, Paraguay and Brazil. It generally occurs after aerial spraying on transgenic crops such as soybeans, or as a result of the aforementioned fight against drug trafficking and against the insurgency in Colombia. Be that as it may, these kinds of blatant RtF tragedies and violations transcend the harm done to affected families and communities. In effect, the destruction of their crops not only devastates their food, but also the possibilities of a surplus generation that is essential for the urban diet of the different countries. This phenomenon, along with the other economic, political and violence types that plague the region, which are necessary for the survival and expansion of the current economic model, explains why in several of our countries food imports have grown at the expense of peasants' and other people's ways of life, food diversity and the sovereignty of peoples.

Regarding deaths or damage to animal health, such a situation was reported in Paraguay and Brazil, without naively trying to assume that they are the only countries where it occurs. This type of damage, clearly constituting violations of the RtF, is also complex with respect to its impacts on rural populations. Indeed, animal breeding, whether for livestock or minor and/or fish species, plays a crucial role in the food process. Some are bred for later food use as a meat source, and/or for the production of by-products such as eggs, milk and their derivatives. Other species are crucial for field work (oxen, horses, mules and donkeys) and without them the work of production, harvesting, food processing (as in the case of animals used in mills) and transportation, would be practically impossible.

50. CESCR. General Observation No. 15. The right to water. Geneva. 2002. Paragraph 23.

The breeding of these animals implies a considerable use of common and economic assets in the territories, communities and families where it occurs. Firstly, as is already known, the generation of animal protein involves a great conversion of water, as well as proteins and other nutrients of plant origin. Secondly, these animals demand significant economic resources, in addition to being an investment, savings, and even an exchange currency. In this sense, the damages caused by the pesticides have a direct impact both on people's nutrition and on the material and financial means that are necessary to sustain the life projects of rural populations.

The damage caused to primary food sources as a result of pesticides, the GM crops that trigger their use, and the underlying corporate agricultural model, harms the food access of victims, while reducing sustainability capacities in the production of real food. On this matter, the CESCR stated in General Comment No. 12 that sustainability "involves the possibility of access to food by present and future generations." [51]

There are other types of impacts to which attention should be drawn. One of them is the safety and environmental risks related to the production and final disposal of industrial waste from pesticides. The case of an pesticide factory in Veracruz, Mexico, where serious accidents occurred, evidencing the lack of state control over the company, as well as contingency plans and preparedness for such emergencies in the fire and rescue departments, leaves a glimpse of how indolent states can become regarding these risks. Situations like these are contrary to the right to life, according to the provisions of the Human Rights Committee:

"*(...) States parties should also establish, as appropriate, contingency plans and disaster management plans aimed at increasing preparedness and dealing with natural and anthropogenic disasters that may negatively influence the enjoyment of the right to life*" [52]

On the other hand, also in Mexico, there are many storage sites for empty containers of Highly hazardous pesticides, something that should be totally prohibited and penalised. For both types of situations, as well as for many of the cases, damages and impacts mentioned in this report, our states should require the countries where the headquarters of these companies are to have a more leading role in protecting and respecting our RtF. It is inadmissible, for example, that in addition to assuming ourselves and the costs and environmental, human, and damage to our territories, we also have to take charge of housing the industrial waste and garbage involved in the production, distribution and storage of pesticides. This, in addition, goes against what was agreed in the Stockholm Convention on the handling, management, elimination and transport of persistent organic pollutant products and/or their wastes. [53]

Finally, there are other types of damages and impacts where our States and human rights bodies should play a better role: the protection, against aggression from

51. CESCR. General Observation No. 12. The right to adequate food. Op. Cit. Paragraph 7.
52. Human Rights Committee. Observación General No 36. Derecho a la vida. Op. Cit. Paragraph 26.
53. Stockholm Convention on persistent organic contaminants. Stockholm. 2001. Article 6.d (i, ii, iii, iv)

third parties, as part of the collective and individual resistance processes that arise on the continent against the use of pesticides or transgenic crops. In the previous chapter, various types of resistance actions carried out in countries such as Mexico, Colombia, Brazil, Ecuador and Paraguay were mentioned. These include: (1) bills drafted to prohibit the use of pesticides; (2) actions in favour of the prohibition of pesticides not allowed in their countries of origin; (3) establishment of GM-free zones; (4) social awareness campaigns about the risks of these products; (5) requirement of formal and official mechanisms for risk assessment and exposure to damage; (6) social mobilisation against aerial spraying; (7) mobilisation of communities at risk of displacement or of being affected by pesticides; (8) social and legislative pressure for sanctions and effective mechanisms of justiciability in the case of pesticide companies that violate human rights; (9) repeal of laws granting tax or customs facilities to the pesticide industry; and, (9) mobilisation of peoples against the destruction and/or contamination of common goods and nature.

Unfortunately, these actions of resistance have been strongly repressed, criminalised and stigmatised, both by the States and by the companies responsible for the wide and complex violation of human rights that results from the promotion and use of pesticides. In this sense, the role of the State and its authorities should be as recommended in the UN Declaration on the Rights of Peasants and Other People Working in Rural Areas.

"The States shall adopt all the necessary measures to guarantee the protection by the competent authorities of all persons, individually or in association with others, against all acts of violence, threat, retaliation, discrimination in law or in fact, pressure or any other arbitrary action resulting from the legitimate exercise and defense of the rights described in this Declaration."[54]

Not to say that, although the violations and weakening of the RtF and related rights are wide and intricate as a result of the promotion and use of pesticides, as well as the economic model that allows it, the resistances are also complex, diverse and strong, argumentative, morally and ethically. States and international human rights organisations must, therefore, leave their complicity and permissiveness towards those who are the main stakeholders and beneficiaries of such a situation of violation of rights. We hope that the effort of this report, which synthesises some of the multiple expressions of those violations and State responsibilities in them, will serve as an input that will continue and support, in other ways, the courageous resistance of the communities who rise up against the use of pesticides throughout the continent.

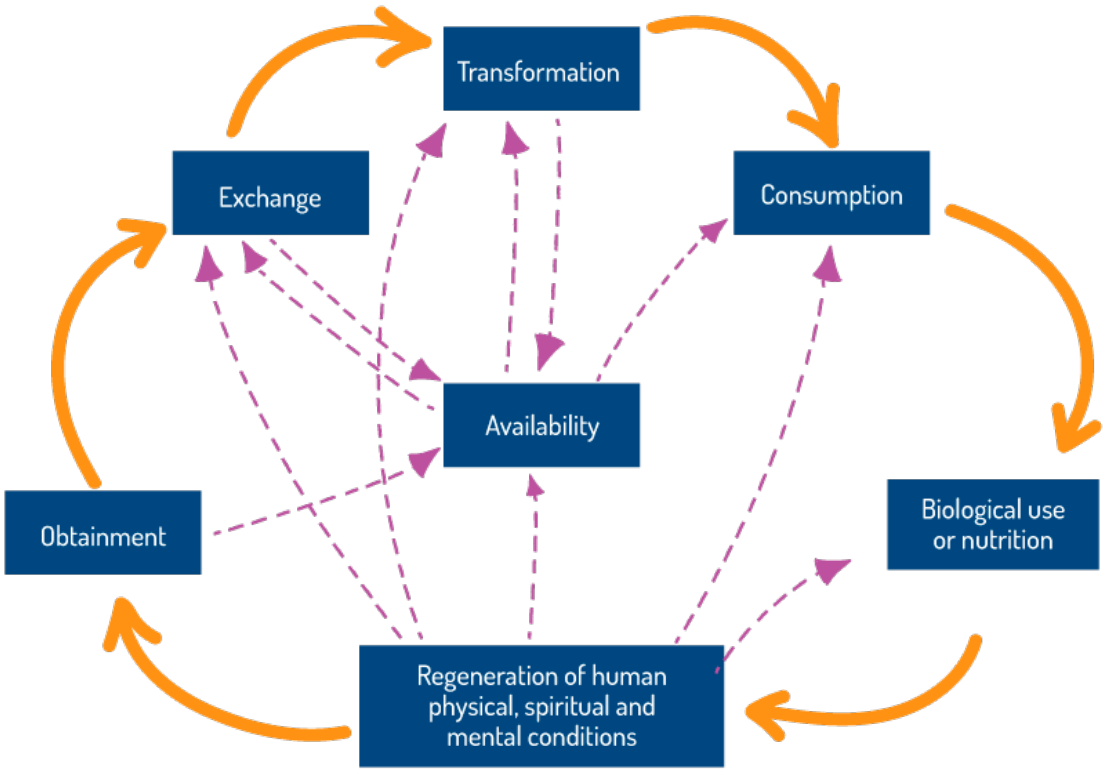
After having recalled the multiple ways in which the violations caused by the promotion and use of pesticides are expressed, it is worth calling something important to attention. It is not just damage limited, for example, to soil or food contamination. In fact, the cases mentioned in this report show that there is damage that impacts the whole food process.

54. UN. Declaration of the United Nations on the Derechos de los Campesinos and other people who work in rural areas. Op. Cit. Article 8.4

This should be understood as the cyclical process, made up of the following links and dimensions that are not necessarily linear: i) the procurement of food, which does not end with production alone but also includes hunting, fishing and gathering; ii) "food exchange", which is also expressed in various ways and goes far beyond the "market" or market mechanisms; iii) the transformation of food, which usually occurs both in households and in industrial or semi-industrial processes; iv) the disposition of food, which includes the spaces and ways in which food is arranged, transported and stored; v) consumption; vi) the biological use of food or nutrition; and, vii) as a consequence of the previous link, the regeneration of the physical, spiritual and mental conditions of the human being that allow them individually or collectively, through their work and knowledge, to start again with the obtaining of food. Each one of these links also has its own cycle or interrelationships with the individual, collective, political, social, cultural, power, economic and environmental dimensions that determine or result in it. [55]

To better understand the wide range of damages and impacts of pesticides on the food process, and therefore on the right to food, diagram 1 and table 1 show in which links of the food process some of those damages and impacts can be found.

Scheme 1. Food process



55. Refined concept for this report, from the original conceptual proposal hecha en: FIAN Colombia. The requirement of the Human Right to Food. That's how it goes. Editorial New people. Bogota. 2015. PP: 15-17.

Table 1. Examples of impacts and damages caused by pesticides according to the affected food process links

FOOD PROCESS LINK	DAMAGE/IMPACTS
Obtainment (production, hunting, gathering, fishing)	• Deforestation • Displacement, loss of land and control over your own food process • Destruction of food chains and non-human life forms • Annihilation of pollinating animals • Damage and impoverishment in/from soils • Eutrophication of water sources • Appearance of pests and diseases • Contamination of drinking water reservoirs for human or animal consumption or sources of irrigation • Damage or destruction to/from crops and livestock • Reduction of surplus food production for general food • Damage to the landscape
Exchange (market, exchange and other forms of exchange, including those associated with rites of passage and solidarity actions in times of crisis)	• Depletion of exchange mechanisms as a result of the certainty that the available food is contaminated.
Transformation (indoors, industrial or semi-industrial)	• Loss of knowledge and practices associated with domestic food processing • Incorporation of contaminated food (or to be contaminated within the same industrial process) with pesticides
Disposition (storage, conservation, transport)	• Contamination of food initially unaffected by contact or storage with contaminated food. • Inadequate generation, disposal and management of toxic waste (leftover pesticides, contaminated packaging)
Consumption	• Final contamination of food before consumption (ingestion) • Loss of confidence and low consumption of consumers of available local/national foods for fear of contamination.
Organic use or nutrition	• Poisoning by food contaminated by pesticides or directly by contact with these chemicals. • Contamination of breast milk and impacts on lactation. • Impacts on feeding animals for food use.
Regeneration of physical, spiritual and cognitive conditions and human potential	• Chronic illness and/or death caused by consuming food contaminated with pesticides or by direct contact with these substances. • Genetic changes due to exposure to pesticides • Permanent disabilities that affect the regeneration of the workforce and the stability of the family. • The loss of animals (traction, tillage or loading) reduces performance in agricultural work and affects food production.

At this point, it is important to end with a fundamental reflection. The violations of the RtF and related rights resulting from the increasing promotion and use of pesticides, as well as the expansion of the underlying economic model, are not few or localised (in a specific territory or country, in a link in the food process, to the detriment of one or two obligations of the RtF) They are, on the contrary: (1) many and widespread, practically without nuances, depending on the country or territory; (2) complex in terms of the affected subjects (not just human beings); (3) with destructive power over time and generations; (4) contrary to the universal aspiration of human rights and Food Sovereignty; and (5) cause, consequence and tool of a system that destroys the life, democracy and dignity of our countries and their people.

For this reason, the resistance that arises in the face of this state of affairs is and must be strengthened, understanding that they must involve various actors, strategies and actions. None, like the ones mentioned here or others that are potential, and that are summarised in Table 2, are powerful enough in themselves and require a level of articulation that, as much as possible, allows a shared knowledge of experiences and strategies of struggle. It is at this point that new actors, perhaps not yet so concerned with this problem, should be motivated to participate with greater zeal. Among them, and just to mention a few key actors, we have urban populations politically mobilised against the neoliberal model, rural union organisations, groups concerned with adequate nutrition in cities, environmentalists and animals and this vital fabric that keeps the hope of fighting alive in the city streets of Latin America today: teenagers who, together with young people, are not resigned to accept the destroyed world that we and we give them.

Table 2. Types of applicability (resistance) in development or potentially useful to address RtF violations due to the expansion of pesticides [56]

Type of exigibility	Exigibility subtype	Actions reported in this report	Potential actions
Social	Information, training, capacity building and mobilisation	• Major grassroots rural awareness campaigns about the dangers of pesticides • Mobilization against fumigation in border areas.	• Creation of specialised groups (doctors, legal and other professions) to accompany the victims of pesticides • Articulated mobilisations for the defense of seeds, environmental rights, rights of the rural population, animal rights and the like. • Strengthen and expand local and regional seed banks. • Prepare low-cost educational cards that inform about the steps to be followed to prevent the use of pesticides or to face emergency situations due to use or exposure.
	Actions in the field of culture		• Develop communication strategies, especially aimed at girls, boys, adolescents, youth and rural workers, about the environmental and health risks of pesticides. • Promote the use and social recognition of community seals that guarantee the clean and free production of pesticides from food. • Elaboration of internal mandates, in the communities, that prohibit and monitor the use of pesticides.
	Actions in the economic and environmental fields	• Establishment of territories free of GMOs and/or pesticides	• Launch demonstration plots, on an agroecological basis, in areas threatened by the entry of transgenic crops. • Establish alliances with collection centers or urban consumers, for the distribution of agro ecologically produced food.
	Follow-up and monitoring		• Advance low-cost community monitoring processes, with the support of groups of independent academics and technicians, for the quality of water, soil and food in areas where pesticides are used • Monitor the design of the density of plants and animals at risk, in areas where pesticides are used • Implement community-based early warning systems that warn of imminent threats or damage caused by using pesticides.

56. This table is indicative and does not intend to inventory all the resistance actions that are currently carried out which are possible. The classification of the forms of demandability and resistance in favor of the RtF is based on the method formulated by FIAN Colombia in: The demandability of the Human Right to Food. That's how it goes. Op. Cit. PP: 29-50.

Policy	Impact on public policies and programs	• Requirement of policies, programs or actions for monitoring or surveillance of risks and damages caused by pesticides.	• Participate actively in the processes of formulating development plans or territorial development, to try to avoid the incorporation of sub-norms that deepen the use of pesticides.
	Drafting of bills or adapting regulations	• Bills that seek to ban the import and/or use of pesticides • Specific ban on the sale and use of HHPs. • Elaboration of regulations that aim to strengthen the monitoring of toxic waste and disaster risks in relation to the production and disposal of pesticides.	• Elaborate bills that require pesticide control and generate legislative alliances in this regard. • Raise requests before the Constitutional Court, demanding the repeal of laws that favor the use of pesticides and associated cultures.
	Monitoring political commitments and accountability		• Require national human rights and control bodies to develop accountability mechanisms for national or regional institutions responsible for reporting and monitoring pesticide use and its impacts.
Justiciability	National	• Pressure campaigns before judicial authorities demanding that companies or actors responsible for RtF violations or pesticide-related rights be penalised. • Challenge before the judges the rules that grant tax, customs or credit benefits to multinational companies and other actors that promote the use of pesticides.	• Establish alliances with legal clinics, legal clinics, legal experts and state human rights institutions, for prevention or action in the event of stigmatisation and criminalisation. • Implement legal processes, based on paradigmatic cases, in an effort to make rights violated or violated as a result of using or exposing pesticides
	International	• Complaints about specific cases before the Inter-American Human Rights System.	• Expand complaints to universal and regional human rights systems. • Use the complaint mechanisms derived from the ICESCR Protocol • Monitor the international process of promoting the binding treaty on business and human rights.

CONCLUSIONS

● There is great complicity in our states in expanding the use of pesticides and in violations of RtF and associated human rights. This is basically due to the systematic violation of their obligations in relation to these rights, and their fidelity to an agro-food, economic and political model of plundering and destruction, and their suspected complicity with the corporate and commercial interests that are behind the promotion of these toxins.

● The increasing promotion and use of pesticides and the violations of RtF and related rights are functional for the corporate-type agri-food and nutritional model, based on monocultures, mainly transgenic and agro-export as an obsession. While this generates hunger and the destruction of food diversity, it destroys the sovereignty of our populations, planetary life and the capacity to respond to climate collapse.

● RtF violations as a result of using pesticides and the production model that requires them are wide-ranging, systematic, multiform and affect various links in the food process.

● Changes in the regulations and institutional architecture of our States, which have been adopted to favour increased demand and use of pesticides, go against human rights principles. The lack of political will to reverse these changes increases violations of these rights and increases the power of influence and corporate capture of multinational companies and other political and economic actors who profit from pesticides.

● Other ways, such as the States in the region, strengthen the expansion of pesticides and the violations associated with RtF, are: the promotion of the agro-nutritional and nutritional model of the corporate type and the use of pesticides, throughout the technical and higher educational model; the lack of justiciability mechanisms, including redress and compensation, in the face of RtF violations by multinational companies and other companies; the absence of internal mechanisms that prevent the corporate capture of the state and the presumed corruption dynamics in favor of the interests of the industry; the huge tax, customs and other benefits for pesticide producers and importers.

● At the level of territories, people or communities and natural environments, the RtF violations associated with the expansion in the use of pesticides and the model underlying them are expressed in the form of: deforestation and destruction of fundamental natural goods for food; displacement of the community; loss of land and food livelihoods; damage to health, crops and animals due to spraying or daily use of pesticides; reduction of surplus production of peasant origin destined for urban consumption; increased dependence and food imports; stigmatisation and criminalisation of people, movements or organisations that oppose the use of pesticides; destruction of water sources, soils and the environment; contamination of food for human and/or animal consumption; lack of mechanisms to regulate and protect against accidents in the agro-industrial sector, damage to workers' health and toxic waste management.

● States where the headquarters of companies that manufacture pesticides, especially HHPs, are primarily responsible for the damage, impacts and violations of human rights, including RtF.

● There are serious deficiencies in the universal and regional human rights mechanisms, when proposing binding measures that reverse and sanction the increasing use of pesticides, as well as the damage and violations associated with human rights.

● On the continent, resistance actions against pesticides and the model that supports them are growing, despite the opposition and violence that transnational companies and other powerful actors practice against them. However, these actions need to be enriched with other actors and platforms of struggle and give greater prominence to new generations who, possibly, have a greater capacity to see that the damages and impacts resulting from the use of pesticides are harmful for our species, our generation and our territory.

RECOMMENDATIONS

● States in the region should refrain from enacting regulatory actions that promote an increase in demand for pesticides. This should also include moratoriums on genetically modified crops or other highly demanding agro-productive models of pesticides. The precautionary principle should guide any decision on the matter.

● States in the region must commit themselves, politically and economically, to widely promote agroecology and healthy food production. This is done through direct support to rural producers, generating the necessary incentives to make their production sustainable and improve the consumption of healthy food in cities. Likewise, reforming the educational system that is highly responsible for promoting the use of pesticides and the agro-productive agro-export model.

● The protection of common goods, including water, food diversity, food producing communities and their territories, from damage caused by pesticides, should be a priority for states through food, rural areas and environmental organisations, both in their preparation and in the execution and monitoring, of the organisations in the field and the defense of human rights.

● All state norms and policies related to economic, social and cultural rights must be reformulated in a coherent way, in order to articulate actions to face the collapse of the climate and to prohibit or drastically limit practices such as the use of pesticides.

● National human rights institutions or organisations should incorporate in their action and surveillance agenda the rigorous and periodic monitoring of the situation of pesticides use in our countries, as well as state and commercial behavior

that is potentially harmful for the purposes of the obligation to protect, respect and enforce the RtF and related rights.

● States should closely monitor sales and import volumes reported by pesticide producing, importing and/or supplier companies. Any concealment of information must be penalised, including through the permanent cancellation of permissions or licenses of these companies.

● States must ensure swift and effective mechanisms of justiciability, including redress, compensation and non-repetition, in the face of alleged cases of human rights violations related to the use of pesticides. For these purposes, the burden of proof and access to technical support required by the authors must be borne by the States.

● State health agencies must create and implement rigorous health surveillance mandates for people working in industries or cultures that manufacture or use pesticides, as well as in neighboring communities. This surveillance should be extended to foods marketed for human or animal consumption. In the case of imported foods, a safety certificate must be required to ensure that they have not been processed, stored and transported in contact with pesticides.

● States must monitor agrochemical waste in water to ensure that it is not contaminated. The mandatory analyses of the active ingredients used in the region must be carried out, expanded and disseminated, using the standards recommended by international organisations in relation to the maximum limit of contaminants allowed in the water.

● States must create pesticide-free areas. The use of pesticides severely affects workers' health, contaminates soil and food. The creation of areas where the storage and application of pesticides is prohibited would limit the progress of the pesticide market, protect the health of the population and serve as an example for the dissemination of this collective protection practice.

● States must initiate actions to ban aerial spraying. This is the most dangerous application method and generates mass contamination, in addition to damaging neighboring plantations. Its immediate ban must be demanded, so that schools, houses are protected and agroecological production is possible.

● States must limit minimum spray distances. Without setting minimum distances for spraying pesticides, homes, schools and water sources will continue to be exposed to pesticide contamination, which can be sprayed into their environment by air, tractors or using a coastal device.

● All states in whose territories the headquarters of multinational companies that produce pesticides must comply with their extraterritorial RtF obligations, prohibiting the export of these products, especially HHPs, in addition to facilitating

mechanisms of justiciability when referring to their courts for human rights violations caused by these companies.

• States in the region should refrain from continuing to provide favorable economic or regulatory conditions to multinational pesticide companies or other companies related to these products. Among these measures is the granting of credits, subsidies, tariff exemptions, facilitation of free zones or waste disposal licenses. It is highly recommended that, in countries where there is not enough progress in this direction, high tax rates are imposed for import, purchase and sale of pesticides.

• All states in the region must refrain from criminalising, harassing or stigmatising organisations, social processes and leaders, who denounce the impacts and violations resulting from the use of pesticides and the productive and economic model underlying them. On the contrary, they must stimulate the attention and the solution of these demands, prioritising human beings and not corporate or commercial interests.

• Global and regional human rights bodies (UN, Inter-American System) must make explicit recommendations condemning the capture and corporate practices designed to promote the consumption of pesticides or to boycott public or environmental health measures that seek to ban the use of these substances. Within its various forms of assessing the human rights situation in countries, monitoring the situation of human rights violations due to the promotion and use of pesticides should be a constant monitoring problem.

• States must create laws and regulations that regulate the marketing, use and storage of pesticides to strengthen the licensing parameters for these products. States must also ban the use of pesticides and agrochemicals that are banned in other countries and whose use has been proven to be harmful to health. In addition, they must comply with international standards for setting maximum residue limits allowed in food and water for each substance.

• The Inter-American Human Rights System must incorporate and apply the extraterritorial obligations approach when analysing the situation in our countries or resolving hearings, complaints or cases related to RtF violations or other rights as a result of promoting and using pesticides.

• Organisations, social processes and leaders that fight against the expansion of pesticides, denounce its impacts on RtF or other rights and that condemn the productive model that supports it, must expand the range of influence of their claims by themselves and incorporate further into other social processes for the defense of human rights. This includes urban organisations concerned with food, animals and animal organisations, organisations for the defense of the rights of girls, boys and young people, among others.

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Two decades fighting to guarantee rights and nourish life.

FIAN Brasil - Organisation for the Human Right to Adequate Food and Nutrition was founded in 2000 in Cuiabá and celebrated its 20th anniversary on August 26th. Subsequently, it moved to Goiânia and then to Brasília, which is currently its base.
The entity is a section of FIAN International, founded in 1986 and currently acting in 50 countries, with representatives in 20 of them, in four continents. These two decades of FIAN Brazil were ones of articulation, partnership, dialogue, debate and advocacy. They were ones of struggle and achievements, focusing on the human right to adequate food and nutrition (HRtAFN), the autonomy of populations, food sovereignty, the defense of the communities' territories, real food, agroecology, health, sustainability, social justice and substantive democracy. Finally, of combatting sexism, racism and inequality in general.
Two decades with life and human dignity as its path.

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We have produced a video lesson and a podcast episode for each module of the basic course about the HRtAFN. You can find this and other content - such as debates, documentaries and reports - on our YouTube channel.

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The publications are one of FIAN Brazil's main instruments for promoting rights - especially the HRtAFN - and contributing to their being fulfilled. We produce reports (document and complaint reports) and material for informing and educating.

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We constantly share updates on our activities and those of our partner entities and movements, as well as news related to the topics where FIAN Brazil and FIAN Internacional are active.

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Activity in Latin America and the Caribbean

Five other sections and coordinations of FIAN are situated in our region and, like us, participate in common projects in the defense of HRtAFN. Find out more about them:

FIAN Colombia - http://www.fiancolombia.org/
FIAN Equador - http://www.fianecuador.org.ec/
FIAN Honduras - https://www.facebook.com/fianhonduras
FIAN Mexico - fian_mex@yahoo.com.mx
FIAN Paraguay - fianparaguay@gmail.com

* In addition to the seed groups in Guatemala and Paraguay

FIAN BRASIL
EXIGIR DIREITOS, ALIMENTAR A VIDA

FIAN COLOMBIA
FIAN ECUADOR
FIAN INTERNACIONAL HONDURAS
FIAN PARAGUAY
FIAN México
FIAN
FIAN Guatemala
FIAN Haiti

HEKS EPER
MISEREOR IHR HILFSWERK
Brot für die Welt

Pesticides are still widely used in Latin America, despite their **harmful effects on the environment and on humans**. The market for these products is growing dramatically in the region, and this is associated with the advance of **monoculture** and **transgenics**. Due to economic power and representatives in legislative political groups and governments, the sector's **large corporations** pressure the **State** to **legislate** against - and **not to oversee** - the needs of the population and the country.

In this regional report, we show how pesticides impact the **HRtAFN**. We also show how the government, rather than guaranteeing this, often acts in favour of ruralist agenda, prioritising **"technological packages" of the agribusiness** to the detriment of environmental sustainability, the safety of indigenous populations, traditional communities and real food promoted among urban populations - thus neglecting the **right to health and a balanced environment.**

The report, drawn up with **FIAN Colombia** and with the collaboration of other FIAN coordinations and groups in **Latin America and the Caribbean**, specifies the situation of **eight countries** in relation to the topic, with data on production, trade and imports, alongside conclusions of health studies and the main complaints brought to court or reported on in the press.

While the cases have national specificities, they also demonstrate a **shared scenario**, in which Brazil is often a laboratory and gateway for the strategies of the agrochemical giants on the continent. Based on the analysis, the entities propose **recommendations** for States to fulfill their **obligation** to protect and guarantee adequate food and related rights in our country and in our region.

Denunciation publications like this represent one of the axes of the actions of FIAN Brazil, which has just celebrated its 20th anniversary. The phrase chosen to celebrate these two decades of activity summarises two central ideas for us. The first is that a rights is not asked for, it is demanded, and information plays a central role in this. The other is that eating and the people around us goes far beyond the immediate need to satisfy hunger: it represents, from an organic and social point of view, the act of **constituting people**. It generates health, identity, acceptance, feelings of communion and belonging to a group.

Check out more publications and get to know our trajectory and performance!

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