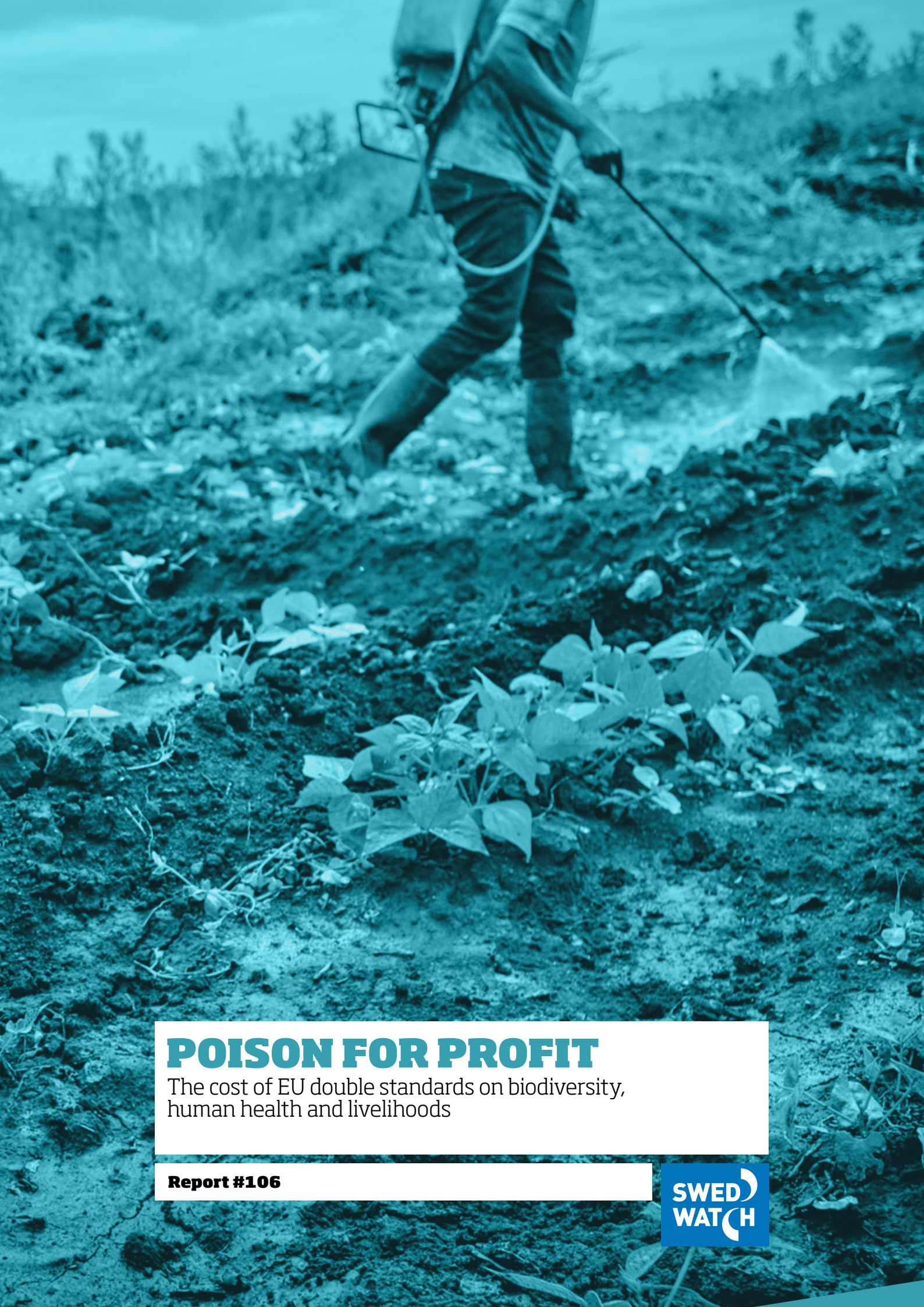




POISON FOR PROFIT

The cost of EU double standards on biodiversity, human health and livelihoods

Report #106

**SWED
WATCH**

Swedwatch is an independent, not-for-profit organisation working to support rights holders in their efforts to claim their rights and to promote responsible business practices by highlighting and addressing their impacts on people and the planet. Swedwatch's work is grounded in thorough research and investigations that form the basis of evidence-based publications and expertise, dialogue, capacity development and exchange facilitation. Swedwatch has six member organisations: Afrikagrupperna, ACT Church of Sweden (ACT Svenska kyrkan), Diakonia, Fair Action, Solidarity Sweden-Latin America (Latinamerikagrupperna) and the Swedish Society for Nature Conservation (Naturskyddsföreningen).

Kenya Organic Agriculture Network (KOAN) is a national membership-based organisation that brings together producers, retailers, exporters, traders, NGOs and like-minded individuals and organisations dedicated to promoting organic agriculture. It connects farmers to markets, enhances knowledge sharing, and advocates for policy support in environmentally friendly agricultural practices, fostering a healthier ecosystem and economy.

This report is authored by Swedwatch in collaboration with KOAN and SSNC.



Naturskyddsföreningen

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Executive summary

Every year, companies from the European Union (EU) export hundreds of thousands of tonnes of pesticides to countries outside Europe. Many of these substances are banned for use within the EU due to their adverse impacts on human health and the environment. However, current EU legislation still permits their production and export, often to countries where these chemicals remain legal.

Kenya is among the countries importing these pesticides. This report documents the severe impacts of unchecked pesticide use on the health of Kenyan farm workers and their communities, as well as the damage to local ecosystems. Evidence presented in this report shows substantial health risks for farm workers and nearby communities, including cases of poisoning and long-term exposure-related illnesses. Environmental impacts are also being reported, such as contamination of water sources and loss of biodiversity.



**Farm worker
interviewed by
Swedwatch**

»You mix the chemicals and see what happens. You spray and then you trust in god.«

Farm workers interviewed by Swedwatch report how the pesticides they use cause eye irritation, skin rashes and breathing difficulties. Some recounted stories of workers falling seriously ill, to the point of collapsing in the fields and, in some instances, dying. Farmers described the disappearance of bees and other pollinators from their fields, while health professionals observed rising cancer rates in agricultural areas.

This report documents these developments and highlights the need for stronger international cooperation, improved access to safer alternatives and alignment of global pesticide policies to improve the protection of human health and ecosystems – both in Kenya and globally.

Despite the risks and impacts being well-known, corporate actors – along with the states in which they are based – have failed to safeguard people and the environment from these substances. Pesticide producers continue to export hazardous chemicals despite ineffective measures to prevent or mitigate harm. Similarly, the efforts of food retailers to address risks within their supply chains have proven inadequate.

This failure by companies to act prompted the Kenyan government to act in June 2025 by banning 77 hazardous pesticides from use in the country and restricting more than 200 others. This remarkable step to protect the people and environment of Kenya is a major achievement.

However, this does not absolve exporting states and companies of their responsibilities, particularly as many other countries are still suffering from the impacts of excessive use of highly hazardous pesticides (HHPs). Kenya's decision to act unilaterally underscores the failure of current Human Rights and Environmental Due Diligence (HREDD) efforts by agribusinesses, food retailers and other companies that continue to benefit from Europe's double standards.

This report also finds that the trade in toxic pesticides is not, and never has been, sustainable. When vegetable shipments from Kenya are intercepted at EU borders due to pesticide contamination, the costs of destruction of the crops are passed on to Kenyan farmers. These farmers invest significant labour and resources to supply the European market, only to see their produce rejected and destroyed. Such an arrangement is both unjust and irrational, particularly when more sustainable alternatives – such as investments in agroecology – are entirely achievable.

Swedwatch is calling on companies to fulfil their obligations to respect human rights and adopt a comprehensive approach to mitigating risks across their value chains. Addressing these issues is essential to ensure that their practices align with global sustainability and equity goals. This report proposes several far-reaching measures, including a fundamental rethink of HREDD and a complete – and overdue – ban on the sale of pesticides that are prohibited in their country of origin.

FACT BOX 1

Highly Hazardous Pesticides (HHPs)

Pesticides are inherently hazardous. But some of them, referred to as Highly Hazardous Pesticides (HHPs), cause disproportionate harm to the environment and human health. According to the Food and Agriculture Organization (FAO) and the World Health Organization (WHO), HHPs are pesticides that present high levels of acute or chronic hazards to human health and the environment. In addition, pesticides that appear to cause severe or irreversible harm under conditions of use in a country may be treated as highly hazardous.¹

The FAO and WHO have outlined criteria to determine whether a pesticide is to be considered highly hazardous, including if the pesticide has an acute lethal effect, cause cancer or genetic defects, impair fertility, or harm unborn children. Likewise, pesticides are classified as highly hazardous if they cause serious or irreversible damage to health or the environment under normal conditions of use or are listed in internationally binding conventions.²

Although the WHO and FAO have developed these criteria, they have not published an official list that includes all HHPs used worldwide. This can make it difficult to replace HHPs with less hazardous alternatives.³ To fill this gap, Pesticide Action Network International (PAN) is publishing and regularly updating a list of HHPs. However, the “PAN International List of HHPs” considers stricter toxicity and environmental criteria than the WHO and FAO.⁴

Recent progress has been made with regards to managing HHPs. In 2023, under the United Nations (UN) chemicals strategy, the Global Framework on Chemicals (GFC) established the Global Alliance on Highly Hazardous Pesticides – a voluntary, multi-stakeholder initiative committed to reducing global risks from highly hazardous pesticides.⁵ In March 2024, the UN Environment Assembly (UNEA) called for action by 2035 to eliminate the use of HHPs globally.⁶

Recommendations

European companies sourcing agricultural products should:

- Conduct risk-based human rights due diligence (HREDD) by prioritising the most severe impacts connected to pesticides, including, but not limited to, those highlighted in this report – regardless of where they occur within the supply chain.
- Ensure that meaningful stakeholder engagement is at the core of HREDD; not only for impact assessments but also to inform wider corporate policy. Engagements must draw upon those affected, the rights holders, in identifying the risks and impacts connected with pesticides.
- Take into account the perspectives of communities and stakeholders in vulnerable positions, including by setting up effective grievance mechanisms and refraining from box-ticking exercises dependent on third-party auditors.
- Use their leverage to restrict or eliminate the use of hazardous pesticides in their supply chains. Instead, companies should incentivise the use of agroecological farming where biopesticides could be considered when other measures have failed.
- Go beyond HREDD and call on European policymakers to enact a complete export ban of pesticides deemed too hazardous for use within Europe.
- Ensure supply chain transparency by disclosing the origin of the food that is sold and how it was produced – including what chemicals were used. This information should be available to all relevant stakeholders – including consumers and other members of the public.
- Implement responsible contracting practices where the company takes full responsibility for upholding human rights standards and does not push the cost of failed HREDD onto the farmers. In such a contract, the buyer and supplier share the responsibility for human rights.

European producers of pesticides and other hazardous agrochemicals should:

- Stop hiding behind flawed HREDD measures that push the responsibility for mitigating impacts to the rights holders (for example, supplying personal protective equipment (PPE) and trainings). Instead, urgently phase out the production and sale of pesticides that are causing harm to human health and the environment, starting with those that are banned in the country of origin.
- Meaningfully engage with stakeholders like farmers and farm workers in designing company human rights policies and in HREDD processes – for example in identifying hazards, assessing who is at risk and how, designing and implementing mitigating measures as well as setting up effective grievance mechanisms.

- Ensure that HREDD considers the needs of vulnerable groups, including women and children, protecting their health and safety. Additional safety measures should also be required for rights holders who risk being exposed to substances known to be particularly harmful.
- Provide all harmful chemicals in returnable containers and ensure that effective container collection systems are in place where products are used. In contexts where such measures cannot be implemented, companies should refrain from selling chemicals.
- Make sure that farmers and farm workers, especially those in vulnerable positions, have access to clear and easily understandable information – not only about what pesticides they are exposed to but also how, where and when to use the specific pesticide, as well as any potential risks.
- Investors should divest from companies that directly contribute to the triple planetary (crisis climate change, biodiversity loss, and pollution). Investors should instead redirect investments to more sustainable business models aimed at reducing or eliminating the use of HHPs.
- In cases where pesticide-related harm has already occurred, investors should use their leverage on the agribusiness companies they invest in to mitigate and remediate adverse impacts on human rights and the environment.

European policymakers should:

- Promptly adopt a trade policy prohibiting the European chemical sector from exporting pesticides and active ingredients of pesticides whose use has been banned in Europe because of their harmful effects on human health and/or the environment.
- Prohibit companies from exporting pesticides that are allowed for use in the EU only under certain conditions when it cannot be guaranteed that these conditions – for example, safe usage – can be met in the importing country.
- Implement mandatory HREDD legislation at the national and/or EU level that applies to the full value chain and covers all types of business relationships, in line with international frameworks like the UN Guiding Principles on Business and Human Rights (UNGPs) and the Organisation for Economic Co-operation and Development (OECD) Guidelines.
- Make sure that any mandatory HREDD legislation requires companies to use a risk-based approach across their value chains. This should enable rights holders to hold companies accountable, including through a robust civil liability regime, for impacts that occur beyond tier one and resulting from the sale, use and disposal of products like pesticides.

- Introduce or amend mandatory HREDD legislation aimed at holding the financial sector accountable for their investments in companies with unsustainable business models, such as those dependent on the excessive use of hazardous pesticides.
- Build the capacity of rights holders in countries that import pesticides, so they are aware of due diligence, implications and opportunities arising from emerging mandatory HREDD legislation, as well as legal avenues to hold European companies civilly liable.
- Assist low- and medium-income countries so that they can replace HHPs with safer alternatives and enhance domestic pesticide regulation, while also fostering collaboration between these countries – for example, through regional bodies like the East African Community – as they develop policies addressing the transboundary aspects of pesticides.
- Strengthen and fund research into areas like agroecology, organic farming and sustainable pest management. Support initiatives to develop the use of these techniques – especially in low- and middle-income countries.
- Record data on the export of pesticides, their active ingredients and their potential effects on human health and the environment. This information should be available to civil society and the public, as well as to the governments of importing countries.
- Actively support the UNEA commitment to phase out HHPs by 2035, helping lead global efforts to protect health and the environment from hazardous pesticides. This will complement national actions, such as Kenya’s recent ban, and ensure a more coordinated global response to reduce the use of HHPs, especially in countries where regulations are weaker.

Introduction

The growing global population is driving a relentless rise in food demand, projected to increase by 60 percent by 2050.⁷ Although the challenge of feeding the world is mainly a problem of inequitable distribution, poverty and food waste, the demand for food has mainly been addressed by intensified agricultural practices, including a significant rise in pesticide use. From 2002 to 2018, the global population grew by 21 percent while pesticide use per hectare surged by 30 percent.⁸

Industrial agriculture relies on chemical solutions to combat pests, often at the expense of agroecological practices like crop diversification. Instead, agriculture depends on monocultures where pesticides dominate.⁹ This dependency has dire consequences. Over 4 million tonnes of pesticides are used annually, causing widespread environmental and health impacts.¹⁰

These impacts include poisoning incidents, chronic illnesses and contamination of food, water and soil.¹¹ HHPs disproportionately harm vulnerable groups in the Global South, where regulations and enforcement are often weak.¹² Women, children, farm workers and small-scale farmers often bear the brunt, exacerbating inequality and human rights abuses.¹³

FACT BOX 2

Pesticides and food insecurity

In April 2020, the UN World Food Programme (WFP) warned that the number of people suffering from “acute food insecurity” would more than double compared to 2019 – up from a staggering 130 million to 265 million.¹⁴

UN Sustainable Development Goal (SDG) 2 calls for ending hunger and ensuring access to “safe, nutritious and sufficient food all year round” by 2030, as well as eradicating “all forms of malnutrition”. However, according to a report commissioned by the European Parliament, progress is too slow to meet broader global nutrition targets, such as reducing the proportion of infants with low birthweight, infant stunting and food wastage.¹⁵

A key threat to food security comes from climate change and related extreme weather events. Food production will come under further pressure as droughts and storms become more frequent. Unstable and unpredictable weather also has a direct effect on the spread of pests and diseases. For instance, changing rainfall patterns have accelerated pest mutation, leading to the development of resistance to existing pesticides.¹⁶

Although there is evidence that the use of some pesticides causes long-term severe negative effects on human health and the environment, pesticides have generally been considered to contribute to food security. However, this needs to be balanced against their potential to cause harm to human health and that of the broader environment. This trade-off has triggered intense debate, pitting companies against consumers or non-governmental organisations (NGOs).¹⁷

Another important aspect is that HHPs and other substances that are harmful to the environment – such as those affecting micro-organisms in the soil or reducing the number of pollinators – might lead to higher yields in the short term but create considerably lower yields in the long term.

Despite the EU banning or restricting many dangerous pesticides domestically, European companies export substantial amounts of these chemicals to countries with weaker regulations. In 2022, the EU exported 714,000 tonnes of pesticides, worth €6.6 billion.¹⁸ More than 122,000 tonnes of these pesticides were reportedly allowed for export despite being banned on European farms because of the dangers they pose to human health and nature.¹⁹ Ironically, much of the food grown using these pesticides is later imported back into the EU, exposing consumers while perpetuating environmental and human rights harm abroad.

The private sector plays a pivotal role in this system. EU-based pesticide manufacturers defend their practices by citing compliance with local laws and emphasising the importance of their products for food security. However, adherence to local regulations is no substitute for compliance with international human rights and environmental due diligence (HREDD) obligations. Companies must still address impacts across their value chains, as outlined by the UN Guiding Principles on Business and Human Rights (UNGPs) and OECD Guidelines for Multinational Enterprises on Responsible Business Conduct (hereafter the OECD Guidelines).

This responsibility extends to the production, distribution, use and disposal of pesticides, as well as the environmental and health effects of their misuse. However, evidence shows that pesticide companies often fail to prioritise risk mitigation, particularly in regions lacking resources and infrastructure. The claims that pesticides are “safe when used correctly” are undermined in countries where protective measures, training and enforcement are insufficient.



**Farm manager
interviewed by
Swedwatch**

»Sure, people become ill, but since no one is ever tested, you never know if they are ill because of the chemicals.«

Calls to ban EU exports of prohibited pesticides are often met with arguments about job losses, competitiveness and food security. However, research has debunked these claims, showing that a ban would not harm either the EU economy or its employment rates. Instead, it would improve health and environmental outcomes in importing countries.²⁰

European retailers importing food grown with hazardous pesticides are also implicated, risking impacts on human rights and the environment in their supply chains while reinforcing this double standard.

One of the countries where hazardous pesticides has been causing harm is Kenya. As this report shows, years of pesticide imports from the EU and other countries have caused severe human rights and environmental impacts. Findings from Swedwatch research also show that the HREDD efforts by the pesticide manufacturers are not sufficient to prevent these harms.

In June 2025, the Kenyan Ministry of Agriculture and Livestock Development announced that the country is withdrawing 77 active pesticide ingredients from the market, as well as restricting an additional 202. An additional 151 products are also under review by the authorities. The ministry has also taken several other measures to protect the environment and the public.²¹

This action by Kenya is a major victory for those civil society actors who have been advocating for the ban of these chemicals.²² However, the need for Kenya to take these steps highlights the failure of corporate actors to respect human rights and protect the environment.

Despite the promising developments in Kenya, the export of pesticides continues to many other countries in the Global South. Research for this report focused on Kenya as an example to illustrate the risks connected to excessive use of hazardous pesticides, as well as highlighting what actions need to be taken by governments and corporate actors to protect the environment and human health.

Methodology

This publication stems from on-site and desk-based research conducted by Swedwatch and the Kenya Organic Agriculture Network (KOAN) in 2023 and 2024. KOAN is a national membership-based organisation that brings together producers, retailers, exporters, traders, NGOs and like-minded individuals and organisations dedicated to promoting organic agriculture. It connects farmers to markets, enhances knowledge sharing, and advocates for policy support in environmentally friendly agricultural practices, fostering a healthier ecosystem and economy.

KOAN contributed to the research, both as subject matter experts and by conducting and facilitating research in Kenya. The research is part of a larger project involving the Swedish Society for Nature Conservation (SSNC).



**Farm worker
interviewed by
Swedwatch**

»We know
about the
cancers. But
we have no
choice.«

Swedwatch initially conducted a literature review on pesticides and their impacts, which included scanning reports from NGOs, scientific papers and the media. KOAN subsequently conducted two phases of preliminary research in Kenya and then planned and coordinated the on-site research conducted by Swedwatch and KOAN in February 2024. The on-site research was conducted in the counties of Kajiado, Nakuru, Nyandarua and Kirinyaga using in-depth interviews and focus group discussions with selected stakeholders.

During the on-site research, a total of 40 individuals were interviewed. To protect their anonymity, Swedwatch does not disclose names or other characteristics of the participants. The interviewees included farmers, agricultural workers, the local salesmen of pesticides and other agrochemicals (known as agrovets) as well as their suppliers – the agrochemical dealers.

All interviewees are involved in Kenya's agriculture and pesticide sectors and were selected to represent the diverse nature of the sectors.

Additionally, Swedwatch visited a hospital and a clinic in two of the counties to gather the perspectives of health professionals. Swedwatch and KOAN also consulted experts and other relevant sources, including SSNC. In addition, Elin Engdahl – an SSNC expert on environmental toxins – acted as expert reader for the report.

Pesticides and human rights

Hazardous pesticides can impact a wide range of human rights. Among those affected are workers who handle the chemicals directly. The International Covenant on Economic, Social and Cultural Rights defines the right to just and favourable working conditions as a fundamental human right.²³ The UN Declaration on the Rights of Peasants and Other People Working in Rural Areas further elaborates that peasants and other people working in rural areas have the right not to use or to be exposed to hazardous substances or toxic chemicals.²⁴

The right for workers not to be exposed to hazardous chemicals and other risks in the workplace is also elaborated on in several International Labour Organization (ILO) conventions and recommendations. This includes the right to information about the chemicals used, and that it is essential to prevent or reduce the incidence of chemically induced illnesses and injuries at work, and that the protection of workers from the harmful effects of chemicals also enhances the protection of the general public and the environment.²⁵

The Universal Declaration of Human Rights and Article 11 of the International Covenant on Economic, Social and Cultural Rights underscores the importance of the right to adequate food for achieving an acceptable standard of living. Adequacy here includes the idea that food should not contain substances that pose a danger to human health. Therefore, food contaminated by pesticides and other hazardous chemicals does not comply with the definition of adequate food. At the same time, food production should be carried out in a healthy environment without exposure to harmful substances.²⁶

The International Covenant on Civil and Political Rights and the UN Declaration on the Rights of Indigenous Peoples also both underscore the obligation of states to ensure the presence of a safe and healthy environment with regular access to clean food and water.²⁷

In 2022, the UN General Assembly recognised a clean, healthy and sustainable environment as a human right. As human rights and the environment are interdependent, a clean, healthy and sustainable environment is necessary for the full enjoyment of a wide range of human rights, such as the rights to life, health, food, water and sanitation and development, among others.²⁸

This is echoed by the UN Environment Assembly (UNEA), which underscores that environmental protection is inherently linked to the full enjoyment of human rights, such as the rights to life, health, food, water, sanitation and development. UNEA's efforts have been crucial for integrating human rights into environmental policy, including addressing the risks posed by hazardous pesticides and promoting a more sustainable approach to agriculture.

How pesticides cause harm

This section outlines the widespread environmental and health impacts of pesticide use in agriculture. It explores how pesticides contribute to biodiversity loss, soil and water contamination, and air pollution across ecosystems. It also examines the human health consequences of both short- and long-term exposure to these pesticides, particularly in low-income regions.

Environmental impacts

Pesticides are designed to be toxic to pests, yet their widespread application in the environment can lead to unintended harm to human health, biodiversity and ecosystems. This means that, almost by definition, they pose risks to non-target organisms too. These risks range from virtually absent to very high – depending on how the pesticide is used, how toxic it is, how organisms are exposed to it and what type of ecosystem the pesticide is applied in.²⁹

In some parts of the world, the effects of modern agriculture are severe. In the European agricultural landscape, for instance, a significant loss of biodiversity has been observed for years. For example, populations of field birds and meadow butterflies are believed to have declined by more than 30 percent since 1990.³⁰ The loss of pollinating insects is particularly worrying, also for the agricultural sector, since 75 percent of the world's most productive crop plants depend on pollinators, according to the FAO.³¹



**Agrovet
interviewed by
Swedwatch**

»Everyone is blaming each other. But the problem is not the farmers, the problem is the companies.«

In fact, nearly two-thirds of all agricultural soil worldwide is contaminated with at least one pesticide ingredient. Pesticide residues in soil are associated with the decline of earthworms, microorganisms and symbiotic mycorrhizal fungi, which not only provide nutrients to plants but also keep them healthy.³²

The problem persists long after application. Studies carried out in Switzerland showed that, even after two decades of organic agriculture, up to 16 different pesticide residues were present in soil samples from 60 different agricultural sites.³³ However, pesticide residues are not only found in soil – they have also been found in the air as well as in surface water and groundwater. These residues have been linked to population reductions of insects and aquatic arthropods.³⁴

The connection between pesticides and reduction of insect populations was initially highlighted with insecticides such as organophosphates like DDT (which stands for Dichloro-Diphenyl-Trichloroethane).

These early chemicals are now banned in most countries but have been replaced with new chemicals, many of them even more toxic to insects. For example, the neonicotinoid insecticides, introduced in the 1990s and now the most popular insecticides in use globally, are 7,000 times more toxic to insects than DDT.³⁵

Africa is the fastest growing market for neonicotinoid pesticides. These pesticides have a lower human toxicity than older pesticides but still pose problems for





On smaller farms pesticides are mixed with water by hand and then applied to the field using tanks carried on the back. The workers often lack protective equipment and many have received no formal training on pesticide use, exposing them to considerable risk.

pollinators and aquatic organisms and are partially banned in the EU. Over the longer term, neonicotinoid use could have serious implications for biodiversity and the environment.³⁶

The loss of pollinators is one aspect of biodiversity deterioration that has caused particular concern. In Europe, almost 10 percent of bees are threatened with extinction – mainly because of agricultural practices that are dependent on pesticides.³⁷

Insecticides that are designed to harm unwanted insects can cause harm to both pests and beneficial insects. But fungicides and herbicides can also be harmful to insects. For example, some fungicides act synergistically (see fact box 9) with insecticides, rendering them more toxic if an insect is exposed to both at the same time.³⁸ Additionally, herbicides that impact flowering weeds are harmful to pollinators that depend on the flowers for food.

A research review published in 2019 found that 40 percent of insect species are threatened with extinction.³⁹ Intensive agriculture is playing a role in this decline, while studies show that organic farming can have a positive effect on pollinators.⁴⁰ Another highly problematic aspect related to pesticides and biodiversity loss is that many of the organisms harmed by pesticide use are beneficial for agriculture – for example, by naturally controlling pests. However, to be efficient, they must not be wiped out by pesticides. Their loss creates a cycle where more pesticides are needed, further damaging biodiversity and deepening dependence on pesticides.⁴¹

When discussing water pollution, the situation is similarly alarming. Freshwater ecosystems are under considerable stress – with one quarter of freshwater fauna threatened with extinction and pesticides named as a major cause.⁴² Since water tends to flow across landscapes, pesticides often end up in the oceans, where they have even been detected in marine animals such as dolphins.⁴³

Hazardous pesticides also travel by air. Wind can move dust, particles and droplets to areas close to agricultural land – or carry pesticides to places many kilometres away. When pesticides are blown onto neighbouring land, this is called pesticide drift. Active ingredients may travel much longer distances of up to 1,000 kilometres. In this case, air currents can distribute particles in all directions. Cooling and rain can then cause them to fall and sink back to the ground. They can end up in nature reserves, in city parks and in human lungs.⁴⁴

Human health impacts

Humans are exposed to pesticides in several ways: by working with them, living near farms, through diet, through products containing pesticides or via the environment.⁴⁵

Short-term adverse health impacts are often referred to as acute effects, including stinging eyes or rashes. The victim may feel tired and listless and suffer from headaches and aching limbs. The digestive tract is also frequently affected – the consequences are nausea, vomiting or diarrhoea. In serious cases, organs can fail: the heart, lungs or kidneys stop functioning.⁴⁶

Chronic exposure occurs through diet, by working for longer periods with pesticides or by exposure to pesticides in the local environment. Levels of exposure depends on factors like seasonality, occupation, behaviour at work/home, age and gender.⁴⁷

Studies have indicated that there is an association between exposure to neurotoxic pesticides and cognitive dysfunction, dementia and Alzheimer's disease.⁴⁸ There is also evidence pointing to a relationship between pesticides and elevated rates of diseases like Parkinson's or leukaemia. Pesticides have been linked to an increased risk of liver and breast cancer, Type 2 diabetes and asthma, allergies, obesity and endocrine disorders. Birth defects, preterm births and growth disorders have also been traced back to contact with pesticides.⁴⁹



**Farm manager
interviewed by
Swedwatch**

»After spraying your eyes hurt and water. Sure, I get rashes on the arms. But what am I supposed to do?«

Estimating the number of long-term exposures that results in chronic health effects is challenging, because symptoms may develop years after exposure and diseases are often multi-causal. People also tend to be exposed to multiple harmful substances throughout their lifetime.⁵⁰ Another complicating factor is that only a very small portion of the studies on occupational exposure to pesticides (around 1 percent) are carried out in low-income countries.⁵¹

When calculating how much pesticides a person can be exposed to without immediate risk to their health, the numbers are based on digestive tract absorption and only for a single active ingredient at a time. However, people are also exposed to pesticides through drift and long-range transport where the substances enter the body primarily through the respiratory tract.⁵²

The impacts of hazardous pesticides not only affect farmers and agricultural workers but also the broader community in the nearby area. Research on impacts to farm workers in South Africa have shown that people living adjacent to agricultural fields have the same type of symptoms associated with exposure to spray drift. A key factor here is the proximity of residential areas to farming areas. Similar data from Brazil points to the risk to those living adjacent to areas that are sprayed with pesticides.⁵³

Certain communities may be forced to live closer to pesticide use areas owing to financial or other constraints, and the malnutrition that may accompany extreme poverty can exacerbate the adverse health effects of toxic pesticides. For example, low levels of protein can result in low enzyme levels and enhance vulnerability to some insecticides.⁵⁴

Pesticides have a particularly harmful impact on children. According to a study conducted in Indonesia in 2018, there is a “significant relationship” between pesticide exposure during pregnancy and low birth weight. This points to the risks faced by agricultural workers and their children who are not properly protected. The risk of stunting was more than three times higher for children exposed to a high level of pesticides compared to children who were not.⁵⁵

Similarly, the WHO has noted the potential connections between children's exposure to pesticides and conditions such as congenital heart disease and leukaemia.⁵⁶ Pesticides also affect developing foetuses, for example, by causing impacts on cognition, motor development and behaviour.⁵⁷ Studies have shown that living within 1.5km of agricultural spraying raises the risk of neurodevelopment disorders in babies, with low-income groups most at risk.⁵⁸

FACT BOX 4

Pesticides and gender

Hazardous pesticides impact women and girls differently from men and boys. For example, women generally have a higher proportion of body fat and are thus more likely to store pollutants that accumulate in fat tissue.⁵⁹

There are also social factors playing a part. In many areas, due to traditional gender roles, women are exposed to pesticides through chores such as washing down spraying equipment or their husbands' pesticide-soaked clothes, storing pesticides or disposing of pesticide containers.⁶⁰

Women can also be exposed to pesticides through activities like weeding and harvesting, which are usually done without personal protective equipment (PPE). Women in flower farms in Kenya, for instance, are more involved in weeding, flower cutting and packaging and showed a higher frequency of poisoning symptoms than the men who do the actual spraying.⁶¹

There is also an established link between breast cancer and certain pesticides. Some pesticides are also linked to endometriosis, a painful condition that may cause infertility and can pose a significant risk to women's reproductive health and foetal development. Passed on from mother to child through the womb and breastfeeding, pesticides are linked to neonatal deaths, birth defects and impaired mental development or pervasive developmental problems in children.⁶²

In sectors where child labour is common, children may be more vulnerable to pesticides as their nervous systems are developing, and because they are less likely to be supplied with PPE or trained in appropriate use of agrochemicals.⁶³

Beyond the discussion on how pesticides may play a part in the development of various physical illnesses, some studies also point to the effects that pesticides have on mental health. Exposure to pesticides can disturb neurochemistry and might predispose a person to psychological distress – although proving this connection is difficult.⁶⁴ However, there are studies indicating a link between pesticide exposure and depression amongst farmers.⁶⁵

A factor related to mental health is that a significant number of acute pesticide poisonings globally are believed to be intentional. According to the WHO, HPPs are often used for self-harm and are estimated to account for 20 percent of all suicides globally.⁶⁶

EU and interceptions

The EU has a strict regulatory system with the purpose of restricting or banning dangerous pesticides. To protect consumers and the environment, all active ingredients must be approved at the EU level before the product containing the ingredient can receive national approval.⁶⁷

Within the EU, the approval of an active ingredient is granted for a defined period of no more than 15 years. For a renewal, potential new data must be included in the review process. Ingredients that meet certain cut-off criteria – a classification as mutagenic, carcinogenic or harmful to reproduction and endocrine system – should not be approved in the EU. However, their indirect effects on food chains and biodiversity receive less attention. Consideration is taken to evaluate how the active ingredient affects birds, mammals and earthworms, as well as some insects like honeybees and wild bees. However, ecologists and civil society organisations (CSOs) have argued that impacts on fungi, amphibians, bats, reptiles or wild plants should also be considered.⁶⁸



**Farmer
interviewed by
Swedwatch**

» I do not
eat these
tomatoes
myself. I know
the effects
of these
chemicals.«

However, far from all the food consumed in the EU is grown within its borders. With its 530 million consumers, Europe is a major destination of fresh fruit and vegetables grown all over the world. Europe is home to seven of the ten largest importing countries globally and every year Europe imports about 55 million tonnes of fruit and vegetables.⁶⁹

To protect consumers from harmful substances, the EU has a system in place to test imported foods for pesticide residues. The testing is performed at EU borders by the European Food Safety Authority (EFSA) to ensure that imported food complies with EU safety standards.⁷⁰

Screening is done by ensuring products do not contain chemicals that exceed so-called maximum residue levels (MRLs), which are set for each active ingredient and for each individual product (different for apples and salad, for instance). Products exceeding these limits cannot be sold within the EU. While the EU enforces stricter regulation than many other countries, experts have criticised the absence of MRLs for combinations of pesticide residues.⁷¹

In 2019, the EFSA found that 7.6 percent of samples from non-EU countries exceeded MRLs, compared to 2.6 percent for EU-produced food. Repeated violations by imports can result in the products being placed on a high-risk list, triggering additional inspections. If the issue persists, the EU may suspend imports of the affected products from the country in question.⁷²

Kenya is one of the countries that has been flagged due to many interceptions. Currently French beans from Kenya have been put at a 10 percent sampling rate, meaning that one in ten shipments are subjected to pesticides residue testing at the point of entry into the EU.

The 10 percent sampling rate has impacted Kenya's reputation as a trading partner and increased compliance costs for export companies. If testing was to increase further, it could cause delays at European ports, affecting the freshness of produce and overall supply chain efficiency. Over time, a negative reputation could affect consumers' perception of Kenyan French beans.

However, it is doubtful whether interceptions are an effective tool to stop harmful pesticides from entering the EU, as they provide limited protection for European consumers while placing a disproportionate burden on farmers and producers in the Global South.

An important dimension of this double standard lies in the fact that numerous pesticides banned in the EU are still produced by European companies and exported to other countries.

These pesticides usually fall into two categories:

1. Those banned by the EU due to health or environmental risks. While banned in the EU, companies can still produce and export them.
2. Those not registered in the EU. Some companies avoid registration, either because they know the product will not be approved or see no market in Europe, continuing to produce and export them elsewhere.⁷³ A potential loophole for manufacturers is letting EU permits expire without renewal to avoid a ban.⁷⁴

There have been discussions about whether European companies should be allowed to export chemicals that are banned within the union and there are precedents for a ban. France outlawed the export of banned pesticides in 2022, and Belgium, one of the major European exporters of banned pesticides, followed suit in 2025.⁷⁵ However, critics have pointed to loopholes in this legislation. For instance, France has increased the export of the chemicals needed for pesticide manufacturing so that they can be manufactured elsewhere.⁷⁶



**Farmer
interviewed by
Swedwatch**

»This field will never be used to grow vegetables for export, there are too much chemicals in the ground.«

In 2020, Switzerland imposed stricter export controls on 100 specific pesticides and banned the exports of five pesticides deemed "problematic". However, since the list of restricted pesticides has not been updated since 2019, Switzerland is still a major exporter of hazardous pesticides.⁷⁷

In 2020, the European Commission confirmed that it would consider legislation preventing the export of hazardous chemicals banned in the EU. This would be done by revising the European Green Deal and the Chemicals Strategy for Sustainability.⁷⁸ The plans received support from civil society and members of the European Parliament, and in 2021, the European Commission welcomed efforts to address the export of harmful chemicals not allowed in the EU.⁷⁹ However, the legal proposal for an export ban was delayed for years and was not listed in the Commission's work plan for 2024. This decision was widely criticised by European CSOs.⁸⁰

A report by the Corporate Europe Observatory attributes this outcome to an intense lobbying effort by agribusiness corporations and their lobby networks, which sought to prevent the EU from implementing a ban on the export of its most dangerous pesticides.⁸¹

In fact, chemical companies wield significant lobby power in Brussels. Of the 50 highest-spending lobbyists, seven belong to the chemicals sector – putting the industry ahead of tech, energy and finance sectors.⁸² Influencing EU legislation is a top priority for these companies. For example, the lobby organisation Croplife Europe, representing the major European pesticide manufacturers, spent around €1 million in 2022 lobbying EU institutions.⁸³

FACT BOX 5

International conventions

The binding international conventions dealing with pesticides are very specific and do not provide a comprehensive approach to all pesticides. *The Stockholm Convention on Persistent Organic Pollutants* (POPs) aims to eliminate the production and use of that certain type of pesticide defined as POPs. However, only a handful of currently used pesticides are eligible for listing, and putting additional pesticides on the list is a lengthy process.⁸⁴

The other important instrument is the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. However, this does not ban the production, use or trade in hazardous pesticides. Instead, it establishes a prior informed consent procedure that allows countries to control the import of listed chemicals. The vast majority of pesticides currently in use are not covered by this convention.⁸⁵

Most recently, the Global Framework on Chemicals – For a Planet Free of Harm from Chemicals and Waste was adopted in 2023 and its foundational Bonn Declaration included support for the global phase-out of HHPs.⁸⁶ Key aspects are that governments should work towards notifying, regulating or prohibiting the export of chemicals they have prohibited nationally, in line with their international obligations. By 2035, stakeholders should have taken measures to phase out HHPs in agriculture where the risks have not been managed and where safer and affordable alternatives are available, and to promote the transition to and make available those alternatives.⁸⁷

There is no globally binding legal framework that addresses pesticides at every stage of the life cycle – from production to use and disposal. Less than 4 percent of all pesticides used globally are regulated by binding international conventions.⁸⁸

Background: Pesticides in Kenya

The scale of the global trade in pesticides is staggering, which is why the absence of effective pesticide regulation in the Global South makes these countries such appealing export destinations for producers facing restrictions in the EU market. Authorities in these countries frequently struggle to monitor and control pesticides. The individuals applying the pesticides are often poorly trained – while relying on instructions from local sales teams and pesticide retailers with no formal training, who often provide misleading information.⁸⁹

Pesticide manufacturers often suggest measures to ensure safe use of their products.⁹⁰ However, many of these measures are simply not realistic in a context like Kenya. Lack of training and evidence-based information leaves workers and farmers unaware of the hazards. Likewise, many people who are working with pesticides lack the necessary PPE.

This situation is ongoing, despite the responsibility of pesticide companies to prevent, mitigate and address these risks in line with UN and OECD standards. As findings from on-site research conducted for this report have shown, the failure of the private sector to address the human rights and environmental impacts associated with hazardous pesticides has serious implications.

A key issue is the lack of access to PPE – equipment worn to minimise exposure to hazards in the workplace. Protection from pesticide exposure usually involves body protection like gloves, boots and overalls; face protection like safety goggles; and respiratory systems like masks.⁹¹ PPE is typically not provided by the pesticide companies, and in many areas in the Global South it is often unavailable and/or unsuitable, due to its high cost or because the equipment is poorly suited to the climate.⁹²

It is worth mentioning that, in Kenya, the Pest Control Products Board (PCPB) – together with the pesticides sector – has initiated a community pesticides sprayers programme, where individuals within a community are trained on the safe use of pesticides. When certified, these individuals are provided with PPE and can provide safer spraying services to farmers for a fee.⁹³ However, the programme is limited only to a few areas and, since most farmers cannot afford the fees, they often prefer to apply pesticides on their own.

Another aspect to consider is that PPE protects the workers who handle the pesticides but not those who later harvest the crops, nor their surrounding communities who may be exposed to contaminated water, soil or pesticides drifting from the wind, or consumers who may end up buying contaminated agricultural products. Families of farmers and agricultural workers are also at risk, for example, when pesticide residues are brought home on clothing and released during washing.

There are also reports of smuggled and/or counterfeit pesticides in the Kenyan market. Pesticide regulations in Kenya are stricter than those of many of its neighbouring countries, and with porous borders, pesticide smuggling has become a

persistent issue. Globally, the impact of counterfeit pesticides is a huge problem: they bypass legislation and safety regulations when transported, used and disposed of, and often contain banned or restricted ingredients that pose severe risks to farmers, consumers and the environment.⁹⁴

After taking steps to restrict the most hazardous pesticides, Kenya has been calling for the Common Market for Eastern and Southern Africa (COMESA) to impose a region-wide ban on hazardous pesticides. Such a ban would make it harder for smugglers and unscrupulous traders to exploit the differences in national laws.⁹⁵

Additionally, decades of pesticide overuse have devastated soil ecosystems, destroyed vital microorganisms and reduced the land's ability to sustain multiple harvests. As a result, farmers face declining yields and cannot afford further crop losses. To mitigate risks, they have become reliant on pesticides. However, this dependence worsens soil degradation and drives pests to develop resistance. The cycle demands even more pesticides, escalating costs and further eroding sustainability. This destructive loop threatens both livelihoods and food security.

FACT BOX 6

Pesticide regulations in Kenya

The Kenyan pesticides industry is regulated by Chapter 346 of the Pest Control Products Act (PCPA), enacted in 1985. The pesticide regulation regime is widely seen as one of the most rigorous on the African continent and closest to global standards.

Companies that wish to register products must undergo a trial conducted by the Pest Control Products Board (PCPB). If successful, a company can then apply for a three-year certificate. However, the registration process only focuses on the purity and efficacy of the product, as well as how it should be used and on which crops. There is no mention of the potential threats to human health, the environment or biodiversity.⁹⁶

While the PCPB has dismissed claims that the Kenyan market is flooded with highly hazardous products, officers from the Directorate of Criminal Investigations (DCI) have arrested people suspected of selling unregistered pesticides in joint operations with the PCPB.⁹⁷

The Kenyan agricultural sector

Kenya's economy is heavily dependent on agriculture. According to the Kenya National Bureau of Statistics, the agricultural sector contributes 21.8 percent directly to Gross Domestic Product (GDP) and employs more 60 percent of the rural population.⁹⁸ On the international market, Kenya stands as the world's top exporter of certain agricultural products, such as tea and cut flowers.⁹⁹

However, despite its export of cash crops, Kenya imports twice as many agricultural goods as it exports. Kenya's total imports currently amount to €24.5 billion, while exports total around €11.8 billion.¹⁰⁰ Despite this imbalance, the proportion of

Kenyans with severe food insecurity increased from 15 percent in 2016 to 28 percent in 2023.¹⁰¹



**Farmer
interviewed by
Swedwatch**

»This situation
is not fair
for the small
scale farmers.
This is very
dangerous.«

The Kenyan government aims to develop a farming sector that generates export revenue, supports livelihoods and contributes to food security and poverty reduction.¹⁰² Although Kenya has integrated its agricultural sector into global supply chains, this advancement has come at a cost. Increased productivity has often been achieved through the heavy use of pesticides, yet regulations and controls over these potentially hazardous chemicals have lagged behind.¹⁰³

A contributing factor is the relentless pressure on both large- and small-scale farms to maximise crop yields and profits.¹⁰⁴ Underlying this predicament is a colonial legacy that often shapes land ownership and agricultural practices. In Kenya, land rights have been contentious since 1895, when Kenya became a British protectorate. From 1895, British laws dispossessed local communities of land, to be used for agriculture, mining and game reserves. After independence in 1963, these policies were inherited by subsequent Kenyan governments.¹⁰⁵

These challenges are compounded by an export-oriented agriculture model tied to foreign debt, which ballooned from US\$8.5 billion in 2010 to US\$45.5 billion by 2024.¹⁰⁶ To service this debt, Kenya prioritises cash crops for export over local food security, entrenching economic and social inequities.¹⁰⁷

Pesticides – benefits and risks

As agriculture in Kenya has intensified, so has the pressure on crops from pests and diseases. Pesticides are generally viewed as the main solution for managing these problems.¹⁰⁸ Between 2015 and 2018, annual imports of pesticides surged from 6,400 to 15 600 tonnes, coming mainly from China (42 percent) and the EU (30 percent).¹⁰⁹ This mirrors the global trend where the pesticide market has doubled over the last 20 years.¹¹⁰ Despite their documented effects on human health and the environment, Kenyan agriculture is dependent on pesticides.¹¹¹

Proponents of pesticides claim that cash crops like coffee, maize and wheat could suffer up to 90 percent in yield losses if the government were to ban HHPs. They also argue that such bans would have adverse effects on food security, incomes and the economy while not guaranteeing food safety.¹¹² Others argue that alternative pesticides, which are both effective and less toxic, are already registered and can provide the same solutions as HHPs.

Agrovets and other actors

Agrovets are individual retailers of agrochemicals such as pesticides and fertilisers. Along with extension officers who advise farmers on behalf of agricultural product buyers, they are often the main source of information for farmers on pests and disease management. However, agrovets seldom advocate for more sustainable pest management practices. Instead, they tend to recommend the most effective products – often those that have been proven to cause health issues and are toxic to the environment.

For example, a study by KOAN of more than 200 recommendations made by agrovet dealers found that 10 of the 43 products recommended had been withdrawn in Europe. These products contained substances that were carcinogenic, mutagenic, neurotoxic, had endocrine-disrupting effects and/or posed risks to human reproduction. Additionally, 33 percent of the recommended products were toxic to bees and 60 percent were toxic to fish. Similarly, out of 136 recommendations from extension officers, 15 of the 63 products had been withdrawn in Europe.¹¹³

In 2019, a report from the Route to Food Initiative (RFTI) concluded that, in total, 171 companies had registered 862 products in Kenya.¹¹⁴ These products contained 230 active ingredients – of which only 134 were approved in Europe. Nineteen were not listed in the European database and 77 had been withdrawn from the European market or were heavily restricted in their use due to potential chronic health effects, environmental persistence, high toxicity or because there were insufficient data to prove no harm towards the environment or human health.¹¹⁵

Pesticides banned in the EU have mostly been used in Kenya on tomatoes, followed by kale, maize, cabbage, coffee, French beans and cut flowers. While French beans and flowers are exported, tomatoes, kale, maize and cabbage are part of the daily Kenyan diet, with significant risks for Kenyan consumers.¹¹⁶

During the drafting of this report, the Kenyan Ministry of Agriculture and Livestock Development announced in June 2025 that 77 active pesticide ingredients were being withdrawn from the market. The Ministry also decided to restrict an additional 202 ingredients and place an additional 151 products under review.¹¹⁷ These ingredients have previously been identified by Kenyan civil society, including KOAN, as highly hazardous and were recommended for withdrawal. The identified pesticides will be removed from the market starting January 2025.

Collateral damage: How pesticides affect Kenya

The continued export of hazardous pesticides to Kenya, combined with their widespread misuse due to limited training and weak regulation, poses serious risks to both rights holders and the environment. This section provides an overview of available research into these impacts.

Farmers and farm workers

Numerous studies highlight a significant gap between corporate and government policies on pesticide use in Kenya and their practical implementation by dealers, farmers and farm workers. While farmers typically have basic knowledge about pesticide use, many lack formal training on proper use and the critical importance of wearing PPE.¹¹⁸

Only one in six farmers in Kenya is estimated to wear full PPE when applying pesticides.¹¹⁹ The reason for this is that PPE is either unavailable, too expensive or not appropriate in the Kenyan climate.¹²⁰ A study from 2020 by KOAN revealed that farmers used pesticides proven to be carcinogenic, mutagenic, endocrine disrupting and neurotoxic.¹²¹ Nearly half of the farmers used pesticides known to affect the reproductive systems and 30 percent did not wear any PPE.¹²²

The KOAN study also found that farmers applied pesticides on crops for which they were not registered. Other farmers reported using insecticides to control fungal diseases or fungicides to manage weeds or insect pests,¹²³ indicating a lack of knowledge about appropriate use of these products.¹²⁴

Common symptoms of pesticide exposure among farmers include sneezing, dizziness, headache, blurred vision and skin irritations. Similarly, a study of 800 residents in Kenya's Lake Naivasha region, a major centre of large-scale vegetable growing, found evidence of respiratory, skin, bone and nervous system problems. These symptoms were more prevalent among planters, weeders and harvesters.¹²⁵

Communities

There is a lack of country-wide data on the concentration of pesticides in Kenyan water, soil and food, as well as on related impacts.¹²⁶ However, research has shown that vegetables and fruits sold in local markets contain high levels of pesticide residues. In 2020, a study in Kenya found 25 different active ingredients in tomato and kale samples, with more than half of these chemicals having been withdrawn from circulation in the EU years ago. Worryingly, 60 percent of the samples exceeded the Maximum Residue Levels (MRLs) set by Kenyan authorities. This is particularly concerning given that kale and tomatoes are staple foods for Kenya's population.¹²⁷

A subsequent vegetable sampling by KOAN from three local markets revealed that all analysed samples contained one or more pesticides with concentrations exceeding the MRLs, set in line with European standards. Substances found were known to be carcinogenic and neurotoxic, as well as capable of disrupting hormone expression in the hypothalamus.¹²⁸

In a similar study conducted by Kenya Plant Health Inspectorate Service (KEPHIS) on 1,139 samples of fresh produce intended for both export and local markets, pesticides were detected on 46 percent of the samples, while 11 percent had residues exceeding the EU's maximum residue levels.¹²⁹

Concerns have been raised about the potential link between the higher incidence of birth defects in agricultural regions and exposure to pesticide-related chemicals and

metals, particularly among women of reproductive age.¹³⁰ Lastly, Kenya also faces a serious problem of stockpiles of obsolete pesticides, many of which are not stored safely and pose a risk of contaminating drinking water.¹³¹

FACT BOX 8

Kirinyaga County and cancer

One of the counties where Swedwatch and KOAN conducted research for this report is Kirinyaga. According to Kenya's Council of Governors, which includes governors of the 47 counties, one in every ten deaths in Kirinyaga is caused by cancer, making the disease the leading cause of premature death among non-communicable diseases, second only to cardiovascular disease.¹³² A report by the Kenyan Ministry of Health highlights that Kirinyaga, along with three other counties, carries the heaviest cancer burden in the country. At the time of publication, research is reportedly ongoing to investigate the potential correlation between the use of pesticides and the rising number of cancer cases in the region.¹³³

According to Kirinyaga's governor, Her Excellency Anne Waiguru, there is an urgent need for interventions to accelerate the pace of progress in the fight against cancer in the county given rising deaths. She called for "swift and decisive" action to reduce pollution and carcinogenic substances.¹³⁴ Meanwhile, Kirinyaga County Woman Representative Wangui Ngirichi has suggested that the frequent spraying of pesticides could be a contributing factor to the growing cancer burden in the region.¹³⁵

Pollinators and plastic

In Kenya, the adverse environmental effects of pesticides use include a decline in pollinating bees and butterflies, the loss of birds like the red-billed oxpecker and the death of other non-target organisms.¹³⁶ The use of pesticides that are toxic to fish and bees is particularly high. According to a survey by KOAN in 2020, 70 percent of responding farmers used products harmful to bees – suggesting that Kenya's future food production may be at risk due to a decline in pollinators.¹³⁷

For instance, mass death of bees in Baringo has been attributed to the excessive use of chemicals. A 2015 study conducted in Transmara found an increase in honeybee mortality and a decrease in honey yield in areas sprayed by pesticides. Beyond the widespread death of bees, Kenyan honey has also been found to contain residues of toxic pesticides. Pesticide residues have been detected in both the pollen and honey from hives across several regions of Kenya.¹³⁸

An overuse of pesticides can lead to a decline in pollinators – and eventually a decline in agricultural yields. In some areas of eastern Kenya, the overuse of toxic pesticides has caused such a dramatic decline in crop yields that farmers have had to resort to manually pollinating their crops using soft brushes, rather than relying on animals for natural pollination.¹³⁹

Inappropriate disposal of pesticide containers is also an issue. Economic pressure to re-use plastic containers, combined with limited safe disposal options, mean that stockpiles of empty containers can pose significant environmental and health risks.¹⁴⁰

Swedwatch findings: The pesticide burden

Swedwatch, in collaboration with KOAN, conducted in-depth research divided into two distinct parts. One part involved on-site investigations into the use of hazardous pesticides in food production across four different counties in Kenya, examining their impact on human health and the local environment. Another part explored to what extent Kenyan agricultural exports to Europe are intercepted by EU authorities due to pesticide contamination and the underlying reasons for this. This chapter summarises the findings of both these research components.

The Kenyan agriculture sector operates through two parallel systems: one focused on producing food for the domestic market and the other dedicated to agricultural exports. Swedwatch's research indicates that hazardous pesticides are widely used in both systems. However, the issue is significantly more pronounced in the production of crops for domestic consumption. This disparity arises because imports to the EU are subject to testing, posing an immediate risk of products being intercepted and rejected due to pesticide contamination.

During the research, Swedwatch visited a wide range of farms, including family-owned smallholdings, local cooperatives and large-scale facilities that supply major export companies. These larger facilities not only cultivate their own produce but also source additional vegetables from smaller farms, or “outgrowers” (see below for more details). The findings below indicate that, while various segments of this highly diverse agricultural system share similarities in the use of hazardous pesticides and their associated impacts, there are also significant differences between them.





Tasks such as weeding and harvesting are often performed without protection, potentially exposing the workers to hazardous pesticides.

Widespread and improper pesticide use

Swedwatch's research highlights the widespread and improper use of pesticides, primarily driven by the indiscriminate application of pesticides throughout many types of farms, as well as the lack of training and access to and affordability of PPE. These factors create a risk of impacts on both the environment and human health in Kenya, as well as a significant risk of pesticide contamination in vegetable products exported or sold locally.

Unchecked application and contamination risks

Swedwatch research shows that, on farms that grow products for domestic consumption, pesticide use is often indiscriminate. Interviewees explained that, to safeguard their crops and protect their investments, fields were sprayed regularly – regardless of whether this was necessary. Workers frequently misused pesticides, with excess chemicals spilling onto the ground rather than targeting the plants. Pre-harvest intervals (PHI)¹⁴¹ were often ignored as farmers rushed to sell crops when prices peaked, regardless of recent pesticide application.

“Prices move so fast. If the price rises today, then the farmer wants to harvest immediately. Then it does not matter if the crop was sprayed yesterday,” shared one interviewee, underscoring the economic pressures they face.

Export farms face stricter controls due to potential interceptions at European borders, where contaminated crops, whether containing banned chemicals or exceeding permissible levels of allowed chemicals, risk being destroyed at the farmer's expense. This could severely impact both the farmer and the exporting company. For vegetable export farms, the persistent threat of pesticide-related interceptions remains a serious concern. Discovering banned substances or excessive chemical residues in products can damage the reputation and financial stability of both the farmer and the exporting company.

Larger export farms typically use machinery and adhere to buyer-provided guidelines for pesticide application. Farmers report that, while these guidelines are generally similar in terms of the approved chemicals, they may differ in the prescribed concentrations or the required waiting period between spraying and harvesting (the PHI). Many of these farms also have access to agronomists or other technical experts advising them on matters related to pesticides. These experts are either employed directly by the farm or by the buyer.

However, in addition to cultivating their own crops, many of these export farms also source products from smaller farms, known as "outgrowers" (see above for more details). This increases the risk of contamination. These vegetables are exported alongside the larger farm's own produce, but ensuring they meet the standards is more challenging. Indeed, many farmers who rely on outgrowers are suspicious of the pesticide practices on these smaller farms, as it is harder to monitor and control their pesticide use, increasing the risk of contamination in the final product.

"The outgrower does not care about the danger. He will use anything that is effective. If I found out that something happened once, I would not trust the farmer again. He could be doing anything when I leave. If it happens again the farmer gets terminated directly. For a while or for good. He is dangerous," one export farmer told Swedwatch.

Additionally, some smaller farmers are organised into cooperatives, where the crops from all members' farms are pooled and sold together. This means that a mistake by one farmer could jeopardise the whole group. The fear of one member breaking the rules is a constant concern.

"Even if I know about the dangers, maybe another member doesn't. So, when he goes to the agrovet to buy a certain pesticide, the agrovet might sell him something else. It can never be ruled out that a farmer sprays at night with banned chemicals. Otherwise, we would not have this problem," one cooperative farmer told Swedwatch.

Another significant risk is cross-contamination between neighbouring farms or among different crops on the same farm. Many farmers overlook wind conditions when spraying pesticides, increasing the risk of chemicals drifting into adjacent fields. This issue is exacerbated on smaller farms, where crops for both domestic use and export are often grown side by side, with the same equipment sometimes used for mixing and spraying pesticides on both crops. In some cases, cooperatives or informal groups of farmers share equipment, further heightening the risk of pesticide cross-contamination.



Most workers interviewed by Swedwatch has experienced acute health issues after being exposed to pesticides, ranging from skin problems to breathing issues.

“My beans are grown for export, but there are tomatoes grown for domestic consumption right next to them. These farmers spray a lot more and their chemicals drift on the wind in over my beans,” one interviewee told Swedwatch.

Lack of PPE and training

The indiscriminate use of pesticides poses significant risks, particularly for untrained workers and farmers lacking proper PPE and awareness of health hazards. On smaller farms growing crops for commercial use, pesticides are often mixed with water in barrels – without any use of PPE – and applied to the field using so-called knapsacks (tanks carried like backpacks).

Several interviewees noted that workers’ primary concern during mixing is to prevent chemical interactions that could damage crops. Yet many lack proper training or sufficient literacy to follow instructions, increasing safety risks and inefficiencies. “If you cannot read, mixing the chemicals is really hard. If you do it wrong, it is all over, the whole crop will be destroyed,” one farmer told Swedwatch in an interview.

A clear divide exists between larger and smaller farms. On larger farms that can be audited or inspected, workers are more likely to receive training and PPE to minimise health risks. However, challenges persist, especially when it comes to overseeing



Women are often exposed to pesticides through chores like washing and storing products, activities that are generally performed without protective equipment.

outgrowers. As one technical advisor from a large farm noted, “The outgrowers always use PPE when I am there. But I can’t be everywhere. When we go away, they do what they want.”

In contrast, PPE use is rare on smaller farms or farms that grow vegetables for the domestic market. One interviewee estimated that only about two percent of Kenyan farmers use protective equipment. Tasks such as mixing, spraying and handling of chemicals, and picking, washing and packing produce are often performed without protection.

Despite these risks, most interviewed workers feel unable to refuse dangerous tasks. “There is no PPE, but what can we do? In Kenya you must have a job. If you get a job, you do what you are told. The boss tells us what to do and I could never refuse to do something,” one farm worker explained. Farmers employing the workers echoed this sentiment, with one stating, “No one here uses PPE, and no one is trained in chemical use. What would happen if a worker refused to handle chemicals? I don’t know; it has never happened.”

The primary barriers to PPE usage are cost and availability. While pesticides are widely sold in agrovet shops, PPE is rarely stocked, and farmers’ profit margins also make it unaffordable. “How could I advise my customer to spend money on PPE? Often, they cannot even afford to buy the actual pesticides, but they buy it on credit to save their crops,” one agrovet explained.

The hot, humid climate further discourages wearing protective suits, masks and goggles, which many find uncomfortable. Lack of training and awareness exacerbates the issue. Swedwatch observed workers mixing hazardous chemicals with their bare hands.

Additionally, workers and their families often live in basic shelters on or near farms, exposing them to chemicals even beyond working hours. Swedwatch witnessed a worker preparing dinner with the same knife used to open pesticide containers. “Often they spray and then sit down right away to eat – without even taking a shower,” a farm manager reported.

Another group at risk of pesticide exposure are the workers, often female, who harvest, wash and pack the produce before transport. They frequently work in fields sprayed with pesticides and handle potentially contaminated fruit and vegetables – often without PPE.

Endangered health

Pesticide exposure in Kenya’s agricultural sector poses significant health risks to farm workers and the wider population. The improper use of pesticides raises serious concerns about its immediate and long-term health effects. Swedwatch’s investigation reveals that workers, their families and even consumers are heavily exposed to these risks through direct contact with chemicals, consumption of contaminated produce, and through air and water – underscoring the urgent need for improved due diligence measures by the businesses involved.

Short-term health impacts

Most interviewees reported experiences with health issues stemming from pesticide exposure. “Rashes and other skin problems are very common. After spraying sometimes, the whole body is itching and your eyes are tearing up,” one agricultural worker told Swedwatch.

FACT BOX 9

Synergistic effects

Chemicals can become more harmful when mixed – even when the individual components are at safe levels. For example, some fungicides can increase the toxicity of pyrethroid insecticides for bees.¹⁴² This is known as synergistic effects, or cocktail effects.¹⁴³

Estimations of pesticide exposure are often performed without measuring these synergistic effects and therefore the risks inherent in being exposed to smaller amounts of many different environmental toxicants can be overlooked.¹⁴⁴

Because most diseases are multi-causal and individuals are often exposed to a complex mixture of chemicals in their daily lives, establishing a direct causal link between exposure to pesticides and their effects can be a challenge.¹⁴⁵

Breathing issues, particularly among people directly handling pesticides or positioned downwind, were among the most reported effects. “One of my friends got lung problems after spraying and had a hard time breathing. He went for a check-up, and the doctor told him to stop spraying for a while,” one worker said. Another testimony from a supervisor revealed the case of a worker whose respiratory problems escalated to the point where he could not sleep at night, necessitating a job reassignment.

Fatal incidents were not unheard of; one interviewee recalled a man collapsing and dying while spraying. “There was a man who died in the field not far from here, when he was spraying pesticides. He must have collapsed without anyone noticing. These things happen all the time.”

The workers doing the spraying are in many cases young men who are keen to get the extra pay that sometimes comes with handling the chemicals and tend to brush off the risks. “I save my money to buy a piece of land for my mother. I also pay the school fees for my brother and my sister. What would they do if I did not have this job?” one worker told Swedwatch.

Long-term health impacts

Beyond acute symptoms, the fear of long-term health impacts, particularly cancer, looms large. Previous research has shown that cancer rates are high in Kenya’s agricultural areas and most interviewees attribute this to pesticide use. “These chemicals work slowly. Some of them are highly carcinogenic and it takes years before the problem shows,” said one cooperative farmer. Some interviewed workers noted a troubling correlation between rising cancer rates and Kenya’s shift from traditional farming methods to chemical-intensive agriculture.

Farm workers not only handle pesticides but also consume sprayed vegetables and potentially drink contaminated water. This risk also extends to their families, the local community and the wider Kenyan population. Many of those interviewed during the research echoed this concern, noting that farmers often prioritise profits over consumer health. “I know that some farmers have two fields. One where they grow vegetables to sell, and their own kitchen garden where they grow for their own use, without the chemicals,” said one farm manager.

In particular, tomatoes are seen as the most heavily contaminated product. Some farmers admit to eating their own pesticide-laden tomatoes, while one grower stated he would never consume a Kenyan tomato due to the risks. “People will eat a tomato without washing it. It looks nice, but the chemicals are there. Of course there is a risk that you will get sick. Cancer is a major risk related to these chemicals,” one farmer noted.

Although the farmers believe they provide an essential service by feeding the Kenyan people while simultaneously providing for themselves and their families, they acknowledge the heavy pesticide presence in their produce. “If you pick a random person on the street here, and test them, I am sure they will have pesticide residues in their bodies,” said one farmer growing tomatoes for the domestic market.

Concerns also extend to potential infertility and other chronic conditions, especially for younger workers exposed during critical life stages. “The guys I hire are young and maybe they will do this job for five years. Then, when they get older, then maybe they cannot have children when they marry. What happens then?” one farm manager speculated.

FACT BOX 10

Doctors and nurses

During the research, Swedwatch visited a hospital and a local clinic to discuss the effects of pesticide exposure on surrounding communities. Doctors and nurses, who wished to remain anonymous, reported a notable rise in cancer rates, as well as skin and respiratory conditions, but highlighted the challenges in establishing a direct link to agricultural pesticide use. One healthcare professional noted that, while cases of skin conditions, respiratory issues and cancers such as cervical and throat cancer were increasingly common, “no research has been done to confirm whether this is caused by the chemicals used in agriculture”.

The uncertainty persists even when farm workers present with a condition that might be caused by a chemical that he or she has been exposed to through work. Medical staff explained that, while they can treat symptoms, identifying definitive causes remains elusive. One doctor remarked, “If a farm worker comes here, maybe we can help him, but we cannot find the cause of his problems. Cancers in general are increasing here, and the deaths from cancers. Most do not come here until they are in stage three or four. Then there is not much we can do.”

A nurse working in a local clinic that regularly treats farmers and agricultural workers for respiratory issues and cancer expressed personal suspicions about a connection between pesticide exposure and rising health issues, observing that the decline of organic farming coincided with increasing cancer cases. “No research has been done to prove a connection between diseases and pesticide use in this area. But people have been abandoning organic farming and at the same time cancer rates are rising,” she told Swedwatch.

Environmental consequences

The excessive pesticide use in Kenya is most strikingly illustrated by the amount of discarded pesticide containers that can be found in the agricultural landscape. Small fields are often bordered by paths littered with empty chemical bottles, and piles of these containers are often visible around farms. Some of the larger farms and cooperatives have schemes where they collect empty containers and dispose of them safely, but smaller farms lack the resources for such initiatives. Consequently, pesticide use generates significant plastic waste, often contaminated with harmful chemical residues.



Discarded pesticide containers can be found everywhere in the agricultural landscape, polluting water and soil in the communities.

While some farmers attempt to mitigate risks by puncturing containers to prevent reuse – “Someone could pick them up and use them for storing drinking water or milk,” one farmer explained – most containers are destroyed, buried or discarded indiscriminately. “There is nowhere to dispose of the pesticide bottles, so we just burn them,” one worker said.

In one community visited by Swedwatch, empty containers were found floating in a nearby pond. Although the community avoided drinking from the pond, the water was used to irrigate crops and was drunk by livestock. An agronomist confirmed that milk from the cows drinking this water would most definitely contain pesticide residues. Chemicals could also leach from this pond into the groundwater and contaminate wells and other drinking water sources.

The environmental damage caused by pesticide use extends beyond waste management. Farmers noted biodiversity loss, including the decline of pollinators, a critical component of agriculture. “There are no bees here. Nowadays all the bees are dead. By the fence you might see some butterflies but none in the fields,” one farmer said, standing in the field where he grows beans for export.

Interviewed farmers were aware of the impact of climate change on agriculture and how farmers would have to adapt to changing weather patterns. Several farmers said that nowadays they also get rain during the dry season. “There are a lot of changes to the weather now. We never used to have these rains. We used to only have good rains,” a large farm manager said.

Paradoxically, as climate change continues to disrupt global weather patterns and precipitation, farmers expect that the reliance on pesticides will only intensify – further worsening biodiversity loss, pollution and health risks. “When we get more rain, we get a lot more fungus and pests, and the use of chemicals goes up. As the climate is changing all over the world, agriculture will need a lot more of these chemical inputs,” a farmer told Swedwatch.

Agrovets’ perpetuating role

Interviewees consistently highlighted the role that agrovets play in pesticide use within Kenya, particularly for small-scale farmers who depend on them for advice and solutions in managing pest infestations. “The authorities who make the regulations for chemicals are not on the field with us. If I have a problem, I am completely in the hands of those who sell the chemicals,” a farmer who is part of a cooperative growing vegetables for export said.

While agrovets are integral in providing immediate solutions, they also embody a fundamental conflict of interest, as they are the extended arm of pesticide manufacturers. This profit-driven dynamic raises questions about conflicting motivations and potential incentives to prioritise increased pesticide use over safety or long-term health concerns. “The agrovets will not sell you what you need. They will sell you what they want to sell. The problem is that they only care about selling,” one farmer told Swedwatch.

One critical aspect of the agrovet business model is the lack of regulation and expertise. As noted by many interviewees, anyone with capital can open an agrovet shop, regardless of their knowledge or training in handling potentially hazardous chemicals.

No special diploma or certificate is required to recommend and sell pesticides in an agrovet shop. These agrovets are marketers, not agriculturalists, and are often unaware of the short- and long-term risks connected with pesticide use and misuse. “Some agrovets are not trained. They do not know about the risks – or they don’t care because they want to make money,” one agrochemical salesman told Swedwatch.

Additionally, agrovets rarely provide the necessary equipment required for handling pesticides properly. “Agrovets telling you about the risks and health effects is very rare. They will sell you the chemicals and let you go,” said one supervisor working at a major outgrower.





Agricultural workers often live on or near the fields where pesticides are used, exposing them to harmful substances.

This lack of competence and responsibility among agrovets is echoed in numerous stories shared by farmers, who recount instances of being misled or sold inappropriate pesticides. “At another farm I worked at, the farmer went to the agrovet to ask for the chemical on the list, but they did not have it. So, they sold him another one instead. If they do not have the right chemical, the agrovet will sell you another one. Some are honest, but others will sell you whatever they want. They just want to make money,” a technical advisor told Swedwatch.



**Pesticide salesman
interviewed by
Swedwatch**

»At the end of the day, there is only one question that matters: How many containers of this product have I sold?«

Many farmers point to this lack of knowledge and care as a key factor behind the frequent interceptions of Kenyan vegetables. Most interviewees, including agrovets and pesticide salespeople who sell these chemicals for a living, agree that there is no care taken to protect the farmer or the environment from harm. “At the end of the day, there is only one question that matters: How many containers of this product have I sold?” one pesticide salesman said.

Some interviewees recounted instances where farmers were deliberately misled, such as one cooperative farmer whose mistake led to the interception of the entire cooperative’s harvest, negatively impacting the whole group. “The farmer bought the right chemicals. But then a travelling salesman came to his farm and offered him a free sample of another pesticide. When he used that product, the whole harvest became contaminated, and it was a major loss for us.”

The issues are exacerbated by the use of counterfeit and smuggled pesticides, which are often cheaper but more dangerous. Farmers seeking to cut costs may turn to these chemicals, which are frequently unsafe and unregulated. “Because of the hardships in the economy, many farmers opt to buy cheaper pesticides from Tanzania or Uganda. They’re cheap, very effective, but not allowed here. They are smuggled in and sold on the black market,” a freelance farmer noted. “This is one of the reasons for the interceptions. Sometimes they even change the labels to make it look like something that is allowed in Kenya. The agrovets also repackage chemicals sometimes. It can be something completely different on the inside,” the farmer continued.

Despite these risks, the agrovets and agrochemical salespersons that Swedwatch spoke to often portrayed themselves as being on the side of the farmers – as important actors in the struggle against hunger and poverty. “It is a big problem, but it is not our problem. This is the problem of our government. The politicians are not here to help the farmers with their crops, but we are. The government does not care about the farmers. They only care about collecting taxes.”

Larger farms that are subject to regular audits or inspections are generally so careful regarding the pesticides that they refuse to rely on agrovets and either have their chemicals delivered directly from the manufacturer or have them provided by the buyer of the vegetables.

Problematic interceptions

Swedwatch research revealed that farmers acknowledge the persistent risk of their vegetables being intercepted at the EU border due to hazardous pesticide contamination. Indeed, every farmer growing vegetables for export runs the risk of their harvest being intercepted and destroyed at their own expense – a potentially devastating setback.

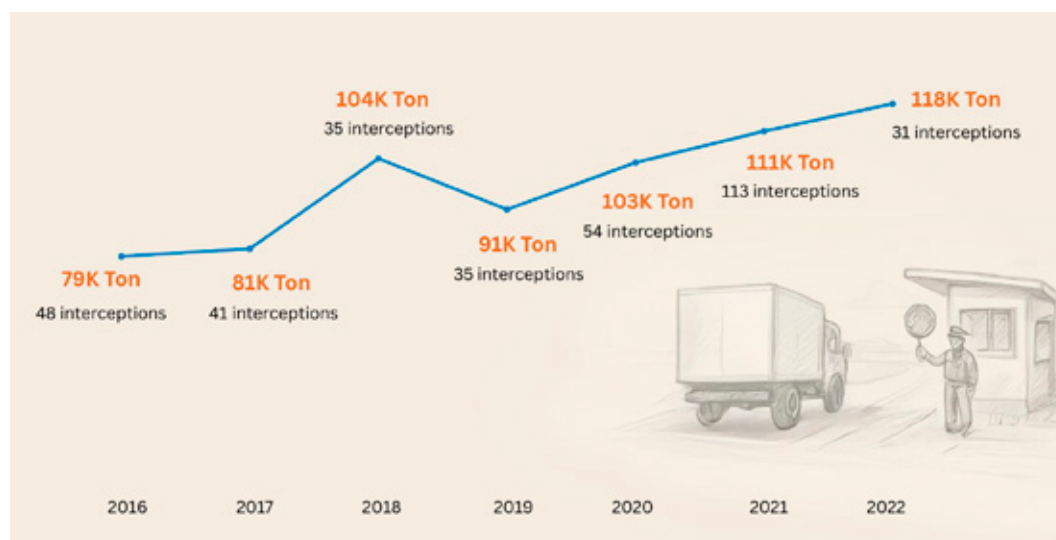
Due to previous interceptions of Kenyan produce, French beans from Kenya are subject to a 10 percent sampling frame upon entry to the EU. This means that 10 percent of all shipments undergo pesticide residue testing – a strong signal regarding the perceived risks associated with Kenyan agricultural imports.

This EU testing screens for banned pesticides and instances where allowed pesticides exceed the MRLs, as well as other concerns such as pests or other contaminants. Screenings are part of broader compliance requirements, which exporters need to comply with, including food safety, environmental sustainability and traceability standards.

While import sampling is a critical tool for protecting markets from hazardous products, the effectiveness of interceptions in preventing dangerous pesticide use remains debatable.

Interceptions of Kenyan produce

For this report, KOAN conducted comprehensive research into the interceptions of Kenyan agricultural exports to the EU. The findings show that, in the year 2022 alone, 31 interceptions of fresh produce from Kenya were recorded – amounting to a staggering loss of 118,000 tonnes of vegetables.¹⁴⁶ Furthermore, this number has been steadily increasing since 2016, when interceptions amounted to 79,000 tonnes (see figure on page 41). Interestingly, in the same year, Kenya imported over 22 million litres of pesticides, including several banned in the EU. Among these was carbendazim, which was later linked to intercepted vegetable shipments.



Of the 31 interceptions in 2022, 20 were linked to pesticide-related issues, including the presence of banned pesticides or residues exceeding MRLs. It is worth noting that some interceptions occur due to traces of pesticides that are not banned as such but are used on crops for which they are not registered. For example, carbendazim, which is permitted for use on tobacco in Kenya, was detected on beans, leading to interception.

The research shows that beans were the most frequently intercepted crop, accounting for 13 interceptions, followed by peppers with four interceptions. Avocados, peas and so-called “ethnic vegetables” each had one interception in 2022.

Financial impact on farmers

Several interviewed farmers have experienced interceptions first-hand, often resulting in considerable financial losses that are challenging to recover from. The extent of the damage caused by an interception depends on the nature and the scale of the farming operation. Large farms whose crops are intercepted often face severe consequences, such as losing contracts with buyers and struggling to secure new customers due to reputational damage. If the interception is traced to an outgrower, the farm will likely sever ties with that outgrower. As one technical advisor at an outgrower said: “One interception can close down the company.”

Given these risks, larger farms are typically required to have traceability systems in place, logging details such as pesticide applications and the origin of individual batches of vegetables. These measures make it easier to trace contaminated products back to their source.

However, when products grown by a cooperative are intercepted, identifying the responsible party can be difficult, causing the entire group to bear the consequences. One cooperative farmer told Swedwatch that, when one of their harvests was intercepted, the group not only lost their expected earnings of 4,000 KES (€29.98) per farmer but also had to pay 40,000 KES (€299.85) for the destruction of the crops – a significant financial blow.

Alternative routes for intercepted crops

Small-scale farmers have less financial security and often sell their products to freelance buyers and agents, limiting traceability and reducing their exposure to risk. Additionally, interceptions typically are not likely to prevent the contaminated crops from reaching consumers. As one farm manager told Swedwatch, “They think that we will change because of the interceptions, but we won’t. We will just sell to someone else. When the first harvest got stopped because of chemicals, we just sold the second and third to other buyers.”

This begs the question whether interceptions have the potential to alter a pesticide-driven business model or protect consumers. Many interviewees noted that, even if a field’s first harvest was intercepted, farmers could still sell the remaining crops. Channelled through other entities using other trade names, the products could still

end up in the EU. As one farmer shared, “Brokers will buy the product even if it is contaminated. We had an interception and the company was banned. But our owner has two other export companies that we used instead.”

This is possible due to freelance buyers who are less concerned about quality. In the Kenyan agrarian economy, nothing is wasted. “If a harvest is intercepted, of course the farmer will keep harvesting and sell to someone else. In my 30 years of being a farmer I have never heard of a farmer destroying his crops. There will always be a broker who will buy the crop,” one farmer said.

Indeed, various methods exist for making a profit, even after an interception. One option is selling to another broker, risking further interceptions, or using buyers with multiple export companies. However, it is widely agreed that one way or another, intercepted crops still make their way to consumers. As one farm manager said, “Our beans were tested and intercepted, so we were banned from selling to that buyer for three months. But even if we are banned there, we can still sell the rest of the harvest to another buyer. The crops always get sold to someone. In the end it was exported anyway. The beans still ended up in Europe.”

Another way of dealing with an interception is to sell the remaining vegetables to buyers in Tanzania, where they are typically served to tourists in big hotels. Some farmers even feed the leftover crops to cows before milking them – a method that likely results in contaminated milk reaching the local market.

A sensitive situation

Many of the farmers interviewed by Swedwatch were aware that there were ways of growing vegetables that are not so heavily reliant on hazardous pesticides. The interviews indicated that the main obstacle to trying out other methods seemed to be the fear of losing the crop.

A central issue to emerge was that many crops are not native but were introduced to serve as export crops only. Thus, farmers say that they are very sensitive to local pests like insects and fungus. “These crops are exotic and very fragile. They require a lot of care, and a lot of inputs like pesticides,” a horticulturist that works as a technical advisor at a big farm said.

Even if biological pesticides might be equally effective, they can be more expensive, and many farmers fear they might not work. A farmer who does not have the whole spectrum of chemicals at their disposal might feel uncertain of being able to solve an issue threatening the harvest. In one area, for instance, the crops were under constant threat from snails. “Every farmer here has snails. The only way to control them is pesticides. They were introduced to control the weeds, but they eat anything and now they have become a major problem.”

Growing organic vegetables is seen by many farmers as too risky. The farmers that Swedwatch talks to would rather deliberately overuse pesticides than run the risk of losing the crop. “We do not wait and see if we have a certain pest or not, we just spray

and do not consider the toxic aspect. This is how it is done on all farms. For us, this is normal. We would love to grow organic vegetables, but we made an investment and need to get our money back.”

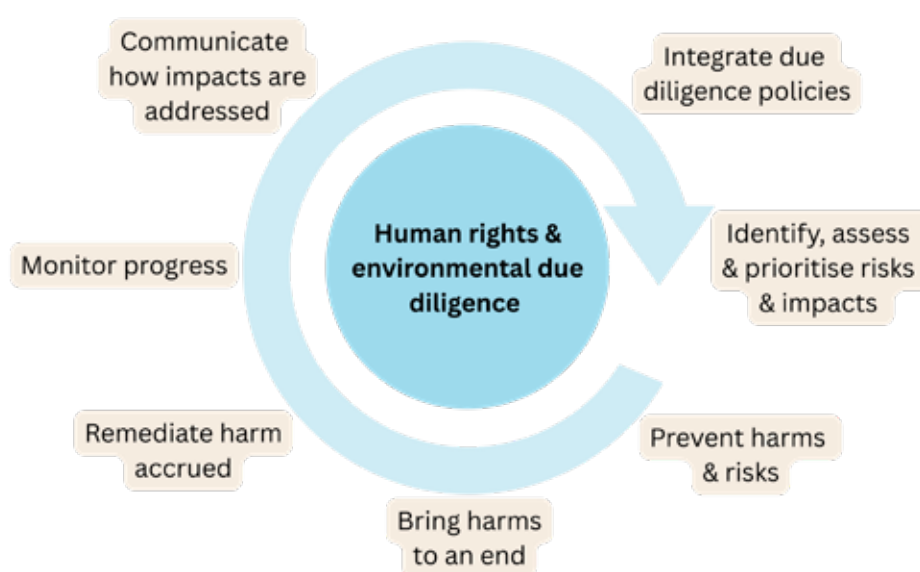
There is also the belief that organic products are smaller and not as good looking as those grown with heavy use of agricultural inputs. They are also believed to have a shorter shelf life – which means that they would be harder to sell – a risk that farmers might not be willing to take.

Pesticides and corporate accountability

Pesticides are deliberately designed to kill living organisms such as plants, animals, insects and fungi. But they also pose significant risks to human health and the environment. Since they are the only toxins intentionally released into the environment on a large scale, managing these risks must be top priority for any company deploying them in its operations and supply chain.¹⁴⁷

The responsibility of all companies to respect human rights in their operations is outlined in international standards on responsible business conduct – such as the UN Guiding Principles on Business and Human Rights (UNGPs) and the OECD Guidelines. Companies are expected to fulfil this duty by conducting risk-based due diligence (HREDD) along their entire value chains, both upstream and downstream.

However, the research underpinning this report clearly indicates that current HREDD efforts by both upstream and downstream actors fall short – particularly given the high-risk nature of Kenya’s agricultural sector. This signals that there is an urgent need for business actors to heighten their due diligence processes to protect the environment and safeguard human rights.



In this respect, it is important to emphasise that this shortfall is not due to a lack of clear guidance. On the contrary, the previously mentioned standards clearly outline the steps of HREDD (see figure on page 44) and clarify that this should be an ongoing process, as human rights risks evolve over time and may intensify without timely action.¹⁴⁸

Addressing risks related to hazardous pesticides

A core element of the OECD Guidelines is the risk-based approach, meaning that companies should prioritise addressing the most severe potential or actual adverse impacts in their value chains – regardless of where these occur or how many “tiers” removed they may be. This approach offers flexibility, allowing businesses to focus efforts where harm is most likely or most damaging. Crucially, companies must also consider how risks affect different groups – for example, by applying a gender lens to their due diligence.¹⁴⁹ As highlighted in this report, gender considerations are particularly pertinent when discussing hazardous pesticides, since many chemicals affect men and women differently for both social and biological reasons.

The cost of companies’ HREDD work should not be pushed to the farmers who grow the vegetables – nor should these farmers be expected to bear the costs of HREDD failures that result in interceptions when trading with the EU. Meaningful engagement with rights holders, subject matter experts, trade unions, and other civil society organisations should therefore be integral to this work. Research has shown that companies using human rights experts have a higher rate of identifying impacts, within their own operations and within their value chains.¹⁵⁰

Understanding linkage and corporate responsibility

When acting on identified risks and impacts, a central concept is linkage. Linkage describes how a company is connected to adverse human rights impacts, either by causing the impact, contributing to it, or being linked to the impact through business relationships with suppliers or other business partners.

For instance, a food retailer sourcing vegetables from Kenya may be linked to human rights impacts that occur in the production of the product, even if the company itself does not directly cause the impact. To act on this responsibility, the company must seek to prevent or mitigate these adverse human rights impacts, including by using its leverage on business partners.¹⁵¹ The appropriate action depends on how close the relationship is between the parties, the severity of the abuse and whether terminating the relationship with the entity would have adverse human rights consequences.¹⁵²

The boundaries between cause, contribution and linkage are not always clear-cut. For example, chemical companies that produce and export pesticides banned in the EU to third countries – despite knowing their likely harmful effects – may not simply be “linked to” impacts. Instead, their actions may be considered as contributing to adverse human rights and environmental impacts. A similar ambiguity surrounds large agribusinesses that dominate global markets, raising critical questions about the scope and limits of their leverage: where does their responsibility begin – and where should it end?

Upstream vs. downstream due diligence

How companies should act – and which stakeholders they should engage with – depends on the sector in which they operate. In the context of this report, the key responsible actors typically fall into two categories:

- 1. Companies sourcing agricultural products**, who are accountable for how these products are produced in their supply chains (upstream).
- 2. Pesticide exporters**, who bear responsibility for how their products are used after sale (downstream).

While both types of actors are required to conduct HREDD based on the same fundamental principles, the nature of their responsibilities differs significantly. For this reason, this report will examine upstream and downstream responsibilities separately.

Upstream due diligence: Beyond consumer safety

In many countries in Europe, a handful of larger companies dominate food sales. This gives them significant influence on how food is produced around the world. Managing these sprawling global supply chains comes with a responsibility. However, this research indicates that HREDD efforts by companies importing food to the EU are insufficient to safeguard people and the environment in the countries where these products are grown. More fundamentally, given the scale and severity of the impacts, the findings raise serious questions about the sustainability of the business model underpinning much of this sector.

Similarly, relying on the safeguards put in place by the EU to stop products contaminated by pesticides, where interceptions are a key component, are also insufficient – since they protect European consumers, not rights holders and the environment outside the EU.¹⁵³ EU importers of agricultural goods should also not shift their responsibility to identify and manage human rights risks and environmental impacts to the exporting country.¹⁵⁴ Given the severity of the impacts revealed in this study, importers themselves must strengthen their due diligence by investing in the following measures, for example:

1. Beyond tier one due diligence: When addressing human rights risks and impacts, supermarkets must adopt a risk-based approach, prioritising the most severe issues – regardless of where they occur within the value chain. This is especially important given recent political efforts to restrict mandatory due diligence legislation to tier one suppliers only. Research by the Dutch NGO SOMO shows that tier one supermarket suppliers are often wholesalers based in the same country or other low-risk countries – in turn sourcing the products from high-risk contexts.¹⁵⁵

2. Meaningful stakeholder engagement: Meaningful engagement with affected stakeholders, which – as highlighted in the OECD Due Diligence Guidance for Responsible Business Conduct – should not only pertain to impact assessments but should also form the basis for corporate policy.¹⁵⁶ This engagement should have mechanisms in place for involving farmers and farm workers in identifying the risks

and adverse impacts connected with hazardous pesticides, as well as in setting up grievance mechanisms to redress these.^{157, 158} Equally important is that this engagement is not simply outsourced to third-party auditors, given the mounting evidence that these tend to miss critical forms of abuse or be riddled with conflicts of interest.¹⁵⁹

3. Maximising leverage for lasting change: Addressing the dangers of HPPs in a complicated context in the Global South requires companies to go beyond managing acute risks and impacts through capacity building and protective equipment only. Companies should instead also invest in long-term strategic engagement and use their leverage to engage with suppliers on creating lasting change. For example, they could engage with suppliers on how to minimise pesticide use or fund research on how to grow vegetables without HPPs while supporting farmers to adopt such techniques. Suppliers could also be encouraged to move production to organic methods, if possible.¹⁶⁰

Restricting or eliminating the use of HPPs in supply chains would address a number of key issues, including safeguarding occupational health and safety while simultaneously preventing pollution.¹⁶¹ Hence, an importer that is serious about addressing these issues should leverage its platform to actively and publicly support a complete ban on the export of pesticides deemed too hazardous for use within the EU. In the 2024 EU Commission’s Strategic Dialogue on the Future of EU Agriculture, stakeholders recommended that EU Member States should “stop exports of within the EU banned hazardous pesticides to countries with less stringent regulations”.¹⁶² This recommendation, in line with international frameworks and the findings of this report, could form the basis for importers to take a stand in support of a ban.

4. Transparency: Another important component to this work is ensuring supply chain transparency, involving the open disclosure of the origin of the food that is sold and how it was produced – including what chemicals were used. The idea that this level of transparency poses a competitive disadvantage overlooks the growing demand from consumers to make informed and ethically responsible purchasing choices. There are examples to draw on from companies that have been progressively transparent about impacts in their supply chains and have managed to leverage this work into strengthening their brand.¹⁶³

5. Responsible contracting practices: Legal analysis found that companies cannot observe appropriate HREDD without systematically analysing and addressing their purchasing practices.¹⁶⁴ Heightened due diligence must therefore go beyond addressing surface-level issues and tackle the unfair business models at the root of the problems. Many export crops grown in Kenya are introduced from abroad and are poorly suited to local conditions, often requiring heavy pesticide use. When these crops are rejected at EU borders due to pesticide residues, the cost of destruction falls entirely on the farmer.

This way of doing business, where the farmer bears the full responsibility for upholding human rights standards, does little to address the impacts on the ground. Meanwhile, EU buyers continue to profit from an unsustainable system, while shifting the financial and social losses onto rights holders. One solution to this is

for importers and exporters to contractually share the risk. According to principles developed by the Responsible Contracting Project, the buyer and supplier should share responsibility for upholding human rights standards, and both should commit to avoid causing or contributing to human rights impacts.¹⁶⁵

In such a contract, the buyer commits to supporting the supplier's human rights performance, and the costs would be priced into the products that reach the European market.¹⁶⁶ In addition, importers could stipulate in the contract that no costs related to the destruction of products would be passed on to the farmers. This would incentivise the exporters and brokers to work together with farmers to minimise use (and overuse) of dangerous pesticides.

Downstream due diligence: Risk-based approach to impacts

The risk-based approach requires companies to prioritise and act on the most salient risks across their entire value chain,¹⁶⁷ including in relation to the storage, transport, distribution, sale and – critically in the case of pesticides – the use of products by customers and other actors.¹⁶⁸ These are commonly referred to as downstream business relationships.¹⁶⁹ In practice, this means that a company bears the responsibility for impacts within its supply chain or operations, but also for those that occur after a product or service has left the company. This is particularly relevant in sectors where the most salient risks typically arise downstream from the manufacturer – as in the case of pesticides.

The findings presented in this report, demonstrating the grave risks associated with the use of pesticides, suggest pesticide producers generally have failed to carry out effective downstream due diligence in Kenya's agricultural sector. These results reinforce a growing body of evidence that current HREDD practices among pesticide manufacturers systemically fall short in safeguarding end-users – due in part to a reliance on inadequate measures such as PPE and capacity-building, rather than addressing root causes or pursuing safer alternatives.

PPE and trainings as false solutions

Former UN Special Rapporteur Baskut Tuncak pointed out in 2018 that, instead of substituting hazardous pesticides with safer alternatives, the pesticide sector preferred to push for mitigation strategies like PPE and/or improved labelling – strategies that have by and large failed to deliver the desired benefits for workers and communities.¹⁷⁰ This aligns with other studies suggesting that the actual effectiveness of PPE in working conditions may be over-estimated and that pesticide risk management should go beyond simply recommending the use of PPE.¹⁷¹

The case of Kenya exemplifies this gap. Studies have shown that 86 percent of queried farmers had never used any PPE and only 20 percent of them had access to the recommended equipment. Over 9 percent of the farmers had felt ill after exposure to pesticides.¹⁷² On smaller operations, farmers and farm workers rarely followed safety recommendations for handling and applying pesticides and might not be able to afford or use adequate protective clothes or equipment. They might also refuse the

use of PPE because they find it warm, cumbersome or otherwise uncomfortable or because they lack the means to thoroughly wash it for reuse.¹⁷³

This pattern is repeated across many low- and middle-income countries, where PPE is widely promoted as a credible due diligence measure, despite being mostly restricted to employees on larger farms or farmers who earn a higher income. Even then, usage is inconsistent – workers experience discomfort and therefore do not wear it, and, in some cases, the employer may fail to enforce or facilitate its use.¹⁷⁴ Moreover, on both large and small farms, workers who do want to use PPE can be powerless to insist that employers provide it.

It is important to note that workers and farmers can be exposed to pesticides even when using PPE. This could occur when protective clothing is damaged or becomes soaked with pesticides and not washed properly. While exposure would likely be more hazardous without protection from PPE, one study found that, when workers wore boots, these were only protective when worn in combination with an overall. Wearing boots alone actually led to increased exposure.¹⁷⁵

FACT BOX 11

Hierarchy of controls

A concept used when discussing how to identify and mitigate risks in occupational safety and health is the hierarchy of controls. The concept was introduced in the US in the 1950s and orders efforts by arranging them in a hierarchy, beginning with the most effective controls and proceeding to the least effective.¹⁷⁶ The hierarchy is:

- Elimination – physically remove the hazard
- Substitution – replace the hazard
- Engineering controls – isolate people from the hazard
- Administrative controls – change the way people work
- Personal protective equipment – protect the worker with PPE.

According to the Hierarchy of Controls, the use of PPE is thus considered the last line of defence against injury and illness. PPE is therefore to be used only when controls higher in the hierarchy are under development or have failed to eliminate the hazard. Training workers in safe use of hazardous chemicals is better, but not as efficient as preventing exposure to the chemical in the first place.¹⁷⁷

Another strategy often deployed by manufacturers is training on safety routines and proper handling of pesticides. Companies often highlight the scale of these efforts – such as the number of people trained in a certain area – rather than the actual effects.¹⁷⁸ However, considering that farming is one of the world's largest sources of employment, such initiatives cannot realistically reach every small-holder farmer or farm worker who might use the products.

For example, smallholder farmers who often lack access to the internet, PPE and other means of responsibly disposing of pesticide containers are often also the hardest end-users to reach using training schemes. Another limitation is that

company-led trainings tend to focus narrowly on consumer health and therefore overlook broader systemic problems – such as the impacts of pesticide applications on communities, particularly those living close to treated areas.¹⁷⁹

In summary, the narrative that environmental and human rights harms caused by pesticides are due to a lack of PPE and training is misleading. It shifts the burden of compliance onto those most affected, rather than holding companies accountable for implementing effective due diligence. This framing obscures the already highly unequal power relationship between smallholder farmers in the Global South and large international agrochemical corporations. By attributing harm to the “misuse of pesticides”, the industry reinforces this power imbalance and pushes the idea that neither industry nor governments are responsible for the consequences of the products.¹⁸⁰

Alternative approaches to downstream due diligence

In addition to the UNGPs and OECD Guidelines, several international frameworks encourage pesticide producers to adopt alternative approaches to due diligence that go beyond PPE and training. For instance, the International Code of Conduct on Pesticide Management, published in 2014 by the FAO and WHO, underscores that risk management is a joint responsibility between governments and pesticide producers, not end-users.¹⁸¹

The code provides voluntary standards of conduct for all entities engaged in or associated with the management of pesticides throughout their life cycle, from production to disposal. According to the Code, pesticide companies should actively follow their products, keeping track of issues arising from the use of the products. Pesticides whose handling and application require PPE that is uncomfortable, expensive or not available should be avoided, particularly for small-scale farmers and workers in hot climates.¹⁸²

The code also recommends companies to provide poison-control centres and medical practitioners with information about pesticide hazards, toxicity of active ingredients and co-formulants and on suitable treatment of poisoning. Furthermore, companies should focus on making fewer toxic formulations available, as well as using returnable and refillable containers where effective container collection systems are in place.¹⁸³

With this approach, the efforts normally put in place by pesticide manufacturers (addressing inadequate labels and training farmers and workers on the use of pesticides) are merely a first step. They would also need to address the issue of PPE availability in markets in the Global South and offer disposal schemes for empty containers. Additionally, they must put meaningful engagement with rights holders and civil society front and centre as part of their HRDD.¹⁸⁴

Not only would this encourage rights holders’ participation in decision making and information sharing, it would also lay the basis for a rights-based approach to mitigate the risks associated with pesticides – one that prioritises the rights and interests of farmers and agricultural communities rather than convenience and

cost efficiency for companies.¹⁸⁵ In many cases, this would also require pesticide companies to acknowledge that some pesticides are simply too toxic for use – in the same way this recognition led to bans within the EU.¹⁸⁶

However, public adherence to the code (in the same way companies might adhere to the UNGPs and OECD Guidelines) are rendered merely symbolic, which confirms that blanket commitments to voluntary standards do little to address the impacts on the ground. A fundamentally different approach to HREDD is needed – one that moves away from voluntary standards and corporate policies that blame the end-user and instead prioritises a transition to mandatory due diligence legislation, encompassing the full scope of downstream obligations and including punitive measures for non-compliant pesticide producers.

In this context, the 2024 adoption of the Corporate Sustainability Due Diligence Directive (CSDDD), along with the subsequent Omnibus proposal intended to simplify the directive, represents a missed opportunity because it exempts companies from conducting due diligence on the sale and use of products.

FACT BOX 12

Conducting HREDD

According to the OECD Guidelines, HREDD should include the identification of environmental risks, including loss of biodiversity, degradation and/or contamination of land and water and poor management of hazardous substances – all highly relevant for the pesticide sector.¹⁸⁷

Places where pesticides are likely to cause harm – due to geographical and environmental factors or socio-economic factors such as poverty or education rates – should be considered high-risk areas.¹⁸⁸ The company should identify stakeholders likely to be at risk as well as business partners (such as customers) that might not be undertaking their own HREDD, as well as any gaps between the company policy and the factual circumstances on the ground.¹⁸⁹

Once the significant risks have been identified, companies should consult and engage with affected and potentially affected rights holders to gather information on negative impacts and risks.¹⁹⁰ When conducting risk-based HREDD, the company must consider that impacts could arise because of foreseeable improper use or even misuse.¹⁹¹

Human rights and HREDD commitments should be embedded as contractual provisions in agreements with downstream business relationships. This should also include a requirement for these agreements to disclose their own business relationships further downstream – providing the company with information and potential leverage throughout the value chain.¹⁹²

This leverage with customers and clients should be used to encourage the party causing the risk or impact to cease doing so. If leverage is insufficient, they should seek to build leverage by, for example, collaborating with other businesses, labour or civil society actors who have a stake or interest in the situation. If leverage is still insufficient, they should responsibly disengage from any downstream business relationship that refuses to respect human rights or the environment or fails to carry out due diligence to adequately address risks and impacts.¹⁹³

CSDDD: Game-changer or empty promise?

In 2024, the EU adopted the Corporate Sustainability Due Diligence Directive (CSDDD), which, once transposed and implemented across EU Member States, will establish a mandatory corporate due diligence law at the EU level. This law requires large companies to conduct risk-based due diligence to identify, assess, address and remedy potential and actual adverse impacts on human rights and the environment. Following a phase-in period, the law will apply to companies with more than 1,000 employees and a turnover of €450 million.¹⁹⁴

While the CSDDD reflects aspects of the UN Guiding Principles on Business and Human Rights (UNGPs) and the OECD Guidelines, it diverges in key areas – particularly in its treatment of downstream activities relevant to the pesticide trade. Unlike the full value chain approach endorsed by international standards, the CSDDD limits downstream due diligence to distribution, transport and storage when conducted on behalf of the company.¹⁹⁵ This narrow scope excludes critical downstream impacts, including end-use, despite international consensus that these fall within a company's human rights responsibilities.

This omission weakens the directive's alignment with the UNGPs, particularly with Pillar II, which emphasises a company's duty to respect human rights across its operations and value chain. UN experts have warned that such gaps risk neglecting serious human rights impacts linked to business activities in key sectors.¹⁹⁶ By exempting large companies from due diligence on end-use, the CSDDD potentially allows pesticide producers to continue harmful practices with limited legal oversight. Furthermore, the absence of a civil liability mechanism for downstream harms denies affected farmers and communities' access to justice in EU Member State courts, rendering the directive toothless in addressing downstream harms.

This failure to fully incorporate downstream due diligence in the CSDDD represents a missed opportunity to drive necessary reforms among agribusinesses. Civil society actors have been calling for CSDDD to apply to the full value chain and cover all types of business relationships, in line with the OECD Guidelines' risk-based approach.¹⁹⁷

Despite such calls, the European Commission's 2025 Omnibus proposal further restricts companies' obligations solely to their direct (tier one) suppliers, effectively eliminating all downstream due diligence responsibilities while giving companies a free pass to disregard risks and impacts beyond their immediate suppliers. As a result, large food retailers sourcing from high-risk countries would no longer be required to address impacts occurring at the farm level, where risks are often at their most severe. Likewise, by removing downstream due diligence entirely, companies could evade accountability for risks associated with the distribution, transport and storage of hazardous products like pesticides – critical stages for preventing harm.

Conclusion

This report reaffirms the human rights and environmental harm caused by Europe's double standard of exporting pesticides banned within the EU to countries outside the European Union. Specifically, Swedwatch and KOAN research conducted in Kenya indicated a number of issues, ranging from high cancer rates in affected communities to serious workplace harms and long-term environmental damage. This study further exposes a clear accountability gap, showing that HREDD efforts by food retailers, agribusinesses and investors have yet to systemically improve the work and livelihoods of affected rights holders in third countries.

These findings are not new: previous reports and case studies across the Global South have demonstrated that companies often evade responsibility for pesticide impacts. Strikingly, despite the ongoing triple planetary crisis (climate change, biodiversity loss, and pollution), little has changed on the ground – farmers remain exposed to hazardous pesticides, while European companies largely escape scrutiny by citing due diligence efforts already shown to be flawed. Closer examination reveals that risk-based due diligence (HREDD) efforts by pesticide producers and food retailers fail to improve conditions in contexts like Kenya and instead shift responsibility onto the affected rights holders.

Far too many companies involved in this industry are continuing to profit from an unsustainable business model while paying lip service to voluntary standards such as the UNGPs, the OECD Guidelines, the Guidance for Responsible Agricultural Supply Chains and the International Code of Conduct on Pesticide Management. In practice, pesticide producers and other business actors persist in shifting the costs onto the rights holders.

These business models need urgent transformation – through reducing or eliminating pesticide use, adopting agroecological solutions and strengthening due diligence practices grounded in meaningful stakeholder engagement. While the recent adoption of the CSDDD may contribute, in its current form – with the exclusion of most downstream obligations – it is unlikely to drive the transformative change required. For binding HREDD legislation to be relevant in this context it must require businesses to address human rights and environmental risks across their entire value chains, both upstream and downstream, and importantly, hold companies accountable for producing and exporting products they know are harmful to people and the planet.

For importers of agricultural goods, the issues described in this report would largely disappear completely if hazardous pesticides were simply removed from their value chain. However, even if pesticide-free food were an attractive selling point, this step could prove both difficult and expensive. This underscores the importance of levelling the playing field by banning the export of these chemicals altogether, as it is not reasonable for the consequences of one sector's failed HREDD to become a burden for companies in another sector. Importers of agricultural goods should thus publicly support a ban prohibiting the export of pesticides that are banned in the EU.

It is telling that, in the absence of international action, Kenya took matters into its own hands by banning the most dangerous pesticides in the summer of 2025. Although challenges remain in implementation, enforcement, monitoring and in the transition to safer alternatives, this move represents a significant policy milestone that may be replicated in other importing countries.

However, while Kenya's decision may inspire other countries to follow suit, such unilateral action would not be necessary if corporate actors and the European countries headquartering them were truly committed to respecting human rights and protecting the environment. Responsibility cannot be transferred and placed solely on recipient nations, especially in cases where human rights risks are well-known and documented – to the point where these pesticides are considered too dangerous for use in Europe.



Lack of training and information about the risks related to pesticide exposure often leaves workers and farmers unaware of the hazards.

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