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The Yavatmal scandal

Public Eye

A Syngenta pesticide is implicated in the poisoning of farmers in India

In 2017, hundreds of cotton farmers were poisoned – and over 20 died – in just a few weeks in the central Indian district of Yavatmal. The culprit? Cocktails of highly hazardous pesticides, including an insecticide going b the name of Polo. Syngenta exported this insecticide from Switzerland, where it has long been banned. How did this scandal come about? And what responsibility does Syngenta bear? We went hunting for answers in the villages around Yavatmal

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Bandu Sonule was having convulsions– shrieking and flailing around. It was so violent, that he had to be tied to his hospital bed by his hands and feet. He no longer recognised his wife Geeta. He was in a state of delirium, drifting in and out of consciousness. Geeta had raised some money by pawning her gold necklace, and had hauled her husband onto a bus to make the two-hour journey from their village of Manoli to hospital in the small town of Yavatmal. She then sat helplessly at his bedside. "I prayed that he'd pull through", explained the 35-year-old, with an exhausted, hollow look in her eyes. "We didn't have any money left to pay for further treatment."

But Geeta's husband didn't pull through. At 1.35 p.m. on Saturday, 23rd September 2017, Bandu Chandrabhan Sonule was declared dead at the Vasantrao Naik Government Medical College and Hospital in Yavatmal. The autopsy report stated: "Post-mortem findings are consistent with death due to poisoning."

The 42-year-old father of two had inhaled so much poison, while spraying pesticides in a cotton field, that he could not be saved. Among these products was Polo, an insecticide sold by Syngenta. Geeta's brother rented a car to bring her husband's body back to their village.

The widow received compensation from the government, but doesn't know how she'll provide for her family without the help of her husband, who earned about four Swiss francs a day working as a sprayer. She also works in the cotton fields, using a sickle to remove weeds whenever it isn't constantly raining – as it has done in recent days – but she only earns 1.5 Swiss francs a day. Since their father died, 16-year-old Puga and her brother Saurabh, three years her elder, have been working in the fields– weeding, sowing or carrying fertilizer.

Bandu Sonule is one of over 50 men who were fatally poisoned between July and October 2017 in Vidarbha, a region in the eastern part of Maharashtra State. Over 20 people died in one single district of Vidarbha region – Yavatmal. Altogether, 800 farmers or agricultural workers were admitted to hospital in Yavatmal having suffered acute poisoning after spraying pesticides. Several hundred of them went temporarily blind.

"A vicious circle of exploitation"

As the capital of the Berar Sultanate, Yavatmal in central India was referred to in ancient scriptures as "the safest place in the world". But that was over 500 years ago. Today, this city – located in the cotton belt of Maharashtra state – is primarily known as the place with the highest per capita suicide rate among Indian farmers and agricultural workers. According to official statistics, in India a farmer commits suicide every 30 minutes, most of them by swallowing pesticides. In the district of Yavatmal alone, there were over 3500 suicides from the beginning of 2001 to mid-2016. The



author Kota Neelima describes the phenomenon in her book Widows of Vidarbha, which tells the stories of 16 women whose husbands took their own lives.

Each one of them has her own story. Yet, when reading the book, the similarities become ever clearer: the complete dependence on the weather due to the lack of irrigation systems; on the right level of rainfall at the right time; and on the absence of pests. Then there is the dependence on genetically modified BT-Cotton seeds, which are up to four times more expensive, as well as the other expensive products - fertiliser, herbicides, plant growth regulators - that the seeds require to thrive. The promise that these cotton seeds are pest-resistant has proven to be empty; every year, the attacks worsen as the pests become increasingly resistant. In turn, these chemicals are applied more and more excessively, which results in a constant spiral of debt. Farming families become increasingly indebted and resort to loans at exorbitant interest rates from often unscrupulous lenders when banks are no longer lending.

Further similarities include the shame of not being able to afford the dowry for a daughter's wedding, or to pay for the children to be educated – and of course suicide itself. Finally, the aftermath of emptiness; the fight to find one's place as a widow in this patriarchal society; and the patent sense of despair. "The farmer's life is locked into a loop of exploitation that is dictated by the state and industry" says Kota Neelima. The lack of state support for environmentally friendly agricultural reforms has left these families with little choice but to buy genetically modified seeds and expensive pesticides. According to the author, Indian farmers are "the silent victims of the country's rapid development."

What's happening in Yavatmal?

Farmer suicides have long stopped being headline news in the Indian media. On 14th July 2018, the latest figures – 639 suicides between March and May in the state of Maharashtra alone – were relegated to a one-column report on page five of the Hindustan Times. Until last year, the fact that farmers and agricultural workers had repeatedly suffered involuntary poisoning from spraying pesticides was barely a topic of discussion. Only when the number of cases reached an unprecedented scale last Autumn did people outside Yavatmal start to ask what was going on there.

At the beginning of October, the Chief Minister of Maharashtra tasked a seven-person team of special investigators to look into the causes of the wave of poisonings. Their key finding was that cotton plants had grown significantly higher than in previous years – up to 1.8m. This was due to climate-related factors, but probably also to the excessive application of fertiliser. The cotton suffered attacks worse than the previous year from sap-feeding insects, for example white flies, cicadas, and especially the feared red bollworm, which meant that widespread application of pesticides was necessary. Spraying pesticides at head height had "increased the proportion of pesticides entering the body through inhalation". The sprayers usually only had a cloth tied over their mouths, and worked without proper protective equipment. In addition, modern electric or diesel-powered pumps spray more pesticide than necessary, and the resulting fine droplets stay in the air for longer. Finally, the sprayers had mixed together different insecticides and plant-growth regulators, creating particularly poisonous cocktails, the effects of which could not be treated with specific medication.

The question remains: which substance had poisoned the farmers? Could it have been prevented? Were they informed of the dangers of these pesticides?

Made in Switzerland

At the end of September, the first newspaper reports of deaths started appearing, and names of insecticides responsible for the wave of poisonings were quick to appear. These were the Indian-manufactured Profex Super, Police and Monocil – the latter being an insecticide that contains the highly hazardous active ingredient monocrotophos – and Polo, an insecticide with the active ingredient diafenthiuron, produced by the Swiss company Syngenta.

Diafenthiuron is a broad-spectrum insecticide that paralyses and then kills sap-feeding insects. In cotton fields, it's primarily used to combat whiteflies. This is one of 42 Syngenta pesticides that the Pesticide Action Network (PAN) classifies as "highly hazardous". The insecticide, first commercialised in 1991, was banned in the European Union in 2002, and subsequently in Switzerland in 2009. According to the European Chemicals Agency (ECHA), diafenthiuron is "toxic if inhaled" and can "cause damage to organs through prolonged or repeated exposure".

Diafenthiuron was produced in Switzerland, at least until 2016, at the production site of the agrochemical giant in Monthey in the canton of Valais. Despite months of resistance from Syngenta, through a freedom of information request Public Eye obtained figures showing that in 2017, the company exported over 126 tonnes of the substance from Switzerland: 75 tonnes were exported to India, 50 tonnes to South Africa, and 1.5 tonnes to Colombia. Whilst other banned pesticides are exported from Switzerland, diafenthiuron is the only substance for which the volumes are high.

"Other reasons"

After the wave of poisonings, the state swiftly took an interest in Syngenta. In October 2017, the Agriculture Minister for Maharashtra state announced that investigations had been launched into Syngenta in relation to the



1. Country: India | State: Maharashtra

- 2. State: Maharashtra | Region: Vidarbha | District: Yavatmal
- 3. District: Yavatmal | Towns: Ghatanji and Yavatmal



pesticide Polo – the allegations were of "culpable homicide". It's still not known whether the investigation ever took place or what became of the case. Also in October, Syngenta issued a statement to the Indian media noting its "deep concern" about the poisonings, while at the same time making it very clear that its insecticide was not to blame. According to Syngenta India, Polo had been successfully used by farmers across the country for the last 14 years without any reported incidents of fatal casualties. "This reflects that there may have been other reasons that led to these unfortunate incidents", e.g. the unusual height of the plants, but also negligence on the part of the farmers in failing to protect themselves, as well as in mixing different pesticides.

The government of Maharashtra was clearly not convinced by Syngenta's arguments. In June 2018 it provisionally banned the sale of five pesticides, including diafenthiuron. Moreover, Maharashtra's Ministry of Agriculture requested the national government to ban the use of these five pesticides permanently. In August, the Indian government published a list of 12 pesticides that it plans to ban following an assessment conducted over many years. Yet diafenthiuron and other "best-seller" highly hazardous pesticides such as paraquat or monocrotophos are nowhere to be found on the list. This doesn't surprise the well-known Indian agricultural expert, Keshav Kranthi, of the International Cotton Advisory Committee in Washington. The pesticides lobby in India influences political decision-makers and government authorities "by manoeuvring facts that do not suit them", he responds when questioned about the matter. That's how the industry successfully protects itself against bans on highly dangerous but commercially successful pesticides.

Atropine for everyone

In theory, the place to go to find out which substances were responsible for last year's wave of poisonings is the Government Medical College & Hospital in Yavatmal. It's the only large hospital in the region and is where most of the victims of serious cases of poisoning were taken. Yet inquisitive visitors are not welcome; following the poisonings, the hospital came under fierce criticism from all sides. Why? It had lacked the required knowledge about the substances contained in the pesticides and the diag-



nostic tools needed to give patients the right treatment. As a result, all serious cases were treated with Atropine – the medication used to treat cases of poisoning by organophosphate pesticides. Indeed, many (if not all) patients had sprayed the highly toxic organophosphate monocrotophos. However, in most cases it had been mixed with other substances such as Polo, which is not an organophosphate.

Bandu Sonule, who died in this hospital, was an example of one such case. He had told both the hospital staff and his wife Geeta that he had applied the Syngenta pesticide Polo mixed with other substances that he could not name. There was no means of diagnosing what had poisoned him, so he was given Atropine. Yet in high doses Atropine can cause severe symptoms: agitation, hallucinations, delirium, cramp and coma. The question of whether toxic mixes of pesticides were the sole cause of the victims' symptoms, or whether the treatment of all patients with Atropine had also had a negative impact on their health, is difficult to answer. It's hard to imagine what was going on at the hospital in Yavatmal at the time. Those who witnessed it report that it was a horrific sight. On the day that Bandu Sonule died, 38-year-old Sumesh Kanande from the village of Lomi was also lying in the hospital with his hands and feet tied to the bed. He had become dizzy and nauseous after spraying a cocktail of various pesticides, including Polo and Monocil, three days in a row. He passed out in hospital. Four days later, he woke up and found himself tied to his bed. "I panicked and shouted but no-one came," he explained: "I was afraid of dying". A dozen other sprayers lay around him. "Each of them was tied to his bed."

"He's not been the same since"

Haribhau Kumbhekar was admitted to the hospital in Yavatmal a week after Sumesh Kanande had left. He had been spraying a mix of Polo and other pesticides for 12 days in a row, he told us when we visited him in the small village of Bhari where he lives with his family. The landowner had not told him what other pesticides were in the mix. On the 12th day he got diarrhoea and felt ill. The next morning his daughter took him to the hospital in Yavatmal in an auto rickshaw; at 3 p.m. he was taken into intensive care and at 4 p.m. he lost consciousness. When he woke up again, his limbs were



twitching, and he tried to rip out his drip; his daughter called out to the relatives of other patients to help hold him down on the bed, and he remained tied down for 15 days.

There is a warning printed on the package: "Avoid inhalation and contact with eyes. Wear protective clothing, mask, goggles and boots while spraying. And then: "No specific antidote is known."

Today, Haribhau, who looks significantly older than his stated age – 53 – only has the energy for light work. Even speaking seems to tire him out. He repeatedly loses his train of thought when trying to remember or answer specific questions. When this happens, his daughter Annapurna intervenes.

Annapurna, who is about 30 years old – she doesn't know her exact date of birth – is an articulate woman afflicted by tragedy; four years ago she lost her husband. All she can tell us is that he had drunk alcohol and then a pesticide. Then a month ago she lost her fiveyear-old son; he had suddenly contracted a high fever and the treatment he received in the provincial hospital failed to save him. Then last October she lost her father - or, at least, the man that she had known up to then. Haribhau is still alive; he is sitting right next to her, leaning on the plastered wall and staring at the ceiling. "He's not been the same since" says his daughter. "Before, he was fit and healthy. Now he's weak and constantly tired, his eyesight has deteriorated and he's often in pain." Annapurna and her mother Vimalbai weed other people's fields, but the income is not enough to make ends meet. The 5000 rupees (approx. 70 Swiss francs) of compensation that Haribhau and most other victims of poisoning received from the state is long gone.

Polo: a harmless substance?

Bandu Sonule, Sumesh Kanande and Haribhau Kumbhekar had all sprayed the Syngenta pesticide Polo – but all in combination with different insecticides, fungicides and plant-growth regulators. It's impossible to say which



specific substance or combination of substances was responsible for poisoning them, or the extent to which each was responsible. However, out of the several dozen men who reported symptoms after using Polo there are other, more clear-cut, cases that shed light on whether the substance really is as harmless as Syngenta claims.

One of these cases is that of Hiroman Soyam, a 40-year-old farmer and agricultural worker. In September, he also ended up in the hospital after spraying a cotton field. However, according to him, he had not sprayed a mix of different substances; he had filled his canister with a single pesticide – Polo – mixed with water. He recounted how it had been hot and very windy, and how the spray had blown into his face. When he woke up the following day, his cheeks, eyes and chest were swollen, he had a fever, diarrhoea, and could barely speak or see. In the hospital, he had to lie on the floor for three days with an infusion, until he was allocated a bed, which he was tied to after being treated with an intravenous fluid, probably Atropine.

Hiroman has still not recovered. His wife Archana told us that, before, he always worked hard and hadn't spent a single day at home. Now, he only has enough energy to take his father's buffaloes out to graze. Archana told us that she hopes that her 17-year-old daughter and 13-year-old son will one day escape work on the cotton fields. "Their father's life has been wasted in the fields, but at least the children should have a better life."

«Danger»

Hiroman Soyam is not the only man who was admitted to hospital last year after applying Polo mixed with water. Another is the farmer Purushottam Khadse from the village of Inzala. He was poisoned less severely; after several days he could see normally again, and today he no longer suffers from any after effects. "But I'll never use Polo again" he says.

He still has some left over though; he opens a small hatch in the hall of his house and pulls an unopened white sack out of a plastic bag. The word "Danger" is written on a blue warning triangle – blue means "poisonous". There is a warning printed on the triangle: "Avoid inhalation and contact with eyes. Wear protec-







Fertilizer stored in the bedroom; spray canister in household closet: agro-chemicals are everywhere.



tive clothing, mask, goggles and boots while spraying. In case of any sign of poisoning, immediately consult the doctor." And then: "No specific antidote is known. Apply symptomatic therapy." Yet all of this information is written in English and Hindi. Not a single word is written in Marathi, the only language that most people here speak.

There is a Syngenta-issued "Certificate of Recognition" hanging on the shop wall. Informing farmers of the dangers of pesticides is clearly not a part of this service.

There is a small leaflet stuck to the package with the warning printed in small print in 12 different languages - including Marathi. But Purushottam Khadse never opened the leaflet. If he had, he would have found words printed so small that they can barely be deciphered by the naked eye. The government's special investigation team also concluded that the writing in the information leaflet was "not legible" and therefore could not be "understood or followed". That is a violation of the International Code on the Conduct of Pesticide Management of the UN's Food and Agricultural Organization (FAO), which requires companies to use "clear and concise labelling" (Article 5.2.4.7). Syngenta is a member of Croplife, the international lobby organisation of agrochemical companies, for which full compliance with the FAO Code is a pre-requisite to membership - in theory at least.

Consent by thumbprint

Syngenta India writes the following on its website: "The safe and responsible use of our products is fundamental to our ambition of helping farmers to grow more food using fewer resources. Our stewardship covers responsible agriculture programs, as well as safe handling and storage of our products."

We wanted to see how this works in practice – so we hunted for the shop in Ghatanji where Purushottam Khadse bought his Polo. It's in the next street. There are three Syngenta products stocked next to each other on a shelf: the fungicides Amistar Top and Tilt, as well as the insecticide Ampgligo, which has a yellow warning triangle printed on it stating that the product is "highly toxic". Next to them are three statues of the goddess Lakshmi who embodies luck, beauty and – last but not least – prosperity.

What happens when you buy one of these pesticides? The shop-owner tells us that he uses a felttip pen to write on the container the ratio for mixing the pesticide, and what plants to use it on. He tells us openly that if the infestation is serious, he recommends mixing together two pesticides, such as a fungicide and an insecticide, for efficiency.

When they purchase a pesticide, farmers must sign a thick book under a stamp to confirm that they have been informed about the insecticide, herbicide or fungicide, and that they have bought it of their own free will, that they have been given the safety instructions, and that it's their own full responsibility to use the product safely. Anyone who cannot read and write gives their consent by dipping their thumb in ink and stamping the page. Is this what Syngenta is referring to in the statement in its own guidelines, which requires it to ensure that its products are handled "appropriately and responsibly"? There is a Syngenta-issued "Certificate of Recognition" hanging on the shop wall: "In sincere gratitude for your achievement and contribution." Informing farmers of the dangers of pesticides is clearly not a part of this service.

Neither is providing them with access to protective equipment. The FAO Code requires governments and industry to promote the use of "appropriate personal protective equipment". But the shop-owner, who buys his pesticide from an intermediary in Yavatmal, tells us that he doesn't receive any protective equipment from the companies. This year, only the German company BASF provided one pair of blue plastic gloves with every bottle of one of its fungicides. In contrast, we didn't see any protective equipment from Syngenta – in the shop or elsewhere – during the entire week we spent in the region.

Like a bad joke

The only man we met who had protective equipment was Sumesh Kanande. Last year, after he left the hospital, a government representative gave him protective equipment sponsored by one of the biggest agri-business companies in India. He showcases the equipment in front of his hut; if you weren't aware of the tragedy, you'd almost laugh.

Five-year-old Shravani laughs heartily: she's never seen her father like this before – he looks like a penguin! He's wearing a yellow apron made of cheap plastic, light blue disposable gloves like those worn by surgeons, a pair of plastic glasses, a yellow mask and a light blue netting cap like those worn by bakers. We try on the equipment, which shows us that you can barely breathe when wearing the mask; after just a few breaths the glasses steam up. He is supposed to wash the disposable gloves every evening (if they don't rip on the first day); the same surely goes for the sweaty mask – if it survives, that is. The plastic apron will make him sweat even more, opening his pores for the pesticide to enter. On the other hand, his back, on which he often carries the leaky spray canister, remains unprotected. It's like a very bad joke.



No protection

Article 3.6 of the FAO Code is in fact unequivocal: pesticides whose handling and application require the use of personal protective equipment that is uncomfortable, expensive or not readily available should be avoided, especially in the case of small-scale users and farm workers in hot climates. This begs the question – if this isn't one such case, what is?

Not a single farmer or agricultural worker we speak to has ever been given protective equipment by a sales outlet. And none have bought protective clothing themselves, for reasons such as it's "too expensive", or they don't know where to find it, or they would have to travel to Yavatmal at the cost of a day's wages. Moreover, most simply can't imagine wearing a mask in the 45-degree heat. They repeatedly say: "You can barely breathe in them".

Little awareness

None of them say that they've been given detailed information about the dangers of the products they purchase by a pesticide shop or company. None know exactly what they're spraying. It appears that anyone who has not been seriously poisoned themselves has little awareness of the dangers of toxic pesticides. We approach a young man as he's spraying pesticides in a field of young cotton plants; he's wearing shorts and no shoes, and his feet are wet from the pesticide. The product he's spraying is Confidor, an insecticide from Bayer – its level of toxicity is yellow (highly toxic). The young man, Akash, tells us that he always sprays the pesticide barefoot but has not yet experienced any negative symptoms. If he wore shoes, they would get stuck in the moist ground with every step he took and would soon become very heavy. "That simply wouldn't work", he tells us.

Once the pesticides have been used, the containers they were sold in are recycled for other purposes. They're often used for transporting drinking or washing water. We see children using pesticide containers with red warning triangles to wash themselves in the open air. We see containers used for toxic pesticides hanging on latrine doorways and in kitchens. They're everywhere.

Need for "deterrent penal actions"

It's clear to see that anyone claiming that highly toxic pesticides can be used safely in these circumstances is



deluded. "There is no safe way of use. They are toxic." says Dr Narasimha Reddy, the director of Pesticides Action Network India that published a detailed report about the "Untold Realities" of the pesticide poisonings after having conducted a fact-finding mission in the region. The companies that produce these substances should be held to account for the cases of poisoning that have arisen when they are used, as well as the environmental damage they cause.

Article 3.6 of the FAO Code is in fact unequivocal: pesticides whose handling and application require the use of personal protective equipment that is uncomfortable, expensive or not readily available should be avoided. activist and leader of the Alliance for Sustainable and Holistic Agriculture, which is comprised of 400 organisations. She went on a fact-finding mission in the region after the wave of poisonings, and describes the situation more specifically: in the short term, only one measure would help prevent multinational companies from making profit by "getting away with false claims and profiteering at the expense of lives and sustainability", and that's deterrent penal actions. And in the longer term, India must refrain from promoting "chemical-based farming"– even if it requires more comprehensive state investment in environmentally friendly agriculture. In her e-mail, she notes: "I would like to say that Indian agriculture and farmers can do very well without the activities of corporations like Syngenta."

But how can this be done? "Legal action is the best recourse for damages that are caused by the products" says agricultural expert Keshav Kranthi. A viewpoint shared by Kavitha Kuruganti, a well-known Indian agricultural

Syngenta did not answer Public Eye's questions regarding the Yavatmal scandal.

The political solution

In the field of medicine there is no known antidote for cases of poisoning by the pesticide diafenthiuron. However, in the political sphere there are three instruments that would help prevent further cases of poisoning by the highly toxic Syngenta pesticides currently available.

Counter measure No.1: a ban on exports

In December 2017, National Councillor for Geneva Lisa Mazzone filed a motion to parliament after Public Eye unveiled that pesticides banned in Switzerland were being exported from the country. Mazzone called on the government "to prohibit the export of pesticides whose use has been banned in Switzerland due to their effects on human health or the environment." Yet in its response, the Federal Council was only prepared to amend the regulation to require the express consent of the importing country for the export of hazardous pesticides banned in Switzerland. It considered a ban on exports to be "disproportionate" because human health and the environment could be protected by other measures that infringe less on economic freedoms. It did not, however, indicate what such measures could be.

Lisa Mazzone's motion is due to be addressed by the National Council in 2019. Given that it was signed by 41 parliamentarians of all political persuasions, there is a good chance that it will win a majority.

The Swiss government could follow the example of the European Union, which banned the export of pesticides listed as "persistent organic pollutants" in the Stockholm Convention. France has also recently decided to ban the production and export of pesticides the use of which is banned on its own territory. Moreover, the need for action was clearly signalled in a 2017 report by UN experts to the Human Rights Council. Explicitly referring to Syngenta, it states that "to subject individuals of other nations to toxins known to cause major health damage or fatality is a clear human rights violation."

Counter measure No.2: the Responsible Business Initiative

There is a second effective measure to counter cases of poisoning by toxic pesticides on the horizon in Switzerland: the Responsible Business Initiative. This initiative would require companies headquartered in Switzerland to perform due diligence in relation to compliance with internationally recognised human rights and environmental standards. Were the initiative to be adopted, in the future Syngenta would have to perform comprehensive assessments of all risks associated with the use of its pesticides, and the company would be required to take effective prevention and mitigation measures. A serious risk assessment into a highly hazardous pesticide like Polo, in a context such as that of Yavatmal, could only come to one conclusion: it would be delusional to think that pesticides can be used safely under these circumstances. Consequently, the sale of the product must be discontinued.

Counter measure No.3: a binding international treaty

As a third measure, the Swiss government should support a binding international treaty to regulate highly hazardous pesticides such as diafenthiuron. This problem cannot be solved by bilateral or regional action alone; globaw action is required. A treaty is required to ban highly hazardous pesticides internationally and provide support to low and middle income countries to replace them with safer alternatives. The call for a binding treaty enjoys the support of a broad range of countries, civil society organisations and UN human rights experts.

How Syngenta makes billions selling highly hazardous pesticides

Based on exclusive industry data, Public Eye reveals the key role played by the Swiss agrochemical giant in selling highly hazardous pesticides – above all in low and middle-income countries (LMICs). In Brazil, the world's number one consumer, studies show high rates of cancers and other chronic diseases linked to the massive use of such substances. In a petition, Public Eye calls on Syngenta to take its most toxic pesticides off the market. Switzerland should also take binding measures to put an end to this illegitimate business.

In a new report, Public Eye sheds light for the first time on the scale of a business as secretive as it is lucrative: highly hazardous pesticides. By cross-referencing data from Philips McDougall* with the list of 310 substances that present the highest levels of acute or chronic hazards to health or the environment issued by the Pesticide Action Network (PAN), Public Eye estimates the global sales of highly hazardous pesticides at USD 22 billion in 2017. This represents about 1.8 million tonnes of active substances, two thirds of which were sprayed in low and middle-income countries (LMICs).

While Syngenta boasts about its efforts in terms of innovation, Public Eye's unprecedented investigation reveals that selling highly hazardous pesticides is at the core of its business model. Of the 32 substances which are included in the company's "key marketed products", 15 feature on the PAN blacklist of pesticides. According to our calculations, in 2017, the Swiss giant made approx. USD 3.9 billion in revenue from highly hazardous pesticides. The multinational takes advantage of weaker standards in countries such as Brazil, Argentina or India to continue selling its toxic 'blockbusters', many of which are no longer authorised in Switzerland or the European Union. Baskut Tuncak, United Nations Special Rapporteur on human rights and toxics, says that "there is an urgent need to end this exploitation of lower standards of protection. This is a morally and ethically unjustifiable situation (...) States should have mandatory human rights due diligence for chemical manufacturers."

To understand the consequences of the widespread use of highly hazardous pesticides, Public Eye carried out investigations in Brazil, Syngenta's main market. Scientific studies show disturbing rates of congenital deformities, cancer and other chronic diseases in the regions with the highest levels of pesticide use. In the state of Mato Grosso, at the heart of crop monocultures, we met parents with sick children, agricultural workers and experts. Despite the climate of fear, people are speaking out to denounce a business model whose negative impact on health and the environment are becoming increasingly apparent. In collaboration with Repórter Brazil, Public Eye also accessed data from the Brazilian national drinking water monitoring programme. Our analysis shows that millions of Brazilians are exposed to a cocktail of pesticides whose long-term effects are unknown. Atrazine is one of the most frequently detected substances. This herbicide is classified as an endocrine disruptor and a reproductive toxicant. It was banned in Switzerland and the European Union over ten years ago because of water contamination. But Syngenta continues to sell it in Brazil, where it is found in 85% of drinking water samples tested.

In order to protect future generations, the most toxic substances must be taken off the market and replaced with safer alternatives. In a petition, Public Eye is calling on Syngenta to commit to put an end to the production and sale of highly hazardous pesticides.

Switzerland should ban the export of pesticides which are banned in its own jurisdiction due to their harmful effects on health or the environment. Given that companies like Syngenta have shown no willingness to act on a voluntary basis, the Swiss government should implement mandatory human rights and environmental due diligence requirements for Swiss companies, as proposed by the Responsible Business Initiative, and should support an international treaty to regulate the business of highly hazardous pesticides.

> **Read and download the report:** Highly hazardous profits. How Syngenta makes billions by selling toxic pesticides. A Public Eye Report, April 2019, 56 pages

www.publiceye.ch/pesticide

Stop highly hazardous pesticides!

Highly hazardous pesticides (HHP) are a major health concern. While most have been banned in Switzerland and in the European Union, they continue to be massively sold in low- and middle-income countries. Research by Public Eye reveals that selling highly hazardous pesticides is at the core of Swiss-based Syngenta's business model.

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PUBLIC EYE (formerly Berne Declaration) is a non-profit, independent Swiss organisation with around 25,000 members. Public Eye has been campaigning for more equitable relations between Switzerland and underprivileged countries for fifty years. Among its most important concerns are the global safeguarding of human rights, the socially and ecologically responsible conduct of business enterprises and the promotion of fair economic relations.

Public Eye, avenue Charles-Dickens 4, CH-1006 Lausanne, tél. +41 (0)21 620 03 03, contact@publiceye.ch, compte postal 10-10813-5

www.publiceye.ch



