

# Farmers' poisonings with the pesticide Polo, a product of Syngenta AG and Syngenta India Ltd

Complaint over violations  
of the OECD Guidelines  
for Multinational Enterprises

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**FARMERS' POISONINGS WITH THE  
PESTICIDE POLO, A PRODUCT OF  
SYNGENTA AG AND SYNGENTA INDIA LTD**

**COMPLAINT OVER VIOLATIONS OF  
THE OECD GUIDELINES FOR  
MULTINATIONAL ENTERPRISES**



## SUMMARY

The complaint seeks remedy for violation of the OECD Guidelines for Multinational Enterprises, Chapters II, IV and VIII, by Syngenta AG and Syngenta India Ltd. (“the Responding Party”) for selling its pesticide Polo to farmers and farm workers in the district of Yavatmal in Maharashtra, India, of whom at least 51 subsequently suffered severe negative health impacts from pesticide poisoning.

The district of Yavatmal, where the poisonings occurred, is located in the Indian state of Maharashtra. It is home to a huge population of cotton growers and has the highest rate of pesticide use in the entire country. Farmers in this region are particularly vulnerable given low levels of formal education and literacy, as well as widespread poverty. Conditions of pesticide use vary from country to country. Companies engaged in the pesticide business, including the Responding Party, are well aware of these differences. In India, farmers have mostly unrestricted access to pesticides, often without prior information about their dangers or access to necessary protective equipment. Despite some recent progress, pesticide use remains insufficiently regulated in the country, while the rules that do exist are poorly implemented and enforced with little to no monitoring (Section 1a).

Over decades, the pesticide industry has relied on the idea of “safe use” as a pillar of support for its continued manufacturing and export of hazardous pesticides. The rationale behind the concept is that pesticides are safe when used “properly” and “responsibly,” that is, when the correct precautions for use are taken. The precautions expected include, first and foremost, following the directions that are printed on the container labels and leaflets. This typically includes wearing suitable personal protective equipment (PPE), ensuring careful storage and responsible disposal, as well as adhering to proper agricultural practices for mixing, loading and applying the pesticides (Section 1b). However, the reality of pesticide use looks entirely different. Non-adherence to pesticide labels and leaflets in India is not new, but a well-known and widespread fact, documented in independent research. This non-adherence largely results from, among other causes, the fact that many farmers cannot read, do not understand the respective language in which labels are printed, or find the information provided too technical to understand. In addition, although PPE should be, assuming the industry’s concept of “safe use” to be true, available in the place where the pesticides are sold, in reality, it is regularly unavailable, too expensive, damaged or impractical in hot and humid climates. Furthermore, despite the numbers quoted by the pesticide industry, trainings only actually reach a very limited number of farmers, farm workers and smallholders in rural areas. This is certainly the case in India, including in Maharashtra. Moreover, even where trainings are conducted, their usefulness in achieving behavioral change remains doubtful and unproven by the industry. In this regard, the United Nations Food and Agriculture Organisation (FAO) has pointed out: “The impact of training in proper pesticide use continues to be questioned and cannot be regarded as a solution for risks associated with the use of highly hazardous products, particularly in developing countries where large numbers of small scale farmers would have access to these products.”<sup>1</sup> In sum, farmers will simply not be able to follow the safe use requirements as recommended on pesticide labels and leaflets. As a consequence of such conditions, health damages due to pesticide poisoning, including from products produced and marketed by the Responding Party, were already on the rise before 2017, when the poisonings detailed in this complaint occurred (Section 1b).

In the agricultural context outlined above, a spate of pesticide poisonings and related deaths occurred in Maharashtra in 2017. According to official data, 886 patients were admitted for treatment in hospital for poisoning through insecticide spraying in the fall of 2017 alone. Among the poisoning victims, judicial records show 65 deaths due to “spraying of insecticides” in Maharashtra, with most of those deaths occurring in the Yavatmal district. Based on police records, at least 94 of the farmers poisoned in 2017 used the Responding Party’s product Polo, either alone or in combination with other products. As a result of its use, they suffered negative health impacts that required treatment by medical personnel. In addition, government officials also documented the use of Polo, the product sold by the Responding Party, in two instances of death (Section 2).

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<sup>1</sup> *Guidance on Pest and Pesticide Management Policy Development* (2010), Food and Agriculture Organization of the United Nations, at 12. Online at [www.fao.org/fileadmin/templates/agphome/documents/Pests\\_Pesticides/Code/Policy\\_2010.pdf](http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/Policy_2010.pdf), accessed 18 June 2020.

Diafenthiuron, the active ingredient that forms the basis of the product Polo, has been officially recognized as having hazardous qualities for human health in cases of unprotected exposure. The following concrete hazards have been confirmed for Diafenthiuron: It is harmful if swallowed, causes serious eye irritation, can be fatal if inhaled, causes damage to organs (respiratory system) and may cause damage to organs through prolonged or repeated exposure. In Switzerland, the product was withdrawn from the market and features on the list of pesticides banned due to their negative effects on human health and the environment. Yet, the Responding Party continues to sell the product in other countries (Section 3b).

The Submitting Parties have identified 51 farmers and farm workers in Yavatmal who used the Responding Party's product Polo and as a result suffered negative health impacts. In order to identify these farmers, the Submitting Parties conducted interviews and reviewed documentation of their pesticide poisoning and subsequent treatment for adverse health impacts (Section 4). All 51 farmers used the pesticide solely for the treatment of pests on cotton. Similar to the overall situation of pesticide use in Maharashtra, the 51 farmers all applied the Responding Party's product under perilous conditions. Many could not read or understand the labels, or they simply did not consult the labels due to a general unawareness of pesticides' dangers. Professional PPE appropriate for the climatic conditions could not (and still cannot) be obtained in the areas where the 51 farmers live and used Polo. As a result, not a single farmer out of the 51 wore PPE as recommended by the Responding Party. The makeshift protective equipment used by some was and remains ineffective. All farmers and farm workers were asked if they had ever received training on protective measures from Syngenta. Three farmers did not provide information on this issue, but the remaining 48 had not received any training in pesticide use from the Responding Party. The 51 farmers acted as would be expected by anyone familiar with the conditions on the ground (Section 5).

Despite being fully aware of the conditions of use prevalent in Yavatmal and, hence, among the group of 51 farmers and farm workers, the Responding Party still sold its product in the district. The Responding Party's business model is built on constant monitoring of its pesticide products' conditions of use on the ground and instances of misuse. This information is centrally collected and reported back to the highest management level of the company in India and Switzerland. Thus, Syngenta AG's meticulous organizational structure allows the flow of information from the top to the bottom and vice versa. In addition, civil society organizations have made the Responding Party aware of the conditions of pesticide use in India through direct communications. The Responding Party has, in fact, acknowledged prevailing conditions of pesticide use in India through various statements made by company representatives prior to the poisonings in 2017. In sum, it appears that the Responding Party chose to ignore the risks and decided to continue selling a toxic product to farmers it knew could not use the product safely (Section 6a).

Furthermore, collected evidence indicates that the Responding Party violated both domestic legislation and international standards on pesticide management. At the time of the poisonings in 2017, the Responding Party was obligated to abide by the Indian Insecticides Act and Rules and, further, was committed to respect the FAO International Code of Conduct (ICoC) for pesticide management and its guidelines on labelling. Yet, based on the Submitting Parties' research, the label and leaflet used by the Responding Party for its product Polo did not meet all the conditions established in these regulations. These shortcomings further contributed to malpractice by those end-users who were able to read the label and leaflet, as it meant they only received incomplete information (Section 6b).

As a consequence, the health of 51 farmers and farm workers has suffered from unprotected use of Polo since 2017. Health impacts on the farmers and farm workers reveal a pattern of recurring problems paired with individualized hardships connected to certain symptoms for specific individuals. The acute harm suffered by this group includes nausea and diarrhea, reduced or full loss of eyesight, itching and burning skin, loss of consciousness, bodily pain, vomiting and other effects. The negative health impacts suffered by the farmers and farm workers clearly reflect the hazards associated with Diafenthiuron. Following their unprotected use of Polo, all 51 farmers required medical treatment and the vast majority were hospitalized for periods between 1 and 31 days (Section 7a). Health issues persisted for a considerable number of those affected. Farmers have reported suffering lasting consequences, including reduced vision, continuing gastrointestinal problems, weakness and reduced capacity to work (Section 7b). In addition to the negative health impacts, the socioeconomic conditions of affected farmers also deteriorated dramatically. All farmers incurred a considerable amount of financial loss in order

to cover their medical expenses, in addition to loss of income connected to their hospitalization and reduced capacity to work in the aftermath of the poisoning. Next to these financial losses, many of the farmers and farm workers experienced severe disruptions in social life. When farmers are too weak to walk long distances or cannot be exposed to sun due to recurring eye and skin problems, their radius of activity is seriously limited (Section 7c).

Thirty of the 51 farmers received emergency financial relief from the government of Maharashtra in the aftermath of the poisonings, but it was insufficient to cover even parts of the financial losses they incurred due to medical treatment and the ensuing inability to work. The remaining 21 farmers did not receive anything. The Responding Party has denied any and all responsibility and has not provided any kind of remedy. Indeed, to this day, the Responding Party continues to sell the product without any visible changes in its sales practices, further endangering current and future farmers and farm workers.

By selling its product Polo to a group of highly vulnerable farmers in a manner non-compliant with applicable standards and in full awareness that the farmers had no understanding of the dangers posed by the product and no means of adequate protection, the Responding Party has violated several provisions of the OECD Guidelines (Section 8). Syngenta AG has failed to carry out appropriate due diligence (Chap. II A. 10, Chap. IV 5) by insufficiently reacting to identified human rights risks of a particular vulnerable group of people. By assuming sales practices based on faulty labels and actions and omissions violating the ICoC on pesticides management, both Syngenta India Ltd. and Syngenta AG have failed to establish appropriate governance structures for the company and the company group needed to avoid infringement of local laws and applicable standards (Chap. II A. 6). Both Syngenta AG and Syngenta India Ltd. have thereby caused the violation of Indian farmers and farm workers' right to health (Art. 12 International Covenant on Economic, Social, and Cultural Rights (ICESCR)), right to decent working conditions, in particular to safe and healthy working conditions (Art. 7 (b) ICESCR), and right to an adequate standard of living (Art. 11 ICESCR), by having jointly manufactured and sold a toxic product with insufficient warnings and in full awareness of the lack of any other available means to protect against intoxication (Chap. II A. 11, Chap. IV 2). Both Syngenta AG and Syngenta India Ltd. have entirely failed to provide any kind of remedy to those whose human rights were affected by their actions and omissions and, in fact, continue all of the above violations to date (Chap. IV 6). Finally, by selling hazardous consumer goods to particularly vulnerable people without any means of protection and with insufficient warnings, Syngenta AG's actions fail to comply with the chapter on consumer interests (Chap. VIII 1, 2, 3, 7).

The Submitting Parties demand that the Responding Party recognize its responsibility, provide financial relief and change its sales practices to remedy the human rights violations it has caused, and that the Responding Party adhere to the OECD Guidelines in the future (Section 9).

## **PARTIES**

### THE SUBMITTING PARTIES

- 1 Maharashtra Association of Pesticide Poisoned Persons (MAPPP): Created in 2018, MAPPP is a collective of Maharashtra's pesticide poisoned victims, relatives of those who died, farmers and supporters. The 51 victims whose accounts the complaint brings forth are members of MAPPP. Each of these victims was impacted by pesticide poisoning and some continue to experience adverse impacts to this day. MAPPP is committed to securing justice for those poisoned and ensuring accountability for agrochemical companies. MAPPP undertakes collective action with communities and civil society groups, as well as governmental and international institutions to prevent harmful impacts of pesticide and agrochemical use, among other things. Its activities include increasing awareness, education, economic relief and other forms of action against toxic agrochemicals through collective efforts.  
Contact Person: Dewanand Pawar, Convenor, MAPPP, c/o Plot No. 3, Kale Lay-Out, Arni Road, Yavatmal. PIN 445001. Maharashtra, India.
- 2 Pesticide Action Network (PAN) India: An independent, national non-profit organization, PAN India is dedicated to eliminating the human and environmental hazards caused by pesticides.

Founded in 2013, it focuses on changing the usage of pesticide that causes harm and aims to help farmers use sustainable alternatives to chemical pesticides, conserving traditional knowledge, farming systems and agro biodiversity. Working directly with farmers, PAN India undertakes training and capacity building. PAN India works in collaboration with the PAN International community. In October 2017, PAN India produced a fact-finding report on pesticide poisoning and death in the Yavatmal district. PAN India has also produced multiple reports on pesticides' dangerous conditions of use and adverse impacts on health and the environment, as well as pesticide sales in violation of applicable laws and standards. PAN India's office is located in Kerala, India, and its website is: <http://www.pan-india.org/>

Contact Person: Dileep Kumar, Pesticides Action Network India, [dileep@pan-india.org](mailto:dileep@pan-india.org)

- 3 Public Eye: Founded in 1968 based on the Berne Declaration manifesto, Public Eye is currently supported by some 26,000 members. Public Eye is both politically and financially independent. Through its exclusive investigations and in-depth research, Public Eye shines a spotlight on the ways that companies impact disadvantaged populations. Public Eye engages in campaigns and advocacy vis-à-vis companies and political decision-makers at the national and international level. Within the context of its research and campaigns, Public Eye also works with other non-governmental organizations (NGOs) and with victims. Public Eye has focused on the issue of highly hazardous pesticides' adverse impacts through various reports and investigations for more than 20 years, including examinations into the Responding Party's conduct. In 2018, Public Eye also published a report on pesticide poisonings in the district of Yavatmal. Public Eye has offices in Lausanne and Zurich, Switzerland, and its website is: <https://www.publiceye.ch/en/>

Contact Person: Laurent Gaberell, Expert in Food and Agriculture, Public Eye, [laurent.gaberell@publiceye.ch](mailto:laurent.gaberell@publiceye.ch)

- 4 The European Center for Constitutional and Human Rights (ECCHR): ECCHR is an independent, non-profit legal and educational organization dedicated to enforcing civil and human rights worldwide. ECCHR also works to ensure that transnational companies are held to account for their operations in other countries that lead to or are complicit in gross human rights violations, including violations of the right to health and the right to a healthy environment. Given pesticides' potentially significantly impacts these rights, ECCHR is committed to monitoring the European pesticide industry's adherence to international standards on pesticide management and distribution, toward the aim of putting an end to pesticide-related poisonings, still widespread among rural populations everywhere, not only in the Global South. ECCHR has highlighted pesticide-related rights violations since 2015, including the Responding Party's conduct in parts of India. ECCHR's office is located in Berlin and its website is: <https://www.ecchr.eu/en/>

Contact Person: Dr. Christian Schliemann-Radbruch, Senior Legal Advisor, European Center for Constitutional and Human Rights, [schliemann@ecchr.eu](mailto:schliemann@ecchr.eu)

- 5 Pesticide Action Network Asia Pacific (PANAP): PANAP based in Penang Malaysia is the regional centre of PAN, a global network dedicated to the elimination of harm upon humans and the environment by pesticide use, as well as to the promotion of biodiversity-based ecological agriculture. With more than 100 partners in the region, PANAP campaigns to protect communities from pesticides harm and for a just food system that is based on food sovereignty and communities' rights over land and resources. Together with PAN India, PANAP has supported the documentation of the impacts of pesticides in Yavatmal and published the results in the publication, 'Of Rights and Poisons: the Accountability of the Agrochemical Industry'. During the No Pesticide Use Week campaign that is a coordinated action in the region of about 16 PANAP partners highlight the negative impacts of pesticides and the need for agroecology. During this week, PAN India organised events in Yavatmal that was shared with the other PAN partners. [www.panap.net](http://www.panap.net)

Contact person: Sarojeni V. Rengam, Executive Director, [sarojeni.rengam@panap.net](mailto:sarojeni.rengam@panap.net)



## THE RESPONDING PARTY

Syngenta AG is an agribusiness company operating in the areas of crop protection, seeds, and flowers. Syngenta AG's crop protection chemicals include, among others, herbicides, insecticides and seed treatments to control weeds, insects and diseases in crops. The company is domiciled and incorporated in Basel, Switzerland, under the company number CHE-101.160.902.<sup>2</sup> Though Syngenta AG has been effectively owned by ChemChina since 18 May 2017, Basel continues to be its registered seat. Syngenta India Ltd. is a subsidiary of Syngenta AG, with the latter holding 100% of its shares. Syngenta India Ltd. has its headquarters in Pune, India, and undertakes the import, manufacturing and marketing of the company group's products in India.

## **PAST COMMUNICATION AND OUTCOME**

The Submitting Parties have had prior contact with the Responding Party on several occasions regarding matters related to pesticides and their adverse health impacts. Prior interaction has also taken place between the Submitting Parties and the Responding Party in relation to the incidents at the core of this complaint.

In October 2017, PAN India published "Pesticide Poisonings in Yavatmal District in Maharashtra: Untold Realities," a report on the poisonings described in this complaint.<sup>3</sup> Having conducted field visits to Yavatmal, the report is based on PAN India's interactions with farmers, poisoned patients, hospital staff, local journalists and pesticide dealers.<sup>4</sup> The report mentions the pesticide Polo a total of 12 times, including in poisoned farmers' narratives, in descriptions of pesticides reportedly in use at the time the poisonings occurred, and in reports of medical care given to those poisoned.

In September 2018, Public Eye published the results of an investigation it carried out into the issue, titled "The Yavatmal Scandal."<sup>5</sup> As explained to the Responding Party in an email prior to the report's publication, the investigation took place in India and included conversations with affected farmers and farm workers. The email also sought answers from the Responding Party to several specific questions. First, Public Eye asked how the Responding Party could explain the on-the-ground reports linking Polo usage to the poisonings given that it had publicly denied Polo's responsibility for any of the poisonings. Further, Public Eye sought a progress update on the Responding Party's promise to distribute PPE kits among farmers in Yavatmal necessary to safely use Polo, since Public Eye's reporters saw no such kits during their time there. Given the general unavailability of PPE in India due to its high cost and inappropriateness for use in prevailing climatic conditions, and given that most farmers using Polo in India are small-scale users, Public Eye asked why the Responding Party continued to sell the product in India. However, Public Eye did not receive a response from the Responding Party.

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<sup>2</sup> Excerpt from Swiss Commercial Register, online at [bs.chregister.ch/cr-portal/auszug/auszug.xhtml?uid=CHE-101.160.902](https://bs.chregister.ch/cr-portal/auszug/auszug.xhtml?uid=CHE-101.160.902), accessed 18 June 2020.

<sup>3</sup> DN Reddy and D Kumar, *Pesticide Poisonings in Yavatmal District in Maharashtra: Untold Realities* (October 2017), PAN India, online at [www.pan-india.org/wp-content/uploads/2017/10/Yavatmal-Report\\_PAN-India\\_Oct-2017\\_web.pdf](http://www.pan-india.org/wp-content/uploads/2017/10/Yavatmal-Report_PAN-India_Oct-2017_web.pdf), accessed 8 June 2020, attached as Annex 1.

<sup>4</sup> *Ibid.*

<sup>5</sup> *The Yavatmal Scandal: A Public Eye Investigation* (September 2018), Public Eye, online at <https://toxicexports.publiceye.ch/>, accessed 9 June 2020, attached as Annex 2.

Instead, the Responding Party has published several statements on the matter on various occasions. In 2017, company representatives stated that the product Polo is only moderately toxic, claiming that it can only cause death when purposely consumed, as in an attempt to commit suicide.<sup>6</sup> Also in 2017 and further apportioning blame to farmers, another company spokesperson indicated that farmers in Yavatmal neglected to take appropriate safety measures.<sup>7</sup> In September 2018, the Responding Party again publicly denied its product's responsibility for the poisonings.<sup>8</sup>

Contesting the portrayal of the Yavatmal poisonings in NGO reports, the Responding Party wrote to the secretariat of the Verein Konzernverantwortungsinitiative (the Responsible Business Initiative), which seeks to ensure that companies are legally obliged to incorporate respect for human rights and the environment in all their business activities abroad.<sup>9</sup> Public Eye is a member of a Swiss civil society coalition supporting the initiative. In the letter sent on 17 December 2019, the Responding Party formally demanded that any statement attributing blame for the death of farmers in Yavatmal to Syngenta be deleted from the website of the campaign and other campaign material, and that such assertions no longer be made in public statements. At the end of the letter, the Responding Party invited the secretariat of the popular initiative as well as Public Eye to submit their facts to the Swiss National Contact Point (NCP) to finally settle the matter, which the Submitting Parties do with this complaint.

## JURISDICTION OF THE SWISS NCP

Under the OECD Guidelines, issues can be raised with the NCP in writing if it is suspected that a multinational enterprise (MNE) has breached the Guidelines.<sup>10</sup> If the country where the breach occurred does not have an NCP, the issue must be raised in the country where the MNE has its headquarters. The Swiss NCP is responsible where a Swiss enterprise is involved in a country that does not have its own NCP.<sup>11</sup> Syngenta AG is domiciled and incorporated in Switzerland. India, meanwhile, where Syngenta India Ltd. is incorporated and domiciled, and where the alleged violations occurred, is a non-adhering country to the Guidelines and does not have an NCP. Further, the relief sought can only be granted by Syngenta AG, domiciled in Switzerland.

## STRUCTURE OF THE ARGUMENT

Section 1 introduces the conditions of pesticide use in Maharashtra, India, and addresses the Responding Party's erroneous assumption that "safe use" is possible under the general conditions prevalent there. Section 2 goes on to describe the spate of pesticide poisonings that took place in the district of Yavatmal in 2017, affecting a highly vulnerable segment of the rural population. It describes the larger pattern of these poisonings and shows that the Responding Party's product Polo was used at the time by farmers who suffered adverse health consequences. Then, to thoroughly understand the dangers emanating from the Responding Party's product Polo, Section 3 describes its production and distribution scheme, as well as elements of its toxicity. After this, Section 4 details the basis of how the Submitting Parties identified the group of 51 farmers featured in this complaint and explains the research methodology

<sup>6</sup> Shishir Ayra, "Polo is among less toxic pesticides," *Times of India*, 17 October 2017, online at <https://timesofindia.indiatimes.com/city/nagpur/polo-is-among-less-toxic-pesticides/articleshow/61107852.cms>, accessed 20 May 2020, attached as Annex 3.

<sup>7</sup> Ibid.

<sup>8</sup> "Statement from Syngenta Regarding Recent Media Coverage on Pesticide Exposure in Yavatmal (India)," *Business Wire*, 18 September 2018, online at [www.businesswire.com/news/home/20180918005631/en/Statement-Syngenta-Media-Coverage-Pesticide-Exposure-Yavatmal](http://www.businesswire.com/news/home/20180918005631/en/Statement-Syngenta-Media-Coverage-Pesticide-Exposure-Yavatmal), accessed 20 May 2020; In German: "Medienmitteilung Syngenta International AG, Stellungnahme: Medienberichterstattung zum Einsatz von Pflanzenschutzmitteln in Yavatmal (Indien).", attached as Annex 4.

<sup>9</sup> Swiss Coalition for Corporate Justice (SCCJ), "About the Initiative," online at [corporatejustice.ch/about-the-initiative/](http://corporatejustice.ch/about-the-initiative/), accessed 11 June 2020.

<sup>10</sup> OECD Guidelines for Multinational Enterprises: National Contact Point for Switzerland, "Information on the Specific Instances Procedure," November 2014, at 1.

<sup>11</sup> Ibid., at 3.

employed. Offering a detailed description of the 51 farmers' pesticide application practices, Section 5 confirms the general pattern of uninformed use without any means of protection. Section 6 then shows how the Responding Party's sales practices illustrate that it was well aware of the conditions of pesticide use in Maharashtra, but deliberately decided to turn a blind eye and continue to sell its products. Section 6 also shows that by violating both domestic legislation and international standards on pesticide management, the Responding Party aggravated the poisonings of Indian farmers by increasing the chance of their unprotected exposure. Section 7 then provides details on the nature and severeness of the negative health impacts suffered by the group of 51 farmers, which reflect the toxicity of the Responding Party's product. Finally, Section 8 provides an analysis of how the Responding Party, through its actions and omissions, violated the provisions of several chapters of the OECD Guidelines. The complaint concludes with Section 9, which outlines the Submitting Parties' expectations toward the specific instance process at the NCP.

## CONDITIONS OF PESTICIDE USE IN INDIA AND MAHARASHTRA

Conditions of pesticide use vary from country to country. Companies engaged in the pesticide business, including the Responding Party, are well aware of these differences. While in Switzerland any pesticide user must obtain a special license, for which they must sit a test to prove they possess the specialist knowledge required for the relevant activity, in India, farmers have mostly unrestricted access to pesticides without prior information about their dangers.

### LACK OF ADEQUATE DOMESTIC REGULATION OF PESTICIDES AND POOR IMPLEMENTATION

In India, the arena of pesticide sale, regulation, registration, and licensing is governed by the Insecticide Act, 1968, and the Insecticides Rules, 1971. Largely considered archaic and inadequate, repeated attempts to amend the legislation—with bills introduced in 2008, 2017, and 2020<sup>12</sup>—have so far failed. Civil society organizations have pointed out that there is currently a lack of active pesticide regulation in India, along with an absence of sustained toxicity and impact monitoring.<sup>13</sup> This has been explicitly confirmed by government bodies. For example, the 29<sup>th</sup> Report of the Standing Committee on Agriculture for the years 2015–2016 highlights a number of problems with the existing legislation and its implementation. According to the Committee, pesticide registration—that is, the process that allows pesticides to enter the Indian market—is “not robust” and enables “manipulation of systemic deficiency.”<sup>14</sup> Inconsistencies also exist in critical areas of information, such as data on pesticide use in the country as well as import statistics.<sup>15</sup> In addition, the infrastructure needed to implement the law is both weak and underfunded.<sup>16</sup> For instance, the Committee notes that pesticide testing laboratories are “highly inadequate” and ill equipped. Moreover, there are only four pesticide testing laboratories in Maharashtra, the biggest consumer of pesticides among all Indian states.<sup>17</sup> The Committee concludes that there is no effective

<sup>12</sup> For the amendment proposed in 2020, see: *The Pesticide Management Bill, 2020*, Bill No. XXII of 2020, online at [www.prsindia.org/sites/default/files/bill\\_files/Pesticide%20Management%20Bill%2C%202020.pdf](http://www.prsindia.org/sites/default/files/bill_files/Pesticide%20Management%20Bill%2C%202020.pdf), accessed 11 June 2020.

<sup>13</sup> PAN India, “Draft Pesticide Management Bill-2017 not comprehensive enough to address issues on pesticides in India,” online at [www.pan-india.org/toxicity-watchdog-organisations-complain-draft-pesticide-management-bill-2017-not-comprehensive-enough-to-address-issues-on-pesticides-in-india/](http://www.pan-india.org/toxicity-watchdog-organisations-complain-draft-pesticide-management-bill-2017-not-comprehensive-enough-to-address-issues-on-pesticides-in-india/), accessed 18 June 2020.

<sup>14</sup> Standing Committee on Agriculture (2015–2016, Sixteenth Lok Sabha), *Impact of Chemical Fertilizers and Pesticides on Agriculture and Allied Sectors in the Country* (August 2016), Lok Sabha Secretariat, at 93, [http://164.100.47.193/lssccommittee/Agriculture/16\\_Agriculture\\_29.pdf](http://164.100.47.193/lssccommittee/Agriculture/16_Agriculture_29.pdf), accessed 20 August 2020.

<sup>15</sup> *Ibid.*, at 104.

<sup>16</sup> *Ibid.*, at various pages.

<sup>17</sup> Standing Committee on Chemicals and Fertilizers (2012–2013, Fifteenth Lok Sabha), *Production and Availability of Pesticides* (August 2013), Lok Sabha Secretariat, at 27, 41.

regulatory mechanism to ensure that the manufacturing, import and sale of pesticides are in line with the Insecticides Act, 1968.<sup>18</sup>

Most concerning from end-users' point of view is the Committee's finding that there is "no specific provision for periodic scientific evaluation of impact of insecticides on human and animal health in the Insecticides Act, 1968."<sup>19</sup> Pursuant to the Act, it is the Central Insecticides Board that is tasked with furnishing advice to the government on the risks to human beings involved in the use of insecticides and the safety measures necessary to prevent these risks.<sup>20</sup> The Committee notes, however, that this Board, in fact, does not carry out any research or studies on its own.<sup>21</sup> As a consequence of this lack of monitoring and scientific guidance, improper pesticide use regularly occurs, leading the Committee to assert that there is "an urgent need for review of the Insecticide Act, 1968 as the sector needs better regulatory framework in order to safeguard the environment and public health."<sup>22</sup>

The statutory framework, moreover, allows duality in regulation, since both state governments and the central government can take action.<sup>23</sup> This patchwork of regulations differs across regions and time periods. For instance, the state of Kerala banned pesticides like Monocrotophos and Carbofuran back in 2011 due to public health concerns,<sup>24</sup> whereas the central government only proposed such a ban in 2020, which has still yet to take effect.<sup>25</sup> Currently, too many insecticides that are either banned, restricted or have been withdrawn entirely in other countries "continue to be registered for domestic use in India."<sup>26</sup> A recent attempt to ban those pesticides already prohibited in other countries has produced limited results and, indeed, was met with fierce opposition from the pesticide manufacturing industry.<sup>27</sup> Of 66 pesticides that were identified in 2015 as still registered in India despite being banned in other countries, only 13 active substances used in pesticide production have, as of 1 January 2018, been banned by India's registration committee. Additional decisions on whether to ban or review another 33 pesticides are expected in 2020.<sup>28</sup> That said, pesticide regulation in India is most often reactive, like Maharashtra's temporary ban on five pesticides after the spate of poisonings that occurred there in 2017 and 2018.<sup>29</sup> Among these five was Diafenthiuron, the active substance in the Responding Party's product Polo,<sup>30</sup> which is also no longer admitted for sale in Switzerland.

Thus, despite some recent progress, pesticide use in India remains insufficiently regulated, with rule implementation largely unmonitored and poorly enforced. As a consequence, conditions of pesticide use in the country are dangerous at best and lethal at worst, as the series of pesticide poisonings among farmers in Yavatmal shows.

**18** See note 14, at 92.

**19** *Ibid.*, at 68.

**20** *Ibid.*, at 67.

**21** *Ibid.*, at 93.

**22** *Ibid.*, at 94.

**23** Section 27 (1) Insecticides Act, 1968, which allows both state and central governments to temporarily ban pesticide sales, distribution or usage in specific areas.

**24** PAN India, "Government of India Moves to Ban 27 Pesticides Used in the Country that are Already Banned Abroad," 20 May 2020, online at [www.pan-india.org/government-proposes-banning-of-27-pesticides-used-in-india-which-are-banned-in-other-countries/](http://www.pan-india.org/government-proposes-banning-of-27-pesticides-used-in-india-which-are-banned-in-other-countries/), accessed 9 June 2020.

**25** Ministry of Agriculture and Farmers Welfare, "Notification," *The Gazette of India*, 14 May 2020, online at <http://egazette.nic.in/WriteReadData/2020/219423.pdf>, accessed 4 June 2020.

**26** *Ibid.*

**27** V Kulkarni, "Govt moves to ban 27 pesticides; 'baffled' industry says it will oppose the order," *The Hindu BusinessLine*, 19 May 2020, online at <https://www.thehindubusinessline.com/economy/agri-business/govt-moves-to-ban-27-pesticides-baffled-industry-says-it-will-oppose-the-order/article31626320.ece>, accessed 20 August 2020.

**28** "Minutes of 361<sup>st</sup> Special Meeting of Registration Committee held on 22 December 2015," Central Insecticides Board and Registration Committee, online at [ppqs.gov.in/sites/default/files/361rc2015.pdf](http://ppqs.gov.in/sites/default/files/361rc2015.pdf), accessed 3 September 2020.

**29** Agriculture, Animal Husbandry, Dairy Development and Fisheries Department, "Notification," 1 November 2017; Agriculture, Animal Husbandry, Dairy Development and Fisheries Department, "Notification," 15 September 2018, both attached as Annex 5.

**30** Polo leaflet, Syngenta. See Section 6, *infra*.

## THE INDUSTRY'S MYTH OF SAFE USE AND THE REAL CONDITIONS OF USE IN MAHARAHSTRA

Over decades, the pesticide industry has developed the idea of “safe use” as a pillar of support for its continued manufacture and export of hazardous pesticides. The rationale behind the concept is that pesticides are safe when used “properly” and “responsibly,” that is, when the correct precautions for use are taken. For Syngenta, ensuring correct usage protects farm workers and is thus, it says, “integral to our business model.”<sup>31</sup> Syngenta finds that “especially in developing countries, [...] using crop protection efficiently, responsibly and safely has a big impact on rural welfare.”<sup>32</sup> The precautions expected under this “safe use” myth include: following the directions that are printed on the container labels and leaflets; wearing suitable personal protective equipment (PPE); ensuring careful storage and responsible disposal; and adhering to proper agricultural practices for pesticide mixing, loading and application.<sup>33</sup> As will be shown in this section, the reality of pesticide use in Maharashtra/India looks entirely different from the “safe use” model envisaged by the pesticide industry, including the Responding Party. This is mainly due to the following three factors: 1) labels do not fulfil their intended purpose of adequately warning the end-user; 2) PPE is neither readily available nor suitable for the climate conditions in India; and 3) trainings do not reach the majority of farmers or create lasting behavioral change.

Labels and leaflets are an essential component of marketing pesticides. They are the principal, if not only, contact between the manufacturer and the pesticide user.<sup>34</sup> The report of the Special Investigation Team (SIT) mandated by the Maharashtra government to investigate farmer poisonings in the district of Yavatmal in 2017 came to the conclusion that, among the farmers, “strict adherence to the instruction given on the information booklet of each pesticides company is not done.”<sup>35</sup> Such non-adherence to pesticide labels and leaflets in India is not new, but a well-known fact documented by academic research.<sup>36</sup> This non-adherence is largely caused by the fact that many farmers cannot read, do not understand the respective language in which labels are printed, or find the information provided to be too technical to understand. In addition, the SIT report notes that alphabet characters on the information booklets are often illegible, making them impossible to comprehend or follow.<sup>37</sup> Even when farmers may have read the relevant label, following its instructions is difficult if not impossible, particularly in relation to the use of PPE.

When using hazardous pesticide products, the use of goggles, boots and long-sleeved shirts or aprons is recommended to protect against exposure to the toxic substance contained therein. In the case of Polo, the leaflet accompanying the product recommends wearing protective clothing, masks, goggles and boots while spraying. Following this advice, it suggests, will reduce the potential for exposure by avoiding skin contact, inhalation, swallowing or direct contact with the eyes.

As the 2017 SIT report points out, farmers and farm workers in Yavatmal often sprayed pesticides on crops with only a napkin tied around their mouth, with bare body parts exposed, and without any protective items like masks, goggles or gloves.<sup>38</sup> This behavior is not exceptional, but in line with the general

<sup>31</sup> “Help people stay safe: UN Sustainable Development Goals 2, 3, 17,” in *Sustainable Business Report 2019*, Syngenta AG, at 29. Online at [www.syngenta.com/sites/syngenta/files/company/Syngenta\\_SBR19.pdf#page=22](http://www.syngenta.com/sites/syngenta/files/company/Syngenta_SBR19.pdf#page=22), accessed 16 June 2020.

<sup>32</sup> Ibid.

<sup>33</sup> *Guidelines for the Safe and Effective Use of Crop Protection Products* (2006), CropLife. Online at [croplife.org/wp-content/uploads/pdf\\_files/Guidelines-for-the-safe-and-effective-use-of-crop-protection-products.pdf](http://croplife.org/wp-content/uploads/pdf_files/Guidelines-for-the-safe-and-effective-use-of-crop-protection-products.pdf), accessed 18 June 2020.

<sup>34</sup> *International Code of Conduct on Pesticides Management—Guidelines on Good Labeling Practice for Pesticides (revised)* (August 2015), Food and Agriculture Organization of the United Nations/World Health Organization, at Section 1.4. Online at [apps.who.int/iris/bitstream/handle/10665/195650/9789241509688\\_eng.pdf;jsessionid=7C16C9BB2BE0067E66F8A35A01D7F248?sequence=1](http://apps.who.int/iris/bitstream/handle/10665/195650/9789241509688_eng.pdf;jsessionid=7C16C9BB2BE0067E66F8A35A01D7F248?sequence=1), accessed 8 June 2020.

<sup>35</sup> *Report of the Special Investigation Team with Regards to Poisoning to Some and Death of Some Farmers/Farm Workers During Spraying Pesticide in Yavatmal District* (13 October 2017), State Government of Maharashtra, at 11, attached as Annex 6.

<sup>36</sup> GA Matthews, “Attitudes and behaviours regarding use of crop protection products—A survey of more than 8500 smallholders in 26 countries,” (2008) 27 *Crop Protection* 83446, attached as Annex 7. *Pesticides and health hazards: Facts and figures* (2012), PAN Germany.

<sup>37</sup> See SIT Report, *supra* note 35, at 11.

<sup>38</sup> Ibid., at 9.

practices among farmers in Maharashtra and India more generally. A large amount of academic research has shown that there is a general lack of PPE use among Indian farmers and a widespread lack of awareness of the actual risks involved in using pesticides.<sup>39</sup> According to such research, although PPE should, following the industry's concept of "safe use," be available in the places where pesticides are sold, in reality they are regularly not available, too expensive, damaged, or impractical in hot and humid climates.<sup>40</sup> Thus, requiring farmers to wear such PPE in order to protect themselves is based on several unwarranted assumptions: 1) that farmers know what PPE to wear; 2) that it is available and affordable in their locality; and 3) that it is adapted to the climatic conditions in which they will be used. In rural India, this is simply not the case.

As a final tenet of the "safe use" myth, the pesticide industry prides itself on conducting a large number of trainings with farmers to inform them about the dangers of certain products and the protective measures necessary to ensure these products' "safe use." The Responding Party has also made such claims. Syngenta India Ltd. claims that "the company is educating thousands of growers, key influencers, and channel partners across 30 villages on the responsible and safe use of [its] crop protection products"<sup>41</sup> in three districts of Punjab, India. Since this claim neither indicates the timeframe or exact locations for these trainings, nor disaggregates the percentage of how many farmers using the products are reached, it is hard to corroborate the company's claims. In any case, research clearly suggests that the effectiveness of such trainings is questionable.

Despite the numbers quoted by the pesticide industry, existing research has shown that, in reality, trainings only reach a very limited number of farmers, farm workers and smallholders in rural areas globally.<sup>42</sup> This is certainly the case in India, including in Maharashtra.<sup>43</sup> According to the industry association CropLife, Syngenta AG and Bayer have jointly developed a mass awareness program on responsible pesticide use that includes offering trainings for farmers and their families in three states across India. Also in Maharashtra, Bayer and Syngenta targeted five districts with the aim to carry out trainings in 10–20 villages per district in the years 2017–2019.<sup>44</sup> While the Submitting parties do not know which districts were targeted and if Yavatmal was among them, the survey conducted in the district of Yavatmal shows that farmers were not reached by this initiative (see below).

**39** J Atkin and KM Leisinger (eds.), *Safe and Effective Use of Crop Protection Products in Developing Countries*, (2008), at 69–98, attached as Annex 8; See Standing Committee on Agriculture, *supra* note 14; M Fareed et al., "Adverse Respiratory Health and Hematological Alterations Among Agricultural Workers Occupationally Exposed to Organophosphate Pesticides: A Cross-Sectional Study in North India," (2013) 8(7) *PLOS ONE*, online at <https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0069755&type=printable>, accessed 20 August 2020; P Mathew et al., "Chronic Pesticide Exposure: Health Effects Among Pesticide Sprayers in Southern India," (2015) 19.2 *Indian J Occup Environ Med* 95; M Mohanty et al., "Knowledge attitude and practice of pesticide use among agricultural workers in Puducherry, South India," (2013) 20(8) *Journal of Forensic and Legal Medicine*, at 1028–31, attached as Annex 9; PI Devi, "Pesticide Use in the Rice Bowl of Kerala: Health Costs and Policy Options," Working Paper No. 20–07, *South Asian Network for Development and Environmental Economics*, 2007, online at [http://www.sandeeonline.org/uploads/documents/publication/764\\_PUB\\_workingpaper\\_20\\_indira.pdf](http://www.sandeeonline.org/uploads/documents/publication/764_PUB_workingpaper_20_indira.pdf), accessed 20 August 2020; I Banerjee, "Pesticide use Pattern Among Farmers in a Rural District of West Bengal, India," (2014) 5.2 *J Nat'l Sci Biol Med*, at 313–16, online at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4121905/>, accessed 20 August 2020.

**40** See GA Matthews, *supra* note 36; *Ad Hoc Monitoring Report—Claims of (non-)adherence by Bayer CropScience and Syngenta to the Code of Conduct Provisions on Labeling, Personal Protective Equipment, Training, and Monitoring* (October 2015), ECCHR/Kheti Virasat Mission/PANAP/Bread for the World/Berne Declaration, online at [https://www.ecchr.eu/fileadmin/Juristische\\_Dokumente/Ad\\_Hoc\\_Monitoring\\_Report\\_Final.pdf](https://www.ecchr.eu/fileadmin/Juristische_Dokumente/Ad_Hoc_Monitoring_Report_Final.pdf), accessed 20 August 2020; *Communities in Peril: Asian regional report on community monitoring of highly hazardous pesticides use* (2010) PANAP, at 67 onwards; D Kumar AD, *Conditions of Paraquat Use in India* (April 2015), PAN India/PANAP/IUF/Berne Declaration, at 22 onwards; See P Mathew et al., *supra* note 39; See PI Devi, *supra* note 39; See I Banerjee, *supra* note 39; A Aga, "The marketing of corporate agrichemicals in Western India: theorizing graded informality," (2009) *The Journal of Peasant Studies*, at 1–19; See PAN Germany, *supra* note 36.

**41** "Stewardship and Extension," Syngenta India Limited, [www.syngenta.co.in/news/stewardship-and-extension/stewardship-and-extension](http://www.syngenta.co.in/news/stewardship-and-extension/stewardship-and-extension), accessed 9 June 2020.

**42** See e.g. GA Matthews, *supra* note 36, at 835.

**43** A Singh and M Kaur, "A Health Surveillance of Pesticide Sprayers in Talwandi Sabo Area of Punjab, North-West India," (2012) 37 (2) *Journal of Human Ecology*, at 133–7, attached as Annex 10; See Standing Committee on Agriculture, *supra* note 14; See M Fareed et al., *supra* note 39.

**44** "Presentation on CropLife," FAO/WHO Joint Meeting on Pesticide Management (JMPM) (10 April 2017), at 8. On file with Submitting Parties.

In addition, even where trainings are conducted, their usefulness in achieving behavioral change remains doubtful and unproven by the industry. The Food and Agriculture Organization of the United Nations has pointed out in this regard: “The impact of training in proper pesticide use continues to be questioned and cannot be regarded as a solution for risks associated with the use of highly hazardous products, particularly in developing countries where large numbers of small scale farmers would have access to these products.”<sup>45</sup> The pesticide industry’s own research also raises doubts about the effectiveness of trainings. A study conducted by the pesticide company Novartis Agribusiness (prior to its merger in 2000 with Zeneca, which created the Responding Party, Syngenta) sought to measure the efficacy of training on influencing the knowledge, attitudes and practices of farmers in Tamil Nadu, India. The study results found that even when training occurs and knowledge increases, safe practices may not be maintained when they are costly or otherwise inconvenient.<sup>46</sup>

In sum, pesticide use in rural India is based on a perilous combination: the lack of adequate warnings or unawareness of warnings, coupled with a lack of suitable and affordable PPE. Against this background, it is no surprise that pesticide-related health damages are on the rise in India, as several academic studies and government reports have shown.<sup>47</sup>

## PESTICIDE POISONINGS IN MAHARASHTRA IN 2017

The Indian state of Maharashtra is one of the highest producing cotton regions in the country.<sup>48</sup> Huge swathes of land in the state—an estimated 4.2 million hectares—were under cotton cultivation in 2017–2018, representing one third of the total land under cotton cultivation in the entire country. Within Maharashtra, the district of Yavatmal is also devoted to cultivating this important commercial cash crop.<sup>49</sup> The Responding Party’s customer base in Yavatmal is exceptionally vulnerable, as 45.5% of rural families in the district live below poverty the line,<sup>50</sup> earning less than 2 euros a day.<sup>51</sup>

As a *kharif* crop,<sup>52</sup> cotton is sown in India between March and July. In Maharashtra, cotton is usually sown in the second week of June.<sup>53</sup> As reported by the group of 51 farmers and farm workers from Yavatmal featured in this complaint, insecticides like the Responding Party’s product Polo are generally sprayed on the cotton plants in the later stages of their growth, often between July and October. Despite the fact that over 99% of the farmers in Yavatmal grow BT cotton, a commercial cotton strain genetically modified to be pest resistant,<sup>54</sup> in 2017, sap sucking pests, particularly white flies, jassids and thrips, but also bollworm and pink bollworm, were more prevalent than in previous years. As a result, pesticide use again became necessary and commonplace.<sup>55</sup>

Given the amount of land devoted to agriculture and the dominance of cotton in Maharashtra, the state is the highest consumer of pesticides in the country: 13,496 metric tons of pesticides were used there in 2016–2017 (23% of the 58,634 metric tons used nation-wide), increasing to 15,568 metric tons used in 2017–2018 (24.6% of the 63,406 metric tons used nation-wide). Home to 72 major pesticide and fertilizer distributors, the city of Yavatmal is the second largest mart for pesticides and fertilizers in

<sup>45</sup> See *Guidance on Pest and Pesticide Management Policy Development*, *supra* note 1, at 12.

<sup>46</sup> See J Atkin and KM Leisinger, *supra* note 39 at 69–98.

<sup>47</sup> See A Singh and M Kaur, *supra* note 43; See Standing Committee on Agriculture, *supra* note 14; See M Fareed et al., *supra* note 39.

<sup>48</sup> Response of the Minister of State in the Ministry of Agriculture and Farmers Welfare, Unstarred Parliament Question No. 3338 on “Cotton Cultivation,” 7 August 2018. Online at [www.nfsm.gov.in/ParliamentQuestion.aspx](http://www.nfsm.gov.in/ParliamentQuestion.aspx), accessed 4 June 2020.

<sup>49</sup> See SIT Report, *supra* note 35, at 8.

<sup>50</sup> Latest available data dates back to 2002: Maharashtra district-level tables online at [mahades.maharashtra.gov.in/files/publication/unicef\\_rpt/DistrictLeveltables.pdf](http://mahades.maharashtra.gov.in/files/publication/unicef_rpt/DistrictLeveltables.pdf), accessed 4 June 2020.

<sup>51</sup> *Poverty & Equity Data Portal, India*, The World Bank. Online at [povertydata.worldbank.org/poverty/country/IND](http://povertydata.worldbank.org/poverty/country/IND), accessed 4 June 2020.

<sup>52</sup> Kharif crops, or autumn crops, are cultivated during the Indian subcontinent’s monsoon season, which lasts from June to November, depending on the area.

<sup>53</sup> A Anand, “Monsoon impact: kharif crop production to dip by up to 12%,” *The Hindu*, 3 December 2019. Online at [www.thehindu.com/news/cities/mumbai/monsoon-impact-kharif-crop-production-to-dip-by-up-to-12/article30143561.ece](http://www.thehindu.com/news/cities/mumbai/monsoon-impact-kharif-crop-production-to-dip-by-up-to-12/article30143561.ece), accessed 3 June 2020.

<sup>54</sup> See SIT Report, *supra* note 35, at 8.

<sup>55</sup> See SIT Report, *supra* note 35, at 9.

Maharashtra, after Ahmednagar.<sup>56</sup> At the level of all individual small scale and larger pesticide sale and distribution points, Maharashtra had 34,735 in 2018–2019, the highest number in the country.<sup>57</sup>

In this agricultural context, Maharashtra experienced a spate of pesticide poisonings and related deaths in 2017, with farmers and farm workers in the Yavatmal district particularly hard hit. According to data obtained by the Special Investigation Team (SIT) tasked by the Maharashtra government with investigating the situation, hospitals and medical centers across Yavatmal district admitted 886 patients for “poisoning through insecticide spraying” that year.<sup>58</sup> The state police records from 2017 indicate that only 349 people were poisoned by pesticide spraying,<sup>59</sup> indicating, when compared to SIT figures, that reliable figures are hard to come by and that the estimated number of unreported cases is most likely very high. Among those poisoned in 2017, judicial records show that 65 deaths occurred due to “spraying of insecticides” in Maharashtra,<sup>60</sup> noting that most deaths per district occurred in Yavatmal.<sup>61</sup> Though the judicial records did not include an exact figure for how many died in Yavatmal, estimates in national media suggested at least 23.<sup>62</sup> The Yavatmal government hospital only recorded 13 such deaths in 2017,<sup>63</sup> but in many pesticide-related cases bodies were cremated without a post-mortem exam, rendering it impossible to make a conclusive determination as to the exact cause of death.<sup>64</sup> Overall, these figures suggest that 40% of all pesticide poisonings in Maharashtra in 2017 occurred in Yavatmal, and 35% of all pesticide-related deaths. The true number of cases for both, however, is likely to be higher than official records suggest.

Several Indian media outlets began reporting on the pesticide poisonings in Maharashtra as early as October 2017, with some mentioning the Responding Party’s product Polo specifically by name.<sup>65</sup> In particular, a report published by PAN India highlighted the high number of poisonings, including deaths, and listed the names of pesticides that farmers claimed to have used, including Polo.<sup>66</sup> As pointed out before, the Responding Party immediately reacted by denying any responsibility, defending Polo and apportioning blame on farmers.<sup>67</sup> This stance continued with the Responding Party even accusing report authors of making untrue statements: “We strongly condemn the various salacious and incorrect reports alleging that our crop protection product Polo was responsible for the unfortunate incidents. There is absolutely no evidence to suggest that Syngenta’s product Polo, was at all responsible for the incidents that have occurred.”<sup>68</sup>

However, official police records show that 96 of those documented as suffering pesticide poisoning in 2017 used Polo: 60 used Polo along with other pesticides, while 36 used only Polo.<sup>69</sup> In addition, in

**56** “Pesticide poisoning continues to claim farmers’ lives in Maharashtra,” *The Hindu*, 9 December 2017. Online at [www.thehindu.com/news/national/when-every-breath-kills/article21337426.ece](http://www.thehindu.com/news/national/when-every-breath-kills/article21337426.ece), accessed 20 August 2020.

**57** “Number of Sale/Distribution Points of Pesticide During 2018–19,” Statistical Database of the Directorate of Plant Protection, Quarantine and Storage, Government of India, on file with the Submitting Parties. Online data only available for 2019–2020 at <http://ppqs.gov.in/statistical-database>, accessed 25 June 2020.

**58** See SIT Report, *supra* note 35, at 16, 27.

**59** Police station wise record, “People affected due to pesticide spraying in 2017 in Yavatmal”, Reply to Right to Information Request obtained on 28 August 2018, sent by Fanjay Shirbhape, Public Relations Officer & Police Superintendent District Special Branch at Yavatmal on file with Submitting parties.

**60** High Court of Judicature at Bombay, Nagpur Bench, *Anand Narayanrao Jammy, Nagpur v. State of Maharashtra & Or.*, Public Interest Litigation No. 113/2017, at para 5.

**61** *Ibid.*, at para.11.

**62** P Dahat, “Where over 1000 farmers have died of ‘toxic pesticides’,” *The Hindu*, 21 October 2017. Online at [www.thehindu.com/news/national/other-states/where-over-1000-farmers-have-died-of-toxic-pesticides/article19896992.ece](http://www.thehindu.com/news/national/other-states/where-over-1000-farmers-have-died-of-toxic-pesticides/article19896992.ece), accessed 9 June 2020.

**63** M Menon, “Pink Bollworm pests reach Maharashtra’s Yavatmal early this year adding to farmer distress,” *The Scroll*, 31 August 2018. Online at [scroll.in/article/892394/pink-bollworm-pests-reach-maharashtras-yavatmal-early-this-year-adding-to-farmers-distress](http://scroll.in/article/892394/pink-bollworm-pests-reach-maharashtras-yavatmal-early-this-year-adding-to-farmers-distress), accessed 20 May 2020.

**64** See SIT Report, *supra* note 35, at 16.

**65** FE Bureau, “MNCs Syngenta, Bayer, Monsanto blamed for farmers death in Maharashtra,” *Financial Express*, 17 October 2017. Online at [www.financialexpress.com/market/commodities/mncs-syngenta-bayer-monsanto-blamed-for-farmers-deaths-in-maharashtra/897043/](http://www.financialexpress.com/market/commodities/mncs-syngenta-bayer-monsanto-blamed-for-farmers-deaths-in-maharashtra/897043/), accessed 4 May 2020; P Dahat, “Pesticides cause farmer death, illnesses in Yavatmal,” *The Hindu*, 5 October 2017. Online at [www.thehindu.com/news/national/pesticides-cause-farmer-deaths-illnesses-in-yavatmal/article19803158.ece](http://www.thehindu.com/news/national/pesticides-cause-farmer-deaths-illnesses-in-yavatmal/article19803158.ece), accessed 4 May 2020.

**66** See PAN India, *supra* note 3.

**67** See Ayra, *supra* note 6.

**68** See Statement from Syngenta, *supra* note 8.

**69** See police station wise records, *supra* note 59.



two instances of death, government officials specifically documented Polo usage. Reacting to the spate of deaths and poisonings, including cases linked to the Responding Party's product Polo, the Maharashtra government recognized the "hazardous effect" of certain pesticides and, in November 2017, issued a 60-day ban on the "sale, distribution or use" of products based on five formulations, including Diafenthiuron 50% WP<sup>70</sup> formulations, in Yavatmal and four other districts.<sup>71</sup> Polo, the Responding Party's product sold in India, is such a Diafenthiuron 50% WP formulation (for more detail see next section).

Since again in 2018, 165 pesticide poisoning patients were admitted in the Yavatmal government hospital,<sup>72</sup> in September 2018, the Maharashtra government issued another 60-day ban on pesticides based on five particular formulations, among them, for the second time, Diafenthiuron 50% WP formulations. As part of the official announcement of the second ban, it also requested that the central government impose a continuous ban on the substances.<sup>73</sup> A decision regarding this request has, as far as the Submitting Parties know, not yet been taken.<sup>74</sup>

Although the Responding Party was barred from selling its product Polo in Maharashtra during the two temporary bans, there are no indications that it has refrained from selling Polo outside of these short time periods. In 2019, local farmers confirmed to the Submitting Parties that Polo was indeed available in Yavatmal shops, meaning the Responding Party has returned to marketing and distributing Polo as before.

## TOXICITY OF RESPONDING PARTY'S PRODUCT POLO

At the core of the present complaint is the product Polo, manufactured and sold by the Responding Party in India and elsewhere. According to the Responding Party, it is an excellent whitefly control on cotton and vegetables, effective through control of both nymphs and adults.

### POLO TRADEMARK, PRODUCTION AND DISTRIBUTION SCHEME

Polo was registered by Syngenta Participations AG under trademark number 2P-442342 on 12 June 1997.<sup>75</sup> Syngenta Participations AG is a holding company wholly owned by Syngenta AG and is, in turn, one of the three holding companies of Syngenta India Ltd.,<sup>76</sup> which distributes Polo in the Indian market.

The product Polo is based on the active ingredient Diafenthiuron. The product sold in India is composed of Diafenthiuron (50% w/w); the wetting agent ethoxylated fatty alcohol (12% w/w); the dispersing agent comprising condensed Alkyl Naphthalene Sulphonate or sodium salt (15% w/w); and finally, a carrier-precipitated silica (23% w/w).<sup>77</sup> In addition to Polo, the Responding Party sells another Diafenthiuron-based product named "Pegasus" that is also a registered trademark of Syngenta Participations AG.<sup>78</sup> In India, Pegasus is currently marketed as an insecticide specifically designed for application on vegetables, though in other countries like Australia, it is also recommended, similar to Polo, for

<sup>70</sup> "WP" stands for wettable powder.

<sup>71</sup> Agriculture, Animal Husbandry, Dairy Development and Fisheries Department, "Notification," 1 November 2017, *supra* note 29.

<sup>72</sup> M Menon, "Yavatmal pesticide poisoning: Lack of accountability, negligence and abysmal medical facilities behind farmers' deaths," *Firstpost*, 1 November 2018. Online at [www.firstpost.com/india/yavatmal-pesticide-poisoning-lack-of-accountability-negligence-and-abysmal-medical-facilities-behind-farmers-deaths-5464981.html](http://www.firstpost.com/india/yavatmal-pesticide-poisoning-lack-of-accountability-negligence-and-abysmal-medical-facilities-behind-farmers-deaths-5464981.html), accessed 3 September 2020.

<sup>73</sup> Agriculture, Animal Husbandry, Dairy Development and Fisheries Department, "Notification," 15 September 2018, *supra* note 29.

<sup>74</sup> *Ibid.*

<sup>75</sup> Swiss Federal Institute of Intellectual Property, Extract of 28 March 2019, Trademark No. 2P-442342.

<sup>76</sup> Syngenta AG, *Form 20-F: Annual Report Pursuant to Section 13 or 15(D) of The Securities Exchange Act Of 1934, For the fiscal year ended December 31, 2016*, US Securities and Exchange Commission, 16 February 2017, at 43. Online at [www.sec.gov/Archives/edgar/data/1123661/000095010317001494/dp72904\\_20f.htm](http://www.sec.gov/Archives/edgar/data/1123661/000095010317001494/dp72904_20f.htm), accessed 3 September 2020; *19<sup>th</sup> Annual Report 2017-2018*, Syngenta India Limited, at 43-4. Online at <https://www.syngenta.co.in/file/15091/download>, accessed 3 September 2020.

<sup>77</sup> See Polo leaflet, Syngenta; "w/w" stands for percentage in a given mass.

<sup>78</sup> Swiss Federal Institute of Intellectual Property, Extract of 28 March 2019, Trademark No. P-369949; for the chemical composition, see "Pegasus 500 SC Safety Data Sheet," Syngenta.

use on cotton.<sup>79</sup> According to the Responding Party's public statements around the 2017 reports of Polo's alleged role in the Maharashtra pesticide poisonings, the active ingredient Diafenthiuron was produced by Syngenta in its main Swiss production facility in Monthey until 2016.<sup>80</sup> Data on imports to India also shows that sizable amounts of Diafenthiuron were exported from Switzerland to India between 2015 and 2017: 125,000 kg in 2015, 126,000 kg in 2016, and at least another 75,000 kg in 2017.<sup>81</sup> Neither the companies responsible for the export/import of Diafenthiuron nor the ingredient's production site are indicated in these documents. Yet, according to data provided by the Directorate of Plant Protection, Quarantine and Storage within the Indian Ministry of Agriculture and Farmers Welfare, Syngenta Crop Protection AG (registered in Monthey, Switzerland), another wholly owned subsidiary of Syngenta AG, exported Diafenthiuron (technical grade 96%) from Switzerland to India until the end of 2017.<sup>82</sup>

India constitutes a critical market for Syngenta AG. As of October 2019, Syngenta AG's business in India accounted for 3% of its global revenue, a share the company aims to increase to 10%.<sup>83</sup> Back in 2013, Syngenta AG held 12% of the Indian pesticide market.<sup>84</sup> Within the company group, it is Syngenta India Ltd., headquartered in the city of Pune, that is responsible for marketing and distributing Polo in India.<sup>85</sup> It, in turn, contracts out the bottling and packaging of Polo in India to Standard Pesticides Pvt. Ltd., which operates its Unit 3 site at Sankarda in the Vadodara district of the Indian state of Gujarat exclusively for Syngenta India Ltd. The Indian contractor uses the Diafenthiuron exported by Syngenta Crop Protection AG to prepare the final product, Polo.<sup>86</sup> As Syngenta AG is the ultimate owner of the Polo trademark, which is also applied to the products sold in India, the manufacturing process carried out by Standard Pesticides Pvt. Ltd. for Syngenta India Ltd. must follow the specifications given by the parent company.

As Syngenta itself states, Polo is sold in India by authorized sales points and retailers since fourteen years.<sup>87</sup> By means of its elaborated sales and distribution structure, Syngenta controls the marketing and distribution of its products in Maharashtra all the way down to local retailers and end-users. The distribution of Syngenta products in India is managed by National Sales Managers, a company based in the Maharashtra district of Pune. It coordinates the work of various "Regional Sales Managers" and "Territory Managers" across the state of Maharashtra, covering the districts of Ahmednagar, Akola, Aurangabad, Buldhana, Jalna, Nashik, Parbhani and Pune. On the local level, "Sales Unit Leaders," together with their "Sales Officers," carry out the marketing and sales of Syngenta products to the retailers, who ultimately sell the products to customers, including the group of 51 farmers and farm workers at the core of this complaint, all of whom suffered severe negative health impacts from using Polo.

<sup>79</sup> [www.syngenta.co.in/insecticides](http://www.syngenta.co.in/insecticides), accessed 3 September 2020; [www.syngenta.com.au/product/crop-protection/pegasus](http://www.syngenta.com.au/product/crop-protection/pegasus), accessed 3 September 2020.

<sup>80</sup> «10 vor 10»-Beitrag «Vergiftungsgefahr in Indien» beanstandet, SRG Deutschschweiz, online at <https://www.srgd.ch/de/aktuelles/news/2018/12/14/10-vor-10-beitrag-vergiftungsgefahr-indien-beanstandet/>, accessed 3 September 2020.

<sup>81</sup> Search results for "Diafenthiuron" in Import Export Data of India on ZAUBA online platform, [www.zauba.com/import-diafenthiuron/hs-code-38089199-hs-code.html](http://www.zauba.com/import-diafenthiuron/hs-code-38089199-hs-code.html), accessed 3 September 2020; Swiss Federal Office for the Environment, Export Notification under the PIC Ordinance, Reference: L364-1203; Search results for "Diafenthiuron Technical" in Export-Import Data India on Eximpulse online platform for 2015 and 2016, [www.eximpulse.com/import-product-Diafenthiuron-Technical.htm](http://www.eximpulse.com/import-product-Diafenthiuron-Technical.htm), accessed 3 September 2020.

<sup>82</sup> See list of 31 October 2019 online at [www.pqs.gov.in/sites/default/files/source\\_of\\_import\\_31.10.2019.pdf](http://www.pqs.gov.in/sites/default/files/source_of_import_31.10.2019.pdf). Older lists from 2015 and 2017 are on file as screenshots with the Submitting Parties.

<sup>83</sup> R Tiwari, "We want up to 10% of Syngenta revenue to come from India: CEO J Erik Fyrwald," *The Economic Times*, 2 October 2019. Online at [economictimes.indiatimes.com/news/economy/agriculture/we-want-up-to-10-of-syngenta-revenue-to-come-from-india-ceo-j-erik-fyrwald/article-show/71413515.cms](http://economictimes.indiatimes.com/news/economy/agriculture/we-want-up-to-10-of-syngenta-revenue-to-come-from-india-ceo-j-erik-fyrwald/article-show/71413515.cms), accessed 22 May 2020.

<sup>84</sup> *Bayer Cropscience: Seeding Growth*, Edelweiss, 21 October 2013, at 2, 8. Online at [http://bsmedia.business-standard.com/\\_media/bs/data/market-reports/equity-brokertips/2013-10/13827739740.50836000.pdf](http://bsmedia.business-standard.com/_media/bs/data/market-reports/equity-brokertips/2013-10/13827739740.50836000.pdf), accessed 22 May 2020.

<sup>85</sup> "Our Locations," Syngenta India, [www.syngenta.co.in/our-locations](http://www.syngenta.co.in/our-locations), accessed 8 June 2020.

<sup>86</sup> Details provided on Polo 500-gram package, Syngenta. For picture, see Section 6, *infra*. Also see advertising video produced by Standard Pesticides Pvt. Ltd., online at [www.youtube.com/watch?reload=9&v=BC0S3thpyGQ](http://www.youtube.com/watch?reload=9&v=BC0S3thpyGQ), accessed 3 September 2020.

<sup>87</sup> See Statement from Syngenta, *supra* note 8.

## TOXICITY OF POLO AND ITS HAZARDS

Information on the dangers of the Responding Party's product Polo, including its composition and particular risks for end-users, can be gathered from the assessments carried out by national registration authorities in several countries.

Since 2002, the active ingredient Diafenthiuron is no longer authorized in the European Union. Pursuant to Commission Regulation (EC) No. 2076/2002, Diafenthiuron was excluded from Annex I of the Council Directive 91/414/EEC of 15 July 1991, which lists active substances authorized for incorporation in plant protection products.<sup>88</sup> In Switzerland, Polo was withdrawn from the market on 1 July 2009.<sup>89</sup> In March 2017, Diafenthiuron was added to Annex 1 of the Swiss Prior Informed Consent (PIC) Ordinance, which transposes the obligations of the Rotterdam Convention<sup>90</sup> into Swiss national law. Annex 1 contains those active substances banned in Switzerland due to their harmful effects on human health or the environment.<sup>91</sup>

Despite the recognition of Diafenthiuron's harmful effects and the consequent discontinuation of its sale in Switzerland and the European Union, the Responding Party continues to sell the Diafenthiuron based products, such as Polo, in other countries. In India, Diafenthiuron is registered by the Indian Central Insecticides Board and Registration Committee (CIBRC) under CIB REG No. CIR-194/2003(340).<sup>92</sup> Registration decisions and accompanying protocols of deliberations of the CIBRC are only publicly available from 2005 onwards. Yet, as can be seen from Diafenthiuron's registration number, it was registered in 2003. Therefore, information on the applicant as well as documents submitted for the necessary risk assessment by Indian authorities are not publicly available. In 2019, Indian authorities rejected the Right to Information requests submitted to obtain this documentation,<sup>93</sup> while Syngenta has never released this information, neither before nor in the aftermath of the poisonings.

Since Diafenthiuron was or is used in different countries, however, it is possible to present the results of risk assessments carried out by several national and international regulatory bodies on Polo's primary active ingredient. Of particular interest are these assessments' overall classification of Diafenthiuron's toxicity and the specific categories on which they base this determination, particularly the degree of its acute oral, dermal and inhalation toxicity, as well as its underlying risk of mortality. The LD50 (Lethal Dose 50%) indicates the amount of the substance required (per kg of body weight) to kill 50% of a test population when ingested orally. The LC50 (Lethal Concentration 50%) shows the concentration of the chemical in the air required to kill 50% of a test population when inhaled during a given observation period. Most often these tests were done on rats or mice. The following table shows the categorization of various national and international regulatory bodies of the active substance Diafenthiuron. Not all regulatory bodies provide information on the same categories of toxicity, which explains the difference in available data per institution/country.

<sup>88</sup> Commission Regulation (EC) No 2076/2002 of 20 November 2002, online at <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002R2076&from=EN>, accessed 20 June 2020. See also entry for Diafenthiuron in the EU Pesticides database, online at [ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=activesubstance.detail&language=DE&selectedID=1204](http://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=activesubstance.detail&language=DE&selectedID=1204), accessed 20 June 2020.

<sup>89</sup> Reply by the Swiss Bundesrat of 25 April 2018 to Interpellation 18.3151 by Lisa Mazzone (Grüne Fraktion), [www.parlament.ch/de/ratsbetrieb/suche-curia-vista/geschaeft?AffairId=20183151](http://www.parlament.ch/de/ratsbetrieb/suche-curia-vista/geschaeft?AffairId=20183151); See also "Zurückgezogene Wirkstoffe aus Anhang 1 PSMV," Bundesamt für Landwirtschaft BLW, online at [www.blw.admin.ch/blw/de/home/nachhaltige-produktion/pflanzenschutz/pflanzenschutzmittel/zugelassene-pflanzenschutzmittel.html](http://www.blw.admin.ch/blw/de/home/nachhaltige-produktion/pflanzenschutz/pflanzenschutzmittel/zugelassene-pflanzenschutzmittel.html), accessed 20 June 2020.

<sup>90</sup> Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, online at [www.pic.int/TheConvention/Overview/TextoftheConvention/tabid/1048/language/en-US/Default.aspx](http://www.pic.int/TheConvention/Overview/TextoftheConvention/tabid/1048/language/en-US/Default.aspx), accessed 3 September 2020.

<sup>91</sup> Verordnung 814.82 zum Rotterdamer Übereinkommen über das Verfahren der vorherigen Zustimmung nach Inkennzeichnung für bestimmte Chemikalien im internationalen Handel (PIC Verordnung), Anhang 1, Der Schweizerische Bundesrat, 10 November 2004 (as of 1 May 2020), online at [www.admin.ch/opc/de/classified-compilation/20021523/index.html](http://www.admin.ch/opc/de/classified-compilation/20021523/index.html), accessed 8 June 2020; See also Reply by the Swiss Bundesrat, *supra* note 89.

<sup>92</sup> Registered Pesticides and Label System India, No. 220–223, Central Insecticides Board and Registration Committee, online at <https://pesticides-registrationindia.nic.in/Search/frmProductSearch.aspx>, accessed 3 September 2020; See also ZAUBA search results for "Diafenthiuron," *supra* note 81.

<sup>93</sup> Right to Information request submitted on 18 July 2019 and reply of Directorate of Plant Protection Quarantine & Storage received on 30 July 2019.

## VARIOUS (INTER)NATIONAL AUTHORITIES' TOXICITY CLASSIFICATION FOR DIAFENTHIURON

WHO <sup>94</sup>	EU	USA
Slightly hazardous (Class III), low acute oral toxicity in rats (LD50: 2068 mg/kg) <sup>95</sup>	Toxic if inhaled; very toxic to aquatic life; may cause damage to organs through prolonged or repeated exposure <sup>96</sup>	Low acute oral toxicity in rats (LD50: 2068 mg (kg/d)) <sup>97</sup>
AUSTRALIA	JAPAN	INDIA
Low acute oral toxicity in rats (LD50: 2068 mg (kg/d); low dermal toxicity (LD50: 3 > 2000 mg/kg/d); moderate inhalation toxicity in rats (LC50: 558 mg/m) <sup>98</sup>	Acute oral toxicity (LD50 366 mg/kg); fatal if inhaled (LC50: 0.497 mg/L) <sup>99</sup>	Blue triangle, moderately toxic <sup>100</sup>

In sum, Diafenthiuron is a potentially hazardous toxic substance that poses different levels of risk if ingested orally, absorbed dermally or inhaled. While each (inter)national authority above relies on its own assessment criteria, it is notable that varying conclusions are reached in terms of Diafenthiuron's oral toxicity and inhalation toxicity. Unlike the other regulatory bodies, the Japanese authorities conclude that Diafenthiuron is of much higher oral toxicity and also fatal if inhaled. The Responding Party is fully aware of these different assessments and must take them into account in its stewardship efforts and monitoring of product performance on the ground.

Based on the assessments above, some regulatory authorities determine so-called "hazard categories" to describe the hazards a product poses for human health and the environment. In the European Union and Japan, hazard categories are assigned to substances based on the Globally Harmonized System (GHS), given for Diafenthiuron in the table below.

<sup>94</sup> Mg/kg stands for milligram per kilogram bodyweight. Mg (kg/d) and mg/kg/d stand for milligram per kilogram during the timeframe of one day. Mg/L stands for milligram per liter.

<sup>95</sup> *The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification 2019*, World Health Organization, at 42, 84. Online at <https://apps.who.int/iris/bitstream/handle/10665/332193/9789240005662-eng.pdf?ua=1>, accessed 3 September 2020.

<sup>96</sup> Substance Info Card for 1-t-Butyl-3-(2,6-diisopropyl-4-phenoxyphenyl)thiourea, European Chemicals Agency, online at [echa.europa.eu/de/substance-information/-/substanceinfo/100.113.249](https://echa.europa.eu/de/substance-information/-/substanceinfo/100.113.249), accessed 3 September 2020.

<sup>97</sup> Diafenthiuron DTXSID1041845, CompTox Chemicals Dashboard, US Environmental Protection Agency, online at [comptox.epa.gov/dashboard/dsstoxdb/results?search=DTXSID1041845#toxicity-values](https://comptox.epa.gov/dashboard/dsstoxdb/results?search=DTXSID1041845#toxicity-values), accessed December 2019.

<sup>98</sup> Diafenthiuron, Australian National Registration Authority for Agricultural and Veterinary Chemicals, online at [apvma.gov.au/sites/default/files/publication/20666-prs-diafenthiuron-in-pegasus.pdf](https://apvma.gov.au/sites/default/files/publication/20666-prs-diafenthiuron-in-pegasus.pdf), accessed 3 September 2020.

<sup>99</sup> CHRIP ID C005-543-52A, Chemical Risk Information Platform, Japanese National Institute of Technology and Evaluation, online at [www.nite.go.jp/en/chem/chrip/chrip\\_search/cmpInfDsp?cid=C005-543-52A&slScNm=RO\\_12\\_001&bcPtn=3](http://www.nite.go.jp/en/chem/chrip/chrip_search/cmpInfDsp?cid=C005-543-52A&slScNm=RO_12_001&bcPtn=3), accessed 3 September 2020.

<sup>100</sup> See Registered Pesticides and Label System, India, *supra* note 92.

EUROPEAN UNION <sup>101</sup>	JAPAN <sup>102</sup>
H331 toxic if inhaled	H302 harmful if swallowed
H373 may cause damage to organs through prolonged or repeated exposure (not specified)	H319 causes serious eye irritation
H410 very toxic to aquatic life with long lasting effects	H330 fatal if inhaled
	H370 causes damage to organs (respiratory system)
	H373 may cause damage to organs through prolonged or repeated exposure (kidney)

To get an overall picture of a given pesticide's toxicity, the University of Hertfordshire's Agriculture and Environment Research Unit created the Pesticide Properties Database (PPDB). The PPDB collects and aggregates all available information on a given pesticide's toxicity from companies and a wide range of regulatory authorities with the aim of supporting diverse end-users in carrying out independent academic risk assessment and risk management. For Diafenthiuron, it reflects the aggregate of all of the results from the (inter)national authorities compared above. According to the PPDB, the following hazards are connected to Diafenthiuron:<sup>103</sup>

- H302 harmful if swallowed
- H319 causes serious eye irritation
- H330 fatal if inhaled (H331: toxic if inhaled not included as less severe than H330)
- H370 causes damage to organs (respiratory system)
- H373 may cause damage to organs through prolonged or repeated exposure (not specified)
- H410 very toxic to aquatic life with long-lasting effects

In addition to Diafenthiuron, the Responding Party's product Polo also contains sodium salt (Alkyl Naphthalene Sulphonate) in a concentration of 15% w/w. Hazard categories in accordance with the GHS are available also for this substance and include the following hazards:<sup>104</sup>

- H315 causes skin irritation
- H319 causes serious eye irritation
- H335 may cause respiratory irritation

The hazards identified by the various regulatory bodies above for Diafenthiuron and Alkyl Naphthalene Sulphonate are reflected in the negative health impacts experienced by Indian farmers and farm workers in Maharashtra's wave of pesticide poisonings in 2017, including the group of 51 farmers and farm workers at the core of this complaint (see Section 7).

<sup>101</sup> Notified classification and labelling according to CLP criteria for 1-t-Butyl-3-(2,6-diisopropyl-4-phenoxyphenyl)thiourea, European Chemicals Agency, online at [echa.europa.eu/de/information-on-chemicals/cl-inventory-database/-/discli/notification-details/34131/928817](https://echa.europa.eu/de/information-on-chemicals/cl-inventory-database/-/discli/notification-details/34131/928817), accessed 3 September 2020.

<sup>102</sup> See CHRIP ID C005-543-52A, *supra* note 99.

<sup>103</sup> Diafenthiuron (Ref: CGA 106630) in the PPDB: Pesticide Properties DataBase, University of Hertfordshire, online at [sitem.herts.ac.uk/aeru/ppdb/en/Reports/210.htm#none](https://sitem.herts.ac.uk/aeru/ppdb/en/Reports/210.htm#none), accessed 3 September 2020.

<sup>104</sup> Notified classification and labelling according to CLP criteria for Sodium naphthalene-1-sulphonate, European Chemicals Agency, online at [echa.europa.eu/de/information-on-chemicals/cl-inventory-database/-/discli/notification-details/58575/1208803](https://echa.europa.eu/de/information-on-chemicals/cl-inventory-database/-/discli/notification-details/58575/1208803), accessed 8 June 2020.

## METHODOLOGY OF RESEARCH AND INTERVIEWS CONDUCTED WITH AFFECTED FARMERS

In order to verify the reports about pesticide poisonings in Maharashtra's Yavatmal district and to identify victims of poisonings linked to the Responding Party's product Polo, the Submitting Parties first obtained official hospital records that listed people who had been poisoned by pesticides in 2017. Subsequently, the Submitting Parties developed a short questionnaire for brief interviews with relevant farmers, which PAN India and a local research team then carried out between June and August 2018, in an initial survey phase in Yavatmal. In total, the researchers conducted 195 interviews based on the short questionnaire, inquiring about the types of pesticides the farmers and farm workers used, their knowledge of the dangers posed by pesticides, the extent of their training on safe pesticide usage, their use of PPE, the type of health damages they suffered, and a range of other information. After analyzing the results of these interviews, the Submitting Parties identified farmers and farm workers who had reported using the pesticide Polo and subsequently suffering adverse health impacts.

Building on the initial survey, the Submitting Parties developed a longer, more detailed questionnaire and conducted a second round of interviews. By January 2019, PAN India and the local research team had carried out follow-up interviews with many of the farmers from the initial survey round. They also carried out a number of interviews based on the longer questionnaire with new people, whom other farmers had either identified in prior interviews, or whose details were obtained via official police and hospital records. These interviews with newly identified farmers and farm workers were carried out through the end of August 2020. Whenever local conditions allowed, the researchers followed up with farmers and farm workers to clarify any inconsistencies in their answers. In some cases, farmers' wives, parents or siblings were also interviewed to corroborate and complete information that the researchers had already obtained.

During these interviews, the researchers also asked the farmers and farm workers if they had any relevant documentation of their use of Polo, the Responding Party's product, as well as documentation of the health damages they suffered after its use. Generally, researchers found physical documentation of farmers' pesticide purchases, adverse health damages and the financial losses incurred due to hospitalization and reduced capacity to work hard to come by. For some of these aspects, documentation simply never existed. For others, however, farmers were just not in the habit of keeping such documentation. Since wages are usually paid in cash, farmers in rural India typically do not have bank accounts and have no need for keeping purchase receipts. Small-scale farmers and daily wage laborers usually do not engage in any formal book-keeping at all. For all of the 51 farmers included in this complaint, however, the Submitting Parties were able to obtain significant documentation, ranging from medical discharge cards from hospitals to purchase receipts, medical records of examination, police records and other relevant documents.

On the basis of the above survey, the Submitting Parties identified a group of 51 members of the Maharashtra Association of Pesticide Poisoned Persons (MAPPP) who used Polo, either alone or in combination with other substances, between September and October 2017, and as a consequence, immediately suffered adverse health impacts. The following table provides an overview of the sources of information the Submitting Parties relied upon to reach this conclusion.

<b>TYPE OF EVIDENCE</b>	<b>NUMBER OF FARMERS</b>
Farmer/farm worker interview protocol: Use of Polo reported	51
Family member interview protocol: Use of Polo confirmed	9
Medical records stating poisoning due to Polo	8
Medical records stating pesticide poisoning or similar health impact <sup>105</sup>	33
Police records showing use of Polo and adverse health impact <sup>106</sup>	23
Purchase receipts for Polo	1
Results of clinical lab examination	2

The 51 farmers and farm workers also provided additional documentation, particularly in relation to relevant medical expenses. For all statements about the experiences of individual farmers and farm workers contained herein, the Submitting Parties rely on the interviews conducted, as well as the different documents for each person collected and on file with the Submitting Parties.

Throughout the complaint, the names of farmers and farm workers have been anonymized, but are known to the Submitting Parties, as are their places of residence and contact details. Each individual farmer or farm worker featured in the report has been assigned a random number (1–51) and is referred to as “Farmer” along with that number, even where the person in question is actually a farm worker. For example, one farm worker who experienced severe respiratory problems after the poisoning and was supported with a ventilator for 22 days while hospitalized is referred to throughout the complaint as Farmer No. 4. A table is provided in Annex 12 that outlines essential information for each affected person, including the date of their poisoning; occupation; pesticide(s) used; PPE used; acute and persisting adverse health impacts; whether they had received training on pesticide usage from the Responding Party; if and for how long they were hospitalized; if they received emergency support from the government; and finally, on the basis of what pieces of evidence this information was gathered.

The 51 farmers and farm workers claiming relief with this complaint represent only a small portion of the overall number of individuals surveyed who reported having used Polo and having experienced poisoning therefrom. On top of this, the Submitting Parties were not able to reach all of the farmers noted in official records as having been poisoned due to Polo for the survey and the present complaint. Based on officially available data alone, the actual number of poisoning cases due to Polo use is much higher than those included here. In addition, and as explained before, there is a high probability that even more people were poisoned with Polo, but whose cases were not documented at all. In the course of conducting the survey for this complaint, the Submitting Parties also identified two individuals who died in the fall of 2017 in Yavatmal as a consequence of using the Responding Party’s product Polo. The relatives of the two deceased farmers and an additional farmer who suffered adverse health consequences from Polo have all decided to submit a civil lawsuit in Switzerland against the Responding Party to seek compensation for their losses.

<sup>105</sup> Various formulations are used to record poisoning after pesticide usage such as “inhalation insecticidal poisoning,” “inhalation poisoning,” “contact inhalation poisoning,” “insecticidal poisoning,” “exposure to insecticidal spraying” and others.

<sup>106</sup> See Police wise records, *supra* note 59.

## CONDITIONS OF POLO USE AMONG THE 51 FARMERS

Within the group of 51 farmers, all applied the pesticide Polo in 2017 by using a backpack spraying device, holding the spray nozzle in their hands and directing the spray onto the plants. All of the farmers used the pesticide solely for the treatment of pests on cotton. In this section, the Submitting Parties show that all 51 farmers applied the Responding Party's product under perilous conditions. The 51 farmers' pesticide application practices detailed herein confirm previous general findings on the unreliability of the industry's concept of "safe use," particularly with regard to its three main elements: labels, PPE and training.

### LABELS DO NOT CONVEY THE NECESSARY WARNINGS

When asked specifically about the issue of labels, farmers and farm workers gave the following replies on their ability to understand Polo's label/leaflet and the different warnings contained therein, such as written advice or color codes. Only six out of the 51 farmers reported that they had seen and read Polo's label or leaflet. Not even every eighth farmer, then, had proper contact with the Responding Party's primary means of warning users about its product's toxicity and risk.

<b>PROPER USE OF LABEL AND LEAFLET</b>	<b>YES</b>	<b>NO</b>	<b>NO ANSWER PROVIDED</b>
Have you ever read Polo's label or leaflet?	6/51 (12%)	44/51 (86%)	1/51 (2%)

Assuming that farmers had known and understood the importance of reading Polo's label and leaflet, they would still have needed the skills to do so. Hence, the Submitting Parties asked the farmers about their literacy levels. As the following table shows, of the 42 farmers and farm workers who shared information on their literacy levels, only 21 reported being able to read in at least one language.

<b>READING ABILITY</b>	<b>YES</b>	<b>NO</b>	<b>NO ANSWER PROVIDED</b>
Are you able to read in at least one language?	21/51 (41%)	21/51 (41%)	9/51 (18%)

Among those who reported being able to read at least one language, six people were only able to read Marathi, not Hindi, making it practically impossible for them to gain any understanding of Polo's dangers from the text on its labels, which are printed in English and Hindi in the case of the Responding Party's 250-gram Polo packages (see Section 7b).

Another method used to convey pesticides' toxicity to those end-users who are illiterate is the displaying of color codes and pictograms on pesticide containers to indicate the degree of toxicity. The following table shows that among the group of 51 farmers and farm workers, such displays largely failed to achieve their objective. Only four people out of the 51 reported understanding what the color coding meant and only two people reported understanding the pictograms.

<b>EFFECTIVENESS OF VISUAL WARNINGS</b>	<b>YES</b>	<b>NO</b>	<b>NO ANSWER PROVIDED</b>
Did you understand Polo's color coding?	4/51 (8%)	45/51 (88%)	2/51 (4%)
Did you understand Polo's pictogram warning?	2/51 (4%)	22/51 (43%)	27/51 (53%)

Regardless of their literacy levels, most of the 51 farmers were thus not aware that they were supposed to carefully study pesticide labels and leaflets. Accordingly, the vast majority of the 51 farmers and farm workers had not done so before using Polo in 2017. Among those farmers who tried to read the product's label and leaflet, even literate farmers faced problems. Sometimes they had difficulties in understanding the language in which the labels and leaflets were written, or in deciphering the letters due to their



very small size. Meanwhile, those farmers and farm workers who are illiterate could not have read the warnings even had they wanted to. If illiterate farmers, despite not being able to read, still tried to ascertain some sort of information from the labels and leaflets, they were largely unable to understand do so because, for the most part, they could not understand the meaning and differences of pesticide color codes and pictograms, leaving them clueless about the products' dangers. In sum, the majority of the 51 farmers in this complaint did not have the ability to properly grasp the warnings contained on Polo's labels and leaflets. Thus, taking the group of 51 as a representative sample of farmers and farm workers in Yavatmal and rural India more broadly, the Responding Party's primary means for communicating the dangers of its product to its customers in this context largely fails.

It is therefore no surprise to anyone familiar with conditions of use on the ground that most of the 51 farmers and farm workers were also unaware of the correct PPE to wear. Only a small minority actually wore any PPE at all, and none of it came close to matching the recommended type.

#### NO USE OF RECOMMENDED PPE

Among the group of 51 farmers and farm workers, only 10 people were generally aware of the fact that some degree of PPE is needed when using pesticides.

<b>NECESSITY OF PPE</b>	<b>YES</b>	<b>NO</b>	<b>NO ANSWER PROVIDED</b>
Are you aware that you need to wear some form of PPE when using pesticides?	10/51 (20%)	24/51 (47%)	17/51 (33%)

Farmer No. 14 reported that he was made aware of the need to wear PPE by the retailer where he bought Polo. The retailer did not explain to him why the PPE was needed, but still insisted that he use it. In the shop, the retailer did not offer to sell him the recommended PPE. In addition, this farmer also reported having learned about the need for PPE in a sales presentation by company representatives, but did not remember to what company they belonged. Farmer No. 26 was also aware of the need for PPE through interaction with the shopkeeper where he bought his pesticides. He reported that sometimes PPE is available in the shop, but was not on the occasion when he purchased the Responding Party's product in 2017. Farmer No. 16, meanwhile, indicated that he knows pesticides are dangerous and that he should protect himself. The landowner that he was working for when he used Polo in 2017 even told him so, but did not indicate, however, the concrete body parts he needed to protect and how. The remaining seven people who confirmed awareness of the need for PPE simply stated as much, without indicating what PPE was required or where they received this information.

Against this backdrop, it is not surprising that 50 out of the 51 farmers and farm workers indicated that they had not worn the recommended PPE while using Polo. The only farmer who reported having worn any kind of PPE while using Polo did not specify what exactly he was wearing. While it can thus not be excluded that he wore the recommended PPE, it is also not confirmed in his response and, indeed, is highly unlikely given the common practices among all the other 50 farmers and farm workers. Notably, 15 farmers explicitly stated that they had not worn any PPE at all while using Polo. Thus, they applied Responding Party's product entirely unprotected.

Despite the fact that the farmers were unaware of the specific PPE they were supposed to use while applying the Responding Party's product, a considerable number of farmers and farm workers reported using some form of self-made protective equipment. In total, 36 out the 51 reported having used some form of PPE in 2017. in the form of protective clothing or took safety measures that seemed logical to them based on practices they witnessed around them. The following table shows what kind of PPE farmers were using when applying Polo in 2017.

KIND OF PPE USED	YES — USED ONE OR A COMBINATION OF THE LISTED ITEMS
Mask/scarf/cloth/mouth covering (e.g. handkerchief)	32/51 (63%)
Boots	1/51 (2%)
Goggles	3/51 (6%)
Gloves	0/51 (0%)
Helmet	5/51 (10%)
Clothing fully covering legs and arms	5/51 (10%)

Among the farmers and farm workers who answered the questions on PPE usage, a majority reported having only used a mouth covering. Yet, the protection provided by a professional mask is unmatched by a simple piece of cloth or a scarf. Similarly, one farmer who reported having worn some kind of goggles still suffered eye burn during and after spraying Polo, raising questions about the effectiveness of his goggles. Since only five farmers reported having worn clothing that fully covered their legs and arms, and only one farmer reported having worn boots, skin contact with Polo was surely widespread among the 51 farmers and farm workers. Even had the farmers worn all the items listed in table, however, they would still not have provided the same level of protection as the recommended professional PPE.

When farmers did try to obtain professional PPE, it was largely unavailable in the local markets to which they have access. Farmer No. 34, for instance, reported that he had explicitly attempted to acquire safety gear in a specialized shop for agricultural products and equipment. The shopkeeper told him that he did not have any PPE, however, and that he also did not know of any other shops in the locality that could provide it. The farmer had heard that shopkeepers who sell pesticides also receive PPE to sell, yet it was not available in this particular shop.

Based on these replies and seen against the context of PPE's general conditions of use and availability in rural India, it is clear that the 51 farmers and farm workers in this complaint had almost no possibility to adequately and effectively protect themselves against harmful exposure when they used the Responding Party's product in 2017. Professional PPE could not be obtained at the time and self-designed protective equipment was ineffective. The Responding Party sold and continues to sell its product Polo without ensuring that licensed dealers and distributors provide the necessary PPE to end-users.

## TRAININGS DO NOT REACH FARMERS

Overall, research on pesticide trainings has shown that their coverage is insufficient and their impact on long-term behavioral change is negligible. The experiences reported by the group of 51 farmers and farm workers in this complaint confirms the pattern of isolated trainings with little to no impact on usage practices. All 51 were asked if they had ever received any training from Syngenta. Three farmers did not provide information in response to this question, but the remaining 48 reported that they had not received any training on safe pesticide use from the Responding Party. Only Farmer No. 14 said he had ever attended a presentation where information on pesticide safety was given, though he did not recall which company had organized the meeting.

In interviews, the researchers also asked the 51 farmers and farm workers if they had ever received any information at all on pesticides' possible adverse health impacts for humans. Of the 30 farmers who responded to this question, 27 reported that they had not previously received any information on pesticides' potential negative health impacts. Only three of the 30 respondents reported any such awareness. Farmer No. 14 said that he had received some information during the meeting mentioned above; he had been told to use personal protective equipment and that pesticides are poisonous and harmful to children. Farmer No. 26 reported that he was generally aware of the fact that pesticides can have harmful impacts, particularly if they enter the body through the mouth. Similarly, Farmer No. 34 reported that he was aware that inhalation and skin problems can occur with pesticide use. Taking these

three anecdotes at face value demonstrates that, even among the farmers and workers who have some sort of awareness around pesticides' potential risks, their actual understanding of these risks remains very limited.

## THE RESPONDING PARTY'S HARMFUL SALES PRACTICES

The following section provides details on the Responding Party's harmful sales practices. The first subsection (6a) shows that the Responding Party was in fact fully aware of the conditions of pesticide use prevalent in the district of Yavatmal and, hence, among the group of 51, as described in the preceding section. Indeed, the Responding Party's business model is built on constantly monitoring its products' conditions of use on the ground, including instances of misuse, which are centrally collected and reported back to the company's highest management levels in India and Switzerland. In addition, the Responding Party was made aware of its products' conditions of use in India through direct communications and has, in fact, acknowledged these conditions of use through various statements made by company representatives prior to the Yavatmal poisonings in 2017. After establishing these facts, the second subsection (6b) explains how the Responding Party's sales practices further aggravated the pesticide poisonings of Indian farmers due to alleged violations of both domestic legislation and international standards on pesticide management.

### SYNGENTA'S KNOWLEDGE ESTABLISHED BY ITS BUSINESS MODEL AND LOCAL PRESENCE

Pesticides are, by their very nature, poisonous products. Companies therefore bear a heightened responsibility to ensure safety in their application.<sup>107</sup> Screening publicly available reports about pesticide use in various locations is an essential part of this endeavor. The Responding Party Syngenta AG is a pesticide industry leader and a member of the industry alliance CropLife International, a coalition "committed to sustainable agriculture and the responsible use of plant science technologies worldwide."<sup>108</sup> As part of this industry association, Syngenta has explicitly committed to abide by the International Code of Conduct on Pesticide Management (ICoC), the fourth and most recent version of which was adopted by both FAO and WHO in 2014.<sup>109</sup> In the industry association's own words: "CropLife International and its member companies fully support the Code, adherence to which is a condition of membership of the federation."<sup>110</sup>

As it describes itself, the ICoC is "the framework on pesticide management for all public and private entities engaged in, or associated with, production, regulation and management of pesticides."<sup>111</sup> The Code's present version also establishes guidelines for corporate conduct of pesticide manufacturers and distributors. Art. 3.5.6 of the ICoC states that the pesticide industry should retain an active interest in monitoring their products throughout their entire life cycle, keeping track of their use and the occurrence of any problems arising therefrom. This is particularly important, Art. 3.2 notes, in countries that have not yet established, or are unable to effectively operate, adequate regulatory schemes and advisory services for pesticide management.<sup>112</sup> All of the sources of information the Submitting Parties' used above to outline the general conditions of pesticide use in Maharashtra are also readily available to the Responding Party. Such information has repeatedly and continuously shown that "safe use"

<sup>107</sup> See Section 8a, *infra*, on failure to carry out due diligence.

<sup>108</sup> "Our Values," CropLife International, [croplife.org/about/](http://croplife.org/about/), accessed 18 June 2020.

<sup>109</sup> *The International Code of Conduct on Pesticide Management*, Food and Agriculture Organization of the United Nations/World Health Organization (2014). Online at [www.fao.org/fileadmin/templates/agphome/documents/Pests\\_Pesticides/Code/Code\\_ENG\\_2017updated.pdf](http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/Code_ENG_2017updated.pdf), accessed 3 September 2020.

<sup>110</sup> "Stewardship," CropLife International, [croplife.org/cropprotection/stewardship/](http://croplife.org/cropprotection/stewardship/), accessed 18 June 2020.

<sup>111</sup> See FAO/WHO ICoC, *supra* note 109.

<sup>112</sup> *Ibid.*

of pesticides in rural India is close to non-existent, nearly impossible to achieve, and certainly unreasonable to expect under prevailing conditions. As such, the Responding Party either was or should have been fully aware of the conditions in which its product Polo was and continues to be used in rural India.

In order to understand the Responding Party's awareness level regarding the situation of farmers and their pesticide application practices in India, information on the Responding Party's company structure is germane. To guarantee respect for the ICoC and the health of its products' end-users, the Responding Party has, in fact, developed relevant internal governance structures, guidelines and product stewardship practices. The company's risk management strategy as well as its corporate responsibility policy are both particularly relevant in this regard.<sup>113</sup> Despite Syngenta AG's merger with ChemChina in July 2017, very little changed in terms of the Responding Party's company structure and tracking of pesticide poisoning incidents between the time of the merger and the following months, when the spate of Yavatmal poisonings began.

#### COMPANY-WIDE DATA COLLECTION ON ACCIDENTS AND INJURIES AND FOCUS ON END-USERS

At the time of the Yavatmal poisonings linked to Polo in 2017, the Responding Party's corporate responsibility policy was governed by a Corporate Responsibility Committee, headed by a Chairman at the director level, and a Corporate Responsibility Panel. As stated in a 2014 report detailing the company's corporate responsibility performance, the Responding Party works to achieve its corporate responsibility goals by assessing stakeholder concerns and interacting with industry associations, non-governmental organizations, the investor community and governments.<sup>114</sup>

In addition to its corporate responsibility strategy, the Responding Party also maintains a risk management policy governed by a Compliance and Risk Management Committee, headed by the CEO. According to the company, environmental and health issues comprise an essential component of its risk management policy, with both environmental and social factors "included as part of local risk management processes."<sup>115</sup> As part of its risk management policy, Syngenta has adopted a Health, Safety and Environment (HSE) Management System that provides a clear framework of relevant processes at all its corporate sites.<sup>116</sup> Elaborating on Syngenta's HSE standards, the company's Code of Conduct states: "We aim to protect the environment and to ensure the health and safety of our employees and *others potentially affected by our activities*. All operations and facilities must have in place adequate HSE procedures and practices" (emphasis added). It continues: "We will ensure HSE considerations are integrated into all activities and employees are given the appropriate training and other support to achieve this."<sup>117</sup>

Companies belonging to the Syngenta Group, such as its subsidiary in India, are responsible for establishing, implementing and monitoring this HSE policy for their respective company, consistent with local laws and the company's HSE standards.<sup>118</sup> In addition, according to its Code of Conduct, Syngenta employees must report any failures in meeting internal standards or legislative and regulatory requirements to company management, as well as any misuse of the company's products.<sup>119</sup> Injuries and incidents of pesticide poisonings are therefore collected and centrally evaluated on a regular basis. Syngenta's 2017 Sustainable Business Report provides group-wide figures for such incidents, though it is

<sup>113</sup> "Frequently Asked Questions: Governance and stakeholder relations," Syngenta Crop Protection AG, [www.syngenta.com/company/faq/governance-stakeholder-relations](http://www.syngenta.com/company/faq/governance-stakeholder-relations), accessed 18 June 2020.

<sup>114</sup> "Non-financial Performance Discussion 2014: The Good Growth Plan and Corporate Responsibility Performance," in *Syngenta Annual Report 2014*, Syngenta AG. Online at [www.annualreport.syngenta.com/assets/pdf/Syngenta-non-financial-performance-2014.pdf](http://www.annualreport.syngenta.com/assets/pdf/Syngenta-non-financial-performance-2014.pdf), accessed 9 June 2020.

<sup>115</sup> "Risk Management," [www.syngenta.com/how-we-do-it/corporate-responsibility/frequently-asked-questions/governance-faq](http://www.syngenta.com/how-we-do-it/corporate-responsibility/frequently-asked-questions/governance-faq), accessed 9 June 2020.

<sup>116</sup> See Syngenta AG, *supra* note 76, at 41.

<sup>117</sup> *Our Commitment to Integrity and Responsibility: The Syngenta Code of Conduct* (2016), Syngenta International AG, at 10, attached as Annex 11.

<sup>118</sup> *The Syngenta HSE Policy and Standards* (June 2018), Syngenta Crop Protection AG, at 3, online at <https://www.syngenta.com/sites/syngenta/files/FAQ/HSE-Policy-and-Standards-june-2018-en.PDF>, accessed 20 August 2020.

<sup>119</sup> See Syngenta Code of Conduct (2016), *supra* note 117, at 25.

not clear which category includes customer pesticide poisonings.<sup>120</sup> Still, Syngenta claims that it will “investigate all credible reports of previously unknown short and long-term effects associated with the correct use of our products and take appropriate actions.”<sup>121</sup>

Syngenta India Ltd. has operated in India for over 14 years. As of mid-2020, it operated nine offices across the country, with four in Maharashtra alone,<sup>122</sup> as well as a corporate office in the national capital of New Delhi.<sup>123</sup> According to available data presented by employees on LinkedIn in 2019, Syngenta India Ltd. had at least 19 distribution centers across the country.<sup>124</sup> As of mid-2020, it boasted more than 1700 employees in India,<sup>125</sup> with at least 170 sales managers and contracted sales agents in Maharashtra alone.<sup>126</sup> Syngenta India Ltd.’s sales and distribution structures enable it to control the marketing and distribution of its products down to the last leg, i.e. all the way down to the local retailer in Maharashtra. Pune-based National Sales Managers coordinate with Regional Sales Managers and Territory Managers across eight locations in Maharashtra. Locally, Sales Unit Leaders and their Sales Officers market Syngenta AG’s products to farmers.<sup>127</sup> It is this workforce that collects data on injuries and incidents, which is then integrated into the general flow of information up to the company’s highest levels.

#### KNOWLEDGE OF FARMERS’ LACK OF AWARENESS ABOUT THE DANGERS OF PESTICIDES

Through Syngenta’s “Good Growth Program,” the company is geared towards looking after its workers and ensuring the safety of stakeholders who use its crop protection products. In general, Syngenta says that it trains farm workers, farm owners, smallholders, product distributors, employees and other people exposed to its crop protection products. It claims to do so both directly through its own employees and partners, as well as through partnerships with local organizations and product retailers. These trainings include teaching the “Five Golden Rules” of pesticide use:<sup>128</sup>

- a Exercise caution at all times
- b Read and understand the product label
- c Practice good personal hygiene
- d Take care of and maintain application equipment
- e Wear appropriate personal protective clothing and equipment (PPE)

Syngenta carries out such trainings worldwide. In India, Sales Unit Leads across Syngenta’s commercial units all over the country carry out trainings on Health, Safety and Environment (HSE) standards and best practices.<sup>129</sup>

Syngenta says that its training activities are recorded through the signing of attendance sheets.<sup>130</sup> According to its Good Growth Plan, external auditors even verify the data on the number of people

**120** *Sustainable Business Report 2017*, Syngenta AG, at 42. Online at [www.syngenta.com/sites/syngenta/files/presentation-and-publication/updated/annual%20reports/2017/Syngenta-Sustainable-Business-Report-2017.pdf](http://www.syngenta.com/sites/syngenta/files/presentation-and-publication/updated/annual%20reports/2017/Syngenta-Sustainable-Business-Report-2017.pdf), accessed 3 September 2020.

**121** See Syngenta Code of Conduct, *supra* note 117, at 24.

**122** “Our Locations,” Syngenta India Limited, [www.syngenta.co.in/our-locations](http://www.syngenta.co.in/our-locations), accessed 13 May 2020.

**123** “Contact Us,” Syngenta Crop Protection AG, [www.syngenta.com/contact-us?country\\_code=147](http://www.syngenta.com/contact-us?country_code=147), accessed 4 May 2020.

**124** LinkedIn research carried out by Submitting Parties, analysis of results in Excel sheet on file with Submitting Parties.

**125** “Syngenta in India,” Syngenta India Limited, [www.syngenta.co.in/syngenta-india](http://www.syngenta.co.in/syngenta-india), accessed 13 May 2020.

**126** See LinkedIn research carried out by Submitting Parties, *supra* note 124.

**127** *Ibid.*

**128** *The Good Growth Plan Progress Data—Safe Use Training 2017*, Syngenta AG, at 2, 4. Online at [opendata.syngenta.agroknow.com/sites/default/files/SYT-GGP-c5safe-use-description-2017.pdf](http://opendata.syngenta.agroknow.com/sites/default/files/SYT-GGP-c5safe-use-description-2017.pdf), accessed 3 September 2020.

**129** See Syngenta India Limited, *supra* note 41.

**130** See Good Growth Plan Progress Data, *supra* note 128, at 5.

trained.<sup>131</sup> In addition, the Responding Party also collects data on its investment in training, farmers' adoption of occupational safety and health practices, and numbers of reported accidents and health incidents. "Recognizing that training alone does not guarantee safety," Syngenta writes, "we are introducing new monitoring systems to track the effectiveness and impacts of training programs, and to identify bottlenecks that prevent behavioral change."<sup>132</sup> Significantly, the data is internally reported and consolidated at the country, territory, regional, and global levels.<sup>133</sup>

In sum, Syngenta employs a vertically integrated risk management process that collects relevant data on both its products' conditions of use as well as health incidents throughout all its operations. Data collected by local employees is then consolidated at least twice, first on the level of Syngenta India Ltd. and, secondly, at the headquarters for Syngenta AG's group-wide data. Through the integration of both risk management and corporate responsibility policies and procedures, the information is shared at the highest corporate levels, including the CEO and director level.

Syngenta's reaction to the Yavatmal poisoning wave in 2017 proves this point, as the highest company levels in India and globally were involved in responding to the difficult situation. According to official reports, General Manager of Syngenta India Ltd. K.S. Narayanan promised to provide 10,000 safety kits for local farmers and farm workers.<sup>134</sup> Similarly, and as already mentioned above, Syngenta AG also released an official press release addressing the issue in September 2018. The company's thorough high-level knowledge about relevant stakeholder activity not only exists in relation to poisoning incidents, but also to the general conditions of pesticide use prevalent in rural India, including in Maharashtra's district of Yavatmal.

In sum, Syngenta AG's meticulous organizational structure allows the flow of information from the top to the bottom and vice versa. Accordingly, the Responding Party's corporate structure ensures its awareness of its products' conditions of use on the ground. In rural India, these conditions of use are marked by widespread unawareness of the dangers posed by pesticides. Even where some level of awareness exists, farmers do not generally have access to effective PPE. Against all evidence available at the time of the Yavatmal poisonings and despite its own knowledge of the prevailing conditions of pesticide use in rural India, the Responding Party claimed—and currently continues to claim—that using its product Polo is safe.

#### AWARENESS OF VULNERABILITY OF THE 51 FARMERS SEEKING RELIEF WITH THIS COMPLAINT

On several occasions, the Responding Party has also been directly informed about the negative health impacts caused by its sales practices and its products' conditions of use in India. In 2015, two years prior to the Yavatmal poisoning wave, an *ad hoc* monitoring report to the joint FAO- WHO Panel of Experts on Pesticide Management that oversees the ICoC's implementation raised similar issues to those detailed in this complaint.<sup>135</sup> Focused on Punjab and related to Syngenta's products Gramoxone and Matador, the complaint confronted the Responding Party with the same issues raised here: the product labels were ineffective in warning users, PPE was not readily available and farmers did not understand the necessity of wearing it.<sup>136</sup> Farmers therefore applied the Responding Party's products in a largely unprotected manner, to the detriment of their health.

It is no wonder, then, that Syngenta's CEO Erik Frywald explicitly acknowledged in a 2019 statement that a large number of Indian farmers are small and marginal farmers.<sup>137</sup> The Syngenta Founda-

**131** "Help people stay safe," in *The Good Growth Plan: Progress Report 2014*, Syngenta AG, at 10. Online at [www.syngenta.com/sites/syngenta/files/presentation-and-publication/updated/the%20good%20growth%20plan%20progress%20report%202014/syngenta-the-good-growth-plan-progress-report-2014-en.pdf](http://www.syngenta.com/sites/syngenta/files/presentation-and-publication/updated/the%20good%20growth%20plan%20progress%20report%202014/syngenta-the-good-growth-plan-progress-report-2014-en.pdf), accessed 3 September 2020.

**132** *Ibid.*

**133** See Good Growth Plan Progress Data, *supra* note 128, at 5.

**134** See SIT Report, *supra* note 35, at 37.

**135** See Ad Hoc Monitoring Report, *supra* note 40, at 4.

**136** *Ibid.*, at 15.

**137** See Tiwari, *supra* note 83.

tion, which aims “to create value for resource-poor small farmers in developing countries,”<sup>138</sup> has also stated that, of the total land holdings in India, “85% fall under the marginal and small farm categories of less than 2 hectares.”<sup>139</sup> In addition, Syngenta India Ltd. has recognized that PPE usage is low among farm workers: “there are thousands of farmers who do not realize the safety benefits of using it in their daily work. There is also the problem of availability, accessibility and affordability.”<sup>140</sup> Notably, much of this public recognition came well before the Yavatmal poisonings in 2017.

#### FURTHER AGGRAVATING HEALTH RISKS BY NON-COMPLIANCE WITH APPLICABLE STANDARDS ON PESTICIDE MANAGEMENT

The Responding Party has and continues to further aggravate health risks to already vulnerable farmers by engaging in sales and marketing practices that, according to the Submitting Parties’ assessment, are not in line with applicable domestic law and international standards on pesticide management. The first subsection assesses the conformity of the label and leaflet accompanying the Responding Party’s product Polo with domestic legislation and the ICoC. The second subsection then shows how the Responding Party’s sales practices with regard to PPE also fail to adhere to ICoC standards.

#### INADEQUATE LABEL AND LEAFLET

Labels for pesticides are approved as part of the pesticide registration process. In India, both the registration process and the requirements for labels and leaflets are regulated by the Insecticides Act (1968) and accompanying Insecticides Rules (1971). The Submitting Parties’ research indicates that the label and leaflet used by the Responding Party for its product Polo do not meet all the conditions established in these domestic regulations. As elaborated further below, these shortcomings further contribute to malpractice by those end-users who can read the label and leaflet, as it provides them with incomplete information. Next to national legislation, Syngenta AG has also committed to respect international pesticide standards, specifically the International Code of Conduct (ICoC) for Pesticide Management developed by FAO and WHO, including its accompanying guidelines on labelling. When comparing Polo’s label and leaflet to the standards developed by FAO and WHO, the shortcomings are obvious. Similar to the Responding Party’s breach of Indian legislative standards on pesticide labelling, this makes it more difficult for receptive farmers and farm workers to actually understand the warnings and act accordingly.

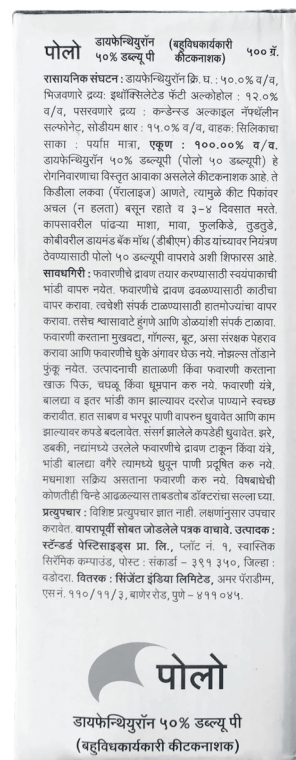
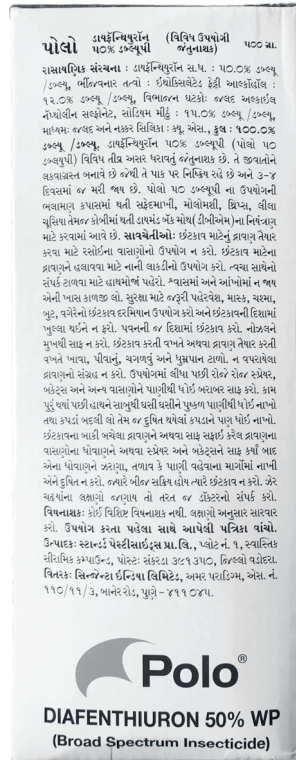
<sup>138</sup> *Enabling smallholders’ descendants to farm with pride: The Syngenta Foundation and sustainable agriculture* (2019), Syngenta Foundation for Sustainable Agriculture. Online at [www.syngentafoundation.org/file/13471/download](http://www.syngentafoundation.org/file/13471/download), accessed 20 June 2020.

<sup>139</sup> “Where we work: India,” Syngenta Foundation for Sustainable Agriculture, [www.syngentafoundation.org/agriservices/wherewework/india](http://www.syngentafoundation.org/agriservices/wherewework/india), accessed 16 June 2020.

<sup>140</sup> See Syngenta India Limited, *supra* note 41.

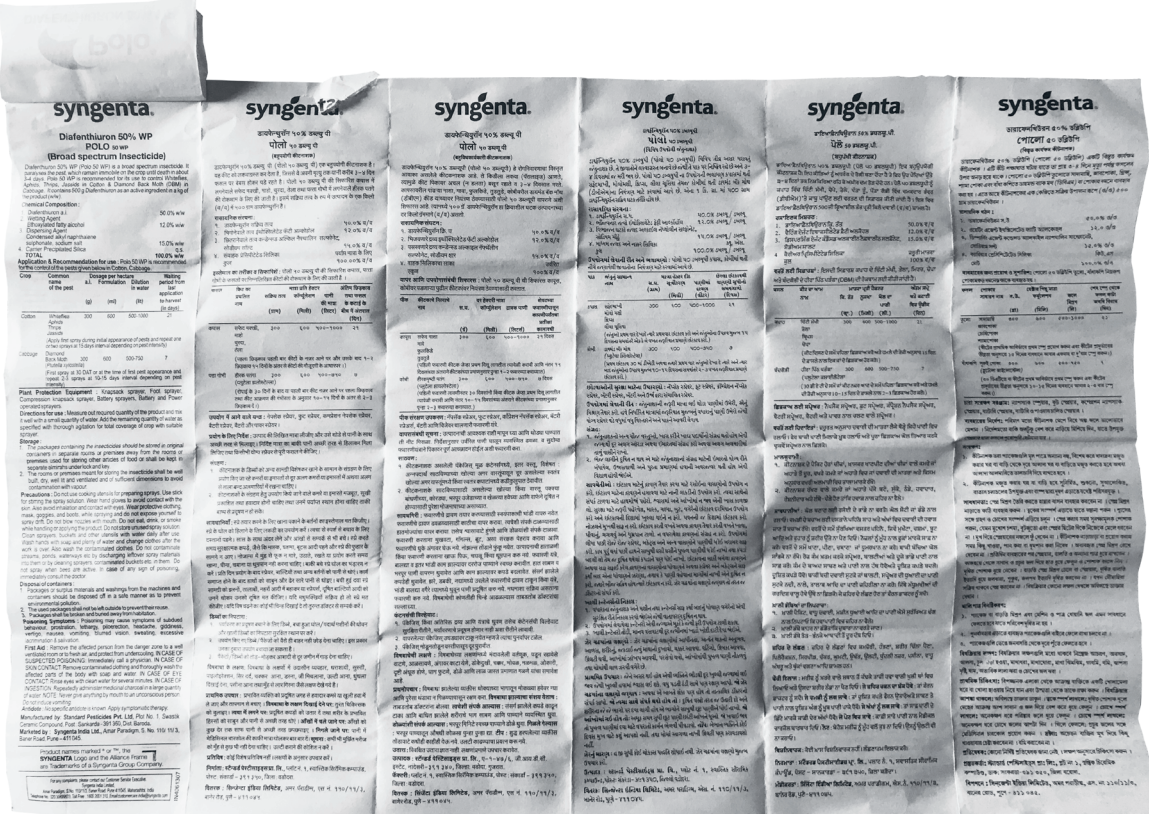
VIOLATION OF THE INDIAN INSECTICIDES ACT (1968) AND ACCOMPANYING INSECTICIDE RULES (1971)

The Responding Party sells Polo in India in 500-gram or 250-gram packages. The following images show the outside container of a 500-gram Polo package obtained in a pesticide shop in the Yavatmal district in September 2019. There is no difference between this Polo packaging and that sold in Maharashtra in the years 2016 and 2017. The first two images show the front and the back of the product, while the latter two images show the sides of the package. The fifth image depicts the leaflet that accompanies the 500-gram package of Polo, which includes warnings provided in Marathi, the language spoken locally by most of the farmers and farm workers in Yavatmal.





In addition to the warnings provided on the outer container, a leaflet is included inside the box to provide additional safety information. The leaflet looks as follows:



The following two images show the outside appearance of a smaller 250-gram package of Polo, acquired in the district of Yavatmal in December 2016.



The leaflet for the 250-gram package is identical to the one contained in the 500-gram package. Based on the Submitting Parties' assessment, the product supplied by the Responding Party does not comply with the applicable Indian standards in several ways. The Insecticides Act (1968) and Rules (1971) outline specific requirements that the label and leaflet must fulfil. Based on a thorough comparison of the applicable legal provisions and the labels and leaflets for the two Polo products displayed above, the Submitting Parties identified a number of shortcomings.<sup>141</sup>

The following violations of the Insecticides Act (1968) were found:

- The label of the 250-gram package only contains warnings in English and Hindi. Farmers unable to read one of these two languages are therefore devoid of the possibility to understand even basic toxicity warnings.
- There are notable differences between the English and Hindi versions of the information provided in the accompanying leaflet. The Hindi version is less stringent than the English version, with the Hindi version occasionally using different wording that fails to convey critical pieces of information.

Contrary to the Insecticides Rules, the following critical pieces of information are missing in the leaflet provided with both Polo packages:

- The font size used on the leaflet is smaller than mandated and, therefore, does not allow (aged) farmers and those with reduced vision to read and understand the information.
- Safety pictograms as provided on the back of the package label (both sizes) are missing in the leaflet, in contravention of Rule 18 (j).
- As stated on the product label (both sizes) and leaflet, Polo does not have an antidote. However, in violation of Rule 18 (k), further information on emergency treatment to be carried out by physicians in case of poisoning is absent.
- The leaflet also fails to give any information on weather conditions, stage for application, as well as reentry period. When farmers do not know the weather conditions in which it is suitable to apply the product or the maximum plant height to which Polo should be applied, the risk of serious negative health impact increases.
- In violation of Rule 18 (m), there is no information about safe limits of Polo's application frequency, including the maximum number of sprays recommended. The lack of this information can lead to disproportionate or excessive use, which can exacerbate health risks and potentially cause poisoning.
- Neither Polo's packaging label (both sizes) nor its accompanying leaflet carry any prohibitions on combining Polo with other products, a practice in which farmers have been known to engage in Yavatmal.<sup>142</sup> The lack of this warning thus increases the possibility that farmers will mix pesticides, which may lead, in turn, to the formation of new toxic compounds (poison) or increase the concentration of existing toxic compounds.
- Finally, the information provided on Polo's packaging label (both sizes) and the accompanying leaflet is not furnished on Syngenta AG's website, nor on the website of its subsidiary Syngenta India Ltd.

In addition to the specifics expected from each label and leaflet, general clause Art. 3 (k) (iv) of the Insecticides Act considers labels and leaflets to be inadequate if they are not likely to be read and understood by ordinary individuals under customary conditions of use. Among the several problems with Polo's packaging labels (both sizes) and accompanying leaflet highlighted above, the print size is too small, the language too complicated and the images not self-explanatory. As such, the packaging labels and leaflet largely fail to achieve their purpose: to inform average users about the product's dangers. For the 51 farmers and farm workers highlighted in this complaint, all of whom experienced Polo poisoning in

<sup>141</sup> The relevant and applicable provisions we analysed are Clause 19 (7) Insecticides Act and Art. 18 (i)–(k), (m), (t) of the Insecticides (Amendment) Rules 2014.

<sup>142</sup> See SIT Report, *supra* note 35, at 10.

Yavatmal in the fall of 2017, these shortcomings obstructed their ability to obtain adequate information about Polo’s dangers and the necessary precautionary measures they should take when using it, ultimately exposing them to incalculable health risks.

#### VIOLATION OF THE INTERNATIONAL CODE OF CONDUCT ON PESTICIDE MANAGEMENT

Despite the Responding Party’s explicit commitment to abide by the ICoC, its marketing practices fail to meet all ICoC requirements. Related to the issue of adequate labels and leaflets, Art. 3.5.1 of the ICoC calls on the pesticide industry to only supply pesticides that are appropriately labeled for each specific market. Art. 3.5.6 of the ICoC also stipulates that adherence to the Code requires the pesticide industry to constantly review their labeling practices to determine any need for changes over time. The Code also requires that the industry pay “special attention to the choice of pesticide formulations and to presentation, packaging and labelling in order to minimize risks to users [...]”<sup>143</sup> Concretely, pesticide companies should “provide with each package of pesticide, information and instructions in one or more of the official languages of the country and in a form adequate to ensure effective use, and minimize risks to users [...]”<sup>144</sup>

The Code highlights that observing the above practices is particularly important in those countries that have not yet established, or are unable to effectively operate, adequate regulatory schemes and advisory services for pesticide management.<sup>145</sup> In the context of this complaint, the Responding Party’s market is located in India, where the Indian government is currently unable to effectively inform a vast number of farmers and farm workers about the dangers of pesticides, much less train them on safe application methods. In addition, farmers and farm workers in the Indian state of Maharashtra constitute an extremely vulnerable population group, putting them at an even further disadvantage when it comes to understanding and implementing safe pesticide practices.

The Guidelines on Good Labelling Practice<sup>146</sup> (GLP Guidelines) that accompany the ICoC clearly outline what is expected of the industry in terms of labelling.<sup>147</sup> The following table shows what the ICoC requires of the Responding Party when it comes to marketing its product Polo in India, as well as the Responding Party’s actual practices contrary to these requirements.

<sup>143</sup> See FAO/WHO ICoC, *supra* note 109, at Art. 3.5.3.

<sup>144</sup> *Ibid.*, at Art. 3.5.4.

<sup>145</sup> *Ibid.*, at Art. 3.5.

<sup>146</sup> See FAO/WHO GLP Guidelines, *supra* note 34.

<sup>147</sup> See, in particular, FAO/WHO ICoC, *supra* note 109, at Art. 10.2.2–10.2.4.

<b>REQUIREMENT</b>	<b>SOURCE</b>	<b>ACTUAL PRACTICE</b>
Information on label in locally understood language	§ 1.7 GLP Guidelines	Not given for Polo's 250-gram package label
Information on identity and concentration of hazardous co-formulants on label	§ 3.1.f GLP Guidelines	Not given for Polo's 250-gram package label, as the dispersing agent (sodium salt), which is classified as hazardous, is not mentioned
Legibility: Warnings and precautionary statements at least 8-point in size and precautionary pictograms at least 7 × 7 mm.	§ 4.2.2 GLP Guidelines	Not given for information on leaflet accompanying both of Polo's package sizes (500-gram and 250-gram)
First aid and medical advice: Advice for treatment of poisoning described in sufficient detail so that medical personnel can initiate emergency treatment as soon as the patient arrives	§ 3.2.h and §4.9 GLP Guidelines	Not given on either of Polo's two packaging labels (500-gram and 250-gram)
Complete directions for use: Warnings indicating that different pesticides should not be mixed in one spray solution, except in the case of a registered tank-mix	§ 3.3.b GLP Guidelines	Not provided on either of Polo's two packaging labels (500-gram and 250-gram) or the accompanying leaflet

As demonstrated in the table above, the Responding Party's product Polo falls short of ICoC provisions and accompanying GLP Guidelines. The product label is insufficiently legible since the size of the text and pictograms does not comply with the minimum size required by the Guidelines. Sold in a market where a large percentage of farmers and farm workers are advanced age, illiterate or have otherwise reduced vision, Polo's non-compliant labels significantly hinder its end-users' ability to completely understand the product's warnings.

The GLP Guidelines also require that the information on labels and leaflets be provided in a locally understood language, which is not the case for Polo's 250-gram package label. Also missing on the 250-gram package label is information on co-formulants contained in the product. Since Polo is a composition of Diafenthiuron and Alkyl Naphthalene Sulphonate sodium salt, the latter of which is classified as causing skin irritation, serious eye irritation and possible respiratory irritation, the latter should be mentioned on the label as well.

Furthermore, detailed advice to physicians on what to do in case of poisoning is not provided on Polo's labels for either size package. Beyond the similarities to Indian legislation, the ICoC and accompanying GLP Guidelines stipulate: "if medical advice is needed, have product container or label at hand." Had farmers or farm workers who exhibited symptoms of poisoning after using Polo been able to bring a product label with the relevant treatment advice when consulting a doctor, they would have likely received better, more appropriate treatment, as Polo's active ingredient Diafenthiuron has no known antidote and its treatment differs from other types of pesticides, such as organophosphates. Finally, there is no information on compatibility with other products on Polo's label, nor an explicit warning that Polo should not be mixed with other pesticides, as required by the ICoC and the GLP Guidelines. Given the common and widespread practice among Indian farmers and farm workers of mixing different pesticides together, this omission can and has had serious consequences.

## VIOLATION OF THE ICOC PROVISIONS ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The Responding Party’s sales practices for its product Polo in Yavatmal violate ICOC standards by requiring its end-users to wear PPE under circumstances in which access to and proper use of such PPE is almost impossible.

Pursuant to Art. 3.6 of the ICOC, pesticides requiring “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.”<sup>148</sup> Virtually all the conditions in this provision are met in the case of the 51 farmers and farm workers to whom the Responding Party sold its product Polo in Yavatmal. All farmers in the group of 51 applied Polo in weather conditions, namely extremely high temperatures, that make use of the requisite PPE—masks, full-coverage clothing and other components not specifically produced for such climatic conditions—uncomfortable if not impossible. Finally, the recommended PPE is not even available in local markets. Despite these conditions, the Responding Party continues to sell products like Polo in locations where the PPE needed to ensure its “safe use” is uncomfortable, climatically inappropriate and, most importantly, not widely available, in clear violation of the ICOC.

In sum, by selling Polo in rural India without fully respecting applicable domestic legislation and international standards, the Responding Party further aggravated the risk of harm to a particularly vulnerable population of farmers and farm workers, who it knew were unable to protect themselves under the prevailing conditions in their location. In doing so, the Responding Party significantly increased their risk of unprotected pesticide exposure. Ultimately, the group of 51 farmers and farm workers featured in this complaint suffered adverse health impacts that the Responding Party could have possibly prevented.

## NEGATIVE HEALTH AND SOCIOECONOMIC IMPACTS FOR THE GROUP OF 51 FARMERS AND FARM WORKERS

The Responding Party sold its toxic product Polo to the group of 51 farmers and farm workers, despite its knowledge of Polo’s high risks and the prevailing conditions of its use, including end-users’ unawareness of Polo’s dangers and limited means to protect themselves. The Responding Party’s non-compliance with applicable standards on pesticide sales practices further contributed to the unlikelihood of Polo’s safe use. As a consequence, 51 farmers and farm workers suffered adverse health impacts from using Polo. The following section details the concrete health damages suffered by the 51 Polo users and their correlation to the product’s dangers as described above.

All 51 individuals were examined by a doctor and received treatment for pesticide poisoning. Treatment of Polo poisoning is, however, impeded by the fact that no known antidote exists, as highlighted on the product’s label and accompanying leaflet. Doctors treating poisoned individuals, had foreseeable problems in applying the correct treatment. As a result, some of the health impacts described below might have been aggravated by the lack of proper treatment.

43 individuals indicated that they were hospitalized for at least one day. The majority spent between one day and two weeks in the hospital, while nine spent more than two weeks, often in different hospitals. In the most extreme case, Farmer No. 4 spent 31 days in the hospital.

Health impacts on the 51 farmers and farm workers reveal a pattern of recurring problems paired with individualized hardships of some symptoms for specific individuals. On a general level, symptoms suffered by the group of farmers can be categorized as ophthalmological problems, gastrointestinal effects, neurological symptoms, muscular problems, swelling reactions, impacts on the respiratory system and dermatological problems. The following table shows the distribution of these problems among the group of farmers and farm workers, including both acute impacts as well as persisting health problems. More detail will be provided below.

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148 See FAO/WHO ICOC, *supra* note 109, at Art. 3.6.

<b>MEDICAL CONDITION</b>	<b>NUMBER OF FARMERS</b>	<b>PERCENTAGE OF TOTAL</b>
Ophthalmological problems: eye burn, watering of eyes, temporary loss or reduction of eyesight, blurred vision	46/51	90.2%
Gastrointestinal effects: diarrhea, nausea, vomiting	33/51	64.7%
Neurological symptoms: dizziness, giddiness, headaches, restlessness, unconsciousness, motion problems, loose motions	37/51	72.5%
Muscular problems: general feeling of weakness, tingling hands, jerking of arms or legs	19/51	37.2%
Swelling reactions: swelling of the tongue, swelling of the face or eyes, swelling in the chest	3/51	5.8%
Impact on respiratory system: breathing difficulties	15/51	29.4%
Dermatological problems: skin burn, skin irritation, itching skin, burning sensation on face or body	18/51	35.2%

#### ACUTE SYMPTOMS SUFFERED BY FARMERS AND FARM WORKERS

The negative health impacts suffered by the 51 farmers and farm workers reflect the hazards associated with Diafenthiuron and sodium salt, as described in the section on Polo's toxicity (Section 3). The most common negative health impacts experienced by the group of farmers, ophthalmological problems, neurological problems, gastrointestinal effects, impacts on the respiratory system and dermatological problems, all clearly relate to Polo's hazardous qualities.

The ophthalmological problems suffered by the vast majority of the farmers (90%) correlate with pesticide hazard category H319 (causes serious eye irritation). Almost all of the farmers and farm workers experienced eye burn, watering of the eyes and general eye irritation. Several even experienced a complete loss of sight at home during the first night after their pesticide exposure. Farmer No. 29 reported that his eyes had started to water after exposure, which continued on his way back home. In the night, he developed blurred vision and his eyes burned until he finally lost his eyesight completely. His vision gradually returned upon treatment, but he still suffers from reduced vision and his eyes now hurt when exposed to sunlight. Farmer No. 35 also completely lost his vision for two days. When the Submitting Parties spoke with him in 2019, he had still not fully recovered and was still suffering from lasting damage to his eyes, which start to water whenever exposed to sunlight. Similarly, Farmer No. 30 also suffered eye burn and blurred vision that gradually developed into the complete loss of his eyesight on the evening of his poisoning. Having received initial treatment for his eyes that included medicine and a bandage, his condition did not improve, leading to his admission to Yavatmal Medical College Hospital the following day. Only after two weeks of continuing treatment in the hospital did his vision gradually return.

<b>OPHTHALMOLOGICAL PROBLEMS</b>	<b>NUMBER OF INDIVIDUALS AFFECTED OUT OF 46</b>
Eye burn	25/46 (54%)
Watering of eyes	9/46 (20%)
Eye irritation	27/46 (59%)
Blurred vision	6/46 (13%)
Temporary loss of sight	44/46 (96%)

The gastrointestinal effects experienced by around two thirds of the farmers and farm workers (65%) also correlate with the identified hazards of Diafenthuron, particularly pesticide hazard category H302 (harmful if swallowed). Such intake can happen when spray mist accumulates into droplets in a user's mouth cover, which are then ingested orally. Farmers and farm workers mainly suffered from diarrhea and vomiting as a result of such oral intake of Polo. Diarrhea and vomiting were suffered both at home on the day of poisoning, and on subsequent days while being treated in the hospital. Farmer No. 26 reported that he had already started to vomit on the day of the poisoning. While in the hospital for 16 days, he continuously and frequently vomited and suffered from general stomach pain. To this day, his digestion is affected, resulting in stomach pain after generous food consumption. The following table indicates the nature and extent of the gastrointestinal effects experienced among the group of farmers and farm workers after using Polo.

<b>GASTROINTESTINAL EFFECTS</b>	<b>NUMBER OF INDIVIDUALS AFFECTED OUT OF 33</b>
Diarrhea	5/33 (15%)
Nausea	21/33 (64%)
Vomiting	28/33 (85%)

Many of the 51 farmers and farm workers also suffered negative impacts on their respiratory systems after using Polo. Poisoned individuals reported having breathing difficulties that correlate with several of the hazards identified for Diafenthuron and sodium salt, including pesticide hazard categories H370 (may cause damage to organs/respiratory system) and H335 (may cause respiratory irritation), as well as H330/H331 (fatal/toxic if inhaled). The degree of respiratory problems varied among the farmers and farm workers. In its most severe expression, Farmer No. 4 required 31 days in the hospital before he was stable enough to be released. He was intubated and kept on mechanical ventilation to support his respiratory functions for 22 of those 31 days.

When it comes dermatological problems, many of the farmers and farm workers suffered from burning, irritated or itchy skin. Most farmers who suffered from this consequence reported having this as a general effect, while two individuals experienced localized burning sensations. Farmer No. 28 suffered from a burning sensation on his face and chest, while Farmer No. 9 experienced the burning sensation most concretely on his hands. These dermatological effects correlate to pesticide hazard category H315 (causes skin irritation).

Muscular problems were also repeatedly observed among the group of poisoned individuals. All individuals who reported muscular problems experienced a general feeling of weakness that, similar to the neurological symptoms, often persists to this day. In addition, both Farmer No. 4 and Farmer No. 5 suffered acute, continuous pain in their limbs in the immediate aftermath of their Polo use.

Neurological problems were particularly widespread among the group of 51 farmers and farm workers after their poisoning from Polo. More than two thirds of the group (72%) described neurological symptoms, summarized in the table below.

<b>NEUROLOGICAL SYMPTOMS</b>	<b>NUMBER OF INDIVIDUALS AFFECTED OUT OF 37</b>
Dizziness/giddiness	29/37 (78%)
Unconsciousness	16/37 (43%)
Headache	8/37 (22%)
Motion problems/loose motions	4/37 (11%)
Restlessness	1/37 (3%)

These neurological conditions resulted in severe hardships during the first days after the poisoning for quite few of the farmers and farm workers. Farmer No. 2 remained unconscious for a period of eight days while hospitalized immediately after his poisoning. While this duration represents the upper extreme experienced, others also fainted and remained unconscious for considerable periods of time, such as Farmer No. 9 who lost consciousness for three days. In addition, due to loose motions and restlessness, farmers often described their arms and legs “jerking.” This symptom may have resulted from medical treatment of the pesticide poisoning with an unsuitable antidote, as there is no known antidote for Polo poisoning. In such instances, when doctors lack any reliable indication of what treatment might be suitable to combat the poisoning, the medical treatment itself may increase the risk of severe health damages. Several individuals needed to be tied to the hospital bed for considerable periods of time due to restlessness, spasms and what farmers and farm workers described as jerking arms and legs. Again here, time periods varied, but Farmer No. 20 and Farmer No. 21 were tied to their beds for at least 13 days; Farmer No. 8 was tied to his bed for eight days; and Farmer No. 20, Farmer No. 38 and Farmer No. 43 were all tied to their beds for three days. Additional individuals also indicated having been tied to their beds for unspecified periods of time. Over time, some of the neurological problems have turned into chronic conditions of different intensities.

#### LONG-TERM HEALTH IMPACTS

Twenty-eight of the 51 farmers and farm workers reported suffering from persisting health problems after their initial treatment for pesticide poisoning. The adverse health impacts range from deterioration of their overall physical abilities to recurring pains. Information on long-term impacts was provided by farmers and farm workers at different points in time, depending on when the respective interviews were conducted, either in 2019 or 2020.

The long-lasting impacts experienced by those farmers and farm workers who provided information in this regard can again be grouped into symptom categories. The most prominent persisting symptom was reduced eyesight as a pathological condition. In addition, neurological and muscular problems were also widespread among those suffering long-term consequences from Polo poisoning. The following table provides the details of the health impacts still experienced by the group of 28 who reported long-term suffering.



<b>HEALTH COMPLICATIONS/CONDITIONS</b>	<b>NUMBER AFFECTED</b>	<b>PERCENTAGE OF TOTAL</b>
Ophthalmological problems: eye burn, watering of eyes, temporary loss or reduction of eyesight, blurred vision, issues upon sun exposure	18/28	64%
Gastrointestinal effects: decreased appetite, motion problems	2/28	7%
Neurological symptoms: dizziness, frequent or recurring headaches, sudden faintness, tingling sensations	8/28	29%
Muscular problems: general feeling of weakness, bodily pain	20/28	71%
Dermatological problems: skin burn, skin irritation, itching skin, burning sensation on face or body	1/28	4%

The persisting nature of these health impacts generally complicate the farmers and farm workers' ability to lead their lives as before and, particularly, they impair their ability to work. Farmer No. 34, for instance, had to rest at home without working for four months after the poisoning incident and undergoing a period of hospitalization. To this day, he continues to suffer from a general sense of weakness and constantly feels tired. He is no longer able to do the same kind of physical work he did before the poisoning happened. In addition, he is also restricted from spending time outside, as his eyes cannot handle any exposure to sunlight. Other farmers share similar conditions. Farmer No. 31 also indicated that he has reduced capacity to work. He is no longer as efficient as before, due to persistent general weakness; whenever he starts working, he immediately feels tired. In addition, he has ongoing problems with his eyesight. In the daytime, objects become blurry, which was not the case before the poisoning. Farmer No. 29 shared that he was unable to work for almost a year after the incident. By now his condition has improved a bit, but it is still not comparable to his prior physical fitness. Moreover, when exposed to sunlight, not only do his eyes start to hurt, but he also suffers from continued skin irritation. Quite similarly, Farmer No. 41 reported that he was unable to work for 10 months following the poisoning and said that the burning in his eyes has persisted. Additional farmers among the group of 51 also shared the same generalized sense of weakness coupled with reduced capacity to work and continuing eye-problems, often in connection with exposure to sunlight.

#### NEGATIVE SOCIO-ECONOMIC IMPACTS ON FARMERS AND THEIR FAMILIES

In addition to negative health impacts, the socioeconomic conditions of many affected farmers and farm workers deteriorated dramatically after their Polo poisoning. All farmers incurred considerable financial losses to cover their medical expenses, in addition to loss of income due to hospitalization and reduced capacity to work in the aftermath of the poisoning. In fact, only 11 of the 51 farmers and farm workers reported that they could immediately work like before after having received their initial treatment. The remaining 40 (78%) indicated that they had to stop working for different amounts of time, ranging from several days to several months after being released from the hospital. In fact, 13 farmers shared that they had been forced to stop working for more than a month and up to one year. Others indicated at the time of the interview that they still suffer from reduced capacity to work. These individuals display a combination of the long-term health impacts described above, impairing their general ability to take up exhausting labor or endure exposure to the sun. Seven farmers also reported that they had needed to borrow money to cover the costs of the poisoning treatment. Notably, this question was only asked to a smaller group of farmers and farm workers in a series of follow-up interviews, meaning additional individuals likely had to borrow money for their treatment costs as well.

As a result of their medical conditions and often reduced capacity to work, other people had to step in and assume the bread-winning role that the affected farmers and farm workers had previously performed. Thirty-three farmers indicated that they live in households consisting of additional people who are, to a certain extent, financially dependent on them. Most often, these household members are relatives, such as parents, wives and children. Twenty-eight farmers reported that they have children for whom they must provide. In all of these families, the wives had to assume a triple function after the Polo poisonings: they had to take care of a sick husband, organize the everyday life of the family, including childcare, and also try to find paid work to make up for their husbands' lost income if they could. Deplorably, however, in rural areas in the district of Yavatmal, women are not paid anywhere near the same rates as men for the same type of work.

Next to the financial losses incurred, many of those affected by the Polo poisonings also experienced severe disturbances in their social life, as such. Where farmers are too weak to walk long distances or cannot be exposed to sunlight due to recurring eye and skin problems, their radius of activity becomes seriously limited. They can also not help with household tasks that are too difficult for their constitution. Several farmers indicated that the only task they can still assume is to bring the cattle out for grazing. The remaining household tasks must be taken care of by others, most often the affected farmer or farm worker's female partner. Finally, the persisting health impacts of the poisonings also seriously affect the farmers' social lives in terms of personal contacts with their children, broader family and friends.

In sum, the Polo poisonings' negative impacts do not stop with the concrete health impacts explained above. Instead, the losses experienced by farmers and their families must be viewed more broadly to include further impairment of their socioeconomic conditions resulting from the poisonings.

## **VIOLATION OF OECD GUIDELINES BY THE RESPONDING PARTY**

By selling its product Polo to a group of highly vulnerable farmers in a manner non-compliant with applicable standards and in full awareness that the farmers did not have an adequate understanding of Polo's dangers and no means of protection against them anyway, the Responding Party has violated several provisions of the OECD Guidelines. Syngenta AG has failed to carry out appropriate due diligence (Chap. II A. 10, Chap. IV 5) by ignoring, or at least insufficiently reacting to, identified human rights risks of a particular vulnerable population. Both Syngenta India Ltd. and Syngenta AG have failed to establish appropriate governance structures for the company and the company group to avoid infringement of local laws and applicable standards (Chap. II A. 6) by assuming sales practices based on faulty labels and actions and omissions violating the ICoC on Pesticide Management. Both Syngenta AG and Syngenta India Ltd. have thereby caused the violation of Indian farmers and farm workers' right to health (Art. 12 International Covenant on Economic, Social and Cultural Rights (CESCR)); right to decent working conditions, in particular to safe and healthy working conditions (Art. 7 (b) ICESCR); and right to an adequate standard of living (Art. 11 ICESCR) by having jointly manufactured and sold them a toxic product with insufficient warnings and in full awareness of their lack of adequate means of protection against intoxication (Chap. II A. 11, Chap. IV 2). Both Syngenta AG and Syngenta India Ltd. have entirely failed to provide any kind of remedy to those whose human rights were affected by its actions and omissions and, in fact, continue all of the above violations to date (Chap. IV 6). Finally, Syngenta AG's actions fail to comply with the OECD Guidelines' chapter on consumer interests by selling hazardous consumer goods to particularly vulnerable people without adequate means of protection and insufficient warnings (Chap. VIII 1, 2, 3, 7).

FAILURE TO CARRY OUT APPROPRIATE DUE DILIGENCE (CHAP. II A. 10, CHAP. IV 5)

The OECD Guidelines Chap. II A.10 require that companies carry out risk-based due diligence, to mitigate actual and potential adverse impacts and account for how these impacts are addressed.

The nature and extent of due diligence depends on “factors such as the size of the enterprise, context of its operations, the specific recommendations in the Guidelines, and the severity of its adverse impacts.”<sup>149</sup> In any case, however, human rights due diligence includes “assessing actual and potential human rights impacts, integrating and acting upon the findings, tracking responses as well as communicating how impacts are addressed.”<sup>150</sup>

Syngenta AG is a vertically integrated global company with many subsidiaries, including Syngenta India Ltd., all of which follow the corporate practice dictated by the parent company. Products are centrally designed, and the parent company is often involved in production of active ingredients like Diafenthiuron, which is produced in Switzerland and exported to India to make its product Polo. Health dangers associated with pesticides are severe, as pesticides are poisonous by their very nature, increasing the due diligence that companies like Syngenta AG must carry out. Given the irremediable character of certain health damages, most noteworthy among them the loss of life, Syngenta’s responsibility to carry out detailed due diligence is imperative.<sup>151</sup>

An additional aspect to be taken into account when carrying out due diligence is highlighted by the United Nations Guiding Principles on Business and Human Rights (UNGPs), which are consistent with the OECD Guidelines. The UNGPs require that companies, in carrying out their human rights due diligence process, “should pay special attention to any particular human rights impacts on individuals from groups or populations that may be at heightened risk of vulnerability or marginalization.”<sup>152</sup> This is confirmed by the Committee on Economic, Social and Cultural Rights (CESCR), which highlights in its General Comment on the Covenant’s obligation in the context of business activities that “among the groups that are often disproportionately affected by the adverse impact of business activities are [...] peasants [...] and other people working in rural areas.”<sup>153</sup> The group of 51 people seeking remedy with this complaint are particularly vulnerable given their low levels of education, dependence on subsistence farming, and lack of adequate means of protection against the health risks associated with the use of Syngenta AG’s product Polo. The CESCR recommends that business entities “exercise human rights due diligence in order to identify, prevent and mitigate the risks of violations of Covenant rights, to avoid such rights being abused, and to account for the negative impacts caused or contributed to by their decisions and operations and those entities they control on the enjoyment of Covenant rights.”<sup>154</sup>

Syngenta AG was therefore required to carry out due diligence tailored to the severe health risks associated with its product and the special vulnerability of the people to whom it marketed its product. The Responding Party has an existing mechanism designed to ensure due diligence through its corporate structure, which includes centralized data collection on injuries and investigation of poisoning reports. Despite room for improvement when it comes to risk assessment, the Submitting Parties are convinced that, by means of its corporate structure, the Responding Party was fully aware of the recurring pattern of pesticide poisonings in rural India well before the group of 51 were poisoned in the fall of 2017.

**149** “Commentary on General Policies,” in OECD Guidelines for Multinational Enterprises (2011), OECD Publishing,

para. 15, at 24. Online at [dx.doi.org/10.1787/9789264115415-en](https://dx.doi.org/10.1787/9789264115415-en), accessed 3 September 2020.

**150** “Commentary on Chapter IV, Human Rights,” in OECD Guidelines for MNEs, *supra* note 149, para. 45, at 34.

**151** “Guiding Principle 14,” in *The Corporate Responsibility to Respect Human Rights: An Interpretive Guide*, UN Doc. HR/PUB/12/02 (2012), at 18–19.

**152** See Commentary to “Guiding Principle 18,” in *Guiding Principles on Business and Human Rights, Implementing the United Nations “Protect, Respect and Remedy Framework*, UN Doc. HR/PUB/11/04 (2014), at 21.

**153** E/C.12/GC/24, CESCR, General Comment No. 24 (2017) on State obligations under the International Covenant on Economic, Social and Cultural Rights in the context of business activities, E/C.12/GC/24, 10 August 2017, para 8.

**154** *Ibid.*, para 16.

The Responding Party has, however, utterly failed to take the appropriate measures to respond to the identified risks. The OECD Guidelines state that where potential impacts are identified, they are to be addressed through prevention or mitigation.<sup>155</sup> The authoritative Commentary on General Policies further states that where the enterprise identifies a risk of causing an adverse impact in the context of its supply chain, it should take the necessary steps to cease or prevent that impact.<sup>156</sup> The Submitting Parties contend that Syngenta AG did not and still has not taken the appropriate steps to prevent or mitigate the risks it identified long before the poisonings of the 51 farmers in 2017.

Trainings allegedly carried out by the Responding Party do not reach all farmers and definitely did not reach the 51 farmers who seek remedy with this complaint. In addition, the effectiveness of such trainings is doubtful at best, and the Responding Party has by no means proven that its trainings have had any positive impact in ensuring “safe use” of its pesticides. Further measures to prevent or mitigate known risks were conceivable, but not taken by Syngenta AG. As the OECD Guidelines suggest, where enterprises have large numbers of suppliers, they are encouraged to identify general areas where the risk of adverse impacts is most significant and, based on this risk assessment, prioritize suppliers for due diligence.<sup>157</sup> While pesticide retail does not comprise a classic constellation of suppliers, the basic idea is easily translated to the present context. As Syngenta AG and its subsidiary in India operate with a large network of licensed dealers and distributors, with whom they have constant interaction, prioritizing due diligence efforts among those dealers and distributors where impacts are most significant is warranted. An obvious option for Syngenta and its Indian subsidiary would be to better scrutinize its distribution network to ensure the maintenance of sufficient and affordable stocks of professional PPE. In addition, improving and expanding ways and means to impart sufficient knowledge about the dangers of its products to end-users would be another measure. Yet, despite prior warning about unprotected use of pesticides, Syngenta AG did not take appropriate measures to ensure that all farmers who acquire its pesticides from its licensed dealers have access to affordable, adequate PPE that is suitable for the prevailing climatic conditions. Whether the PPE that the Responding Party currently recommends for using its product Polo is indeed suitable for the conditions in Yavatmal remains an open question. It is against this backdrop that, pursuant to Art. 3.6 of the ICoC, pesticides requiring “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.”<sup>158</sup> For the 51 farmers who seek remedy with this complaint, such measures will be too late, as they have already suffered adverse health impacts due to Syngenta AG’s failure to adequately respond to identified human rights risks and its consequential failure to prevent or mitigate them.

Even more reckless is Syngenta AG’s continued sale of its product Polo to the same market where the poisonings at the core of this complaint occurred. A sales stop and recall of existing Polo stocks, indeed measures generally recommended by FAO as appropriate to reduce health risks to small scale end-users, were arguably warranted before and certainly after the 2017 poisonings. As highlighted by the OECD Guidelines, human rights due diligence is an “on-going exercise, recognizing that human rights risks may change over time as the enterprise’s operations and operating context evolve.”<sup>159</sup> During the widespread reporting about pesticide poisonings in Yavatmal in 2017, the name of the Responding Party’s product Polo was frequently mentioned. Additionally, the report of the Special Investigation Team appointed by the government of Maharashtra, which the Responding Party often relies upon to highlight its good efforts, concludes that pesticides for which no known antidote exists should no longer be marketed. The Responding Party’s product Polo has no known antidote and, therefore, should no longer be sold. Yet, Syngenta AG simply continued its sale of Polo under the same conditions as before. Had the government not temporarily banned the active substance in Polo, the Responding Party would have likely never stopped its sale. Since these bans are now lifted, Polo sales continue unabated, further endangering the lives and health of additional farmers and farm workers in the district of Yavatmal and beyond.

**155** “Commentary on General Policies” in OECD Guidelines for MNEs, *supra* note 149, para. 14, at 23.

**156** *Ibid.*, para. 18, at 24.

**157** *Ibid.*, para. 16, at 24.

**158** See FAO/WHO ICoC, *supra* note 109, Art. 3.6, at 9.

**159** “Commentary on Human Rights,” in OECD Guidelines for MNEs, *supra* note 149, para. 45, at 34.

## FAILURE TO PROMOTE GOOD GOVERNANCE STRUCTURES THROUGHOUT THE COMPANY GROUP (CHAP. II A. 6)

The OECD Guidelines' chapter on general policies also highlights that businesses should support and uphold good corporate governance principles and apply good corporate governance practices, including throughout enterprise groups.<sup>160</sup> The commentary on general policies further elaborates that these principles require the board of the parent company to ensure compliance with all relevant laws and standards, and explains again that this principle extends to enterprise groups.<sup>161</sup> Syngenta AG has failed to ensure such compliance, as the Submitting Parties firmly believe that the sales practices of both Syngenta AG and Syngenta India Ltd. are in violation of applicable domestic law, in particular the Insecticides Act (1968) and the accompanying Insecticides Rules (1971), as well as the International Code of Conduct on Pesticides Management developed by FAO and WHO, which Syngenta AG has explicitly committed to uphold. Corporate good governance requires that Syngenta AG, the parent company, ensure respect for all of these laws and standards throughout its entire corporate group.

## FAILURE TO NOT CAUSE HUMAN RIGHTS VIOLATIONS (CHAP. II A.11, CHAP. IV 2)

According to Chap. II. A. 11 of the OECD Guidelines, enterprises should “avoid causing or contributing to adverse impacts on matters covered by the Guidelines, through their own activities and address such impacts when they occur.”<sup>162</sup> Chapter IV determines the framework for adverse human rights impacts by referring to the International Covenant on Civil and Political Rights (ICCPR); the International Covenant on Economic, Social and Cultural Rights (ICESCR); as well as workers' rights set out in the ILO Declaration on Fundamental Principles and Rights at Work. In the present case, Syngenta AG has gravely impacted several rights of the 51 farmers and farm workers seeking remedy through this complaint, namely their right to life (Art. 6 (1) ICCPR); right to health (Art. 12 ICESCR); right to decent working conditions, in particular to safe and healthy working conditions (Art. 7 (b) ICESCR); and right to an adequate standard of living (Art. 11 ICESCR).

The farmers and farm workers at the core of this complaint carried out their daily jobs without being provided sufficient information on the dangers of the product they were using. Warnings provided by the Responding Party were generally not suitable for informing the particular group of rural people buying its products of their prevalent health risks: a situation of which the Responding Party was fully aware. In addition, the pesticide labels and leaflets provided by the Responding Party were not in line with applicable domestic law standards or the international standards on pesticide management that the Responding Party is pledged to uphold. The Responding Party had full knowledge that effective and adequate PPE was not available to farmers and farm workers in their locality. Supplying its product Polo in such circumstances also violates ICoC standards on pesticide management. As a consequence, farmers had no means of using the Responding Party's product in a safe manner or of complying with the recommended precautions. Working conditions for both farmers and farm workers were thus characterized by great risks to their health. These risks subsequently materialized among the group of 51 farmers, who suffered from severe acute to long-term adverse health impacts. Further problems for family members, especially for affected farmers and farm workers' female partners, ensued. As a result of the poisonings, many were forced to not only carry out their prior duties, but also had to take on the additional responsibility of financially sustaining the family and caring for a sick partner.

The Responding Party had full access to NGO and academic reports about the conditions of pesticide use in India generally and Yavatmal and Maharashtra specifically, on top of their own significant data collection and analysis of past poisonings and incidents of pesticide misuse. The Responding Party nevertheless continued to aggressively market its products through a web of licensed dealers and distributors to maximize profits. In doing so, both Syngenta AG and Syngenta India Ltd. deliberately turned

<sup>160</sup> “Chapter II: General Policies,” in OECD Guidelines for MNEs, *supra* note 149, Sect. A.6, at 19.

<sup>161</sup> “Commentary on General Policies,” in OECD Guidelines for MNEs, *supra* note 149, paras. 8–9, at 22.

<sup>162</sup> “Chapter II: General Policies,” in OECD Guidelines for MNEs, *supra* note 149, Sect. A.11, at 20.

a blind eye to the patterns of pesticide use prevalent in Yavatmal and the well-known high rates of poisonings in the district, with all of its negative consequences for farmers' health and family welfare. The Responding Party, thus, through its own actions and omissions, caused serious human rights violations among the rural Indian population and, in particular, among the group of 51 farmers whose poisoning history is detailed in this complaint.

#### FAILURE TO PROVIDE REMEDIES (CHAP. IV 6)

In cases where companies have caused adverse human rights impacts, the OECD Guidelines mandate an adequate reaction. This reaction must be twofold. First, where an enterprise has caused adverse human rights impacts, it must address them,<sup>163</sup> particularly by ceasing the behavior causing the violations.<sup>164</sup> Secondly, where human rights violations have occurred, Chapter IV 6 stipulates that enterprises should provide for or co-operate through legitimate processes in the remediation of adverse human rights impacts where they identify that they have caused or contributed to these impacts. The same is also required under the industry specific International Code of Conduct on Pesticide Management, which demands that the pesticide industry “voluntarily take corrective action” when problems with pesticides occur.<sup>165</sup> More concretely, on the basis of the ICoC, Syngenta AG is required to “[...] keep track of major uses and the occurrence of any problems arising from the use of their products” that would, in turn, “serve as a basis for determining the need for changes in labelling, directions for use, packaging, formulation or product availability.” This requirement is enhanced when the impacted are “individuals from groups or populations that may be at heightened risk of vulnerability or marginalization.” The Responding Party has failed both to cease the behavior causing the violations and to remediate the negative impacts caused.

To begin with, Syngenta AG explicitly denies that its product Polo bears any responsibility for the wave of pesticide poisonings in Yavatmal in 2017, despite all evidence to the contrary. The Submitting Parties expect that, as a first step, the Responding Party will remedy the continuing violation of farmers' rights by recognizing its responsibility for the 2017 poisonings. As a result of its denial of involvement in the poisonings, the Responding Party has also failed to engage in activities to cease the ongoing adverse human rights impacts resulting from Polo's use and the company's sales practices. It has also failed to make any effort to mitigate remaining impacts among the farmers and farm workers' poisoned in 2017, though it has certainly had the chance to do so, given its strong position in the market and ongoing contractual relationships with licensed dealers and distributors. As a means to cease the violations, the same measures are warranted as those that Syngenta AG should have already taken after completing its initial risk assessment. At the very least, the Responding Party should ensure access to adequate and affordable PPE for all of its customers in areas similar to the district of Yavatmal. Where this is not feasible, it must recall all existing stocks of Polo and implement a sales stop.

While accepting responsibility and ceasing the violation would be an essential step in remedying the plight of impacted farmers, farm workers and their families, additional measures are needed to remedy the concrete losses experienced by the group of 51 farmers highlighted in this complaint. These farmers and farm workers have suffered severe negative health impacts, spent prolonged periods of time in the hospital and, in some cases, continue to suffer from the effects of their poisoning by the Responding Party's product Polo to this day. They have incurred costs from medical treatment, medication, as well as travel costs to and from hospitals and doctors' appointments. They have also suffered from loss of earnings due to physical inability to work during the time period of Polo's acute effects and, in several cases, due to reduced capacity to work in the long term. For both short and longer periods of time, their poisoning has meant family members have had to step in to care for them and attempt to compensate for their duties and earnings. In cases where this fell on their wives or other women family members, it often meant earning less for the same or similar types of activities performed by men. For many of the impacted farmers and farm workers, their family life has been destroyed and social interaction

**163** “Chapter IV: Human Rights,” in OECD Guidelines for MNEs, *supra* note 149, at 2.

**164** “Commentary on Human Rights,” in OECD Guidelines for MNEs, *supra* note 149, para. 42, at 33.

**165** See “Regulatory and technical requirements” in FAO/WHO ICoC, *supra* note 109, Art. 6.2.6, at 18.

severely impeded by the fact that sun exposure now leads to the resurrection of negative health impacts. In these circumstances, an adequate standard of living cannot be maintained for people who had already been among the poorest members of society before their poisoning by Polo. In the case of Farmer No. 27, who died due to Polo exposure, his life cannot be brought back, nor can he support his family as he would have for the next decades if the poisoning had not occurred.

To date, the affected farmers and farm workers have only received marginal financial emergency relief from the Maharashtra government, which certainly also bears responsibility for the poisonings. Yet, the government has at least started to provide relief and implement efforts to improve the situation of those affected. The Responding Party, in contrast, has done nothing of the sort, despite the fact that its product Polo was used by all 51 of the farmers and farm workers included in this complaint. Due to Polo's role in the poisonings, the Responding Party is to a large extent responsible for the financial losses suffered by the farmers and farm workers as a result of the poisonings. It is also the Responding Party's responsibility under the OECD Guidelines to financially remedy such losses.

Beyond the scope of remedy for the 51 affected individuals highlighted in this complaint, further changes in the Responding Party's business practices are required. Instead of increasing its efforts to adequately inform the public about the dangers of its product Polo in the wake of the Yavatmal poisonings in 2017, information on Polo's potential dangers is currently even less available than before, as the Responding Party has removed all information on Polo from its official Indian website, as if the product never existed. Moreover, scientific studies on Polo's dangers that are available to the Responding Party have yet to be released publicly, although they would contribute to a better medical understanding of the product and potential treatments for related poisonings. Despite the Responding Party's internal reporting scheme and central collection of information on poisoning incidents, the Responding Party has also never released any data on how many individuals have suffered poisonings due to Polo or its related product Pegasus, which shares the same active substance, Diafenthion. Through this deliberate withholding and obfuscation of available information, the Responding Party impedes an appropriate investigation of the poisoning incidents in India and continues to endanger the health and life of farmers and farm workers there and elsewhere.

#### FAILURE TO PROTECT CONSUMER INTEREST (CHAP. VIII 1, 2, 3, 7)

While the OECD Guidelines have a specific chapter on the protection of consumer interests, the term is undefined in the OECD Guidelines itself. Instead, the OECD Guidelines refer to the UN Guidelines for Consumer Protection of 1999, which also leave the term "consumer" undefined.<sup>166</sup> However, the UN Guidelines were revised in 2015 and currently define consumers as "natural persons, [...] acting primarily for personal, family or household purpose."<sup>167</sup> As mentioned before, all 51 individuals seeking remedy with this complaint are small-scale farmers or farm workers who participate in the farming business as a means to sustain their immediate livelihood and that of their families. As such, they should be considered "consumers" in the sense defined by the 2015 UN Guidelines. In addition, since the adverse human rights impacts examined in this complaint occurred in India, consumer definitions as established under domestic law in India are also germane. The relevant piece of legislation in this regard is the Indian Consumer Protection Act, which defines a consumer as any person who buys any good for non-commercial purposes, as well as any person who uses such a good with the approval of the purchaser when the good was not obtained for a commercial purpose.<sup>168</sup> Commercial purpose does not include use of a good by a person exclusively in the context of earning his livelihood by means of self-employment.<sup>169</sup> Both farmers cultivating crops as a means of sustaining their families and farm workers

<sup>166</sup> *UN Guidelines for Consumer Protection* (as expanded in 1999), UN Department of Economic and Social Affairs, UN Doc. E/1999/INF/2/Add.2 (2003). Online at [unctad.org/en/PublicationsLibrary/UN-DESA\\_GCP1999\\_en.pdf](http://unctad.org/en/PublicationsLibrary/UN-DESA_GCP1999_en.pdf), accessed 7 April 2020.

<sup>167</sup> UNGA Resolution 70/186 on Consumer Protection, UN Doc. A/RES/70/186 (4 February 2016), para. 3, at 4. Online at [unctad.org/meetings/en/SessionalDocuments/ares70d186\\_en.pdf](http://unctad.org/meetings/en/SessionalDocuments/ares70d186_en.pdf), accessed 7 April 2020.

<sup>168</sup> Consumer Protection Act, 1986, Government of India, at Section 2 (d) (i).

<sup>169</sup> *Ibid.*, Section 2 (e).

working for such farmers to sustain their own families, are therefore to be considered consumers under Indian law.

According to the Guidelines enterprises should ensure that the goods they provide meet all agreed or legally required standards for consumer health and safety, including those pertaining to health warnings and safety information.<sup>170</sup> In the same vein, according to Chapter VIII 2 companies should provide accurate, verifiable and clear information that is sufficient to enable consumers to make informed decisions, including information on content and safe use. The Guidelines also stipulate in Chapter VIII 8 that companies should take into consideration the needs of vulnerable and disadvantaged consumers when applying the above principles. Disadvantaged or vulnerable consumers include particular consumers or categories of consumers, who, because of personal characteristics or circumstances (like age, education, income, language or remote location), may experience particular difficulties in operating in today's information-intensive, globalized markets.<sup>171</sup>

The Responding Party did not respect any of these provisions based on the facts laid out in this complaint. Labels and leaflets for its pesticide Polo were not in accordance with applicable legislation and standards, and were generally not sufficient to enable consumers to make an informed decision based on a proper understanding of safe use. Even after the wave of poisonings in Yavatmal, the Responding Party withheld crucial information on characteristics of its product and the number of poisonings associated with it. All of this occurred in the context of a target group of customers that was and continues to be of special vulnerability.

Furthermore, pursuant to Chapter VIII 3 of the OECD Guidelines, companies should provide consumers with access to fair, easy to use, timely and effective non-judicial dispute resolution and redress mechanisms, without unnecessary cost or burden. As the Responding Party continues to deny any responsibility for its product Polo's poisoning of farmers and farm workers, leading to significant adverse health impacts, it does not even come close to respecting this provision.

Finally, companies should cooperate fully with public authorities to diminish or prevent serious threats to public health and safety deriving from the consumption or use of their goods.<sup>172</sup> While the Responding Party claims to have fully cooperated with government authorities in India, effects on the ground in terms of reducing the risks to farmers are not visible. In addition, the Responding Party's aforementioned refusal to fully disclose incidents of poisoning linked to Polo and its similar product Pegasus, as well as relevant scientific information on their toxicity, also demonstrates a lack of cooperation with public authorities.

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170 "Chapter VIII," in OECD Guidelines for MNEs, *supra* note 149, Sect. 1, at 49.

171 "Commentary on Consumer Interest," in OECD Guidelines for MNEs, *supra* note 149, para. 92, at 54.

172 "Chapter VIII," in OECD Guidelines for MNEs, *supra* note 149, Sect. 7, at 51.



## EXPECTATIONS

If, on the basis of presented facts, the NCP decides to admit this case and reaches the conclusion that the Responding Party has indeed violated the OECD Guidelines, the Submitting Parties have the following expectations towards the company:

### THE RESPONDING PARTY PARTICIPATES IN GOOD FAITH

- The Responding Party takes an active part in the mediation process in good faith and commits to long-term engagement for resolution of the issues raised.<sup>173</sup>

### THE RESPONDING PARTY PROVIDES REMEDY FOR THE HARM CAUSED

- The Responding Party accepts responsibility for harm that has occurred to the farmers, farm workers and community at large.
- The Responding Party provides financial compensation to aggrieved farmers and farm workers included in this complaint.
- The Responding Party sets up a scheme through which additional farmers and farm workers who also suffered adverse health impacts after using Polo can request financial compensation.
- The Responding Party acknowledges the hardships vulnerable farmers continue to face, does not indulge in blaming the victims of pesticide poisonings, and ensures that poisoning victims do not face any pressure by any entity related to the Responding Party's business.

### THE RESPONDING PARTY PROVIDES REMEDY FOR CONTINUING VIOLATIONS

- The Responding Party halts sale of its product Polo—and all other products whose handling and application require the use of personal protective equipment—to small-scale users and farm workers in rural India and recalls existing stock.
- The Responding Party ensures that warnings on the labels and leaflets of all its products are effective in informing end-users about health risks and are in full compliance with domestic legislation as well as the ICoC and its accompanying Guidelines on Good Labelling Practice.
- The Responding Party contributes to a better understanding of the issue and protection of farmers in the future by being more transparent through:
  - The release of scientific studies (submitted for registration) of its product Polo to enable doctors to apply correct treatment
  - The release of scientific studies (submitted for registration) of its product Pegasus also sold in India and based on the identical active substance, Diafenthiuron
  - The release of internal information on poisoning incidents collected by employees on the basis of the company's Code of Conduct<sup>174</sup> for Polo and Pegasus in India over the last five years
  - The release of information on poisoning incidents collected by employees on the basis of the company's Code of Conduct<sup>175</sup> for its entire set of products, disaggregated by product name, active substance, location and time of poisoning

<sup>173</sup> See "Commentary on the Procedural Guidance for NCPs," in OECD Guidelines for MNEs, *supra* note 149, para. 21, at 81: "Good faith behaviour in this context means responding in a timely fashion, maintaining confidentiality where appropriate, refraining from misrepresenting the process and from threatening or taking reprisals against parties involved in the procedure, and genuinely engaging in the procedures with a view to finding a solution to the issues raised in accordance with the Guidelines."

<sup>174</sup> See Syngenta Code of Conduct, *supra* note 117, at 25.

<sup>175</sup> *Ibid.*

- The release of data obtained through the company’s new monitoring system to track the effectiveness and impacts of training programs<sup>176</sup> in India<sup>177</sup>
- The notification of the Submitting Parties when public release of the above information has taken place and indicating where the information can be found

## ANNEXES

- 1 PAN India, Pesticide Poisonings in Yavatmal District in Maharashtra: Untold Realities
- 2 Public Eye, The Yavatmal Scandal: A Public Eye Investigation, September 2018
- 3 Shishir Ayra, , ‘Polo is among the toxic pesticides’, 17 October 2017, Times of India
- 4 Medienmitteilung Syngenta International AG, ‘Stellungnahme: Medienberichterstattung zum Einsatz von Pflanzenschutzmitteln in Yavatmal (Indien)’, 18 September 2018
- 5 Agriculture, Animal Husbandry, Dairy Development and Fisheries Department, Notification, 1st November 2017; Agriculture, Animal Husbandry, Dairy Development and Fisheries Department, Notification, 15th September 2018
- 6 State government of Maharashtra, Report of the Special Investigation Team with Regards to Poisoning to Some and Death of Some Farmers/Farm Workers During Spraying Pesticide in Yavatmal District, 13 October 2017
- 7 G. A. Matthews, Attitudes and behaviours regarding use of crop protection products—a survey of more than 8500 smallholders in 26 countries, *Crop Protection* 27 (2008) 834–846
- 8 John Atkin, Klaus M. Leisinger, Safe and Effective Use of Crop Protection Products in Developing Countries, 2008, Chapter 4 India
- 9 Mohanty, Manoj, et al., *J Forensic Leg Med* 20 (2013): 1028–1031
- 10 Anjali Singh and Mandeep Inder Kaur, A Health Surveillance of Pesticide Sprayers in Talwandi Sabo Area of Punjab, North-West India, *Journal of Human Ecology*, 37 (2), 133–137, 2012
- 11 *Our Commitment to Integrity and Responsibility: The Syngenta Code of Conduct* (2016), Syngenta International AG
- 12 Table with individual information on affected farmers and farm-workers

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<sup>176</sup> See “Help people stay safe,” in Syngenta AG, *supra* note 131, at 10.

<sup>177</sup> See Good Growth Plan Progress Data, *supra* note 128, at 5.

FARMER	DATE OF POISONING	FARMER (F) FARM WORKER (FW) BOTH (FFW)	POLO ONLY (Y) OR IN A MIXTURE (NO)	USE OF RECOMMENDED PPE	DETAILS OF ACUTE HEALTH IMPACTS	LONGER-TERM HEALTH IMPACTS	TRAINING ON PESTICIDE USE RECEIVED FROM SYNGENTA	DURATION OF HOSPITALIZATION (DAYS)	EVIDENCE REVIEWED	EMERGENCY RELIEF RECEIVED IN RUPEES/SWISS FRANCS
NO.1	25.09.17	F	No	Mask	Loss of sight, eye irritation, vomiting, nausea, diarrhea, headache, giddiness, dizziness, weakness, pain in limbs	Not reported	No	3	Discharge card, interview	5000/60
NO.2	10.09.17	FW	Yes	Only T-shirt and trousers. No PPE	Blurred vision, eye burn/irritation, vision affected, vomiting, dizziness, unconsciousness, restlessness, weakness, skin burn	General weakness, eye burn, eye irritation, eye watering while in the sun, reduced capacity to work	No	16	Discharge card, police record, interview	5000/60
NO.3	28.09.17	F	No	Cloth around mouth and nose	Loss of sight, eye irritation, watering eyes, nausea, vomiting, unconsciousness	Not reported	No	7	Discharge card, interview	5000/60
NO.4	01.10.17	FW	No	No PPE	Loss of sight, nausea, vomiting, loose motions, dizziness, weakness, pain in limbs	Weakness	No	31	Discharge card, interview	5000/60
NO.5	01.09.17	FW	Yes	During preparation: cloth to cover mouth; During spraying: helmet, goggles, cloth to cover mouth, clothing with long sleeves and full pants	Loss of sight, nausea, vomiting, dizziness, headache, weakness, pain in limbs, skin burn	Weakness	No	Not reported	Clinical lab reports, interview	5000/60
NO.6	24.09.17	FW	No	Helmet, clothing with long-sleeves, trousers, shoes, scarf	Loss of sight, redness, blurred vision, nausea, vomiting, dizziness, fever, chills, headache, unconsciousness, general weakness, skin burn, body pain	Unconsciousness, eye burn, dizziness, blurred vision, sudden faintness, frequent headaches, chronic weakness, blurred vision when exposed to sunlight	No	3	Discharge card, interview, interview with relative	5000/60
NO.7	21.09.17	FW	Yes	No PPE	Loss of sight, vomiting, giddiness, unconsciousness	Not reported	No	14	Discharge card, police record, interview	5000/60
NO.8	01.09.17	F	No	Cloth around mouth and nose	Loss of sight, vomiting, diarrhea, giddiness, unconsciousness, headache	Not reported	No	7	Discharge card, interview	
NO.9	02.10.17	FFW	No	Covered his mouth with a handkerchief	Watering eyes, loss of sight, blurred vision, nausea, vomiting, tingling, numbness, weakness, swollen face, skin irritation, itchy boils, burning and tingling in his hands	Eyesight deteriorated, frequent headaches, decreased appetite, stomach problems, knee and motion problems, reduced capacity to work	No	4	Discharge card, interview	5000/60
NO.10	September 2017	FW	No	No PPE	Loss of sight, nausea, vomiting	Not reported	No	Not reported	Hospital prescription, interview	
NO.11	September 2017	FW	No	Cloth to cover mouth and nose	Loss of sight, eye irritation, nausea, unconsciousness, giddiness, skin burn	Not reported	No	2	Discharge card, interview	5000/60
NO.12	September 2017	FW	No	No PPE	Loss of sight, eye irritation, vomiting, unconsciousness, skin burn	Not reported	No	Not reported	Discharge card, interview	
NO.13	27.09.17	FW	Yes	Handkerchief to cover mouth and nose	Eye burn, loss of sight, vomiting, dizziness, weakness, skin burn	Weakness	No	5	Discharge card, interview	5000/60
NO.14	24.09.17	F	No	Cloth around mouth	Eye burn, loss of sight, nausea, vomiting, diarrhea, headache, unconsciousness, weakness, skin burn, itching	Blurred vision for months, watering eyes, burning sensation when exposed to sun, frequent dizziness, headaches, feels weaker than before	No	2	Discharge card, interview, interview with relative	5000/60
NO.15	01.09.17	FW	No	No PPE	Loss of sight, eye irritation, skin irritation, skin burn	Not reported	No	Not reported	Hospital prescription, interview	
NO.16	17.09.17	FW	No	Handkerchief to cover his mouth	Loss of sight, nausea, headache, loose motion, dizziness, weakness, needed support to stand upright	Reduced capacity to work due to weakness, blurred vision, itchiness in eyes when exposed to sun, continuous headaches	No	5	Discharge card, interview	5000/60
NO.17	30.09.17	FW	Yes	No PPE	Vomiting, dizziness, unconsciousness, weakness	Weakness	No	Not reported	Discharge card, interview	5000/60
NO.18	September 2017	FFW	Yes	Cloth around mouth and nose	Loss of sight, blurred vision, nausea, vomiting, dizziness, giddiness, weakness	General weakness	No	4	Discharge card, interview, interview with relative	5000/60
NO.19	October 2017	F	No	Cloth around mouth and nose	Loss of sight, eye irritation, nausea, vomiting, dizziness, unconsciousness, skin burn	Not reported	No	4	Discharge card, interview	5000/60
NO.20	October 2017	F	No	No PPE	Loss of sight, dizziness, unconsciousness	Forgetfulness	No	19	Discharge card, interview	5000/60
NO.21	September 2017	F	Yes	Handkerchief to cover mouth and nose	Vomiting, dizziness, giddiness, loose motion, weakness	Weakness	No	13	Discharge card, interview	5000/60
NO.22	01.10.17	FW	Yes	No PPE	Loss of sight, eye burn, watering, unconsciousness	Not reported	No	3	Discharge card, interview	
NO.23	October 2017	FW	No	No PPE	Loss of sight, eye burn	Not reported	No	Not reported	Hospital prescription, discharge card, interview	5000/60
NO.24	September 2017	FFW	Yes	Helmet	Pain in the eyes, redness, watering in the eyes, loss of sight	Not reported	No	3	Discharge card, interview	5000/60
NO.25	17.09.17	FFW	No	Cloth around mouth and nose	Loss of sight, eye burn, watering, redness, vomiting, headache, general weakness, swelling of eyes	Eye burn, watering eyes, blurred vision while in sunlight, unable to read and identify letters	No	6	Discharge card, interview	
NO.26	23.09.17	FFW	No	Scarf or cloth around mouth, sometimes goggles, no shoes only slippers, long sleeved shirt and long trousers	Eye burn, vomiting, diarrhea, stomach pain, dizziness, loose motion, arms and legs jerked	Reduced capacity to work, easily exhausted, dizziness at work, continuous stomach problems, eye watering and headaches in sunlight	No	16	Purchase bill, discharge card, interview, interview with relative	5000/60
NO.27	14.09.17	F	No	Cloth around mouth and nose	Loss of sight, eye burn, eye irritation, skin irritation, skin burn	Eye problems in sunlight	No	1	Police record, interview	
NO.28	not specified	FFW	No	No PPE	Loss of sight, eye burn, eye irritation	Not reported	No	not reported	Police record, interview	
NO.29	06.10.17	FFW	Yes	No PPE	Watering eyes, eye irritation, blurred vision, loss of sight, nausea, unconsciousness, weakness, tingling and numbness, skin irritation	Reduced capacity to work, when exposed to sun eyes hurt and skin is irritated, generally eye problems, blurred vision, physically not fit	No	5	Discharge card, interview	5000/60
NO.30	08.10.17	FFW	No	During preparation: cloth to cover the mouth; During spraying: cloth to cover the mouth, irregularly and not consistently goggles.	Blurred vision, loss of sight, eye irritation, watering of eyes, nausea, dizziness, skin burn	Not reported	No	16	Discharge card, interview, interview with relative	5000/60
NO.31	20.09.17	F	No	Cloth around mouth and nose, normal clothing	Eye burn, eye irritation, loss of sight, nausea, vomiting, dizziness, giddiness, feeling as if unconsciousness is coming, general feeling of weakness	Reduced capacity to work, weakness, blurry vision sometimes in daytime, eyes are weaker	No	13	Discharge card, interview, interview with relative, police record	5000/60
NO.32	03.09.17	F	No	Normal clothing	Nausea, vomiting, giddiness, skin burn	Not reported	No	6	Discharge card, interview	5000/60
NO.33	29.09.17	F	Yes	Normal clothing and scarf	Eye irritation, eye burn, loss of sight, vomiting	Not reported	No	4	Discharge card, interview, police record	5000/60
NO.34	29.09.17	FFW	No	Rubber boots, simple long-sleeved shirt, long trousers and a towel on his face	Eye irritation, eye burn, watering of eyes, loss of sight, vomiting, nausea, giddiness, dizziness, arms and legs jerked, tied to bed in hospital, general sense of weakness, skin irritation	General sense of weakness, vertigo, cannot make direct contact to sunlight, photophobia	No	4	Discharge card, interview, interview with relative, police record	5000/60
NO.35	28.09.17	F	No	Scarf, sunglasses	Watering eyes, eye irritation, severe eye pain, itching, loss of sight, nausea, dizziness, unconsciousness, general weakness, skin burn	Reduced capacity to work, pain in body, eyes water whenever exposed to sun	No	5	interview, interview with relative, police record	5000/60
NO.36	01.11.17	F	No	Cloth to cover mouth and nose	Eye burn, loss of sight, eye irritation, diarrhea, vomiting, nausea, dizziness, unconsciousness, swelling in the chest, skin burn	Reduced capacity to work, headaches, body has problems standing for long time	No	10	Discharge card, interview	5000/60
NO.37	25.09.17	FW	No	No PPE	Eye burn, loss of sight	Not reported	No	19	Discharge card, interview, police record	
NO.38	06.10.17	F	No	Cloth to cover mouth and nose, helmet	Eye burn, loss of sight, eye irritation, nausea, vomiting, dizziness, unconsciousness, general feeling of weakness, tingling arms and legs	Not reported	No	16	Discharge card, interview, police record	5000/60
NO.39	06.10.17	FW	No	No PPE	Eye burn, loss of sight, eye irritation	Difficulties to see in sunlight	No	1	Prescription, interview, police record	
NO.40	September 2017	FW	Yes	No PPE	Eye burn, loss of sight, eye irritation, headache	Not reported	No	not reported	Police record, interview	
NO.41	16.09.17	F	Yes	Cloth to cover mouth and nose	Eye burn, loss of sight, eye irritation	Eye burn, reduced capacity to work	No	14	Treatment record, interview, police record	
NO.42	13.09.17	FW	No	Mask bought in a store, cloth to cover mouth and nose, helmet and clothing with long sleeves and full pants	Eye burn, loss of sight, eye irritation, nausea, vomiting, dizziness, skin burn	Eye burn and eye problems in sunlight	Unanswered	3	Police record, interview	
NO.43	August 2017	FW	Yes	Cloth to cover mouth and nose	Vomiting, dizziness	Dizziness, giddiness	Unanswered	not reported	Police record, interview	
NO.44	not specified	no information provided	N	No PPE	Eye burn, loss of sight, eye irritation	Not reported	No	not reported	Police record, interview	
NO.45	not specified	FW	Yes	Cloth to cover mouth and nose	Vomiting, dizziness	Not reported	No	Not reported	Police record, interview	
NO.46	13.09.17	F	No	No PPE	Loss of sight, eye burn, eye irritation, dizziness	Eye problems in sunlight	No	1	Police record, interview	
NO.47	08.10.17	FFW	No	Cloth to cover mouth and nose	Loss of sight, eye burn, eye irritation	Not reported	No	1	Police record, interview	
NO.48	not specified	FFW	No	Cloth to cover mouth and nose	Loss of sight, arms and legs jerked	Reduced capacity to work, loose motions, body pain	No	not reported	Police record, interview	5000/60
NO.49	September 2017	F	Yes	Cloth to cover mouth and nose	Loss of sight, eye burn, eye irritation	Not reported	No	not reported	Police record, interview	
NO.50	September 2017	FW	No	No PPE	Loss of sight, eye burn, eye irritation, dizziness	Eye problems, reduced capacity to work	Unanswered	Not reported	Police record, interview	
NO.51	not specified	FW	Yes	Cloth to cover mouth and nose	Loss of sight, eye burn, eye irritation, dizziness	Eye burn, eye problems in the sunlight	No	not reported	Police record, interview	