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Dangerous fertilisers:

Swiss traders and human rights

violations in Morocco



Safi's OCP factory emits large quantities of pollutants. ©SWISSAID

Summary¹

I. Main results

Morocco is home to one of the biggest phosphate fertiliser producers in the world: the Office Chérifien des Phosphates (OCP), a company owned by the Moroccan state. Phosphate fertilizer production in Morocco violates the right to health of the workers and of people in the local communities and has a negative impact on the environment. This report shows that many workers are suffering from respiratory diseases and cancers as a result of prolonged exposure to pollutants and fine dust. Numerous instances have been reported of workers dying as a consequence of these diseases. People in the local

communities are also impacted by the pollution (especially by acquiring respiratory diseases and dental fluorosis). Finally, the pollution also affects agriculture and livestock in the villages bordering the OCP sites.

Companies based in Switzerland have links to these abuses: Switzerland hosts about 20 trading houses involved in the fertiliser trade at international level. At least 11 trading houses have commercial links with OCP: Actatrade, Yara Switzerland, LAD Trade, Vertiqal, Mekatrade, Helm, Ameropa, Indagro, Keytrade and Mambo, as well as a subsidiary of OCP in Geneva.

II. Phosphate in Morocco, human rights abuses and damage to the environment

The aim of this report is to analyse the conditions in which OCP produces phosphate fertilisers in Morocco in terms of respect for human rights and damage to the environment. This report examines OCP’s perspective on human rights and the responsibilities of the Swiss-based fertiliser traders in light of the United Nations’ Guiding Principles on Business and Human Rights. This report is based on research conducted by representatives of *Bread for all* and SWISSAID in Morocco in February and March 2019. More than 50 people were interviewed. The observations of this report have been confirmed by several scientific studies², legal expert reports³ and trade union reports⁴.

The main findings of this report were sent to OCP. The company has reacted to the findings and its views have been incorporated into its various chapters

2.1. The Office Chérifien des Phosphates

The Office Chérifien des Phosphates (OCP), established in 1920, is the world’s largest producer of phosphate rock (with 34.8 million tonnes) and the second largest producer of phosphate fertilizers (with 9.2 million tonnes). 95 per cent of OCP

is owned by the Moroccan state. OCP has a trading subsidiary in Geneva (Saftco SA).

OCP has inland mines, but processing and upgrading activities are carried out at the Safi and Jorf Lasfar sites on the Atlantic coast. Both sites are surrounded by villages. The OCP site is located 10 km from the town of Safi (308,000 inhabitants).

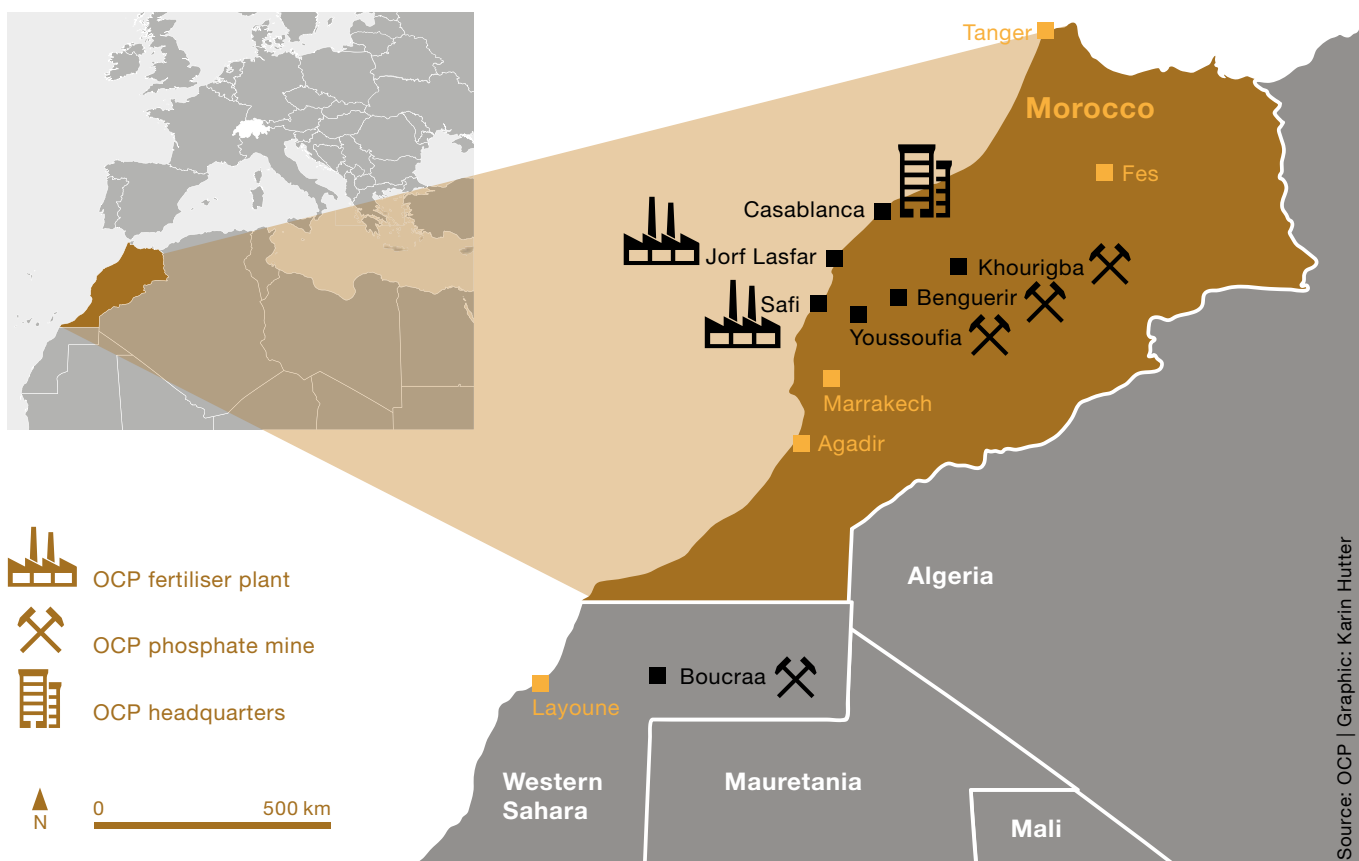
2.2. Pollution caused by fertiliser production

Fertiliser production is a highly polluting business: it pollutes the air with sulphur dioxide (SO₂), sulphur trioxide (SO₃), hydrogen sulphide (H₂S) and hydrogen fluoride (HF), as well as fine and coarse dust. These substances have been found to cause respiratory diseases and/or cancers. Fertiliser production results in large quantities of waste such as phosphogypsum. Phosphogypsum contains uranium and is stored in huge piles alongside the factories. Phosphogypsum is the world’s biggest source of very weak radioactive waste.

2.3. Workers’ health

Safi OCP

All workers questioned by the research team stated that a large number of OCP employees, both current and retired, suffer from respiratory diseases or cancer. These illnesses are the cause of



death of many former workers. The people interviewed made a connection between repeated exposure to toxic gases and fine dust in their workplace and the illnesses and deaths. For several years, unions have been concerned about the abnormally high death rate among OCP agents and retirees. The unions demanded statistics from OCP, which they did not obtain.

Our measurements of the air quality showed an extremely high level of fine particle pollution around the OCP Safi site. In February and March 2019, the research team found between 150 and 400 $\mu\text{g}/\text{m}^3$ (microgrammes per m^3) of fine particles (PM2.5, particulate matter less than 2.5 microns in diameter): this is between 6 and 16 times higher than the maximum daily guideline value of 25 μg of fine particles (PM2.5) per m^3 recommended by the World Health Organisation (WHO). These high concentrations of fine particles put the health of workers and also that of local people at serious risk.

In 2012 the Centre for Social and Historical Studies and Documentation on Phosphates, which is affiliated with a trade union, published a damning report on the state of health of 4,000 OCP employees. The report painted an alarming picture of the frequency of illnesses: for example, the rate of respiratory system infections was as high as 37% in 2012, while 62% of the workers were exposed to dust, gases and radiation at their work station. According to trade union sources, these

numbers are still valid for 2019 since the situation regarding health at work has not improved.

These negative impacts of OCP on employee health had already been documented in a report by the Swiss German television station SRF in 2015 in Safi and in two investigations by the Guardian and the Swiss newspaper Neue Zürcher Zeitung conducted in 2015 and 2014, respectively.

Among 4,000 OCP employees examined, 37% exhibit infected respiratory tracts

Jorf Lasfar OCP

The situation in Jorf Lasfar is practically the same as in Safi. All workers interviewed by the research team stated that a high number of current and retired employees of OCP suffer from respiratory diseases and cancers. Many of whom have died.

Our measurements of the air quality in February and March 2019 showed a high level of fine particle pollution around the Jorf Lasfar OCP site. The research team measured between 25 and 125 $\mu\text{g}/\text{m}^3$ of fine particles: the lowest value corresponds to the WHO's maximum daily guideline value, while the highest value exceeds five times that value.



The level of particulate matter (PM2.5) in the vicinity of the OCP factories is massively above WHO limits. ©SWISSAID

2.4. Health of the local communities

Villages around the Safi OCP site

Our measurements of the air quality in the village of El Buret, located a few hundred meters from the Safi OCP site, also showed a high level of fine particle pollution: we measured 80 to 100 µg/m³ of fine particles, three to four times higher than the WHO guidelines.

In our interviews in El Buret the villagers complained about eye irritation when the wind blows fumes from the Safi OCP factory towards them. The villagers notice a strong smell of sulphur: this comes from sulphuric acid fumes which cause eye irritation and respiratory diseases.

The research team met several villagers whose teeth had turned brown. The villagers spoke of fluorine poisoning, which causes dental fluorosis: this disorder causes brown patches to appear on the teeth. If the disease reaches an advanced stage, the teeth fall out. The villagers also noted a fine layer of dust regularly covering the ground in the morning. This dust comes from piles of phosphate mounted around the site.

The town of Safi

Safi is a town with a population of 308,000, located about 10 km from the Safi OCP chemical complex (the first suburbs of the city are located two kilometres from the site). The inhabitants of the town of Safi whom we interviewed in February 2019 regularly complained about emissions from the factory: several people said that toxic emissions and dust from the OCP complex can regularly be detected as far away as the town of Safi, and that townspeople suffer from respiratory and eye diseases because of them.

Children told how they were forced to cover their noses with a rag on the way to school because of toxic emanations coming from the OCP factory.

Villages in the neighbourhood of the Jorf Lasfar OCP

In the villages surrounding the OCP site in Jorf Lasfar, the people interviewed in March 2019 spoke of “strong smells of acid, fluorine and ammonia, especially at nightfall”⁵. The research team measured between 25 and 125 µg/m³ of fine particles: the lower value corresponds to the value recommended by the WHO, while the higher value is five times that of the WHO. Children told the researchers how they were forced to cover their noses with a rag on the way to school because of the strong chemical smell and toxic emanations coming from the OCP factory.



Piles of phosphate near the Safi OCP factory. ©SWISSAID

2.5. Measures taken by OCP and recommendations

The research team found no information on the OCP website regarding the measures taken to protect the health of employees and residents. The OCP provided incomplete answers to the authors' questions on these measures.

OCP stated that it has a health and safety policy and a health and safety management system. According to the company, its HSE (Health, Safety and Environment) strategy is based on an 18-axis program and follows 18 different standards. In addition, the OCP claims to have procedures in place to ensure compliance with the requirements of Moroccan labour legislation and the standards of the International Labour Organization.

OCP is gradually introducing new technology on three production lines that will lead to a drastic reduction of sulphur dioxide (SO₂) emissions. These measures are to be welcomed. Nevertheless, OCP did not answer the authors' questions about how it intends to cut emissions of other pollutants like sulphur trioxide (SO₃), hydrogen sulphide (H₂S), hydrogen fluoride (HF), nor those of fine and coarse dust.

OCP says it monitors coarse dust (PM₁₀) and sulphur dioxide (SO₂). The values measured by OCP in February and March 2019 were, according to OCP, below national and international standards. OCP did not report its PM₁₀, SO₂, SO₃, hydrogen



Many donkeys near the OCP factories suffer from dental fluorosis. © SWISSAID



Waste water from the Safi OCP factory is discharged directly into the sea. © SWISSAID

sulphide (H₂S) and hydrogen fluoride (HF) measurements on and around its sites, despite requests from the research team.

According to interviews conducted in February 2019 by the research team, the workers have been issued with personal protective equipment (PPE). The equipment, however, is not able to filter the toxic gases and dusts to which the workers are exposed satisfactorily.

Recommendations for OCP

According to the information available to the authors, it appears that there are significant gaps in the management of the health of employees and residents. OCP should quickly implement measures to protect the health of employees and residents. OCP should: 1) rapidly install SULFACID technology on all its production lines; 2) take comprehensive and effective measures to protect the health of all its workers, such as better performing gas masks, regular health checks and investments in clean technologies; 3) monitor the effect of these measures based on indicators; 4) communicate on how impacts are handled; 5) put in place an effective system to compensate employees who have contracted diseases in the workplace; and 6) track data on the number of workers affected by diseases and/or accidents and the number of workers killed, and communicate this data to unions. OCP should also publish accurate data on its emissions of SO₂, SO₃, hydrogen sulfide (H₂S), hydrogen fluoride (HF), PM10 and PM2.5 at its sites and in nearby villages.

2.6. Environmental pollution and its impact on agriculture

According to the people interviewed in several villages in the vicinity of the OCP sites, donkeys and sheep suffer from dental fluorosis because of fluorine pollution (brown teeth). This disease starts with brown patches that damage the teeth and progresses until the animals lose their teeth. Once they are no longer able to feed, they die. This creates a serious loss of earnings for the farmers. A study of livestock health conducted by the University of El Jadida in 2011 confirmed the fluorine pollution. It concluded that 60% of the livestock in the region was suffering from dental fluorosis.

The villagers explained that tree growth has slowed down due to the pollution and that many tree crops (like olives and figs) have dried up or have become less productive, furthermore creating a loss of earnings for the peasants. An expert legal report ordered by the Marrakesh court in 2013 also confirmed that the surrounding villages were exposed to air pollution and that the productivity of trees has dropped.

The pollution was confirmed in 2018 by a lawyer of the Ministry of Equipment, Transport, Logistics and Water. The lawyer stated that the area is no longer of interest to investors. According to farmers, OCP has been pursuing a policy of buying back farms and land around its Safi site for several years. According to them, the objective of OCP is to relocate farms away from its site to avoid having to pay compensation for the pollution caused.

2.7. Water pollution

The analysis of our water samples taken in February 2019 in Safi and in Jorf Lasfar shows that the industrial effluents discharged into the sea are polluted with uranium (0.27 to 0.45 mg/l). The uranium comes from a material called phosphogypsum, which is a byproduct of the manufacture of phosphate fertilisers and is itself contaminated with uranium. Although phosphogypsum can be a source of pollution and eutrophication of the environment, the research team is not in a position to confirm that these discharges have a negative impact on the marine ecosystem.

It should be noted that the results of the February 2019 water analysis do not show a high concentration of heavy metals. However, water pollution has been confirmed by two scientific studies: one by the National Institute of Fisheries Research and the other by the Ibn Zohr University, both indicating the accumulation of heavy metals which can be “explained by the impact of discharges from the phosphate processing plants based in Jorf Lasfar and Safi”.

2.8. Analysis of the due diligence of OCP and recommendations

This report concludes that OCP is performing due diligence in an incomplete manner:

- OCP has carried out an incomplete assessment of its human rights violations and environmental impacts (no Environmental and Social Impact Assessment is available, for example);
- OCP is taking some measures to reduce the negative impacts of its activities, including introducing health and safety management systems and taking measures to reduce its SO₂ emissions. These measures are insufficient because many workers continue to contract diseases and local residents and agriculture are negatively affected;
- OCP does not sufficiently verify the effectiveness of its measures on the basis of precise indicators and with local populations.

OCP communicates very poorly: on its website, general information is given on certain environmental measures. OCP should communicate in a public and transparent manner on its actions and programs for the health of employees or residents as well as on its measurements of pollutants and dust.

In view of the major negative impacts of OCP on the health of its workers, the local community and the environment, the company should take urgent measures to stop the violations of the right to health and put an end to the pollution. The measures aimed at reducing SO₂ emissions are only a first step in the right direction; other urgent measures also need to be taken.

Energy management and management systems

OCP seems to have made significant progress in recent years in the field of energy: the company claims to be supplied with “clean electricity” (wind power or cogeneration) at a rate of 70%. OCP produces its own electricity through heat recovery systems (cogeneration) in the production units of the transformation sites (Safi and Jorf Lasfar). The Moroccan firm claims to have Environmental Management Systems (EMS) for both the Jorf Lasfar and Safi plants that are certified according to the international standard ISO 14001. In addition, OCP has built a pipeline to transport phosphate from the Khouribga mine to the Jorf Lasfar site. According to the company, this project “avoids emissions of 400,000 tonnes of CO₂/year”.

Under the UN Guiding Principles on Business and Human Rights, OCP should set out a human rights policy. Then OCP should put in place the various elements of due diligence regarding human rights. It should (1) assess actual and potential impacts; (2) integrate the findings of these assessments and act on them; (3) keep track of the ways in which these impacts are addressed; and (4) make them public.

III. Fertiliser trading companies based in Switzerland

Switzerland is one of the world's largest commodity trading hubs. There are 570 trading companies in Switzerland that constitute more than 3.8% of the Swiss GDP. Although the volumes of certain commodities traded in Switzerland, such as crude oil (39%) and coffee (53%), are known, no statistics are available on the proportion of fertilisers traded in Switzerland. The Swiss Trading and Shipping Association (STSA) does not collect statistics for this sector.

3.1. Saftco, an OCP subsidiary

OCP has set up its own commodity trading subsidiary in Geneva called Saftco SA. Saftco's purpose is to trade commodities including phosphate, fertilisers and chemicals. In 2017, it marketed more than 300,000 tonnes of fertiliser. Saftco does not have a website and there is no public information available on their due diligence procedures.

3.2. Swiss traders' links to OCP

Switzerland is home to about 20 trading companies active in the trading of fertilisers. Given their involvement in fertiliser



The type of agriculture pushed by OCP is not sustainable. ©Kostic Dusan | 123RF

trading and the fact that OCP is one of the world's biggest producers of phosphate fertilisers, it is probable that these companies are trading OCP products. The authors of the report sent these companies a questionnaire to ask them if they purchase phosphate products from OCP and if they use human rights and environmental criteria to assess producers' practices. Of the 22 companies contacted, four responded to the authors' requests (Yara, Keytrade, Ameropa and Mambo). These companies have commercial links with OCP and stated having failed to carry out a detailed human rights analysis of OCP.

Although traders are very opaque and do not publish any information, this research showed that, apart from five companies mentioned above, at least six other companies have commercial links with OCP. These are Actatrade, LAD Trade, Vertiqal, Mekatrade, Helm, and Indagro.

In 2018, the Federal Department of Foreign Affairs (FDFA) and the State Secretariat for Economic Affairs (SECO) published a guidance on the implementation of the UN Guidelines on Business and Human Rights for the commodity trading sector. This guidance provides a catalogue of practices illustrated with examples to conduct a human rights due diligence procedure.

This report shows that fertiliser traders based in Switzerland have not adopted the recommendations of this handbook. Indeed, according to the public information available to the authors, the companies analysed have not adopted a human rights policy or due diligence procedures with regard to respect for human rights vis-à-vis their suppliers.

At least eleven fertilizer trading companies based in Switzerland have commercial links with OCP.

3.3. Demands to Swiss fertiliser traders

In view of the violations of human rights in which, according to this report, Swiss fertiliser traders are implicated, it is of vital importance that they should apply due diligence.

In particular, the fertiliser traders should analyse the human rights and environmental situations concerning their suppliers. In addition, they should use their influence to encourage the latter to take measures to reduce violations of the right to health both of their employees and of the local population. Traders should also make public the steps they have taken in

The type of agriculture pushed by OCP is not sustainable

The type of agriculture behind the OCP ideology of input-intensive agriculture (both in Africa and Switzerland) is subject to much criticism. Alternative types of agriculture like agro-ecology and organic farming do not require external phosphorus input because they rely on phosphorus existing in organic matter (especially in farm manure). In addition, according to a report by the United Nations Special Rapporteur on the Right to Food, “current scientific evidence shows that agro-ecological methods are more effective than the use of chemical fertilisers to stimulate food production in difficult areas where hunger is concentrated”⁶. With input-intensive agriculture, however, farmers become dependent on the purchase of mineral fertilisers, which is their primary source of debt.

area of human rights and the environment to their activities outside the country.

IV. Conclusion

This report shows that the business of fertiliser trading in Switzerland is linked to abuses of human rights, particularly the right to health in Morocco. Indeed, the production of phosphate fertilisers in Morocco violates the right to health of its workers and that of the local communities, and has a negative impact on the environment. Many workers suffer from respiratory diseases and cancers after lengthy exposure to pollutants and fine dust. Many workers are reported to have died. Local communities also suffer from pollution, contracting respiratory diseases and dental fluorosis.

This case study is another example of how the voluntary measures undertaken by the companies are insufficient. They do not prevent Swiss-based trading companies from being linked to human rights abuses. Given that these voluntary measures are insufficient, compulsory measures are necessary. This is why *Bread for all*, SWISSAID and the *Catholic Lenten Fund* are among the 120 organisations supporting the Responsible Business Initiative that will soon be put to popular vote.

the context of their due diligence. This is called for by the Responsible Business Initiative. This federal popular initiative would oblige Swiss businesses to apply due diligence in the

Notes

- 1 The full report this summary is based on can be found under www.voir-et-agir.ch/rapport-maroc www.swissaid.ch/en/morocco-report
- 2 Idaredare et al. (Université Ibn Zohr) 2013. Evaluation de la contamination métallique dans deux lagunes marocaines: Khnifiss et Oualidia. Accessed on 10 April: www.agrimaroc.org/index.php/Actes_IAVH2/article/viewFile/322/257
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- 3 Tribunal administratif de Marrakech. Rapport d'expertise judiciaire pour le tribunal

- administratif de Marrakech, 24 July 2013. Paper Version.
- 4 Centre d'études sociales et historiques et de documentation sur les phosphates. 2012. Rapport de recherche sur le terrain pour analyser le niveau de santé des agents OCP. Paper version.
- 5 For security reasons, all names in this report are anonymized.
- 6 Conseil des droits de l'homme des Nations Unies. 8 mars 2011. Rapport ONU: L'agroécologie peut doubler la production alimentaire en 10 ans. Accessed on 4 April 2019: www.srfood.org/images/stories/pdf/press_releases/20110308_agroecology-report-pr_fr.pdf



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Full report (French only)

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