Maat for Peace’ submission on “The Impact of Climate Protection Technologies on the Enjoyment of Human Rights”

**Preamble:**

**Maat for Peace, Development and Human Rights** presents this intervention to contribute to this report based on Resolution 48/14, adopted by the Human Rights Council during its forty-eighth session, which requested the Council’s Advisory Committee to conduct a study and prepare a report in close cooperation with the Special Rapporteur on the promotion and protection of human rights in the context of climate change, and the impact of new technologies for climate protection and adaptation on the enjoyment of human rights and submitting the report to the Council at its fifty-fourth session (September 2023). The climate change crisis is a threat to human rights and increased emissions of greenhouse gases from human activity harm natural disasters such as droughts, floods, sea-level rise, heat waves, extreme cold, loss of biodiversity, and the collapse of ecosystems affects human enjoyment of a set of rights, including the right to life, the right to water and sanitation, the right to food, the right to health, the right to housing, and the right to development. The marginalized and vulnerable groups are the most affected by the adverse effects of climate change, particularly women, children, migrants, and indigenous peoples. By 2030, climate change threatens more than 130 million people with poverty and places 200 million people in conditions that compel them to receive emergency aid regularly. By 2050, climate-related crises could displace 1.2 billion people from the Sahel, South Africa, the Middle East, and Central Asia[[1]](#footnote-1).

Many countries recently started using technology to combat extreme climate change phenomena as early warning systems by predicting and preparing for such phenomena to reduce human rights violations, or by providing humanitarian assistance to those affected by natural disasters associated with climate changes, or by reducing greenhouse gas emissions levels as close as possible. The Paris Agreement on Climate Change indicates the need to reduce emissions by 45% by 2030 and reach net-zero emissions by 2050 by using technological alternatives in our daily lives instead of traditional and building capacities to deal with climate change, especially for those directly affected.

Countries, civil society organizations, businesses, and stakeholders are responding to climate change at the expense of the most vulnerable in some societies. Human rights assessments indicate that using technological techniques to reduce climate change violates human rights, especially forced labor, slavery, and child labor in precarious conditions. Projects that support the use of energy that reduces greenhouse gas emissions also violate the rights of indigenous peoples with the spread of forced displacement of a large number of citizens across the world. Hence, this report submitted by the Maat to the Advisory Committee of the Human Rights Council discusses the negative and positive effects resulting from the use of new technologies in combating and limiting climate change.

**The use of technology as early warning and forecasting systems for climate changes**

Modern technological technologies play a role in combating climate change through preparedness and response to climate-related disasters. They act as early warning systems to predict future extreme weather events, so all parties and stakeholders can prepare for their impacts and mitigate them. That saves lives and alleviates poverty by reducing the consequences of climate disasters. It is estimated that these systems help avoid $66 billion annually in losses associated with extreme climate change[[2]](#footnote-2).

**The Flood Forecasting Initiative**, in which Google cooperated with many governments, is working to protect citizens from flood damage as much as possible by developing systems that predict when and where floods will occur. If this happens, it will improve the lives of more than 200 million people who suffer from floods in India and 40 million people who suffer from the same thing in Bangladesh[[3]](#footnote-3). The morphological inundation model, which combines physics-based techniques and machine learning, predicts floods in India and Bangladesh, improving the lives of 250 million people who are constantly at risk of flooding[[4]](#footnote-4). Flood forecasting satellite technology in Bangladesh and India in 2018 saved many lives with previous warnings of impending floods in multiple regions[[5]](#footnote-5).

On the other hand, drones are used to take pictures of the evolution of the effects of climate change in hard-to-reach areas, which enables scientists to predict the occurrence of climate disasters in the future. On the California coast, drones photographed the El Niño phenomenon, and the images have useful metadata for scientists. It indicates the effects of future climate change in that region and gives different parties the opportunity to predict and adapt to this phenomenon[[6]](#footnote-6). All previous models are examples of how to predict and prepare for climate events to save lives and people from the dangers involved.

**Providing humanitarian assistance to those affected by natural disasters related to climate change**

Recently, the use of technological applications, especially based on artificial intelligence, in providing humanitarian assistance to those affected by natural disasters arising from extreme climate changes, by estimating the damage resulting from these crises and responding to them by building information that allows the provision of funds to cover losses, and protect relief workers from Unexpected risks while doing their job.

AI technologies such as machine vision can quickly analyze images of roads that have been damaged or destroyed by an event, enabling a faster and safer response by humanitarian organizations[[7]](#footnote-7). On the other hand, drones transport humanitarian aid to disaster-affected areas, and machine learning maps the estimates of humanitarian needs after each disaster, facilitating response operations[[8]](#footnote-8).

In 2015, when Cyclone Pam hit the Pacific islands of Vanuatu, it was important for many relief agencies and the government to know and identify the damage to plan for reconstruction needs. Because of some bad weather conditions, the satellite couldn't take clear pictures indicating the massive destruction on the islands.

It was necessary to use the drones to take high-resolution footage showing the devastating effects of the hurricane, especially in Tavia and Al-Shifa counties, which contributed to preparing the appropriate humanitarian response to the matter[[9]](#footnote-9). In the United States of America, the use of drones after Hurricane Michael contributed to reducing the effects of the hurricane and supporting relief efforts for those affected by the hurricane, especially during rescue operations for civilians[[10]](#footnote-10).

**Technologies contributes to reducing greenhouse gas emissions levels**

The Paris Agreement on Climate Change points to the need to reduce greenhouse gas emissions by 45% by 2030 and reach net zero emissions by 2050. That is why many voices have emerged calling for relying on energy sources in our daily lives with low or no gas emissions greenhouse. Examples are solar panels, electric cars, green buildings, and many other applications.

In Indonesia, the government has introduced more than 30 electric buses to operate within the city instead of traditional buses with high greenhouse gas emissions. It may reduce 2,680 grams of CO2-eq per mile over diesel buses and 2,364 grams of CO2-equivalent per mile over gas-powered buses[[11]](#footnote-11). In Zimbabwe, the government has begun to rely on green buildings that will lead to energy efficiency improvements. That helps reduce energy consumption and greenhouse gas emissions by 40% per capita[[12]](#footnote-12).

**Building capacity to deal with climate change**

Building capacity to deal with climate change is important for human rights promotion, especially the rights of vulnerable and vulnerable people and groups. People are empowered to deal with climate change risks and overcome them in a variety of ways, especially with the use of modern technological technologies. In Mozambique, which is constantly exposed to extreme climatic disasters, the Solar Energy-Based Irrigation Project for Women Empowerment is working to introduce solar energy systems in rural communities for agricultural activities. That ensures that rural farmers can afford the irrigation systems of crop fields that contribute to offsetting the water deficit imposed by climate change[[13]](#footnote-13).

In Burkina Faso, Ghana, and Kenya, primitive meteorological methods are used with a more sophisticated system using modern technology that alerts local communities to floods and other hazards, which is reached to rural areas by SMS and e-mail. It helps them preserve their crops and livelihoods, ensuring they do not internally displace**[[14]](#footnote-14)**. In Somalia, solar-powered water systems provide year-round water to camel herders who depend on drier pastures**[[15]](#footnote-15)**.

Technological agroecology is used to build the resilience of rural Cambodian communities living in remote areas to cope with climate change**[[16]](#footnote-16)**. In this regard, the United Arab Emirates is considered a model in implementing policies that combat climate change and its harmful effects by using technology. For example, the emerging green technology sector combats desertification related to the fragile environmental context**[[17]](#footnote-17)**.

**Human rights challenges associated with the use of new technologies to combat climate change**

Despite the ability of new technologies to reduce the negative impacts of climate change, they lead to serious human rights violations, especially for the most vulnerable groups. Solar panels, wind sources, renewable energy, and other technologies are used to reduce greenhouse gas emissions, which reduces climate change effects. However, an examination of supply chains and operating practices of these industries revealed violations of workers' rights, the rights of indigenous peoples, and forced displacement of some groups.

Meanwhile, inside the occupied Palestinian territory, the Israeli solar energy industry continues to contribute to the displacement of Palestinians from their places. Israeli solar projects in the Negev desert and Area C of the occupied West Bank are affecting Palestinian communities, which have been deliberately left without a connection to the Israeli national electricity grid as a tactic intended to force them to eventually leave their land[[18]](#footnote-18).

On the other hand, China produces about 50% of the global supply of polysilicon, which is a critical component in the manufacture of solar modules that are used as a source to reduce greenhouse gas emissions. In this context, documented human rights estimates indicate an escalation of violations of workers' rights and forced labor in many factories that produce polysilicon, especially among workers from the Muslim Uyghur minority. The issue of forced labor and solar energy supply chains are human rights violations arising from new technologies production to limit climate change[[19]](#footnote-19).

At the same time, electric cars reduce greenhouse gas emissions, which leads to the fight against climate change. However, the electric car battery industry is linked to minerals, notably cobalt and lithium, which are produced in mines where children work in hazardous conditions. A good example is child labor in cobalt mines in the Democratic Republic of the Congo[[20]](#footnote-20).

Many companies engaged in the production of technologies that contribute to mitigating climate change ignore the rights of indigenous peoples. These people's rights are not considered or consulted when implementing any projects related to these technologies on their land. These violations are frequent in many Latin American countries. For example, in Colombia and during the month of January 2022, a wind production project was opened as a source of low-emission energy for greenhouse gases, amid the protests of the indigenous population against the project, which represents a violation of their rights on multiple levels[[21]](#footnote-21).

**Recommendations**

New technologies have played a prominent role in combating climate change effects. However, some of these efforts will not consider human rights, especially the rights of vulnerable and marginalized groups. Hence, the Maat Foundation for Peace, Development, and Human Rights recommends the following: -

* Relying on modern technological techniques as early warning systems to predict extreme weather events in the future.
* Relying on modern technology to provide humanitarian assistance to those affected by natural disasters related to climate change.
* Expand reliance on technologies Technology contributes to reducing greenhouse gas emissions levels, taking into account human rights
* Support the capabilities of dealing with extreme weather phenomena through modern technological techniques
* Consider human rights when dealing with climate change through technological techniques. Despite its efficiency in solving problems related to climate change, it leads to other human rights violations, especially the rights of workers and indigenous peoples.
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2. A Roadmap for Managing Disasters: How Climate-Vulnerable Countries Can Leverage Tech. ibid [↑](#footnote-ref-2)
3. A big step for flood forecasts in India and Bangladesh. **Google**. <https://bit.ly/37inGZF> [↑](#footnote-ref-3)
4. The Technology Behind our Recent Improvements in Flood Forecasting. Googlebloghttps://bit.ly/37ipstN [↑](#footnote-ref-4)
5. Role of digital technologies in climate change adaptation solutions. **India Water Portal**. December 2021. <https://bit.ly/3uOHcte> [↑](#footnote-ref-5)
6. Using Drones To Predict The Future Of Climate Change. **Stories youtube** . June 2016. <https://bit.ly/3voOuTB> [↑](#footnote-ref-6)
7. Using AI to help save lives. Microsoft. <https://bit.ly/3wGJKbX> [↑](#footnote-ref-7)
8. The Promise of AI in the Developing World مرجع سابق ذكره [↑](#footnote-ref-8)
9. Lessons From Mapping Geeks: How Aerial Technology is Helping Pacific Island Countries Recover From Natural Disasters. Worldbank. <https://bit.ly/2VuhLhx> [↑](#footnote-ref-9)
10. تطبيقات الذكاء الاصطناعي قفزة غير مسبوقة نحو تطوير أعمال الإغاثة والإنقاذ، الأهرام ، يونيو 2021 ، <https://bit.ly/3lvITHD> [↑](#footnote-ref-10)
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14. نظام الأنذار المبكر العمال المناخي، الأمم المتحدة ، 2019 ، <https://bit.ly/3hzqIwC> [↑](#footnote-ref-14)
15. إنه أسبوع المناخ الأفريقي، العمل من أجل المناخ الأمم المتحدة ، <https://bit.ly/35HroPf> [↑](#footnote-ref-15)
16. مساعدة البلدان على التصدي لتغير المناخ، برنامج الأمم المتحدة للبيئة ، <https://bit.ly/3MvWtWN> [↑](#footnote-ref-16)
17. دبي: تعرف على التكنولوجيا التي توظفها المدينة الإماراتية لمواجهة خطر التصحر الذي يهدد أراضيها، بي بي سي ، يناير 2022 ، <https://bbc.in/3MC01qt> [↑](#footnote-ref-17)
18. OPT Mixed response from multinationals in Israeli solar sector accused of contributing to Palestinian displacement . **Business & Human Rights Resource Centre**. June 2018. <https://bit.ly/3jRXVp3> [↑](#footnote-ref-18)
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