**The right to access and take part in scientific progress**

**Submitted to:** Special Rapporteur in the Field of Cultural Rights

**Submitted by:** Maat for Peace, Development and Human Rights (holds consultative status with the UN Economic and Social Council).

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The right to access and participate in scientific progress and benefit from its outcomes is a fundamental human right enshrined in Article 27 of the Universal Declaration of Human Rights and Article 15 of the International Covenant on Economic, Social, and Cultural Rights. Maat firmly believes that this right not only enhances other human rights but also works towards their advancement. For instance, scientific progress in the field of medical sciences contributes to public health and consequently facilitates the realization of the right to attain the highest level of physical and mental well-being. It also aligns with SDG 3 on good health and well-being. In response to the Special Rapporteur's call for input from civil society organizations and other stakeholders regarding the right to access and participate in scientific progress, Maat seizes this opportunity to present this intervention, which highlights the significance of scientific participation and access to scientific knowledge in advancing human rights, particularly social, economic, and cultural rights. It fosters mutual trust between scientists, researchers, and the public. The boundaries of the right to participate in scientific progress are contingent upon various factors, such as ethical considerations and restricted access to certain dual-use scientific research. Consequently, adopting a human rights-based approach to science can ensure universal access to and promote the benefits of scientific progress, which in turn advances human rights.

In line with the aforementioned, Maat submits this report, which aims to address some of the questions raised by the Special Rapporteur in the questionnaire attached to the invitation. It is important to note that Maat has chosen to respond to questions that can enrich the Rapporteur's report for the 55th session of the Human Rights Council, and as such, it does not cover all the questions raised in the questionnaire.

**First: Addressing Representation of Marginalized and Vulnerable Groups in Access to and Participation in Scientific Endeavors.**

The underrepresentation of marginalized and vulnerable groups in scientific access and participation is an urgent issue that necessitates further efforts to eliminate barriers impeding their involvement in scientific advancements. Several steps can contribute to addressing the limited scientific participation of vulnerable and marginalized groups, **including**:

* **Bridging educational disparities between countries in the North and the South**. Educational disparities between these regions, as well as between rich and poor countries, contribute to the unequal scientific participation between them. Disparities in the distribution of quality education deepen the gaps and differences between countries, despite the increasing demand for education worldwide.[[1]](#footnote-1) For instance, the number of out-of-school children in Europe and North America is less than 1% of primary school-age children, whereas in South Asia, it reaches 7%, and in Sub-Saharan Africa, it amounts to 18%.[[2]](#footnote-2) Working towards eliminating the educational divide between the Global North and the Global South, and allocating substantial budgets for education and scientific research, may help narrow these disparities and facilitate scientific participation and access to knowledge for vulnerable groups.
* **Addressing economic and social challenges**. Social and economic barriers such as limited access to quality education, lack of financial resources, accumulation of debt interest service in developing countries and the resulting rationalization of spending on social services, and lack of resources, contribute to the lack of participation of vulnerable and marginalized groups to engage in Scientific engagement.[[3]](#footnote-3) This calls for further measures such as canceling or rescheduling debts and supporting more educational and cultural scholarships for marginalized communities and the most vulnerable groups.
* **Lack of Good Examples**: Marginalized societies often lack prominent figures who are celebrated for their scientific and literary achievements. This absence of role models can create a cycle where young people in these communities lack inspiration and struggle to participate in scientific endeavors. Stereotypes about limited abilities further compound the frustration felt by young individuals in these societies.
* **Insufficient Resources** **aimed at promoting scientific participation**: This lack of support contributes to the reluctance of vulnerable groups to access scientific knowledge. Increasing assistance specifically targeted at scientific participation in developing and poor countries is crucial. By allocating a portion of the development aid provided by developed countries, as outlined in Goal 17 of the Sustainable Development Goals, we can enhance the push for vulnerable groups to engage in scientific pursuits.[[4]](#footnote-4)

**Second: What are the main obstacles to ensuring the right of all people to access scientific knowledge and its applications, within and between countries? Please provide an example.**

Maat for Peace, Development and Human Rights has observed a number of factors that can limit individuals’ access to scientific knowledge and its applications both within and between countries. Among these challenges are the following:

1. **Monopoly of Scientific Research**: The COVID-19 pandemic triggered a surge in scientific research, with over 210,000 papers published on COVID-19 by August 2021. Of the 720,000 authors, there were about 270 thousand from countries such as the United States, the United Kingdom, Italy, and Spain.[[5]](#footnote-5) These papers naturally advance scientific research and at the same time enhance the careers of their authors. They often receive grants and sometimes patents. However, a significant portion of this research is published in journals that require expensive subscriptions or fees, limiting access for individuals with limited financial resources, particularly in developing countries. It is worth noting that much of the data used in this research is provided by researchers from the global south and developing countries, who may lack the financial means to expand and publish their own work. These scientists often do not receive proper credit for their contributions.[[6]](#footnote-6)

* **Commodification of Knowledge**: The commodification of knowledge occurs when scientific knowledge is treated as a commodity subject to supply and demand.[[7]](#footnote-7) This approach obstructs access to knowledge for many individuals who cannot afford the fees associated with popular scientific journals. This commodification is in conflict with Article 27 of the Universal Declaration of Human Rights, which guarantees the right of every person to benefit from scientific progress.[[8]](#footnote-8)
* **Refusal to Share Scientific Progress**: Some countries that have successfully developed vaccines and medical technologies related to the coronavirus have chosen not to share their scientific knowledge with other nations. This refusal to generalize scientific progress hampers global efforts to combat the pandemic. The Committee for the Elimination of All Forms of Discrimination expressed concern in August 2023 regarding the United States of America, Germany, Switzerland, and the United Kingdom's decision to withhold intellectual property rights for emerging coronavirus vaccines and medical technologies.[[9]](#footnote-9)

**Third: How is citizen science (ordinary people who participate in science) useful? What measures are being taken to support citizen science, and what are the challenges?**

First, Maat emphasizes the various descriptions of citizen science, which can refer to community science or the general participation of the public in scientific research. Citizen science is a collaborative research practice that involves community members in research sites. Local individuals are trained as citizen scientists who contribute to research methods, data analysis, and evidence collection.[[10]](#footnote-10)

This concept, connecting the public to scientific research, offers numerous benefits and can help address societal challenges. For instance, the Regional Center and the Regional Network for the Horn of Africa utilize “citizen science” to work with communities in generating knowledge that responds to societal needs and informs policymakers. In addressing air pollution in Nairobi, Kenya, researchers trained residents and provided them with tools to assess air pollution levels, leading to effective solutions. Maat also highlights various citizen science projects in Nairobi that engage citizens in scientific research.

In Rwanda, citizen science has been employed in malaria prevention activities to improve malaria control, particularly in rural areas where researchers face data collection challenges. Local communities participate in scientific research as an alternative.[[11]](#footnote-11) Citizen science can gather extensive data and promote citizen involvement in addressing complex environmental and societal issues, thereby enhancing the population's health and well-being.[[12]](#footnote-12) Maat also recognizes the growing reliance of certain African countries on citizen science for biodiversity protection and management. However, challenges to disseminating this science on the African continent include a lack of environmental protection managers with the necessary skills to engage citizen scientists and limited protocols for data collection.[[13]](#footnote-13)

**Fourth: What are the limits of the right of every person to participate in scientific progress and in the decisions related to directing this progress?**

While acknowledging the paramount importance of every person's right to participate in scientific progress, as enshrined in the Universal Declaration of Human Rights and international agreements like the International Covenant on Economic, Social, and Cultural Rights (Article 15), which guarantees the right to enjoy the benefits of scientific progress and the freedom to engage in scientific research and creative activities,[[14]](#footnote-14) this right must be subject to certain considerations to prevent infringing upon the rights of others.

**Ethical considerations**. Scientists and researchers must take into account ethical factors, as certain inventions and technologies may have the potential to violate ethical principles and undermine human rights. Research indicates a lack of sufficient discussions on ethical considerations within academia, suggesting that scientists may not always consider the potential consequences of their inventions or research. Therefore, it is essential that ethical considerations form the foundation of the right to scientific progress.[[15]](#footnote-15)

**Access limitations to dual-use research**. Dual-use research refers to scientific research that has both civilian and military applications, and while it may have clear benefits in civilian life, it also possesses the potential for misuse and harm.[[16]](#footnote-16) Consequently, access to information related to dual-use research may be restricted to the public and ordinary individuals to ensure responsible handling and prevent unintended consequences.

**Limitations In practice**: the right of every person to participate in scientific progress may be subject to practical restrictions that limit this participation, such as a lack of sufficient resources and infrastructure to conduct research and experiments, and some research often requires specific funding, which not all scientists or researchers may have access to.

**Maat for Peace, Development and Human Rights recommends the following:**

* Working to allocate a portion of development aid under SDG 17 to enhance scientific participation for vulnerable groups in developing and poor countries.
* Promoting work on the concept of citizen science, which allows the public to participate in scientific research, anticipate the future of the challenges facing societies, and provide effective solutions to address these challenges.
* Establishing a platform to implement Article 27 of the Universal Declaration of Human Rights regarding cultural and educational participation, contributing to scientific progress and benefiting from its benefits.
* Adopting a human rights-based approach to science that ensures universal access to the benefits of scientific progress and promotes this progress
* Putting pressure on countries that have intellectual property rights for vaccines to spread the fruits of scientific progress, especially in medical sciences, to poor countries.

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