

**Mandate of the Special Rapporteur in the field of cultural rights**

**CALL FOR SUBMISSIONS ON  
THE RIGHT TO ACCESS AND TAKE PART IN SCIENTIFIC PROGRESS**

For her upcoming report to the Human Rights Council to be presented in March 2024, the United Nations Special Rapporteur in the field of cultural rights, Ms. Alexandra Xanthaki, will consider the right to access and take part in scientific progress.

The forthcoming report builds on the previous work of the mandate (Report on the right to enjoy the benefits of scientific progress and its applications, [A/HRC/20/26, 2012](#)), and of the Committee on Economic, Social and Cultural Rights ([General Comment 25](#) on Science and Economic, Social and Cultural rights, 2020).

Today, many ongoing conversations focus on the important contribution of science to the realization of human rights and the sustainable development goals. The Special Rapporteur believes that this discussion must be placed in a human rights framework. It is important to reiterate the human rights dimension of science, and to understand access to and participation in science as crucial human rights issues.

The Special Rapporteur intends to take stock of setbacks and progress both under international human rights law and in practice regarding access to scientific knowledge and its applications. She plans to focus more on the rather unexplored issue of participation in scientific life, as part of cultural life. Central questions include what participation means, what are possible limits to it, and how to ensure it in ways that complements scientific expertise, in the context of societies that are challenged by misinformation and disinformation. She would also like to reflect more broadly on the definition of science, scientific expertise and exclusionary processes such definitions may entail; on the notion of scientific diversity; on challenges and obstacles to participation; on conditions and best ways to ensure it; as well as on the intrinsic relationship between access and participation.

Cultural rights protect the rights for each person, individually and in community with others as well as groups of people, to develop and express their humanity, their world view and the meanings they give to their existence and their development through, inter alia, values, beliefs, convictions, languages, knowledge and the arts, institutions and ways of life. They are also considered as protecting access to cultural heritage and resources that allow such identification and development processes to take place.

## Questions

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### General definitions

1. How is science defined in your country, taking into consideration the definition of science adopted at UNESCO?<sup>1</sup> In this context, how is the notion of scientific diversity understood?

UNESCO approaches the English term *science* as a matter of simple linguistic translation. In China, however, the term *kexue* (science) has strong political overtones that cannot be overlooked. This means that *kexue* (science) in China is overtly linked to ideology and differs from the definition of science adopted at UNESCO, which frames science as universal and ideologically neutral. Likewise, the translation for science from English into Tibetan and other minority languages is also not the same for political reasons.

“Every culture has a science” scholar Glen S. Aikenhead has proposed. His observation challenges the unfounded idea that science is distinct from culture (and thus from social group and historical period). It also introduces the notion of “scientific diversity” as the plurality of experiences of science, and underscores how excluded the knowledges of “folk” science and medicine – to say nothing of minority and indigenous scientists – are in relation to much of the science taught and practiced in contemporary China today. Such ethno-science (folk or vernacular science), ancient and contemporary, is customarily recognized to constitute “religion” and is thus both seen as politically sensitive and to stand in the way of *science*.

One example of this may be Uyghur science. In 1987, the Chinese government officially established the Uyghur Traditional Medicine Hospital and Madrassah complex in Urumqi, the capital of Xinjiang. According to the State Council of the PRC, by the end of 2008, there were 39 hospitals specializing in traditional Uyghur medicine and 423 listed traditional Uyghur medicines. Now, however, the practices and people have largely been driven out, and it is difficult to find any information or knowledge about Uyghur science and medicine.

2. Is science considered as a public and/or as a common good, and what does this imply or should imply, particularly in terms of setting priorities for scientific research, access to scientific benefits, and protection of the scientific enterprise from harm and encroachments from political, religious and private interests?
3. Does the right to benefit from scientific progress include the right to be protected against anticipated harm? How is harm anticipated and what kind of reparation is offered in case of harm?

### Main obstacles to access and participation in scientific knowledge and its applications

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

Given the reliance of persons pursuing scientific studies and research on the internet, a key issue is digital access. As Minority Rights Group noted in its *Minority and Indigenous Trends 2020* report focussing on technology:

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<sup>1</sup> [Recommendation on Science and Scientific Researchers, article I.1.](#)

*Sadly, patterns of exclusion and discrimination in everyday life are mirrored online; the United Nations (UN) reports that nearly half the world's population is not connected to the internet, (UN ITU, Statistics, <https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>) while the Organisation for Economic Co-operation and Development (OECD) estimates that the proportion of women using the internet is 12 per cent lower than that of men. (OECD, *Bridging the Digital Gender Divide*, 2018, p. 25)*

*Globally, marginalized ethnic groups have worse internet access than dominant ethnicities in the same country. (Weidmann, N.B., Benitez-Baleato, S., Hunziker, P., Glatz, E. and Dimitropoulos, X., 'Digital discrimination: political bias in internet service provision across ethnic groups', *Science*, 353 (6304), pp. 1151—5)*

*This remains the case despite the UN Human Rights Council (HRC) having stated back in 2011: 'Given that the Internet has become an indispensable tool for realizing a range of human rights, combating inequality, and accelerating development and human progress, ensuring universal access to the Internet should be a priority for all States.' (UN HRC, *Report of the Special Rapporteur on the Promotion and Protection of the Right to Freedom of Opinion and Expression*, Frank La Rue, A/HRC/17/27, 16 May 2011)*

*While the internet and ICTs have great potential to challenge entrenched discrimination, the limited access of minorities and indigenous peoples to these technologies threatens to exacerbate their situation further. This is why abusive governments, especially across Asia, have increasingly turned to internet shutdowns to target certain ethnic and religious communities, taking away their freedom of expression and ability to document and disseminate evidence of ongoing human rights abuses. Intentionally shutting down or restricting access to the internet can in and of itself be a human rights violation... In 2019 alone, the digital rights organization Access Now documented some 213 internet shutdowns. This includes a 47 per cent increase across Africa, with Ethiopia identified as one of the worst offenders. However, India alone accounted for more than half of the total in 2019, with a single shutdown in Indian-controlled Kashmir lasting for nearly six months.*

While such internet shutdowns are primarily motivated by a desire on the part of states for control and to reduce external coverage of human rights abuses, they can also clearly hamper scientific research and studies at institutions in affected areas.

A further issue highlighted by our 2020 *Trends* report is the lack of diversity among students in STEM subjects. This has especially severe repercussions when it comes to research into machine learning and artificial intelligence, as any systems that are developed risk reflecting the biases and attitudes of those designing them:

*Big data is the driving force behind the growth of AI, and because it is increasingly affecting everyone's lives, says Adrian Weller of the UK's Alan Turing Institute, 'it is very important that we have a diverse set of stakeholders designing and building them'. (Ram, A., 'AI risks replicating tech's ethnic minority bias across business', *Financial Times*, 31 May 2018.)*

*Unfortunately, as noted in a 2019 study by the AI Now Institute, 'there is a diversity crisis in the AI sector across gender and race', with no public data even available for*

*trans or other gender minorities. (West, S.M., Whittaker, M. and Crawford, K., Discriminating Systems: Gender, Race and Power in AI, AI Now Institute, 2019, p. 3.)*

*This lack of diversity is common across the whole science, technology, engineering and mathematics (STEM) field in general, but even more so at universities where the lack of diversity in STEM faculties can arguably be said to impact minority students choosing the field as a career path.*

*A 2017 study by Brookings found one startling revelation: the income penalty for minority STEM PhDs taking on university employment in the US (rather than entering the private sector) tends to be US\$13,000 more a year than for non-minority STEM PhDs. (Startz, D., 'Why is minority representation lagging among STEM faculty? It could be the money', Brookings, 15 December 2017.)*

*...In China, the situation is worse. Uyghurs are largely prohibited from even enrolment in STEM programs. This discrimination is part of China's overall essentializing of ethnic and religious minorities, whereby their career and cultural place is relegated often to merely one of entertainment and food. While China proclaims its interest in becoming a world leader in advanced technologies, the denial of STEM education opportunities for Uyghurs guarantees their marginalization from any residual economic benefits that might be associated with even relatively innocuous technologies. Instead, Uyghurs have in fact been the principal surveillance target of many of these technologies. For these reasons, Uyghur students who wish to pursue academic studies in engineering or aerospace, for example, must seek opportunities abroad, such as in Turkey, but this also introduces a vicious cycle of repression: having a family member studying abroad has become reason enough to interrogate or detain Uyghurs in China*

#### Adoption of specific measures

5. Please describe how scientific freedom is respected, protected and promoted in your country. In particular, what kind of protection from interferences and threats from political, religious or commercial entities is offered? What are the main challenges? Please provide examples.

In China, political pressure and interference is a serious threat to scientific freedom. This limitation is incompatible with the right to science. For members of the academic community and particularly minority groups, one of the main barriers to scientific freedom is a lack of respect for academic freedom. For example, cameras loom large in classrooms and teachers, researchers, and students live under constant surveillance. They cannot express their own opinions without running the risk of coming under close scrutiny from the authorities or university administration. This is done to prevent criticism of the government. In some cases, researchers are also blocked from or have problems leaving the country to participate in international conferences. Worse still, they may be subject to dismissal or imprisonment.

6. Please provide information on measures adopted to:
  - Ensure and develop scientific education for all, including adult education;
  - Develop and disseminate accurate scientific information in formats available to all;
  - Protect and promote science journalists in sufficient number to ensure democratic and genuine debates on scientific issues.

Officially, China promotes a standardized scientific education through a single system of mass schooling that also includes adult education. In practice, however, this system is two-tiered for ethnic minorities and Han Chinese (the majority ethnic group) with studies suggesting that minority schools are severely undersupplied in scientific education compared to non-minority schools. According to research on education in minority high schools and universities, for example, these schools first and foremost focus on assimilation into mainstream (Han) society and thus emphasize Chinese language learning, Chinese culture, Chinese propaganda (political thought and theory), and other subjects that promote allegiance to the Chinese system. In addition to institutionalized differences that are ethnically defined, there are also large discrepancies in the quality of scientific education offered that are shaped by geography with schools in western provinces having much lower standards than those in eastern, coastal areas.

### Connecting science and policy-making

7. As recommended by the Committee on Economic, Social and Cultural Rights, “States should endeavour to align their policies with the best scientific evidence available”, (General Comment 25, para. 54). How is this principle implemented, following which kind of procedure? How is this implemented in case of scientific dissensus?
8. In particular, what kind of science policy interface platforms, understood as channels connecting science with policymaking, have been put in place, to ensure input of scientific information in decision-making processes? What are the challenges and the elements necessary for the efficiency of such interfaces? How is the agenda set and who participates in these institutions?

### Participation in science

9. How is the right of every person to participate in scientific progress and in decisions concerning its direction understood and implemented? What are the challenges? How is lack of representativeness of marginalized groups and inequalities in participation addressed?

Good practice in participation in scientific progress and decision making usually rests on notions of proportionality, inclusiveness, and transparency. Yet, these dimensions are only rarely included in scientific progress and decision making. Barriers to their legitimate incorporation can range from limited material resources to non democratic politics, resistance to change, and the perception of loss of control. In all countries, there are challenges and constraints that make it difficult to incorporate multiple and marginalized voices into decision making. In the case of China under the Chinese Communist Party, however, authoritarianism and lack of accountability are the definitive tenets on which exclusion is perpetuated.

10. How is ‘citizen science’ (ordinary people doing science) understood in your country? Is it considered important, and what measures have been put in place to support it, particularly in terms of access to information and data, and participation in decision-making? What are the challenges? Please provide an example.

Citizen science is generally understood to use lay knowledge and observation to gather data. It is generally only rarely and partially incorporated in conventional decision-

making processes. For such an approach to be included would require recognizing diverse perspectives and promoting decision making at various scales. In China, however, community-led processes are constrained by politics so there is little attempt to encompass more plural values and few ways to engage with the cultural dimensions of science.

11. To what extent are indigenous sciences and alternative sciences acknowledged, supported and included in policy decision-making? How is the conversation ensured between science and other kinds of knowledge?

In the context of indigenous sciences and alternative sciences, to the extent that they are reasonably grounded in science, the content is often excluded and incorporated as fiction, while at the same time also claimed as “religion” and deemed to be ideologically incorrect, politically unsafe, and therefore, to be avoided.

12. What are the limits to the right of every person to take part in scientific progress and in decisions concerning its direction and for which purposes? Please provide examples if any.