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11th November 2023

THE RIGHT TO ACCESS AND TAKE PART IN SCIENTIFIC PROGRESS

Thank you for the opportunity to make this submission. I work as a museum consultant, advising museums, museum organisations and similar organisations on how they can contribute towards sustainable development agendas, including the SDGs, climate action, biodiversity conservation, human rights, and Disaster Risk Reduction. I have over 30 years' experience of working with museums and collections, and I have a background as an ecologist. This submission is mainly made from the perspective of museums, and in relation to environmental topics, and with a UK focus.

A wide range of contemporary challenges have a scientific component, in terms of how they are understood and how they can be addressed. These challenges include climate action, biodiversity conservation, sustainable agriculture, genetic modification of crops, pandemic prevention and preparedness, Disaster Risk Reduction, AI, and big data. Yet, society's ability to meet these challenges is reduced through underfunding of science-related institutions, or shrinkage of public space that relates to science, such as museums. This situation undermines people's opportunities to enjoy their science-related rights, and serves to undermine social progress, heighten inequality, and neglect our responsibilities to current and future generations.

General definitions

1. Science is not well defined in the UK, either in terms of the Guidance Note aspects of the right to 'do science' or the right to participate in scientific advancement and its benefits. The exception here is in Scotland, which is in the process of incorporating the ICESCR into domestic, Scots Law.

The UK is also not a Party to the Convention on Intangible Cultural Heritage, although it is Party to a number of other Conventions that have scientific components (e.g. the UNFCCC, Convention on Biological Diversity, ICESCR).

So, science is not well institutionalised, nor is a concept of scientific diversity.

2. The concepts of public and common goods are not well understood, either in the UK or more generally. The concept of public goods or global public goods comes from an economic starting point, as goods that are available to all, without

exception and, in the context of global public goods, that are non-excludable and non-exhaustible. This is not how cultural institutions or institutionalized science tend to work. For example, museums house natural history specimens that are associated with knowledge. That knowledge could be made widely available through documentation and inclusion of such information in online aggregators (notably GBIF). However, documentation of collections information is a low priority for funders and institutions. That is, the priority is on goods and services that are to some extent excludable (people have to visit certain places to access exhibitions that can be bought or hired by other institutions). The concept of 'public goods' or 'global public goods' (e.g. culture as a 'global public good', as advocated at Mondiacult 2022) can be rather misleading, and co-opted to become marketing-type slogans that impede institutional transformation.

3. To right to benefit from scientific progress can be more obviously articulated in terms of the rights of an adequate standard of living, and of the right of security of person. Also, those rights may be more concretely articulated in terms of the right to be protected from undue influence from third parties (business), or of the right to privacy. The question could be reframed to be more specific, in terms of which rights are we talking about, specifically, who is undermining them, and what can we do to protect these rights and these people?

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

4. Obstacles to develop and access scientific knowledge and its applications vary widely between countries. For example,
 - In wealthy Global North countries, the shift to neoliberal, as opposed to social democratic, approaches to institutions (e.g. museum underfunding and pushing them to be more commercial, the shift to make scientific agencies and organisations self-funding or semi-commercial).
 - In Global South countries, wholesale underfunding, lack of infrastructure.
 - In terms of North-South interactions, the unjust imbalance where information is housed in Global North institutions (e.g. museums) that does not flow to Global South countries.
 - The ICESCR and General Comment are specific in terms of what is needed to provide opportunities for scientific engagement (availability), making sure these opportunities are available to all (accessibility) and that such opportunities are of the highest standard (quality). Wholesale underfunding in many countries, including Global North countries such as the UK, has seen a diminution in the number of opportunities through, e.g. closure of museums (diminution in Availability), reduction in opportunities for all of society to take part in scientific endeavours (as a result of funding crises, so less Accessibility), and the shift of remaining institutions to rather general approaches to scientific issues as a result of loss of specialist staff (reduction in Quality).

- Science should not be seen as simply providing wide publics with opportunities to engage with topics through a primarily material lens, but to ensure that knowledge resources continue to be developed.
- Although the UK is signatory to many science and environment-related agreements (UNFCCC, Paris Agreement, CBD, Aarhus Convention), these are not written into the work of the cultural sector in a coherent way, creating a policy incoherence.
- The ‘two cultures’ of science and culture are not at all well understood or integrated in museums, including in the UK. For example, museums are overseen in England by Arts Council England, which has little or no mandate concerning science. Meanwhile, environmental matters are generally handled by another government department (DEFRA) with little or no contact with museums, except for the Natural History Museum in London (which does not represent the museum sector).
- Those responsible for institutions that relate to science should have relevant skills and training: more effective incorporation of science and science-related rights into training course and job requirements would be beneficial.

Adoption of specific measures

5. In terms of museums, the wholesale shift to approaching museums as ‘cultural institutions’, rather than recognising and supporting/fulfilling their scientific roles, has undermined both the abilities of the institutions to understand or unlock their potential to support science-related rights, and their abilities to relate to scientific topics in critically informed ways. This shift has been accompanied by attacks on related rights, e.g. to protest in relation to scientific topics (notably climate change), and/or through market-based and commercial/neoliberal approaches applied to museums, that undermine a variety of related rights.
6.
 - i. There has been very little attention to develop scientific literacy or capacity in the UK, for example, there is no national strategy for Action for Climate Empowerment (the public-facing aspect of the UNFCCC and Paris Agreement, or the CBD).
 - ii. The Rio Declaration recognised the fundamental rights of people to access environmental information, take part in environmental decision making, and seek environmental justice. However, the relevant regional agreements, the Escazú Agreement and Aarhus Convention, are almost unknown.
 - iii. In the UK, wholesale politicisation of climate related discourse runs the risk of turning climate change into a culture-wars issue as it has been in the US. This is extremely dangerous, and is undermining climate action.

Connecting science and policy-making

7. Policy coherence has fallen by the wayside, insofar as while policies may be made, , or at least commitments made at high-level political summits, there is insufficient coherence to turn commitments into action or accountability. Politically motivated attacks on climate related advisors, such as the IPCC or, in the UK, the Climate Change Committee, have little mechanism or recourse to ensure that politicians act in the public interest.
8. Highly politicised media acts to promote particular positions, often uninformed by scientific data, but that acts as 'social facts' that undermine science or rational approaches to challenges and information.

More effective governance between the goals of international agreements and related rights, so that the goals are embedded into the work of relevant sectors, but in rights-respecting ways, would go a long way to promoting people's science-relate rights. For example, the all-of-society aspects of the UNFCCC, Paris Agreement, Sendai Framework and CBD, in terms of goals and targets to promote public awareness, access to information, and participation, are not written into the goals, actions, monitoring or evaluation of the museum sector.

Participation in science

9. This right is not well understood or implemented. The concept of 'progress' can be problematic, without reference to the Right to Development. It cannot be overstated how far behind many countries, including wealthy Global North countries such as the UK, are, in terms of such rights. These rights are practically or entirely unknown, let alone practised.
10. The term 'citizen science' can be challenged for various reasons: it asks people for or necessitates free labour, it can undermine the rights of workers, it does not suitably protect the rights of those who contribute to citizen science, and it is not always available to those who are not 'citizens'.
11. The concept of 'alternative sciences' requires clarification and careful handling to avoid it being co-opted/invoked by those who seek to undermine science with 'alternative facts', notably in relation to climate change. Various international agreements, e.g. UNFCCC and CBD, invoke a science-based approach, but this is poorly understood.
12. Care is required to ensure that 'bad actors' do not circumvent or contaminate scientific discourse or to use scientific/pseudoscientific discourse for particular ends, for example, climate change deniers, of fossil fuel companies who have, for decades, actively undermined climate action through manipulations of public opinion through selective presentation of evidence/information, active suppression of information that was not helpful to the industry's arguments, or the manipulation of public opinion through e.g. funding support for science museums and exhibitions.

The standard formulation of respect, protect, fulfil could usefully be clarified in relation to the right to science, in terms of rights to take part in science, and to share in scientific advancement and its benefits, or, more especially, to protect people from the actions of vested interests such as tobacco and fossil fuels firms.