

# INTERNATIONAL SCIENCES GOVERNANCE FOR REALISATION OF THE RIGHT TO SCIENCE & ALL HUMAN RIGHTS

## ANNOTATED OUTLINE

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### ***I General Definitions***

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

Scope of "international sciences governance":

- : mechanisms or procedures with competence to define the scope of "science and its applications".
- : sciences and applications policy-making, including the international collaboration, cooperation or exchange relating thereto;
- : scientific activities related to treaty powers or responsibilities;
- : scientific research for fulfilment of the UN objectives;
- : licensing and standards-making for the marketing and use of science and its applications;
- : development of norms to mitigate the anticipated or manifesting harmful effects of scientific progress and its applications.

International science governance is specifically concerned with the application and implementation of the UN Charter and international human rights law (IHRL), and the role of science therein. The right of access to scientific progress must be considered in relation to its protection both in Article 15 of the ICESCR and the other human rights which have a scientific nature or dimension to them, primarily economic, social and

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cultural rights. Relation to the right to technological development, as an aspect of the right to development. Right to cultural development.

: UNESCO 2017 UNESCO Recommendation on Science and Scientific Researchers:

-- "The word "science" signifies the enterprise whereby humankind, acting individually or in small or large groups, makes an organized attempt, by means of the objective study of observed phenomena and its validation through sharing of findings and data and through peer review, to discover and master the chain of casualties, relations or interactions; brings together in a coordinated form subsystems of knowledge by means of systematic reflection and conceptualization; and thereby furnishes itself with the opportunity of using, to its own advantage, understanding of the processes and phenomena occurring in nature and society.

-- "sciences" signifies a complex of knowledge, fact and hypothesis, in which the theoretical element is capable of being validated in the short or long term, and to that extent includes the sciences concerned with social facts and phenomena.

– "open science":

#### UN Specialized Agencies' Sciences Governance Competence Analysis

: UNSAs have sciences governance competence in relation to their constituent treaties' provisions, functions and responsibilities. The treaty provisions can be supplemented by rules of procedure or other action instruments.

: in general the agencies have the competence to establish "expert mechanisms" to study and report on scientific matters.

: their competence includes authority to adopt standards applicable to their sciences or applications.

: the following UN Specialized Agencies are of specific significance in relation to their human rights implementation and fulfilment responsibility - UNESCO (all sciences), WHO (health sciences & tech), FAO (food sciences and tech), UNIDO (industrial sciences & tech), WIPO (registration of intellectual property rights in sciences and applications), ITU (telecommunications sciences and tech), IWTU (tourism sciences), IMO (marine tech), ICAO (aerotech).

UN SPECIALIZED AGENCY <sup>2</sup>	AGENCY SCIENCES	NOTES ON SCIENCES & HUMAN RIGHTS RESPONSIBILITY
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<sup>2</sup> In these notes an analysis is provided only for UNESCO, WHO and FAO.

UNESCO	- education, science and culture; - education sciences;	: Recommendation on Science & Scientific Researchers; : Recommendation on Open Science;  Right to education Right to access scientific progress and its applications
WHO	- health and medical sciences	Right to the highest attainable state of physical and mental health : sciences related to the goods and services the objects of the rights in article 12 ICESCR;
FAO	- food and agricultural sciences	Right to food and nutrition Freedom from hunger;

**ECOSOC & Science**

ECOSOC's Science Competence Scope

: international economic, social, cultural, educational, health and related matters. All of which have an inherently scientific nature or dimension.  
: recommendations to the General Assembly and the Specialized Agencies on "any such matters".  
: intersects with its human rights competence. Thus is positioned to make recommendations or take action on the interaction between human rights and science generally, and specifically the role of science in the realisation of human rights.

**International Standardisation Bodies**

International Standardisation Organisation (ISO)  
International Electrotechnical Commission (IEC)  
: have competence to license and certify science applications for international and national use and consumption.  
: generally adopt standards through experts bodies;

**Scientific Diversity and International Exchange of Science and Its Applications**

International scientific diversity is reflected in the production and exchange (trade) of science applications - technology, products or services. International trade and investment law is concerned with the promotion and protection of the trade and investment in the science applications of the peoples and UN Member States. This is entrenched in the right to culture in IHRL. Scientific diversity fulfils citizens' freedom of choice. The right to scientific research ensures scientific diversity as it allows for individuals, groups and peoples to engage in scientific research, with a view to the marketing or public application of their products.

### Military Applications of Science

#### ICJ Advisory Opinion - Legality of the Threat or Use of Nuclear Weapons

: for public security, including protection of human rights in armed conflict; in accordance with article 51 of the UN Charter;

: assessed the role of environment protection to the regulation of armaments;

**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?**

### The Role of Science in the Realisation of Human Rights

: because of its role to the enjoyment and realisation of human rights, especially economic, social and cultural rights, science is both a public and common good;

: in the form of public goods and services the State has duty to protect and fulfil access to technology, products and services (the applications of science);

: CESCR, GC25 - "... as it constitutes an essential tool for the realization of other economic, social and cultural rights, particularly the right to food and the right to health."

The relation of science governance and environmental protection

### Essential Sciences

International law and cooperation is concerned with the exchange of science related to the realisation of human rights or occurring through international trade or investment.

: essential nature of technology and products creates a dominance for markets or cultures which are the producers of the essential technology or products. Thus scientific diversity (of cultures, peoples, nations and countries) must be considered in relation to international marketability of technology or products. Especially in relation to how international marketability earns foreign currency holdings and special drawing rights.

Sciences Essential to the Realisation of Human Rights

HUMAN RIGHT	ILLUSTRATIVE LIST OF ESSENTIAL SCIENCE(S)	ILLUSTRATIVE LIST OF ESSENTIAL SCIENTIFIC PROGRESS APPLICATIONS (TECHNOLOGY, PRODUCTS OR SERVICES) & NOTES
Right to an Adequate Standard of Living	All sciences capable of application in fulfilling an adequate standard of living;	Clothing  Adequacy of living standard is assessed in relation to state of technological development in the country or internationally;
Right to Work (Labour Rights)	Industrial Development Commerce All Sciences capable of application in trade or industry;  Just and favourable Conditions of Work : occupational safety tech	Technological development and substitution of human labour or services : impact to access to work : technological development impact to the nature, character and quality of human labour / services; : CESCR, GC25 -- "States should adopt policies to ensure that those vulnerable to temporary and long-term job loss as a result of scientific and technological advances are provided with and encouraged to pursue vocational training and other job placement opportunities".
Right to health	Health & Medical Sciences	CESCR GC25 para. 67 "The links between the right to participate in and to enjoy the benefits of scientific progress creates medical applications that prevent diseases, such as vaccinations, or that enable them to be more effectively treated." "... is therefore instrumental in realizing the right to health".

Right to food	Agricultural Sciences Economic Management Sciences Agricultural Engineering	Food Stores Food Preservatives  FAO's scientific competence
Right to water and sanitation	Civil Engineering Chemical Engineering	Household Water Tap Public water networks Household and public toilets Water Preservation Tanks
Right to information	Engineering Sciences Computer Engineering Information Technology	Cyber Technology or ICT CESCR, GC25, para. 76 "..., it is crucial to regulate the ownership and control of data according to human rights principles".
Freedom of expression	Political science Communications Technology	Mobile computer and telecommunication devices Social Media Account
Right to housing	Architecture Construction Construction Management Civil Engineering Electrical Engineering	Electrified & Water-Networked House
Right to (Scientific) Education	Pedagogy Neurology Curricula in the other sciences	Primary School Curricula Further, Technical & Vocational Education Curricula Higher Education Curricula (Public or Private Education & Training Institutions Curricula)  Teaching and Education Services (Professions)  Digital Education and Training

Right to social security	Auditing Financial Management Sciences Computer Sciences	Digital Grant Payments Systems and Services
Specific Aspects of the Right to Culture : Participation in Sporting Activities;	Engineering Sport Science	Sport Stadia Sport Kit & Gear
Mobility / Transportation	Aviation, Rail, Maritime Road Use in the Transportation of goods Mining Geology Aerospace Technology	Passenger Aircraft & Aviation Services Roads & Motor Vehicles Passenger Rail Networks & Services Engine Fuel

The United Nations and the Promotion of Science
UN's obligation to promote "conditions of economic and social progress and development" : Article 56 enjoins Member States to take "joint and separate action" with the UN for the achievement of the purposes set forth in Article 55.
The Role of Science in the Realisation of Agenda 2030 and the Sustainable Development Goals
Science or Applications Outcomes of the SDGs
Impact of Sciences as a Good for the Realisation of UN Objectives

Setting Priorities for Scientific Research

: implies that international sciences governance processes should be transparent and accountable.

: financial prioritisation for sciences and applications essential to the realisation of human rights and UN action agendas and programmes. Fulfilment and protection of human rights serves as an important guideline for scientific research priorities listing and fulfilment.

Access to Scientific Benefits

: identified role of human rights in the realisation of human rights is to ensure the availability and accessibility of science applications, specifically goods and services which are assured and protected by international human rights law.

Protection of the Scientific Enterprise from Harm and Encroachments from Political, Religious and Private Interests

: status of the scientific enterprise as public or common good legitimises its protection from harms and encroachments. Human rights are an essential tool in protecting scientific enterprises from harms and encroachments.

Access to Science and Its Applications in Public Emergencies

COVID-19

: access to vaccination;

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### **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?**

#### *Meaning and Scope of "Scientific Progress" as entailing prospective harm assessment*

: progressive nature or character of science or applications must be considered in relation to the principles, purposes and objectives of the United Nations, especially human rights. And includes the purposes in Article 55 of the Charter.

-- from this perspective science or applications whose objectives is set against UN principles and purposes, is not progressive. Especially if harmful to the principles and purposes of the UN; the applications must also be consonant with UN principles and purposes.

: scientific must be considered in relation to truthfulness and integrity of the proposition, theory, idea or concept. IHRL provides normative criteria for evaluating scientific propositions, e.g. the prohibition of racist ideas or ideology;

-- thus from this perspective harmfulness of the science or applications denies it status as "scientific" or "progressive"; thus a person would not be able to claim benefits or protection under the right in relation to a science or application which is not protected by the right in Article 15 of the ICESCR.

: harm considerations usually reflect in the safety standards imposed for the marketing or use of science applications - technology, products or services;

: seemingly States bear an obligation to regulate the marketing and use of science and applications, where there is proven or likelihood of harm to a diverse category of interests, including sovereignty and human rights. As part of the obligations of the right to scientific progress and its applications. Article 4 makes this permissible for States.

: another internal limitation may be the question of whether the relevant science or application advances or adversely impacts "development";

-- that it does not advance development, may mean it's not progressive, and thus outside the scope of the right to scientific progress and its applications;

The quality of sciences and applications also serves as a limitation to the recognition and protection of access to sciences and applications. "Quality refers to the most advanced, up-to-date and generally accepted and verifiable science available at the time, according to the standards generally accepted by the scientific community. This element applies both to the process of scientific creation and to access to the applications and benefits of science. Quality also includes regulation and certification, as necessary, to ensure the responsible and ethical development, and application of science. States should rely on widely accepted scientific knowledge, in dialogue with the scientific community, to regulate and certify the circulation of new scientific applications accessible by the public." (para. 18 CESCR General Comment No. 25)

Precautionary Principle

: CESCR GC25, para. 70

## Purposes and Principles of the United Nations

Article 4 and 5 of the ICESCR provide limitations on the right to access scientific progress and its applications;

: from this perspective the decision on anticipated harmfulness is taken by the State authority. It may choose to restrict the availability or accessibility of the relevant science or application. Subject to compliance with the requirements of Article 4 and 5.

Other human rights also provide limitations on the right to access scientific progress and its applications;

: which can also be legislated by the State;

### Parties Liable / Responsible for the Harms or Harmful Effects of Science and Its Applications

#### Protection Against Anticipated Harm

: science provides a forecasting perspective on the potential for harm in science or its applications. Academic freedom and trade rights facilitate for persons (natural or juristic) to license and market their sciences or applications. In general science or applications that are likely to cause harm will either be denied licensing or will be granted a conditional license for marketing their science or applications. Thus serves as the primary regulatory layer preventing harmful science or applications.

The right to scientific progress and its applications operates alongside other human rights which provide standards for evaluating undesirable or unsustainable harm.

: great interest in preventing harm to the public from TPS;

: the likelihood of harm may better be considered as a legitimate limitation on the scientific freedom for development of harmful science applications.

-- science or applications that would cause mass destruction to the planet or humanity would not qualify as scientific progress. Thus the element of progress in the right may serve to render the relevant science or application as unprotected by the right.

Intellectual Property Registration

Product Licensing & Certification

Education & Training Curricula & Qualifications Accreditation

Science Applications Use Information

: contracting requirement;

: consent requirements;

: voluntary assumption of risk

The licensing and certification of technology has as one its purposes the setting and enforcement of safety standards. In this sense international technology licensing and certification procedures have the effect that harmful technology is either not licensed or licensed subject to conditions, including compliance with safety requirements. Which in part entails the insertion or publication of "product safety / use information" in the packaging of sold technological products.

Law can also require that consumers be provided with general or specific "scientific information" about the nature and any harmful effects or dangers of product or service use.

#### Liability of Science to Cause International Public Emergencies

COVID-19  
Climate Change

Impact of International Science governance to the science-caused or related international public emergencies

#### Sciences and Applications Impacting or Contributing to Climate Change

Carbon Emissions  
: electricity generation and supply;  
: motor vehicles use in transport;

#### Role of Sciences and Applications in Effective & Sustainable Climate Change Mitigation

Related State or international obligations  
Renewable Energy or Green Technology

### **IV Connecting Science and Policy-Making**

**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?**

Obligation of Transparent and Accountable Science Policy & Decision-Making

Evolution of the practice of allowing non-governmental observers in UN processes, including technical or scientific policy and decision-making.

Open, Transparent and Accountable Science

Right to administrative justice

: treaties provide for the consultative status of private persons;

UN Specialized Agencies' Policy & Decision-Making Bodies, their Functions and Powers

UN SPECIALIZED AGENCY	SCIENCE POLICY & DECISION-MAKING INTERFACE PLATFORMS	CHALLENGES & ELEMENTS NECESSARY FOR THE EFFICIENCY OF THE INTERFACES	AGENDA SETTING & STAKEHOLDER PARTICIPATION
UNESCO	Constitution Rules of Procedure	Impartiality and Independence of experts;	Art. XI(4)
WHO	Constitution Rules of Procedure		
FAO	Constitution Rules of Procedure		

**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 Innovation & Participation Initiatives

UNESCO Open Science Recommendation (193)

: Open Science Advisory Committee;

: Open science is a set of principles and practices that aim to make scientific research from all fields accessible to everyone for the benefits of scientists and society as a whole. Open science is about making sure not only that scientific knowledge is accessible but also that the production of that knowledge itself is inclusive, equitable and sustainable.

Stakeholders Participation in UN Scientific Processes

**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.**

(a) Limitation of Right to Participate in Scientific Progress

(b) Participation in Decisions Concerning Scientific Direction

(c) Purposes of Limitations in Participation and Decision-Making Participation

UNESCO Open Science Recommendation List

: limitation of the right to access scientific knowledge -

- protection of human rights;
- confidentiality;
- intellectual property rights;
- personal information;
- threatened or endangered species;
- sacred and secret indigenous knowledge

Sustainable Use of Resources

Public Security

: restrictions of marketability or use of technology, products or services;

Science Research & Development / Invention Ethics

: application of freedom from scientific experimentation without consent;

Technology or Products Certification Standards

Services Regulatory Standards