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Balancing Interests: Limitations to the Right to Enjoy the Benefits of Scientific Progress and Its Applications

Une balance des intérêts – Les restrictions au droit de bénéficier du progrès scientifique et de ses applications

Yvonne Donders

Abstract

Several studies and reports have been elaborated on the normative content and State obligations of the right to enjoy the benefits of scientific progress and its applications. One of the legal aspects that has not yet been fully explored is the possible limitations of this right. The right to enjoy the benefits of scientific progress is, just as most other human rights in international law, not absolute. States may, under certain circumstances, limit the enjoyment of this right. For instance, States may or even must limit the conduct of science or the dissemination of scientific results in order to prevent harm or disrespect of other human rights. This contribution analyses the legal framework of limitations of the right to enjoy the benefits of scientific progress, based on the different regimes in international human rights law. In international human rights law, the possibility of and criteria for limitations are laid down in treaty provisions, so-called limitation clauses. The scope of these clauses has been elaborated by international supervisory bodies and academics, including the criteria of being provided by law, having a legitimate aim and being necessary. Limitations form part of the more general doctrine of State obligations, which in the case of the right to enjoy the benefits of scientific progress is characterized by the ICESCR regime of progressive realization of this right,

Résumé

Plusieurs études et rapports ont été élaborés au sujet du contenu normatif du droit de bénéficier du progrès scientifique et de ses applications et des obligations des États en résultant. L'un des aspects légaux n'ayant pas encore été complètement exploré est la possible restriction de ce droit. Le droit de bénéficier du progrès scientifique et de ses applications n'est pas absolu, au même titre que la plupart des droits de l'homme en droit international. Les États peuvent, à certaines conditions, restreindre la portée de ce droit. Par exemple, ils peuvent, ou parfois même doivent, limiter le comportement scientifique ou la dissémination de résultats scientifiques afin de prévenir le non-respect d'autres droits fondamentaux. Cette contribution analyse le cadre légal des limitations du droit de bénéficier du progrès scientifique et de ses applications en se basant sur différents régimes internationaux de protection des droits de l'homme. En droit international des droits de l'homme, la possibilité et les critères de restriction sont énoncés dans les traités par le biais de clauses de restriction. La portée de ces clauses a été précisée par les organes internationaux de contrôle, ainsi que par les chercheurs, et notamment les critères de la base légale, de l'objectif légitime et de la nécessité de la restriction. Les restrictions font partie de la doctrine plus générale des obligations des États qui,

the prohibition of retrogressive measures and core obligations.

dans le cas du droit de bénéficier du progrès scientifique et de ses applications, sont caractérisées par le régime de la réalisation progressive de ce droit, de l'interdiction des mesures régressives et des obligations fondamentales minimum figurant dans le Pacte international relatif aux droits économiques, sociaux et culturels.

I. Introduction

Recently, the International Court of Justice (ICJ) and a Dutch national court had to decide on cases concerning scientific progress. The ICJ had to determine whether or not a Japanese whaling programme fell within the phrase “for purposes of scientific research”, thereby exempting it from the protective measures of the Convention for the Regulation of Whaling (24 September 1931). In its judgment of March 2014, the ICJ did not give a general definition of “scientific research” – and did not accept one suggested by Australia – but found that although some activities could be broadly characterized as scientific research, the Japanese programme for the killing, taking and treating of whales was not for the purposes of scientific research. This assessment by the ICJ was seemingly point of intense debate among the judges, reflected in a number of separate and dissenting opinions, some of which clearly stated that the ICJ was not qualified to make such an assessment, which should be left to the discretion of States and bodies of the Convention.¹

The question of who determines what is or is not to be qualified as “scientific research” also came up in a case before a Dutch Court in Haarlem in September 2013. The Court decided that the dissemination of scientific manuscripts containing research results about the H5N1 virus technology require a licence on the basis of European Union (EU) regulation 428/2009,² which obliges member States to adopt an adequate and effective control system to prevent the dissemination of, *inter alia*, biological weapons.

The applicants were researchers of the Erasmus Medical Center in Rotterdam, who had proven the possibility to genetically mutilate the virus to make it transferable via air. The Dutch Minister of Foreign Affairs found this information extremely dangerous, since it could be used by terrorists to develop biological weapons. Therefore a licence was initially refused. Although a licence was finally provided,

¹ ICJ, *Whaling in the Antarctic (Australia v. Japan, New Zealand intervening)*, judgment of 31 March 2014, see in particular the dissenting opinions by Judges Owada, Abraham and Bennouna.

² Regulation (EC) No. 428/2009 of the Council of the 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items (O.J. L 134, 25 May 2009, p. 1).

the researchers wanted the Court to decide on the principle matter of whether the government should play a role in the dissemination of scientific research output.

The EU Regulation allows for exceptions to the licence requirement for information that is publicly available and for fundamental scientific research. The researchers argued that their research was of a fundamental character and therefore did not require a licence. The Court, however, argued that the exceptions mentioned in the Regulation should be interpreted strictly, bearing in mind the purpose of the Regulation, which is the prevention of the dissemination of technology and materials that can help to develop biological weapons. Therefore the exception to the licence requirement for fundamental scientific research only applies to research that is not directed towards the realization of a practical purpose related to the dissemination of biological weapons. According to the Court, the research in question also had a practical purpose, the mutilation of the virus, which would, without the licence, damage the purpose of the Regulation.

The Court realised that the obligation to obtain a licence “will understandably limit to a certain extent the accessibility of fundamental scientific research”.³ There could for instance be a delay in the exchange of research output. The Court however found this disadvantage not to outweigh the interest of the effective control of the non-proliferation of biological weapons. According to the Court, excluding public authorities by putting the decision on whether research is of a fundamental nature, making it eligible for an exception to the licence requirement, only in the hands of those who conduct the research and want to publish about it, would lead to the danger that member States cannot fulfil their obligations. “The security interests of the entire international community are in the hands of publishing researchers. An incorrect assessment can in such a situation have unacceptable consequences.”⁴

Both Courts made interesting assessments of the different interests at stake in relation to scientific research. Although perhaps far-fetched at first glance, international human rights law is implied in these types of situations. The right to enjoy the benefits of scientific progress and its applications is laid down in the Universal Declaration of Human Rights (UDHR), proclaimed by UN General Assembly Resolution 217 A (III) (10 December 1948) (A/RES/3/217 A), Article 27, and in the International Covenant on Economic, Social and Cultural Rights (ICESCR), Article 15(1)(b). This right implies the freedom to conduct research and disseminate its results as well as the right to enjoy and participate in scientific progress. At the same time, States are obliged to protect people from the (possible) harmful effects of scientific and technological advancement. The case of the virus research licensing illustrates such a situation, although, to no surprise, the human right to

³ Court Noord Holland, Haarlem, Administrative Law, Case Number AWB 13/792, Decision of 20 September 2013, § 5.11.

⁴ *Ibidem*.

enjoy the benefits of scientific progress and its applications was not mentioned in the case.

The right to enjoy the benefits of scientific progress and its applications is still, despite increased attention from United Nations (UN) human rights bodies and academics, very much unknown. Several studies and reports have been elaborated on the normative content and State obligations of this right,⁵ but one of the legal aspects that has not yet been fully explored is possible limitations. The right to enjoy the benefits of scientific progress and its applications is, just as most other human rights in international law, not absolute. States may, under certain circumstances, limit this right. As the example shows, States may or even must limit the conduct of science or the dissemination of scientific results in order to prevent harm or disrespect of the human rights of others.

This article analyses the legal framework of limitations of the right to enjoy the benefits of scientific progress, based on the different regimes in international human rights law. In international human rights law, the possibility of and criteria for limitations are laid down in treaty provisions, so-called limitation clauses. The general limitation clause of the ICESCR is Article 4. Relevant to this limitations clause is the more general doctrine of State obligations, which in the case of the right to enjoy the benefits of scientific progress is characterized by the ICESCR regime of progressive realization of this right and the prohibition of retrogressive measures. These issues are analysed on the basis of the work of the monitoring body of the ICESCR, the Committee on Economic, Social and Cultural Rights (CESCR or Committee), and academic sources. The right to enjoy the benefits of scientific progress is interrelated and interdependent with other rights in the ICESCR, such as the rights to education, health, water, housing and food, but also with rights in the International Covenant on Civil and Political Rights (ICCPR), including the right to freedom of expression and information. Therefore, the limitation regime of the ICCPR is also touched upon in the elaboration of the possible limitations of the right to enjoy the benefits of scientific progress.

Another legal regime that is very relevant to the limitation of the right to enjoy the benefits of scientific progress is that of intellectual property (IP). It should first be noted that a specific part of IP rights, namely author's rights, is referenced in the same provision as the right to enjoy the benefits of scientific progress. Article 15(1)(c) ICESCR includes the right of everyone "...to benefit from the

⁵ A.R. CHAPMAN, "Towards and Understanding of the Right to Enjoy the Benefits of Scientific Progress and Its Applications", *Journal of Human Rights*, vol. 8, n° 1, 2009, p. 1; Y. DONDEERS, "The Right to Enjoy the Benefits of Scientific Progress: in Search of State Obligations in relation to Health", *Medicine, Health Care and Philosophy*, vol. 14, n° 4, 2011, p. 371; W.A. SCHABAS, "Study of the Right to Enjoy the Benefits of Scientific and Technological Progress and Its Applications", in Y. DONDEERS and V. VOLODIN (eds), *Human Rights in Education, Science and Culture – Legal Developments and Challenges*, Aldershot, Ashgate, 2008, p. 273; C. TIMMERMANN, "Sharing or Benefiting from Scientific Advancement?", *Sci Eng Ethics*, vol. 20, n° 1, 2014, p. 111; UNESCO, Venice Statement 2009, *op. cit.*; Report of the Special Rapporteur in the field of cultural rights Ms. Farida Shaheed on the right to enjoy the benefits of scientific progress and its applications, presented at the Twentieth Session of the Human Rights Council (14 May 2012) (A/HRC/20/26).

protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.” There is undoubtedly a possible tension between this right and the right to enjoy the benefits of scientific progress, although the drafters of the ICESCR “...did not seem to deeply consider the difficult balance between public needs and private rights when it comes to intellectual property”.⁶ The CESCR adopted a General Comment on this provision, distinguishing author’s rights from “...legal entitlements recognized in intellectual property systems”.⁷ The Committee stated that the author’s rights in Article 15 ICESCR were meant to encourage the active contribution of creators to sciences. It recognized the intrinsic link between the right to enjoy the benefits of scientific progress and author’s rights, a relationship it described as “...at the same time mutually reinforcing and reciprocally limitative”.⁸ While author’s rights and IP rights in general are possible means to limit the right to enjoy the benefits of science, a detailed discussion of the intellectual property regime, which is mostly developed outside the international human rights law framework, falls outside the scope of this contribution and will be dealt with by others.⁹ This article focuses on the general legal human rights framework of limitations of the right to enjoy the benefits of scientific progress, including the criteria to take such measures.

II. Limiting Scientific Freedom to Prevent Abuse and Harm

Article 27 UDHR includes the right to share in scientific advancement and its benefits. The right to enjoy the benefits of scientific progress and its applications is included in Article 15(1)(b) ICESCR. The full provision reads as follows:

- “1) The States Parties to the present Covenant recognize the right of everyone:
- a) To take part in cultural life;

⁶ M. GREEN, “Drafting History of the Article 15 (1) (c) of the International Covenant on Economic, Social and Cultural Rights”, Background paper submitted for the Day of General Discussion on The right of everyone to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author (article 15.1 (c) of the Covenant) (9 October 2000) (E/C.12/2000/15), § 45.

⁷ CESCR, General Comment 17, The right of everyone to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he or she is the author (article 15, § 1 (c), of the Covenant) (12 January 2006) (E/C.12/GC/17), § 1.

⁸ *Ibidem*, § 4.

⁹ See for an analysis of the link between the right to enjoy the benefits of scientific progress and its applications and intellectual property regimes: P. SAMUELSON, “Preserving the positive functions of the public domain in science”, *Data Science Journal*, vol. 2, 2003, p. 192; L. SHAVER, “The Impact of Intellectual Property Regimes on the Right to Science and Culture”, Background note submitted to the Special Rapporteur in the field of cultural rights Ms. Farida Shaheed (20 May 2014); C. TIMMERMANN, “Sharing or Benefiting from Scientific Advancement?”, *op. cit.*, p. 111. In a statement on intellectual property and human rights, adopted in 2002, the CESCR stated that intellectual property rights must be balanced with the right to enjoy the benefits of scientific progress and encouraged the development of intellectual property systems and the use of intellectual property rights in a balanced manner that would provide protection for the moral and material interests of authors, and at the same time promote the enjoyment of these and other human rights. See CESCR, Statement on human rights and intellectual property (14 December 2001) (E/C.12/2001/15); CESCR, General Comment 17, *op. cit.*, § 1.

- b) To enjoy the benefits of scientific progress and its applications ;
 - c) To benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.
- 2) The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for the conservation, the development and the diffusion of science and culture.
 - 3) The States Parties to the present Covenant undertake to respect the freedom indispensable for scientific research and creative activity.
 - 4) The States Parties to the present Covenant recognize the benefits to be derived from the encouragement and development of international contacts and co-operation in the scientific and cultural fields.” ■

The paragraphs of this provision address the two main dimensions of this right: the right of individuals to enjoy the benefits of scientific advancement and the right of scientists to freely conduct science, disseminate the results and to have the results of their work protected. The right of scientists to freely conduct science implies, for instance, the right or freedom to assess and choose the preferred path of scientific and technological development. The right of individuals to enjoy the benefits of scientific advancement implies, for example, the right of access to scientific and technological advancement without discrimination, including medicine, food and communication technology.¹⁰

It was, however, also realized that “science can be put both at service but also to the detriment of society”.¹¹ The potential abusive use of science and the possible harmful effects of science were present from the earliest international discussions on scientific and technological progress and therefore visible in several early international instruments on science.¹² For example, in the UN Declaration on the Use of Scientific and Technological Progress in the Interests of Peace and for the Benefit of Mankind (1975), it is acknowledged that scientific and technological achievements could improve the conditions of peoples and nations, but they could also threaten human rights and fundamental freedoms. This instrument therefore includes that States should prevent the use of scientific and technological development to limit the enjoyment of human rights and protect the popula-

¹⁰ A group of experts elaborated the scope and normative content of the right to enjoy the benefits of scientific progress and its applications in the UNESCO, Venice Statement on the Right to Enjoy the Benefits of Scientific Progress and its Applications (Article 15(1)(b) ICESCR) (16-17 July 2009). This statement was commented upon by A. MÜLLER, “Remarks on the Venice Statement on the Right to Enjoy the Benefits of Scientific Progress and its Applications, (Article 15(1)(b) ICESCR)”, *Human Rights Law Review*, vol. 10, n° 4, 2010, p. 765. A further elaboration is provided in: AAAS Science and Human Rights Coalition, “Defining the Right to Enjoy the Benefits of Scientific Progress and its Applications: American Scientists’ Perspectives”, Report prepared by Margaret Weigers Vitullo and Jessica Wyndham (October 2013).

¹¹ C. TIMMERMANN, “Sharing or Benefiting from Scientific Advancement?”, *op. cit.*, p. 117.

¹² See for instance the UN Declaration on the Use of Scientific and Technological Progress in the Interests of Peace and for the Benefit of Mankind, Proclaimed by UN General Assembly, Resolution 3384 (XXX) (10 November 1975) (A/RES/30/3384); the UNESCO Universal Declaration on the Human Genome and Human Rights (11 November 1997); and the UNESCO International Declaration on Human Genetic Data (16 October 2003). See, also DONDERS, “The Right to Enjoy the Benefits of Scientific Progress”, *op. cit.*, p. 371.

tion from possible harmful effects of the misuse of science and technology. It also focused on non-discrimination and international cooperation to ensure that the results of science and technology are used in the interest of peace and security and for the economic and social development of peoples.

As mentioned above, limitations of human rights are a recognized element of international human rights law. Hardly any human right can be enjoyed unlimitedly. The general framework of limitations is outlined in Article 29 UDHR:

- “(1) Everyone has duties to the community in which alone the free and full development of his personality is possible.
- (2) In the exercise of his rights and freedoms, everyone shall be subject only to such limitations as are determined by law solely for the purpose of securing due recognition and respect for the rights and freedoms of others and of meeting the just requirements of morality, public order and the general welfare in a democratic society.
- (3) These rights and freedoms may in no case be exercised contrary to the purposes and principles of the United Nations.” ■

This provision shows that both the rights holders – individuals – and the duty bearers – States – may be involved in the limitation of the rights. Article 29(1) and (3) include that individuals not only have rights, but also duties to the community and that they may not exercise their rights contrary to the purposes and principles of the United Nations. These purposes include the maintenance of peace and security, as well as the promotion of human rights and development. In other words, individuals should exercise their right to enjoy the benefits of scientific progress responsibly, because “[s]cientific freedom...centers on the nexus of freedom and responsibility”.¹³ This means simply stated that scientists and researchers should not conduct or disseminate science or technology that is against human rights or peace and that they should, for instance, take the social and cultural context into account when transferring knowledge and technology.¹⁴ Many scientific or technological institutions have developed codes of conduct for researchers, thereby self-imposing limitations on scientific freedom.¹⁵

Within the framework of UNESCO, standards and programmes have been adopted concerning ethics of science and technology to promote reflection on ethical implications of scientific research and its applications. Several UNESCO instruments on science also emphasize the duties of scientists to promote, conduct

¹³ AAAS Science and Human Rights Coalition, “Defining the Right to Enjoy the Benefits of Scientific Progress and its Applications: American Scientists’ Perspectives”, *op. cit.*, p. 17.

¹⁴ L.D. DE CASTRO, “Transporting Values by Technology Transfer”, *Bioethics*, vol. 11, n^{os} 3 & 4, 1997, p. 193.

¹⁵ See for instance the Global Ethics Observatory, which is a database currently including 151 codes of conduct issued by entities dealing with science and technology, with the intention to regulate or educate the behaviour of their members (individuals and/or institutions) or addressing scientists in general. See, on the issue of awareness of taking into account the social and cultural context L.D. DE CASTRO, “Transporting Values by Technology Transfer”, *op. cit.*, p. 193.

and use science in a responsible way.¹⁶ The UNESCO Universal Declaration on the Human Genome and Human Rights (1997) and the UNESCO International Declaration on Human Genetic Data (2003) also focus on the potential abuse of science and research. The Declaration on the Human Genome includes, for instance, that researchers have special responsibilities in carrying out their research, including meticulousness, caution, intellectual honesty and integrity (Article 13). It also includes that persons have the right to be informed about research on their genome and that such research should in principle not be carried out without a person's consent. The Declaration on Human Genetic Data emphasizes the ethical aspects of the collection, process, use and storage of human genetic data (Article 6), as well as the necessity of free, prior and informed consent (Article 8).

The responsibility to respect human rights is also recognized in relation to (multi-national) companies. The UN "Protect, Respect and Remedy" framework (or Ruggie framework) adopted by the Human Rights Council provides guiding principles to prevent and address the risk of adverse impacts on human rights linked to business activities. The responsibility to respect for human rights means that companies should avoid infringing on human rights and should address adverse human rights impacts with which they are involved.¹⁷ This framework is highly relevant to the right to enjoy the benefits of scientific progress, where private companies nowadays often play a greater role than public authorities.

In this article, however, the focus is on the role of the State as prime duty bearer of human rights promotion and protection, which may include limiting rights. Under international human rights law, the State can lawfully limit the enjoyment of rights, for instance to protect the rights of others or to balance rights with the interests of society as a whole, as indicated in Article 29(3) UDHR. Limiting the enjoyment of human rights may be legitimate, at the same time these limitations should be kept as restricted as possible. Limitation clauses in international human rights law therefore outline specific criteria that need to be respected in order for limitation measures to be legitimate. The limitations clause of the ICESCR, including criteria for limitations, is dealt with below. The limitations clause is closely linked to the broader issue of State obligations, which are therefore addressed first.

¹⁶ See, also, Report of the Special Rapporteur in the field of cultural rights on the right to enjoy the benefits of scientific progress and its applications, *op. cit.*, p. 14.

¹⁷ HR Committee, Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework (21 March 2011) (A/HRC/17/31); Human Rights Council, Report of the Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises, John Ruggie (7 April 2008) (A/HRC/8/5).

III. State Obligations under the ICESCR

Since the right to enjoy the benefits of scientific progress is part of the ICESCR, its scope and content, including States obligations, are determined by that treaty regime.

A. PROGRESSIVE REALIZATION AND NON-RETROGRESSION

The key provision in the ICESCR with regard to State obligations is Article 2(1), which lays down the principle of progressive achievement conditioned by the availability of resources. It says that each State party “...undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures.” Article 2(2) ICESCR obliges States to take measures to immediately ban *de jure* discrimination in the enjoyment of the rights in the Covenant. The idea of progressive realization is not applicable here, since the term “to ensure” is used.

The CESCR, the independent body monitoring the implementation of and compliance with the treaty, has given an interpretation of this provision.¹⁸ In its General Comment on State obligations it maintains *inter alia* that the obligation to take steps or measures as laid down in Article 2(1) ICESCR has an immediate character. States should take steps “...within a reasonable, short period of time...” after the Covenant has entered into force for them.¹⁹ Furthermore, taking the appropriate measures implies not only legislative measures, but also administrative, financial, educational, social and other measures, including judicial remedies.²⁰ States are free to determine which measures they consider best to implement the material provisions of the ICESCR, whereby the Committee, as monitoring body, determines whether the State has, in fact, taken the appropriate measures.²¹

The Committee further asserts that the duty to “progressively realize” is closely related to the availability of financial and economic resources. According to the Committee, States parties should start the implementation immediately and should move as expeditiously and effectively as possible towards the end of total realization.²² States should, regardless of their level of economic development, do the maximum possible to ensure the enjoyment of economic, social and cultural rights.

¹⁸ CESCR, General Comment 3. The nature of States parties' obligations (art. 2, § 1, of the Covenant) (Fifth Session 1990) (E/1991/23, E/CN.12/1991/8).

¹⁹ *Ibidem*, § 2.

²⁰ *Ibidem*, § 5.

²¹ *Ibidem*, §§ 4 and 7.

²² *Ibidem*, § 9.

Progressive realization and moving as speedily as possible towards the end of full realization imply that, in principle, the level of protection may not be diminished after a certain level has been achieved. So-called retrogressive measures are allowed only in exceptional cases. They "...would require the most careful consideration and would need to be fully justified by reference to the totality of the rights provided for in the Covenant and in the context of the full use of the maximum available resources".²³

The CESCR has indicated that it assesses retrogressive measures according to several criteria, such as the general level of development and economic situation of the State in question, the severity of the alleged breach, as well as "[t]he existence of other serious claims on the State party's limited resources, for example resulting from a recent natural disaster or from recent internal or international armed conflict".²⁴ In other words, economic, social, political or other serious difficulties may be a reason that a State cannot (temporarily) fulfil its obligations and may take retrogressive measures, which in practice may lead to a limitation of the enjoyment of the rights. As regards the right to enjoy the benefits of scientific progress, possible retrogressive measures may concern, for instance, reduction of public funding for scientific research.

B. CORE OBLIGATIONS

The CESCR has furthermore developed the concepts of the "core content" and "core obligations" of the rights in the Covenant. It has determined that, notwithstanding the concept of progressive realization laid down in Article 2 ICESCR, "...a minimum core obligation to ensure the satisfaction of, at the very least, minimum essential levels of each of the rights is incumbent upon every State party".²⁵ It has further elaborated the core content of several provisions and core obligations of States that they have to fulfil regardless of their level of economic development. The Committee has in this regard maintained that although resource constraints are a factor in the evaluation of retrogressive measures, in relation to the core, "...in order for a State party to be able to attribute its failure to meet at least its minimum core obligations to a lack of available resources it must demonstrate that every effort has been made to use all resources that are at its disposition in an effort to satisfy, as a matter of priority, those minimum obligations". In other words, in principle, retrogressive measures may not affect the minimum core of the rights, since the core should be implemented irrespectively of the availability of resources.

The CESCR distinguishes retrogressive measures taken under Article 2 ICESCR from limitations, which can be taken in accordance with Article 4.

²³ *Ibidem*, § 9.

²⁴ CESCR, Statement on An Evaluation of the obligation to take steps to "the maximum available resources" under an Optional Protocol to the Covenant (21 September 2007) (E/C.12/2007/1), § 10.

²⁵ *Ibidem*, § 10.

IV. Limitation Clause in Article 4 ICESCR

As stated above, the idea that human rights may be limited under certain circumstances is broadly acknowledged in international human rights law. Most international human rights instruments contain so-called limitation clauses, sometimes in general terms, sometimes attached to a particular provision.

The drafting history of Article 15 ICESCR shows that the proposal to add an explicit limitation clause to this provision was rejected. Some States wanted to add that scientific advancement should contribute to or be in the interest of peace and security. Proposals in this direction were rejected, because the majority of States found that such reference could lead to too much State control.²⁶ Such reference was however included in Article 13 ICESCR on the right to education, outlining the general purposes that education should serve. Article 13(1) states that "...education shall be directed to the full development of the human personality and the sense of its dignity, and shall strengthen the respect for human rights and fundamental freedoms". "...[E]ducation shall enable all persons to participate effectively in a free society, promote understanding, tolerance and friendship among all nations and all racial, ethnic or religious groups, and further the activities of the United Nations for the maintenance of peace." It could be argued that scientific progress should broadly serve the same aims, but this was not explicitly included.

Since no limitation clause was added to Article 15, the right to enjoy the benefits of scientific progress is regulated by the general limitation clause as laid down in Article 4 ICESCR. According to this provision States parties may subject the rights in the ICESCR only to such limitations that are "...determined by law only in so far as this may be compatible with the nature of these rights and solely for the purpose of promoting the general welfare in a democratic society".

Article 4 has not been elaborated in detail by the CESCR nor referred to extensively by States in their reports.²⁷ Interpretation of treaty provisions in accordance with the Vienna Convention on the Law of Treaties²⁸ could be done on the basis of the text of the provision in their context and in light of the object and purpose of the treaty. Context refers to other relevant treaties. Additionally, the drafting history of the treaty and provision may be looked at. The analysis below is therefore based on the text of Article 4, other treaty provisions, the *travaux préparatoires*, and academic studies in order to elaborate on the different elements in this provision.

²⁶ SCHABAS, "Study of the Right to Enjoy the Benefits of Scientific and Technological Progress and Its Applications", *op. cit.*, p. 281; M. GREEN, "Drafting History of the Article 15 (1) (c) of the International Covenant on Economic, Social and Cultural Rights", *op. cit.*, §§ 34 and 42.

²⁷ A. MÜLLER, "Limitations to and Derogations from Economic, Social and Cultural Rights", *Human Rights Law Review*, vol. 9, n° 4, 2009, p. 557.

²⁸ Vienna Convention on the Law of Treaties (23 May 1969), in United Nations, Treaty Series, vol. 1155, p. 331, articles 31-32.

A. DETERMINED BY LAW

Limitations should firstly be determined by law, which implies that a national governance system is involved in the drafting and execution of the limitation measures. The term “law” is interpreted broadly by the international supervisory bodies to include not only statute, but also unwritten law.²⁹ The CESCR has endorsed this broad understanding in several General Comments.³⁰ Laws must furthermore not be arbitrary, unreasonable or discriminatory and be accessible and foreseeable.³¹

B. NOT IN CONTRADICTION WITH THE NATURE OF THE RIGHTS

Limitations may not be in contradiction with the nature of the rights in the Covenant, otherwise the provisions would no longer have any value and substance.³² This links to the above mentioned issue of the “core content” and “core obligations” of the rights. It seems that, similar to retrogressive measures, limitations may not affect the minimum core of the rights, since this would go against their “nature”.³³

C. LEGITIMATE AIM: GENERAL WELFARE IN A DEMOCRATIC SOCIETY

The concept of “the general welfare in a democratic society” is rather broad and vague. Research of the drafting process of Article 4 ICESCR shows that including only “general welfare” as a legitimate aim to limit the enjoyment of the rights was done deliberately. Other possible legitimate aims, such as national security, public order, morals or respect for the rights and freedoms of others were left out of Article 4 ICESCR, because they were not considered to be relevant to economic and social rights. Reasons of public morals or public order were not conceived as legitimate reasons to limit basic needs such as the right to food or health. Only where economic and social rights resemble civil and political rights, for instance Article 8 ICESCR on the right to form trade unions and to strike, such legitimate aims are included.³⁴ The *travaux préparatoires* therefore seem to suggest that the words “general welfare” should be interpreted restrictively, not including these dimensions.³⁵ The drafting history further shows that Article 4 was not meant to

²⁹ HR Committee, General Comment 16 on Article 17 (September 1988) (A/43/40), §§ 3, 4 and 8, Eur. Ct H.R. (Plenary), *Sunday Times v. The United Kingdom*, 26 April 1979 (Appl. No. 6538/74), §§ 47-49.

³⁰ CESCR, General Comment 7, Forced evictions, and the right to adequate housing (1 January 1998) (E/1998/22, annex IV at 113 (1997)).

³¹ Limburg Principles on the Implementation of the International Covenant on Economic, Social and Cultural Rights (1987) (E/CN.4/1987/17), principles no. 48-50. These were derived from the Syracuse Principles on the Limitation and Derogation of Provisions in the ICCPR (28 September 1984) (E/CN.4/1985/4), §§ 15-18.

³² Limburg Principles, *op. cit.*, pp. 122-135, principles n° 52, 56.

³³ A. MÜLLER, “Limitations to and Derogations from Economic, Social and Cultural Rights”, *op. cit.*, p. 579.

³⁴ A. MÜLLER, “Limitations to and Derogations from Economic, Social and Cultural Rights”, *op. cit.*, p. 579.

³⁵ P. ALSTON and G. QUINN, “The Nature and Scope of States’ Parties obligations under the International Covenant on Economic, Social and Cultural Rights”, *Human Rights Quarterly*, vol. 9, n° 2, 1987, p. 156, at p. 201-2.

allow for limitations for reasons of lack of resources. Such measures were considered to be retrogressive measures to be justified under Article 2 (*infra*).³⁶

The UDHR as well as other human rights treaties include more legitimate aims. The European Social Charter, one of the regional treaties on economic and social rights, includes that limitations should be "...prescribed by law and...necessary in a democratic society for the protection of the rights and freedoms of others or for the protection of public interest, national security, public health, or morals".³⁷ This provision sums up the legitimate aims in more detail than the "general welfare in a democratic society" and adds the test of necessity in a democratic society. This formulation mirrors the limitation clauses of the European Convention on Human Rights (ECHR).

The ICCPR and other treaties containing civil and political rights contain specific limitation clauses in second or third paragraphs of certain provisions. One of the rights closely related to the right to enjoy the benefits of scientific progress, namely the right to freedom of expression and information, may serve as a good example. Article 19(3) ICCPR includes that: "The exercise of the rights provided for in paragraph 2 of this article carries with it special duties and responsibilities. It may therefore be subject to certain restrictions, but these shall only be such as are provided by law and are necessary: (a) For respect of the rights or reputations of others; (b) For the protection of national security or of public order (*ordre public*), or of public health or morals."

The legitimate purposes for limitations such as national security, public order and health reflect the balance that needs to be struck between the interest of the person or group enjoying the right and the general or public interest. Respect for the rights of others as a legitimate aim reflects the balancing of different persons and groups enjoying rights. Such rights and freedoms of others do not have to be recognized in the same legal instrument.³⁸

The aims of national security, public order and health (or public safety) could be very relevant aims to limit the right to enjoy the benefits of scientific progress. One can think of the ethical dilemmas related to genetic research or the security and public order risks involved in scientific and technological advancement in relation to biological and nuclear weapons. Respect for the rights and freedoms of others may also be relevant, for instance to protect data and the privacy of persons in relation to scientific research or experiments. These aims could be accepted as justification for limitations, although this implies stepping away from the original intention of the drafters of the ICESCR and focusing on the

³⁶ A. MÜLLER, "Limitations to and Derogations from Economic, Social and Cultural Rights", *op. cit.*, p. 579.

³⁷ European Social Charter (revised), CETS No. 163, 3 May 1996, Article G.

³⁸ Syracuse Principles, *op. cit.*, § 35. The Syracuse Principles were adopted by a group of international law experts and meant to elaborate and come to uniformity in the interpretation of the conditions and grounds for permissible limitations and derogations. See, also, the Report of the Special Rapporteur in the field of cultural rights on the right to enjoy the benefits of scientific progress and its applications, *op. cit.*, pp. 13-14.

context and purpose of the treaty. This is familiar in international human rights law, where the drafting history has become less relevant as an interpretation tool, since human rights treaties are supposed to be “living instruments” to be interpreted in light of their context, object and purpose.

D. NECESSARY AND PROPORTIONATE

The term “necessary” implies that the limitation measures respond to a pressing social need. For instance, certain groups may need special protection through limitations, for instance children, elderly, minorities or persons with disabilities. They may be vulnerable for abuse as research subjects or are not independent decision makers.³⁹ Children, for instance, can benefit from scientific progress in relation to their health, food and education. At the same time, they may be vulnerable for misuse of information and data, for instance for human trafficking or the illicit harvest and transfer of organs.⁴⁰

Apart from being necessary, the measures should be proportionate to the legitimate aim and the least restrictive ones needed to achieve that aim.⁴¹ Proportionality of the measures also implies that the core content of the right cannot be limited.⁴²

V. Reservations and Derogations

There are several other ways in which States can affect the working of treaty provisions, having the effect of annulling State obligations or limiting the enjoyment of rights. These do, however, strictly speaking, not fall within the category of limitations. For instance, reservations to human rights treaties allow a State to become party to a certain treaty, while exempting itself from certain specific obligations enshrined in it. By adopting a reservation, the State notifies that it does not want or consider itself to be bound to certain aspects or provisions of the treaty. This implies that the treaty provision in question is not applicable and cannot be invoked by the rights holders within the jurisdiction of that State.

³⁹ Report of the Special Rapporteur on the right to enjoy the benefits of scientific progress and its applications, *op. cit.*, p. 14; AAAS Science and Human Rights Coalition, “Defining the Right to Enjoy the Benefits of Scientific Progress and its Applications: American Scientists’ Perspectives”, *op. cit.*, p. 10; B. GRAN, M. WALTZ and H. RENZHOFER, “A child’s right to enjoy benefits of scientific progress and its applications”, *International Journal of Children’s Rights*, vol. 21, n° 2, 2013, p. 323.

⁴⁰ *Ibidem*, pp. 337-338.

⁴¹ Syracuse Principles, *op. cit.*, §§ 10-11, p. 3. HR Committee, General Comment 22, Article 18 (Freedom of Thought, Conscience and Religion) (27 September 1993) (CCPR/C/21/Rev.1/Add.4), § 8; HR Committee, General Comment 27, Freedom of Movement (1 November 1999) (CCPR/C/21/Rev.1/Add.9), § 14; HR Committee, General Comment 31, The Nature of the General Legal Obligation Imposed on States Parties to the Covenant (26 May 2004) (CCPR/C/21/Rev.1/Add. 13), § 6. This is in line with the necessity and proportionality test used by the European Court of Human Rights.

⁴² A. MÜLLER, “Limitations to and Derogations from Economic, Social and Cultural Rights”, *op. cit.*, p. 784.

Another example is derogation from human rights obligations. In times of public emergency “threatening the life of the nation”, States are allowed to take measures temporarily suspending (part of) their human rights obligations, in other words to derogate from these obligations. States may do so, provided that the measures are of an exceptional and temporary nature, are not inconsistent with other obligations under international law and do not involve discrimination solely on the ground of race, colour, sex, language, religion or social origin. The principle of proportionality also applies and measures should be limited to the extent strictly required by the situation and they may not affect the core content of the right.⁴³ Derogations are distinct from limitations, because derogations are only permitted in exceptional cases “...while States may limit human rights even in normal times, albeit for a limited and exhaustive number of reasons”.⁴⁴ Limitations have to be provided by law, which is not strictly necessary for derogations, which have to be proclaimed and notified to other States parties.⁴⁵

Several human rights instruments contain so-called derogation clauses.⁴⁶ These clauses also identify rights that are non-derogable, in other words, that have to be respected at all times. Article 4(2) ICCPR for instance identifies as non-derogable rights the right not to be arbitrarily deprived of life (Article 6), the right not to be tortured (Article 7), the prohibition of slavery (Article 8), and the freedom of conscience and religion (Article 18). It should be noted that freedom of expression or the right to information, closely linked to the right to enjoy the benefits of scientific progress, are not among the non-derogable rights.

The ICESCR does not contain a derogation clause. It was not discussed during the drafting of the Covenant and States have not addressed this issue in their periodic reports to the CESCR.⁴⁷ This may have to do with the fact that derogation clauses were mostly meant to protect and restore democratic public order and were therefore perhaps considered to be less relevant to the rights in the ICESCR.⁴⁸ The lack of a derogation clause may imply that the rights in the ICESCR can, in principle, not be derogated from.⁴⁹

⁴³ The CESCR has also recognized this in General Comment 14, The Right to Health (11 August 2000) (E/C.12/2000/4), § 47 and in General Comment 15, The Right to Water (20 January 2003) (E/C.12/2002/11), § 40; HR Committee, General Comment 29, States of Emergency (article 4) (2001) (CCPR/C/21/Rev.1/Add.11), §§ 4 and 8.

⁴⁴ A. MÜLLER, “Limitations to and Derogations from Economic, Social and Cultural Rights”, *op. cit.*, p. 579.

⁴⁵ *Ibidem*, p. 565.

⁴⁶ For instance, Article 4 ICCPR, Article 15 ECHR and Article 27 of the American Convention on Human Rights.

⁴⁷ A. MÜLLER, “Limitations to and Derogations from Economic, Social and Cultural Rights”, *op. cit.*, p. 579.

⁴⁸ A. MÜLLER, “Limitations to and Derogations from Economic, Social and Cultural Rights”, *op. cit.*, p. 579.

⁴⁹ A similar situation has emerged in the African regional context. The African Charter on Human and Peoples' Rights also does not contain a derogation clause. The African Commission on Human and Peoples' Rights has held that “in contrast to other international human rights instruments, the African Charter does not contain a derogation clause. Therefore limitations on the rights and freedoms enshrined in the Charter cannot be justified by emergencies or special circumstances”. See African Commission on Human and Peoples' Rights, *Media Rights Agenda and Others v. Nigeria*, Comm. Nos. 105/93, 128/94, 130/94 and 152/96, 31 October 1998, § 67.

The main difference between reservations and derogations and limitations is that in the case of reservations and derogations the right as such is (temporarily) not applicable. The State may have chosen not to abide by a certain norm (reservation) or to temporarily suspend their obligations (derogation). Non-application of the norms also includes situations in which a certain activity or issue falls outside the scope of a right, for instance when a certain activity falls outside the scope of science or scientific progress, as was the case with the Japanese whaling programme. Limitations however concern situations where the norm or right applies and the activity falls within the scope of the right, but whereby (part of) the enjoyment of the right is limited, for certain specific reasons relating to a balancing of interests and protection against harm, as was the case with the licencing of the research on viruses.

VI. Concluding Remarks

The development of the right and freedom to enjoy the benefits of scientific progress and its applications has always gone hand in hand with the idea of limiting the freedom to conduct and disseminate science and technology in order to protect against abuse and harm. Not only do scientists have a duty to conduct research responsibly, States are obliged according to international human rights law to protect people from the possible abuse or harm of scientific and technological advancement.

Limitations of the right to enjoy the benefits of scientific progress could relate to the different dimensions of this right. For instance, limitations can be applied to the design, development and conduct of science before and during the conduct of science. Such limitations may concern the topics, subjects and methods of the research. Limitations can also be applied to the dissemination of scientific output after the research is done. Such limitations may include the prohibition or limitation – for instance via licensing – of the publication or distribution of scientific output.

The right to enjoy the benefits of scientific progress and its applications as included in Article 15 ICESCR can be lawfully limited according to its own treaty regime, in particular Articles 2 and 4 ICESCR. Retrogressive measures reducing the enjoyment of the right can be taken under Article 2 if they are justified and the maximum available resources are fully used. The CESCR distinguishes retrogressive measures under Article 2 however from limitations under Article 4.⁵⁰

⁵⁰ Müller argues that such a distinction between retrogressive measures because of resource constraints and limitations for the same or other reasons cannot always easily be made, see A. MÜLLER, "Limitations to and Derogations from Economic, Social and Cultural Rights", *op. cit.*, p. 579.

Article 4 ICESCR provides that States may subject the rights to limitations provided they fulfil certain criteria. Limitation measures should for instance be determined by law, which should be accessible and foreseeable. Limitations should furthermore have a legitimate aim, which according to Article 4 is the promotion of the general welfare in society. The above has shown that other aims, as included in the UDHR and other human rights treaties, such as national security, public order and public health, as well as the protection of the rights of others, are also relevant to limitations of the right to enjoy the benefits of scientific progress. They give States the necessary room to fulfil one of its important obligations, namely to balance different interests and to protect against harmful effects of scientific and technological progress. The original drafters deliberately chose for a restrictive interpretation of “general welfare”. Perhaps with a more extensive interpretation these additional aims could be read into “general welfare”, but it seems better to elaborate them more explicitly, for instance in a possible future General Comment on this right.

Another criteria indicated in Article 4 ICESCR is that the limitations must be compatible with the nature of the right. This is related to the well-known criteria of proportionality and could be translated, following the logic of the CESCR, as a prohibition of limitations of the core content of the right. The core content and core obligations of the right to enjoy the benefits of scientific progress have not yet been elaborated by the Committee. Work by academics, inspired by the elaboration of the core content elaborated for other closely related rights, such as the right to health and food, has led to the following list: guarantee non-discrimination, prohibition and prevention of human rights violations by scientific progress, special measures for vulnerable groups, creation of a participatory environment, taking steps to promote scientific freedom, elimination of barriers to international cooperation.⁵¹ In addition, several human rights principles should be respected in relation to the right to enjoy the benefits of scientific progress and its applications, namely non-discrimination, participation, focus on disadvantaged and vulnerable groups, accountability and international cooperation.⁵²

The CESCR could further elaborate and clarify, for instance in a General Comment, the core content and the limitations criteria of the right to enjoy the benefits of scientific progress and its applications. It can first start to discuss these more prominently with States parties during the reporting procedure, by which it can search for consensus on the interpretation of Article 4 ICESCR in relation to this right. States and courts at international and national level are already actively involved in legislation, policies and cases concerning scientific and technological

⁵¹ AAAS Science and Human Rights Coalition, “Defining the Right to Enjoy the Benefits of Scientific Progress and its Applications: American Scientists’ Perspectives”, *op. cit.*, p. 14.

⁵² CHAPMAN, “Towards and Understanding of the Right to Enjoy the Benefits of Scientific Progress and Its Applications”, *op. cit.*, p. 10; A. MÜLLER, “Remarks on the Venice Statement on the Right to Enjoy the Benefits of Scientific Progress and its Applications, (Article 15(1)b ICESCR)”, *op. cit.*, p. 182.

progress. They are, however, not always aware of the relevance of the right to enjoy the benefits of scientific progress and its applications, including possible limitations. Awareness raising of the right to enjoy the benefits of scientific progress and its applications, including further elaboration and clarification of its scope, (core) content and limitations, could contribute to the advancement of this right.

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