Discurso honoris causa

Sustainable management: the case of water from the point of international law

Rüdiger Wolfrum[1]

1 Discurso emitido por el Dr. Rüdiger Wolfrum, el 22 de agosto de 2017, con motivo del diploma que lo designa como Doctor Honoris Causa de la Universidad Nacional de Cuyo, por su notable aporte a la Ciencia del Mar Rüdiger Wolfrum es Juez del Tribunal Internacional del Derecho del Mar; Director emérito del Instituto Max Planck de Derecho Público y Derecho Internacional Comparado; y Director General de la Fundación Max Planck para la Paz Internacional y el Estado de Derecho.

1. Introduction

It is well established that growth of populations, climate change, mismanagement of the environment, particularly of water resources and growing demands from industry, agricultural needs and human consumption have led to a scarcity of fresh water worldwide[2]. Several policies have been developed on the international level to face this situation. International legal regimes have been developed which attempt to manage water resources in a sustainable manner. These regimes distinguish between surface water and groundwater. Whereas the regimes concerning surface water are quite elaborated –which does not mean that they are adequate and implemented– those on groundwater are still at their infancy. This is the more deplorable since groundwater represents about 97% of fresh water resources available, excluding water resources locked in polar ice[3].

To reinforce and supplement the existing and unfortunately fragmented international rules on the management of fresh water resources an individual human right has been developed or is at least in the train of being developed. The impetus for the establishment of such a right derived from the growing understanding that governments have to face their responsibilities to guarantee adequate and sustainable access to water, fit for human consumption, to their populations.

It is evident that the needs in the populations differ significantly. Water may be used and is need for individual consumption and there the right to life and health is quite evident. But water is also necessary for agricultural and industrial purposes. Accordingly a sustainable management system may have to create a hierarchy of needs not only ad hoc but also in general. I shall come back to this point.

2 UN World Water Development Report, Managing water under uncertainty and risk, 2012, p. 46.

3 UN World Water Development Report, Managing water under uncertainty and risk, 2006, p. 121 et seq.

2. Sustainable management, what does this principle entail?

The principle that States should ensure the sustainable development of natural resources under their jurisdiction or control is considered to have been coined by the so–called Brundtland Report[4] although the underlying considerations already were invoked in the 19th century, for example in Germany, concerning the management of forests. The Brundtland Report defines the principle of sustainable development as "development that meets the need of the present without compromising the ability of future generations to meet their own need".

The principle of sustainable development is the Leitmotiv of documents or agreements which were the result of the UN Conference on Environment and Development (Rio Conference) e.g. the Declaration of Rio, the Agenda 21, the Convention on Biological Diversity and the Framework Convention on Climate Change although none of them provides for a definition of the principle. The first treaty to explicitly to refer to the principle of sustainable development was the Treaty on the European Union (Treaty of Maastricht), 1992. Other international treaties which refer or at least are being based upon the principle of sustainable development are, for example, the 1994 Convention against desertification an international treaty which is indirectly related to the issue at hand.

There is no agreement concerning the consequences which flow from the principle of sustainable management[5]. Nevertheless the principle is generally considered to comprise four elements of substance[6]: the need to preserve natural

4 Report of the World Commission on Environment and Development, Our Common Future, 1987, at p. 43 (Brundtland Report).

5 Beyerlin, Sustainable Development, Max Planck Encyclopedia of Public International Law (R. Wolfrum, ed.), vol. … mentions that the principle contains two temporal dimensions and states that "the principle is characterized by (1) the close linkage between the policy goals of economic and social development and environmental protection, (2) the qualification of environmental protection as an integral part of any developmental measure; and vice versa; and (3) the long–term perspective of both policy goals that is the States' intergenerational responsibility."

6 Philippe Sands, Principles of International Environmental Law: Frameworks, standards and implementation, 1994, p. 198 et seq.

resources for the benefit of future generations[7]; the aim of exploiting natural resources in a manner which is rational; the equitable use of natural resources which means taking into consideration the needs of other States; and: finally the need to ensure that environmental considerations are integrated in development plans or policies[8]. These four elements are not only closely related; they overlap. They all may be traced to earlier international instruments or national legislation.

Let me briefly go through them one by one.

The idea that natural resources are managed in a way that they may also benefit future generations is well established in international law and gaining ground. They cover various aspects of the environment such as fauna and flora[9], the marine environment[10], water resources[11], biological diversity[12], the climate[13], or particular environments[14]. By the way it is generally agreed that the aspect of intergenerational equity is inherent in the common heritage principle (article 136 of the Convention).

The issue of intergenerational equity is considered to constitute the central element of the principle of sustainable development. Nevertheless, there is quite some uncertainty which consequences flow from the reference to intergenerational equity. In particular, the term "equity" is open for interpretation. It certainly is not meant to imply that future generations must have equal conditions for living. What they must have are equal chances for development. Although

7 See, in particular, Edith Brown Weiss, In Fairness to Future Generations: International Law, Common Patrimony and Intergenerational Equity, 1989.

8 Sands at note 5.

9 Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973, UNTS vol. 993, p.243, Preamble. It speaks of wild fauna and flora in their many beautiful and varied forms as an irreplaceable part of the natural system of earth which must be protected for this and the generations to come.

10 For example, Convention on the Conservation of Antarctic Marine Living Resources, 1980.

11 Convention on the Protection and Use of Transboundary Water courses and international Lakes, 1992, article 2, para. 5(c).

12 Convention on Biological Diversity 1992, Preamble, ILM 31 (1992), 818.

13 Framework Convention on Climate Change, 1992, ILM 31 (1992), 363.

14 Protocol to the Antarctic Treaty on Environmental Protect, 1991.

the principle of sustainable development is, due to its origin, anthropocentric, it does not rule out the possibility to protect nature for its intrinsic value[15].

It seems to be safe to say that the principle of intergenerational equity is being violated in all those cases where a particular natural resource has been extinguished or is being used in a way which may result in its extinction.

Let me turn to the second aspect namely rational use.

The aspect that natural resources are to be used rationally has been highlighted in several international agreements. International law has undergone a significant development in this respect. It means that the resource should not be over–utilized, not wasted and that the management system concerned should also cover, as far as possible, its restoration and the search for alternatives. That this can be done is being demonstrated by the water management system of Singapore. Directly after the Second World War Singapore was for 90% relying on outside water supply to meet its needs; today it covers its needs for water to more than 80%.

The third aspect of the principle of sustainable management, namely the application of equity in international environmental affairs, originally focused on the allocation of natural resources and, in particular, on the financial and other contributions to the protection of the environment[16].

Two different scenarios are mainly governed by this aspect namely, when it comes to the taking or financing of conservation or even restoration measures to take into consideration that caused the situation which made such measures necessary. The other scenario is the participation in and the contribution to international environmental organizations or arrangements.

The applicability of this element may not be easily apparent in the context of fresh water. However, the scarcity of water may have several reasons. It may be due to climate change, deforestation, over exploitation, lack of proper management, pollution due to over–fertilization etc.

15 Rüdiger Wolfrum, International Environmental Law: Purposes, Principles and Means of Ensuring Compliance, in: Fred L. Morrison and Rüdiger Wolfrum, International, Regional and National Environmental Law, 2000, at 22.

16 Sands, note 5, at p.204.

This logically leads me to my fourth and last element namely the Integration of environmental considerations in economic development plans and policies. This element of the principle of sustainable management is of a procedural nature and has several facets some of which are firmly established in international treaties or international proclamation. This element is reflected most comprehensively in Principle 4 of the Rio Declaration of 1992 which states: "In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it".

The application of this approach requires from the States concerned weighing the various interests in particular with the view to guarantee a sustainable development of the resource concerned. This is a complex undertaking particularly if different interests are involved. I mentioned such a conflict in abstract terms at the beginning of my presentation. Concretely put what comes first –human consumption or water for the industry, for agricultural purposes which serve the local human consumption or for large scale farming producing for export only. There is no easy answer to these pertinent questions. They must be solved on the national level or, as the case may be in cooperation with neighboring States. The latter is particularly relevant in respect transboundary aquifers– I shall touch upon this point later on. The application of the principle that economic and other policies should reflect environmental considerations requires the collection and dissemination of data relevant for the assessment of the environmental impact of the project, policy or plan concerned. The most comprehensive general instrument in this respect is the Aarhus Convention[17].

3. The international legal regime for the management of water

3.a Surface water

The world's fresh water resources include surface water such as rivers and lakes as well as ground water. Fresh waters often cross State boundaries or

17 ECE Convention on Access to Information, Public Participation in Decision–Making and Access to Environmental Matters, 1998.

constitute (for historic reasons) state boundaries. For that reason international law concentrated first on the allocation of water between the various riparian States and on the co–ordination for the use of water between various forms of utilization (including irrigation). Such international rules exist on the universal level, the regional level as well as bilaterally. The first set of these rules which date back even to the early 19th century deal with the freedom of navigation on rivers such as Rhine or Danube. Only definitely later other forms of utilization came into focus. For example a utilization system exists which attributes to one State water for irrigation in summer whereas the other riparian State may use the water in winter for the production of energy.

From the 1950s, with the increasing use of fresh water resources for agriculture, power generation and the supply of domestic use, in conjunction with human rights and a growing awareness of the need of environmental protection the efforts to regulate multiplied. This became particularly imperative since many States used rivers as a convenient sewage system, in particular for industrial waste.

The starting point of international law for the management of fresh water resources are the legally non–binding Helsinki Rules on the Uses of Waters of International Rivers, adopted by the International Law Association in 1966. The basic principle of the Helsinki Rules stipulated in Article 4 is that' each Basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin. The Helsinki Rules hence reflect the fact that traditionally, international water law was concerned with the allocation of water resources between neighboring States rather than with their environmental protection or their sustainable use in the interest of the of the community of States of the drainage basin. However at least the ILA Rules introduced the issue of 'drainage basin' thus reflecting that one should perceive the object and purpose of a management system from a wider perspective, namely the perspective of the drainage basin.

Based upon a Draft of the International Law Commission of 1994 in 1997 the Convention on the Non–Navigational uses of International Watercourses was concluded. This Convention constitutes the essential international basis for the management of the utilization of fresh water and reflects in part customary international law. At the regional level the Convention on the Protection and Use of Transboundary Watercourses and International Lakes has to be men-

tioned. It was adopted in 1992 within the framework of the UN Economic Commission for Europe.

The concept of a watercourse is an object of legal regulation has changed significantly over time. In theory, it is possible to define the concept narrowly namely rivers or lakes crossing an international border or constituting a border. Successively elements were introduced broadening the concept such as the already mentioned drainage basin as well as the ecosystem approach. There exist approaches combining these two principles. The approach used in international practice in the last decade has become increasingly closer to the concept of the drainage basin, although the UN Convention on Watercourses of 1997 employs a rather restrictive definition. Indeed, the latter defines an international water course as a system of surface waters and groundwater's constituting by virtue of their physical relationship a unitary whole and normally flown into a common terminus. This division does not include other elements of the affected ecosystems, such as the land forming part of the drainage basin of the water system not related to surface water.

As regards the sharing of resources or better to say benefits in literature as well as in State practice the following main approaches have been advocated: absolute sovereignty (Harmon Doctrine), absolute territorial integrity, limited sovereignty and community interests.

According the first mentioned approach the approach of absolute territorial sovereignty the State in whose territory the section of an international watercourse lies can do what it pleases with this section without having regard under international law, to the consequences of its action on other States through which the watercourses flows. Let me give you an example. French industry dumped its chemical waste into the Rhine with the consequence could not be used in The Netherlands any more for irrigation. This leads me to the second approach. In contrast to the foregoing according to the principle of absolute territorial integrity any restriction, however small or reasonable, to the normal flow of water in the State of the watercourse recorded downstream resulting from the activities upstream is prohibited. Here again I may give an illustrating example. According to some treaties Egypt as the right to receive a specified amount of Nile water which prohibits, in the view of Egypt the establishment of a dam in Ethiopia.

The distinction between the two other approaches is the function of the

degree of co–operation between the States concerned. The third approach refers to situations where co–operation is not formalized but each State of the watercourse abstains from using the watercourse in a way that would seriously hamper the use by other States.

The last approach would call far higher level of co–operation, normally reflected by the creation of an institutional framework embodying the community of interests between the various states concerned. Modern international practice follows the two latter approaches.

Relevant to this inquiry is the scope of the customary principal applicable to watercourses namely the principle of equitable and reasonable utilization, no harm, prevention of environmental harm and co–operation and notification in their mutual relationships.

The first principle namely that of equitable and reasonable utilization and participation is to be found in article 5 of the Watercourse Convention mentioned above. This article provides that watercourse States shall, in their respective territories, utilizing international watercourse in an equitable and reasonable manner. Equitable and reasonable use must be evaluated in light of the non–exhaustive criteria listed in article 6 of that Convention. These include natural features including geological features and economic and broader social, current and potential uses, including alternatives. Certainly this principle is open for interpretation.

Let me turn to the second principle the no harm principle, what does it mean? Harm is not always used on the same scale. It is necessary to qualify it. Mostly one finds in the rules concerned that the harm must be significant. Minor violations must be tolerated. Damages of a lower intensity may only be taken into account as among other criteria relevant for the assessment of the application of the principal concerning equitable and reasonable utilization.

The Watercourse Convention follows by virtue of article 20 the comprehensive approach to environmental protection by imposing on States the duty to protect the ecosystem international watercourses. This approach is confirmed by the prohibition under article 18 and 22 to introduce new species in a watercourse that would present the risk to the ecosystem. In addition article 21 provides for opportunities of preventing or reducing and control of the pollution watercourses directly but also indirectly where it may represent a source of marine pollution.

Let me come to the final of the principles mentioned –the duty to co–operate. The UN Convention on Watercourses is only intended to provide a general framework which States are free to modify according to their needs in the context of special specific agreements. In this connection, the formulation of the duty to co–operate is less precise than in other instruments. One has to consider though as whether the obligation to co–operate has not in a way developed in general international law that modifies the duty to co–operate in the UN Water Course Convention.

In this context of the utilization of watercourses two judgments of the ICJ have to be mentioned although they both dealt with an economic use of rivers in the context of a bilateral legal regime. In the Case concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay)[18] the Court stated in paragraph 175 "The Court considers that the attainment of optimum and rational utilization requires a balance between the parties' rights and needs to use the river for economic and commercial activities on the one hand, and the obligation to protect it from any damage to the environment that may be caused by such activities, on the other".

This is a remarkable statement for it emphasizes that the balancing not only has to take into account the rights and interests of the two States but also the need to protect the river against environmental degradation even if –I may add– such degradation does not mean a violation of the rights of one State. Thus, without going into detail the ICJ acknowledged that the environment has to be protected for its own intrinsic value. Unfortunately the Court did not implement its own premise.

The second judgment of the ICJ to be mentioned concerns the case The Gabcikovo–Nagymaros Project[19], a project which envisaged the building of locks which would have influenced the flow of water. The judgment states at para. 140 that current environmental standards must be taken into account with the view to protect the flow of water of the Danube. What the ICJ means is –and this was certainly very relevant at the time when this judgment was adopted that the development of environmental standards is a process and accordingly

18 Judgment of 20 April 2010, ICJ Reports 2010, p. 14.

19 Hungary/Slovakia, Judgment of 25 September 1997, ICJ Reports 1997.

negotiations have to take such new rules and standards into consideration.

Before I turn to groundwater let me at least mention fresh water in polar ice which represents about 70 % of the fresh water resources of the world. I mention this with the view of the particular rights and claims Argentina has in respect of Antarctica. In all the intensive literature on Antarctica the subject matter of fresh water is hardly ever touches upon. You may be aware that using the Antarctic ice as a fresh water resource is not covered by the moratorium under Article 7 of the Protocol to the Antarctic Treaty. Recommendation XV–21 referred to the exploitation of icebergs. The Recommendation applies a precautionary approach requesting that no such commercial exploitation may be started unless the ATCM further has assessed the consequences of such activities.

3.b Groundwater

As mentioned above the international law concerning groundwater has not been elaborated as well as surface water although globally ground water provides about 50% of the current potable water supplies. It provides 40% of the demand of industry through self–supply and between 20–30% of water used in irrigated agriculture. Compared with surface water the economic benefits of groundwater per unit of volume are greater because of ready local availability, drought reliability, and despite increasing threats of pollution still generally good water quality. Groundwater also ensures the base flow of rivers and lakes and keep springs flowing.

One has to distinguish two different systems for groundwater –aquifers and fossil aquifers. Aquifers are– generally speaking permeable water–bearing geological formations containing water –groundwater– in the saturated zone of the said formation. Such Aquifers are primarily replenished by rain percolating through the permeable layer but they can also be recharged by rivers and lakes. Aquifers which do not receive no recharge or only a negligible one are considered fossil aquifers. They pose particular problems in respect of management and protection. Aquifers are often of a transboundary nature.

The most comprehensive authoritative framework of international water law, the already mentioned 1997 Watercourse Convention deals with groundwater only in an unsatisfactory manner. It defines a 'watercourse' as a system of surface waters and groundwaters constituting by their physical relationship

a unitary whole and normally flowing into a common terminus (art. 2(a)). This definition includes only aquifers that provide the base flow of rivers. It excludes though non–recharging aquifers (fossil aquifers) and recharging ones that are not linked to a body of surface water. The definition may not include such aquifers where the connection to the surface water is an indirect one.

Somewhat better is the also mentioned 1992 UN ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes. Its objective is to protect transboundary waters and to reduce transboundary impact. Transboundary waters means under this treaty any surface or ground water which mark, cross or are located on boundaries between two or more States. Transboundary impact means is defined as any significant adverse effect on the environment resulting from a change in the conditions of transboundary waters caused by a human activity.

There are only very few bilateral or multilateral agreements dealing with transboundary aquifers.

The ILC has developed Draft Articles on Transboundary Aquifers of which the UN General Assembly took note of and encouraged States to adopt corresponding bilateral agreements.

The Draft Articles cover all aquifers, they regulate their utilization, other activities that have or are likely to have an impact on those aquifers, such as fertilizers or pesticide use or industry discharges in the recharge zone. They also prescribe measures to be taken for the protection, preservation and management of transboundary aquifers. The Draft Articles enshrine the customary international law principles, namely the principle of equitable and reasonable utilization, the obligation not to cause significant harm, and the obligation to cooperate. According to the Draft Articles equitable and reasonable utilization means to use an aquifer in a manner that is consistent with the equitable and reasonable accrual of benefits therefrom, to aim to maximize the long–term benefits derived from the waters used therein, to establish individual or joint comprehensive utilization plans, taking into account present and future needs and alternative water sources, and not to utilize a recharging aquifer at a level that would prevent the continuance of its effective functioning.

It is evident that these obligations are phrased in a way that leaves the States concerned a wide range of discretion. This is emphasized by the Draft

Articles themselves since they define the obligation 'not to cause significant harm' as an obligation 'to take all appropriate measures'. This renders the obligation as one of conduct rather than of result. This however does not mean that these obligations are not enforceable –they are and their violation my lead in extreme situations– to international responsibility.

It is premature to asses these Draft Articles as far as their effectiveness is concerned. Too little State practice exists t o that extent. However, it is quite clear that these obligations pose obligations upon the States and all its subdivisions to protect the availability, the usability and the future use of all sources of fresh water in their planning processes. The right to water to which I shall now turn adds an additional layer and a potential new mechanism of enforcement.

4. An individual right to water under international law?

The right to water includes first the right of access to water, which entails the right to access water in an amount and quality sufficient to meet vital human need. These needs include drinking and the production of food for the personal consumption, and sanitation. Accessibility entails the physical aspect, water must be within safe physical reach for all sections of the population ; the economic aspect, water, and water facilities and services, must be affordable for all; and the aspect of non–discriminatory access. Rights sometimes regarded as related to the right to water and policies that affect the right to; the right to effective review mechanisms, including judicial review, of such decisions; and the right to remedies for the violation of these rights[20].

It is however questionable whether such an individual right to water exists in international law and what it entails. An explicit individual right to water is not contained neither in the Universal Declaration on Human Rights nor in the Covenant on Civil and Political Rights nor in the Covenant on Economic, Social and Cultural Rights. The first mentioning of a right to water is contained in the 1979 Convention on the Elimination of all Forms of Discrimination against Women. Perhaps this is due to the fact that a shortage of water first affects women and children. The formulation is telling: According to article 14 (2) of

20 Benvinisti, MPEPIL Water Right to, International Protection.

this Convention: "States Parties shall take all appropriate measures to eliminate discrimination against women in rural areas in order to ensure […]: (h) To enjoy adequate living conditions, particularly in relation to housing, *sanitation*, electricity and *water supply*…". Equally the 1989 Convention on the Rights of the Child provides in article 24 to recognize the right of the child to the enjoyment of the highest attainable standard of health and to take appropriate measures which include adequate nutritious food and clean drinking water. It is evident that the right to water as enshrined in these two conventions is limited in scope and apart from that derived from more general internationals economic and social rights namely the right to health or more generally from the civil right to life. The Committee on Economic, Social and Cultural Rights has elaborated on the right to water in several General Comments. In General Comment no. 15 the Committee interprets the right to water as falling "within the category of guarantees essential for securing an adequate standard of living, particularly since it is one of the most fundamental conditions for survival', and is also 'inextricably related' to the right to the highest attainable standard of health…". It is interesting to note that not international human rights instruments but an additional international agreement on water promotes a human right to water. The Protocol on Water and Health to the already mentioned Convention on the Protection and Use of Transboundary Watercourses and International Lakes provides in a rather complicated article 1 on States Parties commitments to:

> "To promote at all appropriate levels, nationally as well as in transboundary and international contexts, the protection of human health and well–being, both individual and collective, within a framework of sustainable development, through improving water management, including the protection of water ecosystems, and through preventing, controlling and reducing water related disease".

Sure this falls short of explicitly recognizing an individual right to water but indirectly it does. But this provision is remarkable and surely constitutes a positive development in that it combines core environmental considerations with human rights. It thus overcomes the frequent isolation of human rights from environmental law and vice versus. Finding back to a more integrated appro-

ach –an approach unfortunately often ignored by interest groups– constitutes a positive development.

The right to water has been recognized by few international courts as well as some national supreme courts. The African Commission on Human and Peoples Rights relying on article 16 and 24 of the African Charter on Human and Peoples Rights –the right to health and the right to satisfactory environment respectively and declared that Zaire's failure to provide basic services such as safe drinking water and electrify constituted a violation of the said provisions of the African Charter on Human and People's Rights[21]. The Inter–American Commission took a more general decision leading into the same direction by connecting the protection of the environment with the right to life, without, however, explicitly mentioning the right to water[22].

In 2008 the UN Human Rights Council adopted Resolution 7/22 on Human Rights and Access to safe Drinking Water and Sanitation which emphasized that the human rights instruments already referred to 'entail obligations in relation to access to safe drinking water and sanitation'.

5. Conclusions

Let me briefly summarize. The international framework for the sustainable management of water resources (surface water, ground water and ice) has significantly developed over the last decades. Unfortunately no comprehensive legal regime exists. However, it is evident that the trend that water resources have to be managed in a sustainable manner is now beyond dispute. But one has to realize that international law only sets a framework that the States concerned have to fill and to implement. There are probably many different approaches which may be undertaken to prevent the development of an expansion of dry areas, reforestation is certainly one. Certainly it is also necessary to provide for mechanisms which provide for a fair distribution of water. The individual right to an adequate amount of clean water for human consumption adds a hitherto unknown facet the management of water resources.

21 Free Legal Assistance Group and Others v. Zaire, para. 47.

22 Huaorani v. Ecuador, Report on the Situation of Human Rights in Ecuador, p. 91–92.