Chapter IV

SHARED NATURAL RESOURCES

A. Introduction

30. The Commission, at its fifty-fourth session (2002), decided to include the topic "Shared natural resources" in its programme of work[7] and appointed Mr. Chusei Yamada as Special Rapporteur.[8] The General Assembly, in paragraph 2 of resolution 57/21 of 19 November 2002, took note of the Commission's decision to include the topic "Shared natural resources" in its programme of work.

31. At its fifty-fifth (2003) and fifty-sixth (2004) sessions, the Commission considered the first[9] and second[10] reports, respectively, of the Special Rapporteur. The latter report contained a proposed general framework and a set of six draft articles. At its fifty-sixth session, the Commission also established a Working Group, chaired by the Special Rapporteur.

B. Consideration of the topic at the present session

32. At the present session, the Commission had before it the third report of the Special Rapporteur (A/CN.4/551 and Add.1). It considered the report at its 2831st to 2836th meetings, held on 2, 3, 4, 6, 10 and 11 May 2005. The Commission also had an informal technical presentation on the Guarani Aquifer System Project on 4 May 2005. At its 2836th meeting, the Commission established a Working Group chaired by Mr. Enrique Candioti. The Working Group held 11 meetings.

33. At its 2863rd meeting, on 3 August 2005, the Commission took note of the report of the Working Group. It expressed its appreciation that the Working Group had made substantial progress in its work by reviewing and revising eight draft articles. The Commission took note of the proposal of the Working Group that the Commission consider reconvening it at the 2006 session in order that it might complete its work.

1. Introduction by the Special Rapporteur of his third report

34. In introducing the complete set of 25 draft articles contained in the third report, the Special Rapporteur recalled that in the report of the Commission to the General Assembly on the work of its fifty-sixth session, in 2004, he had already indicated his intention to submit such a complete set on the basis of the general outline.[11] From the debates of the Sixth Committee during the fifty-ninth session of the General Assembly, there appeared to be general support for his basic approach and an endorsement of his proposal to submit such a set of draft articles. Commenting on the substance of the draft articles, the Special Rapporteur first observed that the need for an explicit reference to General Assembly resolution 1803 (XVII), of 14 December 1962, on permanent sovereignty over natural resources, had been advocated by some delegations in the debate of the Sixth Committee. In his view such a reference could be in the preamble, the formulation of which would, however, have to be deferred until the completion of the consideration of the substantive provisions.

35. Secondly, the Special Rapporteur introduced the various draft articles. The substance of draft article 1,[12] remained the same as proposed in the second report.[13] However, it was reformulated to clarify the three different categories of activities that are intended to fall within the scope of the draft articles.

36. Regarding draft article 2,[14] its subparagraph (*a*) had been recast to respond to concerns expressed on the terms "rock formation" and "exploitable quantities" of

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[7] *Yearbook ... 2002*, vol. II (Part Two), p. 100, para. 518.

[8] *Ibid*., para. 519.

[9] *Yearbook ... 2003*, vol. II (Part One), p. 117, document A/CN.4/533 and Add.1.

[10] *Yearbook ... 2004*, vol. II (Part One), p. 117, document A/CN.4/539 and Add.1.

[11] See *Yearbook ... 2004*, vol. II (Part Two), p. 15, para. 27 and p. 55–56, para. 86.

[12] Draft article 1, as proposed by the Special Rapporteur in his third report, reads as follows:

"*Article 1 [Article 1]. Scope of the present Convention*

"The present Convention applies to:

"(*a*) Utilization of transboundary aquifers and aquifer systems;

"(*b*) Other activities that have or are likely to have an impact upon those aquifers and aquifer systems;

"(*c*) Measures of protection, preservation and management of those aquifers and aquifer systems."

[13] *Yearbook ... 2004*, vol. II (Part One), document A/CN.4/539 and Add.1, p. 261, para. 10.

[14] Draft article 2, as proposed by the Special Rapporteur in his third report, reads as follows:

"*Article 2 [Article 2]. Use of terms*

"For the purposes of the present Convention:

"(*a*) 'Aquifer' means a permeable [water-bearing] geological formation underlain by a less permeable layer and the water contained in the saturated zone of the formation;

"(*b*) 'Aquifer system' means a series of two or more aquifers [, each associated with specific geological formations,] that are hydraulically connected;

"(*c*) 'Transboundary aquifer' or 'transboundary aquifer system' means, respectively, an aquifer or aquifer system, parts of which are situated in different States;

"(*d*) 'Aquifer State' means a State Party to the present Convention in whose territory any part of a transboundary aquifer or aquifer system is situated;

(*Continued on next page.*)

water. In clarifying the change, it was noted, first, that an aquifer consists of two elements: (*a*) an underground geological formation, which functions as a container, and (*b*) the extractable water stored in it. The term "rock" was a technical term used by hydrogeologists to include not only hard rock but also gravel and sand. Since in common usage, "rock" often means hard rock, the term "geological formation" seemed more appropriate than the term "rock formation". Secondly, to function as a container, the geological formation must be permeable, with at least a less permeable layer underlying it and a similar layer often overlaying it. Extractable water exists in the saturated zone of the formation. The water above the saturated zone of the formation is in the form of vapour and is not extractable. Thus, to avoid confusion, the term "extractable" or "exploitable" is not used.

37. Subparagraph (*b*) defines an "aquifer system" as a series of two or more aquifers, which better clarifies the term "aquifer system". In the second report, a fiction that an aquifer system also includes a single aquifer was employed in order to achieve economy of words. The bracketed phrase "each associated with specific geological formations", which could alternatively be placed in the commentary, denotes the fact that an aquifer system may consist of a series of aquifers of different categories of geological formations.

38. Subparagraphs (*c*) and (*d*) remained the same as those contained in the second report, while subparagraphs (*e*) and (*f*), defining "Recharging aquifer" and "Non-recharging aquifer" were new. Under draft article 5, it is contemplated that different rules would be applicable in respect of each category of aquifer. While water resources in a recharging aquifer, for example the Guarani aquifer (Argentina, Brazil, Paraguay and Uruguay), are renewable, such is not the case in a non-recharging aquifer in an arid zone, such as the Nubian Sandstone Aquifer (Chad, Egypt, Libya and Sudan).

39. Draft article 3,[15] is intended to emphasize the importance of bilateral and regional arrangements entered into by States concerned with respect to specific aquifers. If a binding instrument were to be the preferred option, it would be cast as a framework convention. Thus, while the basic principles to be enunciated would have to be respected, the bilateral or regional arrangements would have priority.

40. Stressing that draft articles 5 and 7 were key provisions, it was observed that draft article 5[16] contains two basic principles found in almost all water-related treaties: the principle of equitable utilization which prescribes the right of a State to participate in an equitable manner with others in the utilization of the same activity, and the principle of reasonable utilization which prescribes the right as well as the obligation of a State in the management of a particular activity in a reasonable manner. Although they were closely interrelated, taken for granted and often mixed up, the two principles were different and have thus been dealt with separately in paragraphs 1 and 2 respectively.

41. The Special Rapporteur viewed the principle of equitable utilization in paragraph 1 as viable only in the context of a shared resource. The acceptance of the principle in paragraph 1 thus implied a recognition of the shared character of the transboundary aquifer among the aquifer States. However, there was no intention to internationalize or universalize transboundary aquifers. Concerning the role of third States in the scheme, it was noted that the utilization and management of a specific transboundary aquifer was the business of the aquifer States in whose territory the aquifer was located, and any third States were considered as having no role.

42. Paragraph 2, on reasonable utilization (that is, sustainable utilization), was divided into subparagraphs (*a*) and (*b*) to reflect the practical application of this principle in the differing circumstances of a recharging and a non-recharging aquifer. Although many groundwater experts

(*Footnote 14 continued.*)

"(*e*) 'Recharging aquifer' means an aquifer that receives a non-negligible amount of contemporary water recharge;

"(*f*) 'Non-recharging aquifer' means an aquifer that receives a negligible amount of contemporary water recharge."

[15] Draft article 3, as proposed by the Special Rapporteur in his third report, reads as follows:

"*Article 3. Bilateral and regional arrangements*

"1. For the purpose of managing a particular transboundary aquifer or aquifer system, aquifer States in whose territories such an aquifer or aquifer system is located are encouraged to enter into a bilateral or regional arrangement among themselves. Such arrangement may be entered into with respect to an entire aquifer or aquifer system or any part thereof or a particular project, programme or use except insofar as the arrangement adversely affects, to a significant extent, the use by one or more other aquifer States of the water in that aquifer or aquifer system, without their express consent. Any State in whose territory such an aquifer or aquifer system is located is entitled to participate in the negotiation and to become a party to arrangements when such arrangements are likely to prejudice their positions *vis-à-vis* that aquifer or aquifer system.

"2. Parties to an arrangement referred to in paragraph 1 shall consider harmonizing such arrangement with the basic principles of the present Convention. Where those parties consider that adjustment in application of the provisions of the present Convention is required because of the characteristics and special uses of a particular aquifer or aquifer system, they shall consult with a view to negotiating in good faith for the purpose of concluding an arrangement beneficial to all the parties.

"3. In the absence of an agreement to the contrary, the present Convention applies to the aquifer or aquifer system referred to in paragraph 1 only to the extent that its provisions are compatible with those of the arrangement referred to in the same paragraph."

[16] Draft article 5, as proposed by the Special Rapporteur in his third report, reads as follows:

"*Article 5 [Article 3]. Equitable and reasonable utilization*

"1. Aquifer States shall, in their respective territories, utilize a transboundary aquifer or aquifer system in a manner such that the benefits to be derived from such utilization shall accrue equitably to the aquifer States concerned.

"2. Aquifer States shall, in their respective territories, utilize a transboundary aquifer or aquifer system in a reasonable manner and, in particular:

"(*a*) With respect to a recharging transboundary aquifer or aquifer system, shall take into account the sustainability of such aquifer or aquifer system and shall not impair the utilization and functions of such aquifer or aquifer system;

"(*b*) With respect to a non-recharging transboundary aquifer or aquifer system, shall aim to maximize the long-term benefits derived from the use of the water contained therein. They are encouraged to establish a development plan for such aquifer or aquifer system, taking into account the agreed lifespan of such aquifer or aquifer system as well as future needs of, and alternative water sources for, the aquifer States."

"3. In the application of paragraphs 1 and 2, aquifer States concerned shall, when the need arises, enter into consultation in a spirit of cooperation."

advocated sustainable utilization of groundwaters, the application of such a principle was viewed as feasible only for a resource which was truly renewable, such as surface water. Draft article 6[17] simply enumerated the relevant factors and circumstances that should be taken into account in assessing what constitutes equitable or reasonable utilization in respect of a specific aquifer.

43. On the other key draft article, draft article 7,[18] there continued to be objection to the threshold of significant harm. Considering the particularities of aquifers, some delegations in the Sixth Committee preferred a lower threshold. However, the Special Rapporteur viewed the concept of significant harm to be relative and capable of taking into account the fragility of any resource. Moreover, the Commission's position was well established and there seemed to be no justification to depart from the threshold. Some delegations in the Sixth Committee were also opposed to a reference to "compensation" in subparagraph 3. However, the provision was similar to paragraph 2 of article 7 of the 1997 Convention on the Law of Non-navigational Uses of International Watercourses (hereinafter the 1997 Convention) and had been proposed then by the Commission on the basis of State practice.

44. As regards the remaining draft articles, draft articles 8 to 10 deal with issues pertaining to cooperation among aquifer States, with draft article 8,[19] setting out the general obligation to cooperate and recommending implementation through the establishment of joint mechanisms or commissions at bilateral or regional levels. While draft article 9[20] deals with one aspect of cooperation, namely regular exchange of comparable data and information, the other aspect, monitoring, is addressed in a separate and independent draft article, draft article 10,[21] to emphasize the importance of monitoring in managing transboundary aquifers.

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[17] Draft article 6, as proposed by the Special Rapporteur in his third report, reads as follows:

"*Article 6. Factors relevant to equitable and reasonable utilization*

"1. Utilization of a transboundary aquifer or aquifer system in an equitable and reasonable manner within the meaning of article 5 requires taking into account all relevant factors and circumstances, including:

"(*a*) The natural condition of the aquifer or aquifer system;

"(*b*) The social and economic needs of the aquifer States concerned;

"(*c*) The population dependent on the aquifer or aquifer system in each aquifer State;

"(*d*) The effects of the utilization of the aquifer or aquifer system in one aquifer State on other aquifer States concerned;

"(*e*) The existing and potential utilization of the aquifer or aquifer system;

"(*f*) The development, protection and conservation of the aquifer or aquifer system and the costs of measures to be taken to that effect;

"(*g*) The availability of alternatives, of comparable value, to a particular existing and planned utilization of the aquifer or aquifer system.

"2. The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is reasonable and equitable utilization, all relevant factors are to be considered together and a conclusion reached on the basis of the whole."

[18] Draft article 7, as proposed by the Special Rapporteur in his third report, reads as follows:

"*Article 7 [Article 4]. Obligation not to cause harm*

"1. Aquifer States shall, in utilizing a transboundary aquifer or aquifer system in their territories, take all appropriate measures to prevent the causing of significant harm to other aquifer States.

"2. Aquifer States shall, in undertaking other activities in their territories that have or are likely to have an impact on a transboundary aquifer or aquifer system, take all appropriate measures to prevent the causing of significant harm to other aquifer States through that aquifer or aquifer system.

"3. Where significant harm is nevertheless caused to another aquifer State, the aquifer States whose activities cause such harm shall, in the absence of agreement to such activities, take all appropriate measures in consultation with the affected State, having due regard for the provisions of articles 5 and 6, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation."

[19] Draft article 8, as proposed by the Special Rapporteur in his third report, reads as follows:

"*Article 8 [Article 5]. General obligation to cooperate*

"1. Aquifer States shall cooperate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain reasonable utilization and adequate protection of a transboundary aquifer or aquifer system.

"2. In determining the manner of such cooperation, aquifer States are encouraged to establish joint mechanisms or commissions, as deemed necessary by them, to facilitate cooperation on relevant measures and procedures in the light of experience gained through cooperation in existing joint mechanisms and commissions in various regions."

[20] Draft article 9, as proposed by the Special Rapporteur in his third report, reads as follows:

"*Article 9 [Article 6]. Regular exchange of data and information*

"1. Pursuant to article 8, aquifer States shall, on a regular basis, exchange readily available data and information on the condition of the transboundary aquifer or aquifer system, in particular that of a geological, hydrogeological, hydrological, meteorological and ecological nature and related to the hydrochemistry of the aquifer or aquifer system, as well as related forecasts.

"2. In the light of uncertainty about the nature and extent of some transboundary aquifer or aquifer systems, aquifer States shall employ their best efforts to collect and generate, in accordance with currently available practice and standards, individually or jointly and, where appropriate, together with or through international organizations, new data and information to identify the aquifer or aquifer systems more completely.

"3. If an aquifer State is requested by another aquifer State to provide data and information that is not readily available, it shall employ its best efforts to comply with the request, but may condition its compliance upon payment by the requesting State of the reasonable costs of collecting and, where appropriate, processing such data or information.

"4. Aquifer States shall employ their best efforts to collect and, where appropriate, to process data and information in a manner that facilitates its utilization by the other aquifer States to which it is communicated."

[21] Draft article 10, as proposed by the Special Rapporteur in his third report, reads as follows:

"*Article 10. Monitoring*

"For the purpose of being well acquainted with the conditions of a transboundary aquifer or aquifer system:

"1. Aquifer States shall agree on harmonized standards and methodology for monitoring a transboundary aquifer or aquifer system. They shall identify key parameters that they will monitor based on an agreed conceptual model of the aquifer or aquifer system. These parameters shall include extent, geometry, flow path, hydrostatic pressure distribution, quantities of flow and hydrochemistry of the aquifer or aquifer system.

"2. Aquifer States shall undertake to monitor such parameters referred to in paragraph 1 and shall, wherever possible, carry out these monitoring activities jointly among themselves and in collaboration with the competent international organizations. Where, however, monitoring activities are not carried out jointly, aquifer States shall exchange the monitored data."

45. Draft articles 16 and 17[22] set out procedural requirements for planned measures. Compared to the 1997 Convention, which contains elaborate procedures for planned activities, it was noted that only two draft articles were presented. From the Sixth Committee debates, there seemed to be a general wish for simpler procedural arrangements, while detailed elaboration could be left to the specific aquifer States concerned.

46. Draft articles 4 and 11–15,[23] as well as draft articles 18–25,[24] were considered self-explanatory. However, attention was drawn to draft article 13 on protection of recharge and discharge zones, which were located outside aquifers and were vital to their functioning. The regulation of activities in these zones would ensure that the functioning of the aquifers were not impaired. The draft article also addressed the situation in which such zones were located in third States, by making provision for cooperation, in principle non-obligatory. Attention was also drawn to draft article 18 on scientific and technical assistance to developing countries. Since the science of hydrogeology was still in its infancy and relatively advanced in the developed countries only, such a provision was necessary to ensure assistance to developing countries, where most aquifers were located.

47. As to the form of final instrument, the Special Rapporteur, at the outset of his introduction, mentioned that the presentation of the draft articles should not be considered as in any way intended to prejudge the final outcome since he had not yet made a decision on the matter.

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[22] Draft articles 16 and 17, as proposed by the Special Rapporteur in his third report, read as follows:

"*Article 16. Assessment of potential effects of activities*

"When an aquifer State has reasonable grounds for believing that a particular planned activity in its territory may cause adverse effects on a transboundary aquifer or aquifer system, it shall, as far as practicable, assess the potential effects of such activity."

"*Article 17. Planned activities*

"1. Before an aquifer State implements or permits the implementation of planned activities which may have a significant adverse effect upon other aquifer States, it shall provide those States with timely notification thereof. Such notification shall be accompanied by available technical data and information, including any environmental impact assessment, in order to enable the notified States to evaluate the possible effects of the planned activities."

"2. If the notifying State and the notified States disagree on the effect of the planned activities, they shall enter into consultations and, if necessary, negotiations with a view to arriving at an equitable resolution of the situation. They may utilize an independent fact-finding body which may be able to make an impartial assessment of the effect of the planned activities."

[23] Draft articles 4 and 11 to 15, as proposed by the Special Rapporteur in his third report, read as follows:

"*Article 4. Relation to other conventions and international agreements*

"1. When the States Parties to the present Convention are parties also to the Convention on the Law of the Non-navigational Uses of International Watercourses, the provisions of the latter concerning transboundary aquifers or aquifer systems apply only to the extent that they are compatible with those of the present Convention.

"2. The present Convention shall not alter the rights and obligations of the States Parties which arise from other agreements compatible with the present Convention and which do not affect the enjoyment by other States Parties of their rights or the performance of their obligations under the present Convention."

"*Article 11 [Article 7]. Relationship between different kinds of utilization*

"1. In the absence of agreement or custom to the contrary, no utilization of a transboundary aquifer or aquifer system enjoys inherent priority over other utilization.

"2. In the event of a conflict between utilization of a transboundary aquifer or aquifer system, it shall be resolved with special regard being given to the requirements of vital human needs."

"*Article 12. Protection and preservation of ecosystems*

"Aquifer States shall protect and preserve ecosystems within a transboundary aquifer or aquifer system. They shall also ensure adequate quality and sufficient quantity of discharge water to protect and preserve outside ecosystems dependent on the aquifer or aquifer system."

"*Article 13. Protection of recharge and discharge zones*

"1. Aquifer States shall identify recharge zones of a transboundary aquifer or aquifer system and, within these zones, shall take special measures to minimize detrimental impacts on the recharge process and also take all measures to prevent pollutants from entering the aquifer or aquifer system.

"2. Aquifer States shall identify discharge zones of a transboundary aquifer or aquifer system and, within these zones, shall take special measures to minimize detrimental impacts on the discharge process.

"3. When such recharge or discharge zones are located in the territories of States other than aquifer States, aquifer States should seek the cooperation of the former States to protect these zones."

[24] Draft articles 18 to 21, as proposed by the Special Rapporteur in his third report, read as follows:

"*Article 18. Scientific and technical assistance to developing States*

"States shall, directly or through competent international organizations, provide scientific, educational, technical and other assistance to developing States for the protection and management of a transboundary aquifer or aquifer system. Such assistance shall include, *inter alia*:

"(*a*) Training of their scientific and technical personnel;

"(*b*) Facilitating their participation in relevant international programmes;

"(*c*) Supplying them with necessary equipment and facilities;

"(*d*) Enhancing their capacity to manufacture such equipment;

"(*e*) Providing advice on and developing facilities for research, monitoring, educational and other programmes;

"(*f*) Minimizing the effects of major activities affecting transboundary aquifers or aquifer systems;

"(*g*) Preparing environmental impact assessments."

"*Article 19. Emergency situations*

"1. An aquifer State shall, without delay and by the most expeditious means available, notify other potentially affected States and competent international organizations of any emergency situation originating within its territory that causes, or poses an imminent threat of causing, serious harm to other States and that results suddenly from natural causes or from human conduct.

"2. An aquifer State within whose territory an emergency situation originates shall, in cooperation with potentially affected States and, where appropriate, competent international organizations, immediately take all practicable measures necessitated by the circumstances to prevent, mitigate and eliminate harmful effects of the emergency situation.

"3. Where water is critical to alleviate an emergency situation, aquifer States may derogate from the provisions of the articles in parts II to IV of the present Convention to the extent necessary to alleviate the emergency situation."

"*Article 20. Protection in time of armed conflict*

"Transboundary aquifers or aquifer systems and related installations, facilities and other works shall enjoy the protection accorded by the principles and rules of international law applicable in international and non-international armed conflict and shall not be used in violation of those principles and rules."

"*Article 21. Data and information vital to national defence or security*

"Nothing in the present Convention obliges an aquifer State to provide data or information vital to its national defence or security. Nevertheless, that State shall cooperate in good faith with other aquifer States with a view to providing as much information as possible under the circumstances."

While being aware of views in the Sixth Committee in favour of non-binding guidelines, the Special Rapporteur urged that at this early stage, the focus be on the substance rather than the form.[25]

2. Summary of the debate

(a) *General comments*

48. Members of the Commission commended the Special Rapporteur for his third report and his continuing efforts to develop the topic taking into account the views of Governments, and to enrich understanding of it by consulting and seeking the scientific advice of groundwater experts. Such an approach would assure an outcome that would be both generally acceptable and responsive to the concerns of the scientific community. The importance of the topic was stressed, and attention in this regard was drawn to the report of the High-level Panel on Threats, Challenges and Change,[26] which alluded to the subject.

49. Concerning general matters of structure, presentation and how the consideration of the topic should be proceeded with, some members welcomed the overall structure and the draft articles presented by the Special Rapporteur, while some other members, depending on the importance that they attached to the substance of particular provisions, offered an indication that they preferred the placement of certain draft articles at the beginning or at the end, or their omission from the text. Some members also noted that the drafting of certain provisions needed to be reconsidered, since the language used was merely hortatory and did not appear suitable for a legally-binding instrument, which was their preferred option. Some other members, however, felt that such language was entirely appropriate even in a framework instrument which was aimed at providing States guidance in the further negotiation of specific instruments. Flexibility was considered to be an essential characteristic.

50. Some members also noted that some of the principles were formulated with a high degree of generality and abstraction, thus giving rise to doubts as to whether, in practice, they would be helpful in providing sufficient guidance to States. It was pointed out, on the other hand, that there was no other way to proceed since a more detailed and prescriptive text was likely to raise more questions than answers. Noting that the 1997 Convention was used essentially as the basis for formulating the draft articles, some members also commented that they would have had a fuller appreciation of the draft articles if the reasoning behind any departure, even minor, from the language of the 1997 Convention had been provided, and if detailed commentaries had been given on the proposed draft articles. While some members proposed the referral of the draft articles, except for a few, to the Drafting Committee, the preponderant view favoured their further consideration first within the context of a working group. As noted above, the Commission established such a Working Group at its 2836th meeting.

51. Several members alluded to the paucity of State practice in the area and its impact on the work of the Commission. It was doubted whether there were sufficient State practice on which the Commission could proceed with a codification exercise. It was considered that the law in the area was still in its embryonic stages. Thus, the project would proceed largely as a matter of progressive development or would move forward, taking the 1997 Convention as a point of departure.

52. While reference to the 1997 Convention was generally perceived as inevitable, some members, bearing in mind the differences between surface and groundwaters, especially the vulnerability of aquifers, suggested a need to proceed with caution. It was noted that the topic was substantially different from that of watercourses, and that, therefore, the Convention should be taken as a guide only. Groundwaters raised sensitive issues, particularly from the perspective of environmental protection, which needed to be reflected properly in the text, also taking into account developments since the adoption of the Convention, including within the Commission itself, such as the adoption of the draft articles on the prevention of transboundary harm from hazardous activities.[27] Given their physical characteristics, it was asserted that the protection and preservation of aquifers needed to be emphasized in policy considerations. Sustainability should not be regarded as related merely to utilization but also to the overall protection of the ecological conditions of the aquifers. Some members also recalled that the Convention had not yet entered into force and thus far lacked universal support.

53. Some members noted that in the formulation of the draft articles, the overriding consideration was the utilization and protection of aquifers, which could effectively be accomplished through bilateral and

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[25] Draft articles 22 to 25, as proposed by the Special Rapporteur in his third report and containing the final clauses, read as follows:

"*Article 22. Signature*

"The present Convention shall be open for signature by all States from ____ until ____ at United Nations Headquarters in New York."

"*Article 23. Ratification, acceptance, approval or accession*

"The present Convention is subject to ratification, acceptance, approval or accession by States. The instruments of ratification, acceptance, approval or accession shall be deposited with the Secretary-General of the United Nations."

"*Article 24. Entry into force*

"1. The present Convention shall enter into force on the ____ day following the date of deposit of the ____ instrument of ratification, acceptance, approval or accession with the Secretary-General of the United Nations.

"2. For each State that ratifies, accepts or approves the Convention or accedes thereto after the deposit of the ____ instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the ____ day after the deposit by such State of its instrument of ratification, acceptance, approval or accession."

"*Article 25. Authentic texts*

"The original of the present Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

"IN WITNESS WHEREOF, the undersigned plenipotentiaries, being duly authorized thereto, have signed this Convention.

"DONE at New York, this ____ day of ____ two thousand ____ ."

[26] Report of the High-level Panel on Threats, Challenges and Change, "A more secure world: our shared responsibility" (A/59/565), para. 93.

[27] *Yearbook ... 2001*, vol. II (Part Two) and corrigendum, p. 146, para. 97.

regional approaches. The Commission should therefore aim at providing, not universal solutions, but general principles which would guide and encourage bilateral or regional solutions. In this connection, some members also stressed the importance of taking into account developments at a regional level. In particular, work being carried out in respect of certain regional projects was highlighted, including by MERCOSUR in respect of the Guarani Aquifer. Mention was made of the projects being carried out with the support of the World Bank and OAS in order better to understand the physical and technical characteristics of the Guarani aquifer, as well as the work carried out by an *ad hoc* group of experts convened by the Council of MERCOSUR to establish principles and criteria for the use of the aquifer. Such work proceeded on the basis of the following considerations: (*a*) affirmation of territorial sovereignty, (*b*) the obligation not to cause significant harm, and (*c*) conservation through rational and sustainable utilization. Some members also stressed considerations concerning geographical proximity as being relevant, and also efforts towards regional economic integration. At the same time, it was pointed out by some other members that bilateral and regional agreements did not always provide sufficient guidance since they often tended to favour the stronger parties.

54. Concerning the Special Rapporteur's suggestion to include in the preamble an explicit reference to General Assembly resolution 1803 (XVII), some members supported such a reference once the preamble had been formulated. However, other members felt that the principle of permanent sovereignty over natural resources was central to the topic and deserved full treatment in a separate draft article. Such a reference would dispel any criticism that groundwaters were a common heritage of humankind. Yet some other members doubted that there was any role for the principle in the draft articles; if the transboundary aquifer were recognized as a shared natural resource it followed that no aquifer State could claim to have permanent sovereignty over it. It was also pointed out that there would not be any risk of undermining the principle even if such a reference were omitted.

55. Some members stressed the relative character of the concept of sovereignty and highlighted the importance of construing sovereignty for the purposes of the draft articles as not denoting absolute sovereignty. Water in a transboundary aquifer was subject not only to the sovereignty of a State in the territory in which it was located but also to the regulatory framework freely agreed upon by States which shared such an aquifer. Some other members sought to accentuate aspects of jurisdictional competence as well as the existence of an obligation to cooperate with each other, rather than whether sovereign rights were absolute or limited. Since a transboundary aquifer or aquifer system would run under different national jurisdictions, it was incumbent upon States concerned mutually to respect the sovereign rights of the other States in areas falling within their jurisdiction.

56. The relationship between the draft articles and general international law was also alluded to by some members as a relevant consideration, and it was stressed that the operation of the draft articles should be perceived, not in isolation, but in the context of the continuing application of general international law. Such law continued to apply in respect of activities of States *vis-à-vis* their relations with other States. In particular, the underlying principles enunciated in the *Corfu Channel* case[28] were considered relevant in the case of transboundary aquifers.

57. The need to keep in view the relationship between the current sub-topic on groundwaters and the other related sub-topics in respect of oil and gas was highlighted by some members.

58. In relation to the overall substance of the draft articles, some members stressed that part II containing general principles was fundamental to the overall structure of the draft articles. It would be helpful if such principles could provide useful guidance for States in negotiating and concluding agreements or arrangements that could be readily accepted by the parties concerned. It was also recalled by some members that in the formulation of the draft articles on the law on the non-navigational uses of international watercourses,[29] the Commission had held extensive debates on questions concerning sovereignty, the principles of equitable and reasonable utilization, the obligation not to cause harm, and the threshold of significant harm. Accordingly, no useful purpose would be served in reopening these matters in the context of the present topic.

59. Some members expressed preference for a much more prominent and pronounced role for the precautionary principle while some other members considered the precautionary approach taken by the Special Rapporteur to be adequate.

60. Some members, disagreeing with the Special Rapporteur, said that they would prefer detailed provisions to be formulated on the relationship with non-aquifer States, and that their role were emphasized. Such States, particularly those in which recharge and discharge zones were located, had an obligation to cooperate and exchange information with respect to the protection of aquifers. Furthermore, some other members stressed the importance of providing for an institutional framework both for the implementation of the provisions of the draft articles and for dispute settlement. In regard to the latter, the need for separate provisions on dispute settlement was underlined.

(b) *Comments on specific draft articles*

61. Concerning draft article 1, on the scope of the convention, some members supported the current reformulation. However, some other members pointed to the need to delineate clearly the scope of the topic, either in the body of the article or in the commentary, specifying those situations in which groundwaters would be covered by the 1997 Convention already, as well as the relationship between transboundary and national aquifers, by stating expressly that the draft articles do not apply to national aquifers. Moreover, there was a need to include in the draft article provisions concerning the regulation of obligations of non-aquifer States.

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[28] *Corfu Channel, Merits, Judgment, I.C.J. Reports 1949*, p. 4.

[29] Adopted by the Commission on second reading at its forty-sixth session, in 1994 (see *Yearbook ... 1994*, vol. II (Part Two), p. 89).

62. While the draft articles as a whole contained specific provisions concerning the activities contemplated in subparagraphs (*a*) and (*c*), some members noted that there did not seem to be any detailed draft articles addressing activities covered by subparagraph (*b*). Some other members doubted the seemingly wide scope of subparagraph (*b*), as well as its placement. In regard to the former, some members sought its deletion while others suggested the need to clarify its scope, in particular the meaning of the term "impact". It was proposed that the term should be qualified by "significant" as a threshold in order to ensure consistency with the provisions of part II of the draft articles. It would also help to avoid creating the impression that other uses which might have a negligible impact on aquifers were also covered by the regulatory framework of the draft articles. However, some other members endorsed the use of the term "impact" which, as noted by the Special Rapporteur in his third report, had a wider scope than "harm". It was also noted that the phrase "other activities" was not sufficiently precise. Concerning placement, it was suggested that subparagraph (*c*) be placed before subparagraph (*b*) in order to emphasize the prominent role that ought to be given to the protection, preservation and management of aquifers.

63. With regard to draft article 2, on use of terms, the new definition of "aquifer" in subparagraph (*a*), as well as the change from "rock formation" to "geological formation" and the deletion of "exploitable", was considered favourably by some members and there was also some support for the retention of the phrase "[water-bearing]" since it made the definition easier for a layperson to understand. Furthermore, the definition of aquifer in the 1989 Bellagio Draft Treaty on transboundary groundwaters,[30] which was considered more concise, made reference to "water-bearing". On the other hand, the deletion of "water-bearing" and the clarification of the term in the commentary, as proposed by the Special Rapporteur, also found support. Some members also pointed out that the concept of water "use" or "utilization" was essential to the definition. It should be reintroduced and should also include the element of exploitability. Some other members raised questions on the usefulness of retaining the reference to "underlain by a less permeable layer" in the definition of an aquifer. It was also wondered whether the definition would still apply even if the geological formation were not saturated with water.

64. Furthermore, some members saw the need to clarify certain changes in the definitions as compared to those proposed by the Special Rapporteur in the second report.[31] In some instances different terms had been used, although the same meaning seemed to have been retained.

65. The notion of "aquifer system" in subparagraph (*b*) as consisting of a series of two or more aquifers, as suggested in the corrigendum to the third report, was considered an improvement on the earlier proposal contained in the Special Rapporteur's second report. It accentuated the transboundary nature of the aquifer as a source of obligations for States concerned rather than a universal source of obligations for all States. Some members considered the phrase "[each associated with specific geological formations]" in the definition of "aquifer system" to be superfluous and supported its deletion and the clarification of its meaning in the commentary, as suggested by the Special Rapporteur.

66. With regard to the definition of "transboundary aquifer" in subparagraph (*c*), some members doubted whether the circular approach which was followed added any substance to the definition. Both "aquifer" and "aquifer system" were already adequately defined.

67. Some doubts were also expressed regarding the distinction between a "recharging aquifer" and a "non-recharging aquifer" in subparagraphs (*e*) and (*f*) respectively. The difference between negligible and non-negligible amounts of contemporary water recharge seemed to be insignificant from a practical perspective. A recharge should not be given much weight in consideration of the sustainability of the resources. Moreover, the diversity of aquifers would make it difficult to measure negligibility in the amount of recharge. In this regard, it was suggested that such definitional questions could best be addressed in the relevant substantive draft article 5, where a less rigid distinction could be made. It was also suggested that the matter should await the discussion on whether or not separate rules would be required under draft article 5. On the other hand, the distinction was welcomed by some other members. At the same time, it was pointed out that a definition of "contemporary" water recharge would be necessary in the commentary.

68. Comments were also made regarding the need to provide definitions or explanations for terms such as "impact" in draft article 1, "significant harm" in draft article 7 *et al*., "recharge or discharge zones" in the territories of third States in draft article 13 (3), "adverse effects" in draft article 16, "significant adverse effect" in draft article 17 and "serious harm" in draft article 19, as well as the term "uses" to distinguish the various uses of water.

69. As regards draft article 3, on bilateral and regional arrangements, some members expressed support for its general thrust since it highlighted the importance of bilateral and regional arrangements. It was asserted that in the case of groundwaters, more so than for surface water, it was pertinent to allow for more flexibility in such arrangements. Yet the wording seemed to be more strict than comparable provisions in the 1997 Convention. Although it seemed cautiously worded, some other members noted that it would give rise to problems of interpretation and implementation. In particular, it was considered important that the provisions of the present draft articles should not affect the rights and obligations under existing agreements.

70. Doubt was also expressed regarding whether draft article 3 was an improvement over the corresponding article 3 of the 1997 Convention. In this connection, some members would have preferred a text that closely followed the language of article 3 of the Convention. The use of the term "arrangement", which was considered broader and

[30] R. D. Hayton and A. E. Utton, "Transboundary groundwaters: the Bellagio draft treaty", *Natural Resources Journal*, vol. 29, No. 3 (1989), p. 663.

[31] See footnote 10 above.

more uncertain than the more familiar precedent-based term "agreement", was questioned by some members. However, some other members accepted the proposed change, for the reason given by the Special Rapporteur in his report, that the cooperative framework for groundwaters remained to be properly developed and the term "arrangement" provided flexibility of participation.

71. Concerning paragraph 1, some members preferred stronger and more definitive language than a general encouragement to enter into bilateral or regional arrangements. Such obligation was critical, particularly in the context of a fragile resource such as an aquifer. It was also considered that the paragraph was overly detailed and it was suggested that the whole paragraph be recast by rephrasing the first sentence in more obligatory language. Some other members, however, viewed the obligation to encourage as appropriate since it gave States the flexibility at bilateral and regional levels to decide on mutually acceptable arrangements, particularly considering that in some situations circumstances may be such that it may not be feasible to negotiate such arrangements for particular aquifers.

72. The principle of harmonization in paragraph 2 was considered important by some members, who considered it essential that a framework convention should contain principles that would assist States in the negotiation of bilateral and regional agreements. Some members, however, were of the view that the phrase "consider harmonizing" in the paragraph was too weak and needed to be replaced. With regard to paragraph 3, it was suggested that there should be an explicit reference to compliance with the general principles set out in the draft articles. Moreover, unlike the 1997 Convention, it was not clear whether the paragraph affected arrangements already concluded by States, thereby requiring their renegotiation. It was also pointed out that in the absence of agreement, States had a right to operate independently with respect to the utilization of aquifers and were limited only by rights and obligations imposed by general international law. Some members suggested that any such utilization should nevertheless be consistent with the principles contained in part II of the draft articles.

73. Concerning draft article 4, on relation to other conventions and international agreements, some members noted that it was a step in the right direction since, in the event of conflict, it automatically gave the draft articles precedence over the 1997 Convention as well as, in certain situations, over other international agreements. Some other members noted that there was potential for dual application of the present draft articles and the Convention. Accordingly, there was a need to strive for the creation of a unified comprehensive legal regime governing both surface waters and groundwaters. However, some members expressed doubt regarding the suggested relationship between the draft articles and the Convention, noting that substantively the relationship was tenuous and that different bodies of water were under consideration. Moreover, the whole question needed closer consideration, particularly in view of the fact that the Convention had not yet entered into force. The inclusion of an additional formulation on the relationship between the draft articles and general international law, which would be designed to assert the relevance of the latter, was also suggested. Some other members suggested a preambular provision.

74. In relation to paragraph 1, it was noted that it would be inappropriate to suggest that the provisions of the 1997 Convention would apply only to the extent that they were compatible with those of the draft articles. Such a proposition would be valid only if all States which shared an aquifer were parties to the Convention. According to some members, it would be reasonable to contemplate the draft articles' being framed in the form of a protocol to the Convention. Such a possibility, however, did not find favour with some members, who considered it important, legally and as a matter of policy, to delink the draft articles from the Convention.

75. Although some attention was drawn to article 311, paragraph 2, of the United Nations Convention on the Law of the Sea, some members doubted whether it could serve as a precedent for paragraph 2. Moreover, instead of a reference to conformity with the present convention, it was suggested that a reference to the general principles of the present convention would be more appropriate. It was also pointed out that it was difficult to envision how the present paragraph related to draft article 3. It was thus suggested that draft articles 3 and 4 should be replaced by article 3 of the 1997 Convention. Some members expressed preference for a provision that would specify that the future instrument would not affect the rights and obligations assumed under other agreements.

76. Concerning draft article 5, on equitable and reasonable utilization, several members expressed support for the principles therein, noting that these principles were important for aquifers in view of their fragile nature. However, some other members recalled that article 5 of the 1997 Convention, which is similar to the present draft article, was problematic during the negotiations regarding the Convention. The transposition of the two principles for application to groundwaters was therefore cautioned against, some doubt being expressed regarding the applicability of these principles to groundwaters.

77. Some members recalled the necessary balance that must exist between sovereign rights of States over their natural resources and the need to safeguard the interests of other States, as well as the rights of present and future generations. Accordingly, it was suggested that the principle of permanent sovereignty over natural resources could properly be dealt with in the context of draft article 5 rather than in the preamble or in the principle of sovereign equality in draft article 8.

78. Concerning paragraph 2, some members welcomed the distinction drawn between rules applicable to recharging and non-recharging transboundary aquifers. It was noted that such a distinction would provide better protection for aquifers. On the other hand, some other members considered such a distinction to be immaterial. Some questions were raised regarding how "sustainability" would be assessed in practice. It was not clear whether the requirement in subparagraph (*a*) that aquifer States should "not impair the utilization and functions of such aquifer or aquifer system" entailed zero risk or some form of

graduated risk or risk threshold. Moreover, it was asserted that sustainability did not necessarily imply that renewable natural resources must be kept at a level which would provide maximum sustainable yield, as suggested by the Special Rapporteur in his report. Such interpretation, applicable in fishery resources, need not be the same in the case of groundwaters since the States concerned may not wish to exploit to the limit of exploitability, or there may be alternative sources. Some members suggested that the concept of "economic recoverability" of the aquifer could be a possible criterion. Subparagraph (*b*) was considered by some members to be a creative and useful attempt to give meaning to the concept of reasonable utilization in the context of a non-recharging aquifer.

79. While welcoming the wording of draft article 6, on factors relevant to equitable and reasonable utilization, some members noted that its provisions seemed more germane in the context of the 1997 Convention. Some other members noted that the obligation to preserve aquifer resources was extant not only in respect of future generations but for the present generation as well. With regard to subparagraph (*a*), it was questioned whether there was a material difference between the "natural condition" of the aquifers and the taking into account of the "natural factors" as characteristics of the aquifer as suggested by the Special Rapporteur in his third report. Some members welcomed the inclusion of the factors contained in subparagraphs (*b*) and (*c*). It was suggested that one of the factors to be taken into account in subparagraph (*c*) was water for drinking purposes. Moreover, it was suggested that there should be a reference to paragraph 1 of article 9 and paragraph 1 of article 10, which also contained relevant factors.

80. Concerning draft article 7, on the obligation not to cause harm, some members expressed support for the position of the Special Rapporteur that for purposes of consistency the threshold of significant harm should be maintained, noting also that such reference should be included in the title of the draft article. In the field of natural resources and the environment, harm could not be set in absolute terms because the right of use was always weighed against the right to protect. The threshold carried certain policy considerations aimed at achieving a balance of interests. The term "significant" meant rather more than trivial or detectable but not necessarily serious or substantial. However, some other members felt that the threshold should be lowered to a simple reference to "harm". Any such harm to the aquifer might be difficult to reverse and could be detrimental in view of an aquifer's nature and vulnerability. Moreover, the precautionary principle seemed to militate against the threshold of "significant" harm since the effects on groundwaters might take years before they became detectable. It was also contended that it would be useful for the draft articles as a whole to take into account developments that had taken place since the adoption of the 1997 Convention, in particular the adoption by the Commission in 2001 of the draft articles on prevention of transboundary harm from hazardous activities.[32] It was suggested, therefore, that there should be a greater focus on prevention before addressing the question of liability. Furthermore, some other members asserted the necessity of addressing aspects in which non-aquifer States might cause harm to an aquifer State.

81. The retention in paragraph 2 of the phrase "… have or are likely to have an impact …" was advocated by some members. On the other hand, it was suggested that the term "adverse" should qualify such impact. Concerning paragraph 3, some members expressed support for a provision dealing with liability in the context of aquifers. In this connection, some other members doubted whether paragraph 3 in itself without additional details were sufficient. As it was, its value as a tool in the settlement of disputes was considered insignificant. Some other members suggested its deletion, or at least clarification as to how it would operate in the context of rules of general international law. The continued application of rules of State responsibility was asserted. For example, the principles set out in the *Corfu Channel* case[33] would be relevant in a situation in which an aquifer served as an instrument for causing harm to a neighbouring State and where there existed the requisite degree of knowledge or imputability to the aquifer State. As at present drafted, "where appropriate" conveyed the impression that there was no obligation to provide compensation. It would be more appropriate to make clear that the obligation to discuss, rather than to provide compensation, presupposed that the obligation of prevention had been complied with. Elimination and mitigation of harm were applicable regardless of compliance with the obligation of prevention.

82. Concerning draft article 8, on the general obligation to cooperate, support was expressed for the emphasis on the general obligation to cooperate. It was noted, however, that the inclusion of "territorial integrity" as a basis of cooperation was striking and yet the rationale for its inclusion was not clear in the third report. It was stated that it would be sufficient to base such obligation on the principles of mutual benefit and good faith. Comments were also made regarding the need for a more detailed provision on the institutional framework for the implementation of the duty to cooperate.

83. In paragraph 2, the view was expressed that the use of the word "encouraged" was rather cautious, and it was suggested that bolder obligatory language should be employed. The possibility of combining this paragraph with the elements of draft article 15 was also offered, as a means of providing an administrative mechanism for implementation.

84. Some members welcomed the provisions concerning exchange of data in draft article 9. Such exchange was considered vital in facilitating the better understanding of the characteristics of an aquifer. Without such information, it would be extremely difficult to establish plans and standards for utilization of aquifers. While paragraph 2 was welcomed, the point was made that the rationale for its inclusion should have been explained fully. It was also suggested that paragraph 2 could appropriately be placed at the beginning or at the end of draft article 10. The formulation of the phrase "… aquifer

[32] See footnote 27 above.

[33] See footnote 28 above.

States shall employ their best efforts to collect …" was considered by some members to be weak. It was also posited that the language of the paragraph as a whole seemed more suitable for a commentary than for a draft article.

85. The provisions of draft article 10, on monitoring, were welcomed by some members. It was, however, observed that paragraph 1 was too obligatory, creating the impression that a universal obligation was being established. Such a provision would be more appropriate in the context of a bilateral or regional arrangement.

86. Doubt was expressed whether draft article 12, on protection and preservation of ecosystems, was an improvement over the corresponding article 20 of the 1997 Convention. It was observed, however, that given the present state of knowledge on aquifers and their effects on the ecosystem, its language was too categorical. It was also wondered whether it applied at all to a non-rechargeable aquifer.

87. Draft article 13, on protection of recharge and discharge zones, was considered to be an important innovation. In particular, the introduction of the concept of detrimental impact was positively perceived by some members. Moreover, it was noted that the best solution would be to create direct rights and obligations of non-aquifer States and to identify the legal and practical links with other States. Some members doubted whether there were any legal basis under general international law on which an obligation to cooperate by such non-aquifer States could be grounded.

88. As regards draft article 14, on prevention, reduction and control of pollution, some members agreed with the Special Rapporteur that the precautionary principle had not yet developed as a rule of general international law, and they approved of the approach taken. However, some other members expressed regret that the Special Rapporteur had decided to take a more cautious approach regarding the precautionary principle. The language used seemed appropriate for a commentary. The principle was contained in the Rio Declaration on the Environment and Development (Rio Declaration),[34] the International Law Association Helsinki Rules on the Uses of the Waters of International Rivers[35] and Berlin Rules on Water Resources[36], as well as in various treaties. The principle was well recognized as a general principle of international environmental law and needed to be stressed in the draft articles.

89. It was also noted that the assertion by the Special Rapporteur in his report that the "objectives of the articles are not to protect and preserve aquifers for the sake of aquifers, but to protect and preserve them so that humankind could utilize the precious water resources contained therein" (para. 33) should be revised because it seemed to introduce connotations concerning the common heritage of humankind.

90. Some members expressed doubt as to whether draft article 15, on management, was an improvement over corresponding article 24 of the 1997 Convention. Since the notion of "management" was employed in a variety of ways, its use in the context of the draft articles required explanation. It was also stressed that unless particular language represented a clear improvement, the Convention language should be retained. On the other hand, it was suggested that the whole premise of draft article 15 should be reviewed. In order to avoid being faced with a default situation, the overall premise would be to require aquifer States to enter into consultations with a view to agreeing to a management plan or mechanism. Individual plans would emerge only as a fallback.

91. Some members noted that the provisions of draft article 16, on assessment of potential effects of activities, as read with draft article 17 on planned activities, were more realistic than the complicated procedures under the 1997 Convention. Such plans should take into account the interests of other aquifer States as contemplated in draft article 17. On the other hand, reservations were expressed that nine articles devoted to planned measures in the Convention could be reduced to only two draft articles. Some members felt that the language used was weak; for example, the phrase "… as far as possible …" was preferred to "… as far as practicable …". The importance of timely notifications in draft article 17 was stressed, as already recognized in the *Lake Lanoux* arbitration.[37] It was also noted that the requirement for an environmental impact assessment should be signalled upfront without its being implied as optional.

92. While draft article 18, on scientific and technical assistance to developing countries, seemed important and attractive from a theoretical perspective since it created a legal obligation to provide assistance, some members noted that its practical application was difficult to secure. Its inclusion might therefore be more problematic than seemed at first sight. Some other members viewed the language as too obligatory.

93. Draft article 19, on emergency situations, was seen by some members as an improvement over a corresponding provision in the 1997 Convention. However, it was noted that a more incisive analysis of the reasoning behind the changes made would have provided a better understanding of the draft article.

94. It was observed that draft article 20, on protection in time of armed conflict, and draft article 21, on data and information vital to national defence or security, contributed nothing new and should not be referred to the Drafting Committee. In this regard, it was noted that draft article 20 seemed more relevant in respect of surface waters. However, some other members supported draft article 21, noting that the protection should extend to industrial secrets and intellectual property, on the

[34] *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3–14 June 1992* (United Nations publication, Sales No. E.93.I.8 and corrigendum), vol. I: *Resolutions adopted by the Conference,* resolution 1, annex I.

[35] International Law Association, *Report of the Fifty-Second Conference, Helsinki, 1966* (London, 1967), p. 484.

[36] *Ibid*., *Report of the Seventy-First Conference, Berlin, 16–21 August 2004* (London, 2004), p. 334.

[37] *Lake Lanoux*, UNRIAA, vol. XII (Sales No. 63.V.3), p. 281.

basis of article 14 of the draft articles on prevention of transboundary harm from hazardous activities.[38]

95. Concerning the final provisions, it was suggested that a provision on reservations should be included.

(c) *Comments on form of instrument*

96. Regarding the final form of instrument, some members agreed with the Special Rapporteur that a decision on the matter should be deferred until agreement had been reached on the substance. Some other members, however, observed that work could be expedited if a decision were made earlier on in consideration of the topic, since such a decision would have a bearing on matters of both drafting and substance. As it was, in some cases it appeared that there was already a bias towards a binding instrument.

97. Some members expressed preference for a binding instrument in the form of a framework convention. It was stressed that such a framework convention should contain guiding principles for use by States in the negotiation of their bilateral and regional arrangements. Some other members suggested that such an instrument could suitably be a protocol to the 1997 Convention. However, doubt was also expressed regarding such an approach. First, it was mentioned that the Convention had not yet entered into force and there seemed to be little support for it. Secondly, it was pointed out that although a relationship existed, the subject matter covered by the Convention and the present topic was substantially different. Thirdly, it was noted that the question of groundwaters affected only a certain group of States, and thus an independent convention would usefully achieve the intended results beneficial to the States concerned.

98. In view of the scarcity of information regarding State practice, some members favoured the formulation of non-binding guidelines. Such an approach would provide sufficient flexibility to aquifer States, and presented the best possibility for commanding the support of States. It was also suggested that the Commission adopted the approach followed in respect of the draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities, whereby non-binding principles were adopted on first reading,[39] while reserving the right to reconsider the matter as to the final form of the instrument at the second reading in the light of the comments and observations of Governments. It was also noted that such guidelines could take the form of a resolution.

3. Special Rapporteur's concluding remarks

99. Concerning whether the topic was sufficiently advanced for codification, the Special Rapporteur recalled that the 2000 decision of the Commission to include the topic in its programme of work was based on an assessment as to its viability.[40] While his previous reports might have contributed to the creation of an impression that there was insufficient evidence of State practice for codification, there had been an upsurge in practice of States on the subject matter in recent years. There were many cooperative efforts in Africa, the Americas and Europe, with State practice, agreements, arrangements and doctrine emerging, sufficient for the Commission to embark on work on the subject. The Commission would be embarking upon an exercise in the progressive development and codification of the law on groundwaters. Groundwaters represented 97 per cent of the available freshwater resources; in recent years, dependency on such waters had increased and problems were being confronted regarding their exploitation and pollution of aquifers. Since groundwaters would be one of the major issues to be discussed at the Fourth World Water Forum in Mexico in 2006, it was a challenge to the Commission to respond quickly in order to keep apace with a rapidly developing field.

100. Without prejudging the decision of the Commission on the other sub-topics relating to oil and gas, the Special Rapporteur noted that there were many similarities with groundwaters. The formulation of draft articles on groundwaters would have implications for oil and gas, and conversely State practice on oil and gas has a bearing on groundwaters. While it was feasible to embark on a first reading of draft articles on groundwaters without considering oil and gas, it would be necessary to give due attention to the relationship before completing the second reading.

101. As regards whether permanent sovereignty over natural resources should be treated in the preamble or in a separate article, the Special Rapporteur noted that there were precedents for both approaches. The preambular approach which he had suggested found precedent in the draft articles on the prevention of transboundary harm from hazardous activities as well as in the Vienna Convention for the Protection of the Ozone Layer, the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity. On the other hand, the United Nations Convention on the Law of the Sea had a separate article, article 193, on permanent sovereignty, which he would study further.

102. On the relationship between the draft articles and general international law, the Special Rapporteur observed that it was in the nature of international law that the general international law has a parallel application to treaties. This could be affirmed in the preamble, as in the United Nations Convention on jurisdictional immunities of States and their property, the Vienna Convention on Consular Relations and the Vienna Convention on Diplomatic Relations, or in a separate article such as article 56 of the draft articles on responsibility of States for internationally wrongful acts.[41]

103. Concerning the precautionary principle, the Special Rapporteur noted that he was aware that it had been incorporated in various legally binding instruments. In his view, however, such provisions were neither declaratory of customary international law nor constitutive of new

[38] *Yearbook ... 2001*, vol. II (Part Two) and corrigendum, pp. 166–167.

[39] *Yearbook ... 2004*, vol. II (Part Two), pp. 64–65, para. 175.

[40] See *Yearbook ... 2000*, vol. II (Part Two), annex, p. 141.

[41] *Yearbook ... 2001*, vol. II (Part Two) and corrigendum, p. 30.

custom. At any rate, the important task for the Commission was to spell out the measures to be implemented for the management of aquifers that would give effect to the principle.

104. With regard to the suggestion to formulate provisions on the obligations of non-aquifer States, the Special Rapporteur stressed the need to be realistic. If a binding instrument were to be the preferred option, it would be very likely that only aquifer States would become party to such an instrument. There would be no real incentive for non-aquifer States to join such an instrument without any *quid pro quo* to justify their assumption of obligations.

105. Concerning the obligation in draft article 7 not to cause harm, the Special Rapporteur clarified that the draft article was not concerned with the question of State responsibility. Rather, it was concerned with activities not prohibited by international law, namely the utilization of transboundary aquifers. Such activities are essential and legitimate for human survival and their adverse effect is often tolerated to a certain degree, hence the need for the threshold. While paragraph 1 addressed aspects concerning the obligation of prevention, paragraph 3 dealt with the eventuality where significant harm is caused in spite of fulfilment of the duty of due diligence.

106. The Special Rapporteur acknowledged that there was no provision in the draft articles relating to institutional mechanisms and management of transboundary aquifers. Unlike the case of international watercourses, where there was a long history of international cooperation, in the case of groundwaters, the Franco-Swiss Genevese Aquifer Authority seemed to be the only fully functioning international organization. While various cooperative organizational arrangements were emerging, paragraph 2 of draft article 8 recommended the establishment of joint mechanisms and joint commissions. The Special Rapporteur also noted that while there was no objection to including a provision on disputes settlement similar to article 33 of the 1997 Convention, he perceived article 33 to be devoid of substance since it did not provide for compulsory jurisdiction. The compulsory reference to impartial fact-finding in paragraph 3 of article 33 had been reflected in paragraph 2 of draft article 17 to assist in resolving differences concerning the effect of planned activities.

107. The Special Rapporteur also responded to some comments made on specific draft articles and offered to provide in the commentary fuller explanations in his analysis of the various provisions of the draft articles.