

Chapter V

SHARED NATURAL RESOURCES

A. Introduction

155. The Commission, at its fifty-fourth session (2002), decided to include the topic “Shared natural resources” in its programme of work and appointed Mr. Chusei Yamada as Special Rapporteur.²⁹³ A Working Group was also established to assist the Special Rapporteur in sketching out the general orientation of the topic in the light of the syllabus prepared in 2000.²⁹⁴ The Special Rapporteur indicated his intention to deal with confined transboundary groundwaters, oil and gas in the context of the topic and proposed a step-by-step approach beginning with groundwaters.²⁹⁵

156. From its fifty-fifth (2003) to fifty-eighth (2006) sessions, the Commission received and considered three reports from the Special Rapporteur.²⁹⁶ During this period, the Commission established three working groups: the first in 2004, chaired by the Special Rapporteur, assisted in furthering the Commission’s consideration of the topic; the second in 2005, chaired by Mr. Enrique Candioti, reviewed and revised the 25 draft articles on the law of transboundary aquifers proposed by the Special Rapporteur in his third report taking into account the debate in the Commission; and the third in 2006, also chaired by Mr. Enrique Candioti, completed the review and revision of the draft articles submitted by the Special Rapporteur in his third report.

157. At its fifty-eighth session (2006), the Commission, following its consideration of the report of the Working Group containing 19 draft articles²⁹⁷ and the report of the Drafting Committee, adopted on first reading the draft articles on the law of transboundary aquifers consisting of 19 draft articles,²⁹⁸ together with commentaries thereto,²⁹⁹ and decided, in accordance with articles 16 to 21 of its Statute, to transmit the draft articles, through the Secretary-General, to Governments for comments and

observations, with the request that such comments and observations be submitted to the Secretary-General by 1 January 2008.³⁰⁰

B. Consideration of the topic at the present session

158. At the present session, the Commission had before it the fourth report of the Special Rapporteur (A/CN.4/580), which was introduced by the Special Rapporteur at the 2921st meeting of the Commission, on 18 May 2007. On the same day, the Special Rapporteur gave an informal briefing intended particularly for new members of the Commission on the draft articles on the law of transboundary aquifers. The Commission considered the fourth report at its 2930th and 2931st meetings, on 4 and 5 June 2007, respectively.

159. At its 2920th meeting, on 16 May 2007, the Commission established a Working Group on shared natural resources, under the chairpersonship of Mr. Enrique Candioti, to assist the Special Rapporteur in considering a future work programme, taking into account the views expressed in the Commission. The Working Group held four meetings on 18 May, 4 and 5 June and 17 July 2007. At its 2947th meeting, on 3 August 2007, the Commission took note of the report of the Working Group (see section C, below). The Secretariat was also requested to circulate to Governments the questionnaire seeking information on State practice regarding oil and gas.

1. INTRODUCTION BY THE SPECIAL RAPporteur OF HIS FOURTH REPORT

160. The Special Rapporteur recalled that the Commission at its session in 2006 completed, on first reading, the draft articles on the law of transboundary aquifers. Since written comments and observations of Governments were expected by 1 January 2008, the second reading of the draft articles would have to be deferred until the sixtieth session of the Commission in 2008. The fourth report therefore only addressed one particular aspect concerning the relationship between the work on transboundary aquifers and any future work on oil and gas. The Special Rapporteur proposed that the Commission should proceed with the second reading of the draft articles on the law of transboundary aquifers in 2008 and treat that subject independently of any future work by the Commission on oil and gas. The looming prospect of a water crisis that would affect hundreds of millions of people, particularly in the developing world, required an urgent formulation of an international legal framework for reasonable and equitable management of water resources, international cooperation, as well as settlement of disputes.

²⁹³ *Yearbook ... 2002*, vol. II (Part Two), p. 100, paras. 518–519. 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. See also General Assembly resolution 55/152 of 12 December 2000.

²⁹⁴ *Yearbook ... 2000*, vol. II (Part Two), Annex, p. 149.

²⁹⁵ *Yearbook ... 2002*, vol. II (Part Two), pp. 101–102, para. 520.

²⁹⁶ First report: *Yearbook ... 2003*, vol. II (Part One), document A/CN.4/533 and Add.1; second report: *Yearbook ... 2004*, vol. II (Part One), document A/CN.4/539 and Add.1; and third report: *Yearbook ... 2005*, vol. II (Part One), document A/CN.4/551 and Add.1.

²⁹⁷ At the 2878th and 2879th meetings, on 18 and 19 May 2006. At the 2879th meeting, the Commission decided to refer the 19 draft articles to the Drafting Committee.

²⁹⁸ At the 2885th meeting, on 9 June 2006.

²⁹⁹ At the 2903rd, 2905th and 2906th meetings on 2, 3 and 4 August 2006, respectively. See the draft articles with the commentary thereto adopted by the Commission on first reading in *Yearbook ... 2006*, vol. II (Part Two), chap. VI, sect. C, pp. 91 *et seq.*

³⁰⁰ See the 2885th and 2903rd meetings.

(a) *Relationship between the work on groundwaters and that on oil and gas*

161. The Special Rapporteur prefaced the discussion by addressing the similarities and dissimilarities between oil and gas on the one hand and aquifers on the other, from scientific and technical perspectives, as well as in the light of the political, economic and environmental aspects, noting that in the main, there existed a close similarity between the physical features of a non-recharging aquifer and the reservoir rock of oil and gas. On the whole, however, the differences pointed to the need for separate treatment. The Special Rapporteur highlighted the fact that freshwater was a life-supporting resource vital for the human being for which there existed no alternative resource. Freshwater was also (a) a vital resource for hygienic living of the human being; (b) indispensable for food production; and (c) an essential ingredient of natural ecosystems and organic life of the planet. These considerations necessitated a management policy of groundwaters that was to be different from that of oil and gas.

(b) *Oil and gas*

162. The Special Rapporteur reached the above conclusions by offering an overview of the opposing theories relating to the origin of oil and gas, their formation, the history of the modern oil industry and the impact of exploitation on the environment, primarily noting that the organic material source theory, in particular the *kerogen* origin theory, now prevailed over the earlier inorganic source theory. According to the *kerogen* theory, living organisms (animal and plant) that accumulated at the bottom of oceans and lakes, together with sediment, fossilized and formed material called "*kerogen*". With the combined effect of bacteria, geothermal heat and underground pressure, *kerogen* turns into petroleum and residual water. This process of formation and accumulation of hydrocarbons occurred over long periods stretching over hundreds of millions of years. Although such processes were continuing, any current recharge of hydrocarbons in existing oil fields was negligible for practical purposes. Accordingly, oil and natural gas should be considered a non-renewable resource.

163. Underground pressure forced the petroleum and water to move upward through rock formations until such petroleum and water were stored in pores of reservoir rock. The reservoir rock was a geological formation, which usually consisted of sand, sandstone or various kinds of limestone. The reservoir rock was usually of marine origin and the water was brine.³⁰¹ Petroleum and water were distributed within the reservoir rock vertically in the order of their densities: natural gas, in the upper zone, oil in the lower zone where both oil and natural gas existed, and water at the very bottom. The gas zone was not sharply separated from the oil zone. However, there was a transition zone between the oil and water zones, or between the gas and water zones, in the absence of oil. A cap rock overlaying the reservoir rock functioned as a seal that prevented further

upward movement of oil and natural gas and it only shot up when a well was drilled through the cap rock. As oil and natural gas often coexisted in the same reservoir rock, although they also existed singly, they should be treated as one resource for the purpose of any work of the Commission.

164. As for the history of the modern oil industry, it was not until 1859 that E. L. Drake successfully drilled the first oil well in Pennsylvania. Over the year, production had increased exponentially in almost every continent and on continental shelves.³⁰² It was now taking place within the jurisdiction of more than 70 States and reached millions of barrels per day.

165. In general, States or their political subdivisions retained the right to lease oil fields under their jurisdiction. In exceptional cases, oil and gas were treated as private property of the owner of the land above the reservoir rock. Petroleum was explored, produced and traded³⁰³ by private oil companies or State enterprises. Activities of State enterprises in this context would be deemed to be of a commercial nature under current international law. As oil and natural gas were fluid, exploitation by one party may affect other parties in another jurisdiction sharing an oil field. However, information on this aspect was not readily available and extensive research would be required in the future.

166. As regards pollution affecting oil and natural gas stored in the reservoir rock itself, it seemed to be minimal. On the other hand, the exploitation of an oil field and transportation of petroleum had a risk of causing significant harm to the environment. Uses of petroleum as an energy source emitting large amounts of greenhouse effect gases were also a major contributing factor to global warming. Similarly, waste disposal of petrochemical products was a source of environmental concern.

(c) *The draft articles on the law on transboundary aquifers adopted on first reading*

167. The Special Rapporteur also informed the Commission that UNESCO, whose experts had assisted the Commission in the development of the draft articles on the law of transboundary aquifers, was organizing regional seminars, in association with regional organizations, to brief and sensitize Governments on the draft articles adopted on first reading with a view also to encouraging them to submit their comments on the text. Such meetings were planned for European States in Paris in May 2007, and for North American, Latin American and Caribbean States in Montreal, Canada, in September 2007. UNESCO was also seeking regional cooperating partners to organize sessions for Asian and African States. Arrangements were also made with the Asian-African Legal Consultative Organization for the Special Rapporteur to brief its session in Cape Town, South Africa, in July 2007 on the draft articles.

³⁰² The survey and extraction of groundwaters is predominantly land-based.

³⁰³ Compared to groundwaters, there are differences in ways in which oil and gas are internationally traded.

³⁰¹ It is worth noting in respect of groundwaters that submarine aquifers also exist.

2. SUMMARY OF THE DEBATE

(a) *Relationship between the work on groundwaters and that on oil and gas*

168. In their comments, members of the Commission focused their particular attention on the relationship between the work on groundwaters and that on oil and gas. Members welcomed the report of the Special Rapporteur, which succinctly and starkly made a good case for the separate treatment of the law on transboundary groundwaters and issues concerning oil and gas and, on the whole, they agreed with the Special Rapporteur's overview of the similarities and dissimilarities and his recommendation that the Commission should proceed with and complete the second reading of the law of transboundary aquifers independently of any future work on oil and natural gas.

169. However, members expressed different views regarding whether and how the Commission should deal with oil and gas. Some members viewed it essential that the Commission take up the matter only once it had completed the second reading of the law of transboundary groundwaters, including deciding whether or not oil and gas should be considered at all. It was noted that the debate in the Sixth Committee on the matter during the sixty-first session (2006) appeared to be inconclusive as to the direction that the Commission should take and, bearing in mind the complexity of the subject, these members advocated a more cautious approach. In this connection, it was suggested that some additional preliminary research work, preferably with the assistance of the Secretariat, be carried out, on State practice, including on treaty practice, before taking a definitive position on whether the progressive development and codification of the law in the area was merited. It was pointed out in this regard that the Secretariat had already done some work in this field while preparing the *Handbook on the Delimitation of Maritime Boundaries*, which could be updated and tailored to assist the Commission in its work.³⁰⁴

170. Some other members recalled that the topic as originally conceived in the 2000 syllabus³⁰⁵ already included the study of oil and gas, and that a step-by-step approach, beginning with groundwaters, was proposed by the Special Rapporteur. Some members stated that the General Assembly resolution had given a mandate to the Commission to deal with oil and gas, which was one part of the topic. As such, there was no further need to consider whether or not the Commission should take up the remaining part of the topic, irrespective of the final outcome of such an exercise. In this context, it was necessary that the Commission establish a clear timetable that would lead to the commencement of work on oil and gas as a matter of priority. While acknowledging that some delegations in

the Sixth Committee had expressed concern regarding the complexity of taking up oil and gas, the point was made that it was precisely because such resources would have a transboundary component, and *a fortiori* parts thereof would fall under the jurisdiction of another State, that guidelines would be useful to provide adequate protection of the resource in question and promote cooperation in inter-State relations. The sharing of the resource did not at all imply any qualification of the sovereignty of the State over the resources within its territory. Similarly, it was pointed out that the shared character of the resource was the essential criterion in the Commission's choice to deal with a particular resource within the context of the topic. Although oil and gas might not be vital to human life as were groundwaters, such resources were of strategic importance to States, and the search for energy resources was one of the pressing issues of contemporary times. An elaboration of a regime for their exploitation would provide legal clarity, and would help to foster peace and stability among States. There was State practice on which to proceed. Indeed, there were more agreements in this field than on groundwaters.

171. Yet some other members observed that while it may not be necessary to complete the consideration of groundwaters first before the Commission begins work on oil and gas, including through the conduct of background research work, it would still be necessary to bear in mind the possible impact that the two subjects may have on each other and such a relationship should not be rejected *a priori*.

172. While indeed the two subjects would be treated independently of each other some members noted that there were already certain aspects in the law relating to transboundary aquifers which may be relevant in respect of oil and gas, and that this was the case with regard to provisions on general principles, in particular concerning sovereignty, equitable and reasonable utilization, and the obligation not to cause significant harm, as well as the general obligation to cooperate, even though in some instances the content of the rule or obligation may not be same.

173. Some other members stressed the differences in the characteristics between groundwaters and oil and gas, noting in particular that States deal with oil and gas as an economic and industrial necessity. Accordingly, a different approach was called for; in particular, the principle of unitization for joint development was essential in developing the regime on oil and gas.

(b) *The draft articles on the law on transboundary aquifers adopted on first reading*

174. Members in general welcomed the completion by the Commission of the draft articles on the law of transboundary aquifers adopted on first reading, acknowledging also that the briefing by the Special Rapporteur during the current session helped to highlight the significance of the topic and its relevance in relations among States. They also looked forward to embarking on a second reading of the text once comments and observations from Governments were received. The work undertaken thus far was based on well-founded principles of international law and

³⁰⁴ *Handbook on the Delimitation of Maritime Boundaries* (United Nations publication, Sales No. E.01.V.2). See also *The Law of the Sea: Maritime Boundary Agreements, 1970–1984* (United Nations publication, Sales No. E.87.V.12); 1942–1969 (Sales No. E.91.V.11); and 1985–1991 (Sales No. E.92.V.2); and *The Law of the Sea: Current Developments in State Practice*, No. I (United Nations publication, Sales No. E.87.V.3); No. II (Sales No. E.89.V.7); No. III (Sales No. E.92.V.13); and No. IV (Sales No. E.95.V.10).

³⁰⁵ *Yearbook ... 2000*, vol. II (Part Two), Annex, p. 149 (see footnote 294 above).

had preserved a crucial balance that revolved around the permanent sovereignty of States over natural resources, their reasonable and equitable utilization, their preservation and protection, and the obligation not to cause significant harm. The work would also help in fostering cooperation among States.

175. Regarding the final form, some members favoured model principles, including in the form of a model convention for use bilaterally or regionally, taking into account specific needs of the States concerned, while some other members expressed preference for a framework convention. It was also pointed out that the two possibilities should not be considered to be exclusive of each other. Yet some members felt that it was premature to decide on the final form.

176. Some members also welcomed the initiative by UNESCO to organize regional meetings to sensitize Governments on the draft articles and expressed the hope that all regions will be able to benefit from such meetings. Despite the accomplishment of the Commission there was still much that needed to be done in terms of disseminating knowledge regarding the importance of groundwaters and their regulation.

3. SPECIAL RAPPORTEUR'S CONCLUDING REMARKS

177. The Special Rapporteur expressed his appreciation to members for their positive reaction to the recommendation that the Commission proceed with the second reading of the law of transboundary aquifers independently of issues concerning oil and gas. Although different views had been expressed on whether or not a decision had been made that oil and gas were part of the topic, the Special Rapporteur felt that there was a general recognition of the need to conduct preliminary studies on oil and gas, including a compilation of State practice.

C. Report of the Working Group

178. The Working Group decided to deal with three issues, namely (a) the substance of the draft articles on the law of transboundary aquifers adopted on first reading; (b) the final form that the draft articles should take; and (c) issues involved in the consideration of oil and gas.

179. The Working Group had before it informal papers circulated by the Special Rapporteur containing excerpts from the summary records of the debate on the topic "Shared natural resources" in the Sixth Committee during the sixty-first session of the General Assembly, and excerpts of the topical summary on the topic "Shared natural resources" (A/CN.4/577 and Add.1-2, sect. A), as well as a preliminary bibliography on oil and gas prepared with the assistance of the Chairperson of the Working Group. The Working Group held four meetings, on 18 May, 4 and 5 June and 17 July 2007.

180. The Working Group was mindful of the fact that the draft articles on the law of transboundary aquifers adopted on first reading had already been submitted to Governments for their comments and observations, including on the final form. Accordingly, the comments made in the Working Group were informal in character

and only intended to facilitate the Special Rapporteur's work in the preparation of his fifth report, as part of a brainstorming exercise, and did not prejudice or prejudice any further analysis and discussion to be made during the second reading of the draft articles, taking into account the comments and observations of Governments. Some members indicated the importance of maintaining the balance achieved in the first reading text, in particular with respect to draft articles 1 (Scope) and 14 (Planned activities). Some other members made comments or sought specific clarifications regarding the draft articles, in particular with respect to draft articles 1 (Scope), 2 (Use of terms), 3 (Sovereignty of aquifer States), 4 (Equitable and reasonable utilization), 5 (Factors relevant to equitable and reasonable utilization), 7 (General obligation to cooperate), 8 (Regular exchange of data and information), 11 (Prevention, reduction and control of pollution), 14 (Planned activities) and 19 (Bilateral and regional agreements and arrangements). Still other members preferred to make their comments at the appropriate time during the consideration of the second reading of the draft articles. The Special Rapporteur responded to the questions posed and took note of the comments made.

181. It was recalled that the Commission makes a recommendation on the final form to the General Assembly at the conclusion of a second reading. Since the final form would have a bearing on the substance of the text, including on issues relating to the relationship between any future binding instrument and existing bilateral agreements or arrangements, as well as concerning dispute settlement, it was noted that an early exchange of views on the matter would assist the Special Rapporteur in the preparation of his fifth report. While members expressed views on the different possibilities, including preference for either a non-binding instrument in the form of a declaration of principles or a binding format by way of a framework convention, the Working Group refrained from taking any definitive position on the final form. Some members also stressed the importance of the normative formulation of the draft articles adopted on first reading.

182. Regarding issues involved in the consideration of transboundary oil and gas resources, a suggestion was made that the Secretariat prepare a survey of State practice on oil and gas. Such a survey would assist the Commission in sketching out the future treatment of that part of the topic. Following a discussion on the various options, the Working Group agreed as a first step to prepare a questionnaire on State practice for circulation to Governments. Such a questionnaire would, *inter alia*, seek to determine whether there were any agreements, arrangements or practice regarding the exploration and exploitation of transboundary oil and gas resources or for any other cooperation for such oil or gas, including, as appropriate, maritime boundary delimitation agreements as well as unitization and joint development agreements or other arrangements; the content of such agreements or arrangements or a description of the practice; as well as any further comments or information, including legislation, judicial decisions, which Governments may consider to be relevant or useful to the Commission in the consideration of issues regarding oil and gas.

183. Some members were of the view that the assistance of the Secretariat would subsequently be necessary for analysis of the State practice. It was also suggested that the Secretariat assist in the identification of expertise

within the United Nations system to provide, at the appropriate time, the scientific and technical background information in the elaboration of the subject, as was done with the draft articles on law of transboundary aquifers.