REGIONAL AFFAIRS

UNECE / Protocol on Water and Health / MOP-1

Work Programme and Compliance Regime

by Elsa Tsioumani*

The first Meeting of the Parties to the Protocol on Water and Health was held from 17–19 January 2007, in Geneva, Switzerland.[1] The meeting discussed reports on the Protocol's implementation, adopted the work programme for the period 2007–2009 and agreed on the Rules of Procedure and the compliance regime.

Background

The Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes entered into force on 4 August 2005. With 21 Parties to date, it is the first legally binding instrument for the prevention and control of water-related diseases through improved and harmonised water supply and management. Its implementation is supported by the UN Economic Commission for Europe (UNECE) and the World Health Organisation Regional Office for Europe.

The 1992 Convention on Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) aims to provide the basis for a reasonable and equitable management of water resources that serves the needs of nature, agriculture, industry and human health, in a continent where transboundary water resources are the norm. Its Protocol on Water and Health is based on the recognition of the links between water and health, particularly when water is not supplied in sufficient quantity or quality. It was opened for signature during the Third Ministerial Conference on Environment and Health, held from 16–18 June 1999, in London, UK.

The Protocol aims to protect human health and well-being within a framework of sustainable development, through improving water management, including the protection of water ecosystems, and through preventing, controlling and reducing water-related diseases. To meet these goals, its Parties are required to establish national and local targets for the quality of drinking water and the quality of discharges, as well as for the performance of water supply and waste-water treatment. They are also required to reduce outbreaks and the incidence of water-related diseases.

The Protocol is considered to contribute significantly to the achievement of water-related Millennium Development Goals (MDGs) through the commitment of its Parties to set targets for the provision of safe drinking water and adequate sanitation, and to monitor progress towards these targets. Water-related MDGs, currently the priority in the Protocol's implementation, include MDG-4 on reducing child mortality and MDG-7 on ensuring environmental sustainability, particularly target 10 on halving the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015 and target 11 on achieving a significant improvement in the lives of at least 100 million slum dwellers by 2020.

Meeting Outcomes

Parties adopted the work programme for the period 2007–2009. The work programme includes activities regarding: support to Parties and non-Parties in the definition of targets and target dates; development of a mechanism to facilitate the preparation of international assistance projects, and coordination between donors and recipient countries; surveillance of water-related disease and response systems; equitable access to water and solidarity measures; water supply and sanitation and adaptation to climate change; integrated management of small water supply and sanitation systems; and capacity building and awareness-raising activities.

A Task Force on Indicators and Reporting was established to assist Parties to implement the Protocol with regard to the publication of targets by 2007 for the first 15 countries that ratified the Protocol and the reporting of progress achieved to the second meeting of the Parties. The meeting also established a Task Force on Surveillance, to develop guidelines to put in place surveillance, early warning and response systems to outbreaks of water-related diseases. The task force will implement country assistance programmes to train country officials and test the effectiveness of the guidelines.

With regard to compliance, Parties adopted a compliance procedure open to communications from the public and elected a Compliance Committee, composed of nine independent experts with legal, health and water management backgrounds.

Parties also adopted a number of decisions to ensure the Protocol's operability, including on the Rules of Procedure, financial arrangements, designation and responsibilities of focal points, and mainstreaming the work of the Protocol in the decision-making of the World Health Organisation. Moreover, Parties established a mechanism for international support for national action under Article 14 of the Protocol, which will promote the coordination of

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international aid in the field of the Protocol and enhance the capacity of recipient countries to access sources of finance by helping them to formulate projects.

Roundtable on the Human Right to Water

The Protocol is considered vital for the implementation of the human right to water. A roundtable on the topic was held on the second day of the meeting, under the title: Roundtable on the Human Right to Water and the Protocol on Water and Health: Making Access to Water a Reality. The Roundtable, moderated by François Münger from the Swiss Agency for Development and Cooperation, aimed at creating a common understanding on the meaning of the human right to water and on the different aspects that need to be considered, as well as at sharing experiences on the right's implementation. It brought together human rights, public health, environment and development experts, who exchanged views, explored the legal, political and practical questions of the debate, and examined progress to date in implementing the human right to water. The Roundtable also explored the links of the human right to water with the Protocol on Water and Health and how the Protocol can help countries put the right into practice.[2]

Maria Francisca Ize-Charrin, from the Office of the UN High Commissioner for Human Rights, presented on the UN human rights system and the right to water. She outlined how the right to water has been defined and addressed within the UN human rights system, and addressed the synergies between the UN treaties and the Protocol.

Ambassador Joaquín de Arístegui, Deputy Permanent Representative of Spain at the UN in Geneva, presented the Spanish experience with regard to access to water as a key element for sustainable development, while Bart Ouvry, Deputy Permanent Representative of Belgium at the UN in Geneva, outlined the Belgian legal framework ensuring access to water, as well the right's implementation by the three Belgian regions. Elodie Carmona, from the French Ministry of Health, presented the French approach to achieving equitable access to water. Hannele Nyroos, from the Ministry of the Environment of Finland, focused on protection of water resources as a prerequisite for access to safe water, while Anna Tsvetkova, from the European ECO-Forum, highlighted the role of NGOs in improving access to safe water in Eastern Europe, Caucasus and Central Asia.

The results of the Roundtable were outlined by its moderator. It was noted that the human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for the essential personal and domestic uses, as well as to access to sanitation and to information on water and sanitation issues. State Parties to the Covenant on Economic, Social and Cultural Rights must refrain from interfering directly or indirectly with an individual's right to water (obligation to respect), prevent third parties from interfering with an individual's right to water (obligation to protect), and adopt the necessary measures directed towards the full realisation of the right to water (obligation to fulfil). The Protocol on Water and Health covers many of the key dimensions of the human right to water and can be a tool to put it into practice, while the compliance procedure adopted may be a particularly interesting instrument from a human rights perspective.

Notes

1 This report is based on the UNECE press releases and other information posted at: http://www.unece.org/env/water/whmop1/highlights.htm.

2 The Roundtable presentations are available at: http://www.unece.org/env/water/whmop1/roundtable.htm.

From left to right: Roger Aertgeerts, UNECE/WHO-EURO Joint secretariat; Anna Tsvetkova, European ECO-Forum; Ulrik Halsteen, Office of the UN High Commissioner for Human Rights; Joaquín de Arístegui, Ambassador, Deputy Permanent Representative of Spain at the United Nations, Geneva; Maria Francisca Ize-Charrin, Office of the UN High Commissioner for Human Rights; François Münger (moderator), Senior Water Advisor, Swiss Agency for Development and Cooperation; Francesca Bernardini, UNECE/WHO-EURO Joint secretariat; Hannele Nyroos, Counsellor, Ministry of the Environment, Finland; Bart Ouvry, Deputy Permanent Representative of Belgium at the United Nations, Geneva

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Antarctica

The Liability Annex
– One Step Toward a Comprehensive Regime –

by Sange Addison-Agyei*

Introduction

In summer 2005, Annex VI to the Protocol on Environmental Protection to the Antarctic Treaty, entitled Liability Arising from Environmental Emergencies[1] ('Annex') was finally adopted at the 28th Antarctic Treaty Consultative Meeting (ATCM) in Stockholm. Thirteen years of negotiations[2] were necessary to accomplish this. Some more will be needed before the Annex finally enters into force. All 28 Consultative Parties need to ratify the Annex;[3] and thus far, only Sweden has ratified it.[4]

Although it is not the comprehensive annex many have hoped for,[5] it can be seen as a success that the difficult and time-consuming negotiation process has come to a happy ending at all. And the Annex is, by covering environmental emergencies in the Antarctic Treaty area, a very important first step towards a comprehensive liability regime in Antarctica.[6]

The goal of implementing an Antarctic liability regime is based on the simple desire for enforcement. When a party becomes active in Antarctica, it *ipso facto* takes on certain obligations, and the "threat" of liability, under certain circumstances, not only induces compliance, but also provides a strong incentive for the parties even to prevent any occurrence of damage or at least to reduce the impact of possibly emerging damages. Furthermore damages already caused are to be cleared.

Antarctica, whose ecosystem is seen as the "hub"[7] of our planetary system as regards the climate situation on earth, is and was really in need of a liability regime. This is firstly because the Antarctic ecosystem amongst all other ecosystems is believed to play the most important role in the development of the world climate. Through the interaction of the atmosphere, the ice, the seas, and the biota of Antarctica our global climate is affected in such a way that alterations in the Antarctic environment are believed to bring about changes in the global climate and environments in other parts of our world.[8] And the second reason for this need is the constant increase in human activities in the region that boost the danger of damage to the continent.[9] Every year the number of tourists increases,[10] so that they are starting to outweigh the number of personnel that are associated with national programmes.[11] In 2005 more than 28,000 tourists visited Antarctica,[12] and the impact of tourism on the Antarctic environment cannot yet be properly foreseen.[13]

At any rate, the excitement over the adoption of the Annex should not hinder a thorough examination of its stipulations since only an awareness of its inconsistencies and weak points can lead to productive further development of the environmental protection of this very special area.

Therefore, in this article I will first show quickly why there is a need for a liability regime in Antarctica. Afterwards I will give an overview of the history of the Annex and the negotiation process. Then I will assess the Annex trying to show some of the most important regulations and their impacts. Before concluding, I will undertake a brief assessment against the background of the principles and targets of the Antarctic Treaty System.

Why the Annex Needs to Be Ratified

Neither the Antarctic Treaty System (consisting of the Antarctic Treaty of 1959[14] and several related documents) nor customary international law provide for a liability regime that corresponds to the duties laid down in the Antarctic Treaty System and applies to the special situation of Antarctica.[15]

The Antarctic Treaty System lays down as one of its three principles the principle of preservation of the Antarctic environment.[16] Moreover it contains regulations concerning the duties of the states to preserve the Antarctic environment.[17]

The Protocol on Environmental Protection to the Antarctic Treaty[18] of 1991 ('Environmental Protocol') asks the parties to elaborate rules and procedures concerning liability for damage arising from activities that have been carried out in Antarctica.[19] But up to now there is no liability regime included in the Antarctic Treaty System that corresponds to these duties.[20] Thus until the establishment of a liability regime one has to refer to general international law. But it is a common view that general international law does not yet foresee the possibility of claims for environmental damages *per se*. General international law, at least as it stands now, only foresees compensation for loss of life or property or personal injury that directly corresponds to damage caused to the Antarctic environment.[21] That means that in the case of an environmental emergency that has been caused by an operator, this operator is only liable if and insofar as a person or the property of a person is damaged by the environmental emergency. In the case that no person and no property are injured, but e.g., oil leaks from an oil transporter leading to an oil spill and to environmental damage in Antarctica, the operator is neither obliged to take any response action, nor is he liable for the environmental damage. Thus, without a Liability Annex, in the event of environmental dam-

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age, the Antarctic environment would have at present a problematic legal status.

Historical Background – Negotiation Process

The question of liability in Antarctica is an old topic. The Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA)[22] of 1988 already comprised stipulations about liability.[23] But this convention never entered into force and will never enter into force since France and Australia indicated after signature – due to action carried out by NGOs – that they would not ratify it.[24] After the failure of CRAMRA the Environmental Protocol was negotiated and adopted in 1991; it entered into force in 1998. By adopting the Protocol the parties dedicated themselves to the comprehensive protection of the Antarctic environment and its dependent and associated ecosystems. With the Environmental Protocol its five Annexes entered into force, which are integral components of this Protocol. The Annexes covering different areas, such as Environmental Impact Assessment (Annex I), Conservation of Antarctic Fauna and Flora (Annex II), Waste Disposal and Waste Management (Annex III), Prevention of Marine Pollution (Annex IV), and Area Protection and Management (Annex V), supplement the Antarctic Treaty to make it a comprehensive environmental protection regime.[25] But neither the Environmental Protocol itself nor the Annexes comprise provisions that regulate liability in Antarctica. The Environmental Protocol only stipulates that "the Parties undertake to elaborate rules and procedures relating to liability for damage arising from activities taking place in the Antarctic Treaty Area and covered by this protocol." Furthermore it states that "[t]hose rules and procedures shall be included in one or more Annexes […]."[26] Thereby the Environmental Protocol does not achieve the state of regulation CRAMRA included. The reason for this can be seen in the difficulties that occur in reference to the regulation of science in Antarctica (as opposed to mineral resource activities). Due to the importance that the drafters placed on scientific research, the Antarctic Treaty itself comprises a clear commitment to the freedom of scientific investigation.[27]

To conclude its task to elaborate an Annex regulating liability in Antarctica the 17th ATCM in Venice in 1992 put into place a working group of legal experts.[28] This working group, which was chaired by the German scholar Professor Rüdiger Wolfrum,[29] worked out a model for a liability Annex called the Chairman's Eighth Offering ('Eighth Offering').[30] This model constitutes a comprehensive liability regime covering any "damage arising from activities in the Antarctic Treaty area, which have been undertaken after the date of entry into force of this Annex and which are covered by the Protocol on Environmental Protection to the Antarctic Treaty".

After the report of this group at the 22nd ATCM in Tromsø[31] the group was finally dissolved, since it "has fulfilled its task and its work is now completed."[32] Furthermore the ATCM decided, that "the further negotiation of an annex or annexes on liability [should] be undertaken in Working Group I of the ATCM."[33] This Working Group was chaired, until the adoption of the Annex, by Ambassador Don MacKay of New Zealand.[34]

The basis for the newly adopted Liability Annex was the draft that was brought in by the chairman in 2001 in St Petersburg and that was modified in the following years.[35]

The negotiations were not easy. One of the main drawbacks in the negotiation process was the fact that the states were divided into mainly two different groups. Some states, such as Germany, France, Sweden, Finland, Norway, the Netherlands, Belgium, Italy, Spain, New Zealand and Australia, advocated for a comprehensive liability regime whereas others, especially the United States of America, preferred a step-by-step approach.[36] Since the Environmental Protocol is open for both approaches,[37] the decision whether to opt for a comprehensive regime or for several consecutive annexes was a purely political question.[38] At the end of the day the adoption of a comprehensive annex failed due to the vetoes of the USA, Japan and Russia.[39]

Two other highly debated questions were the scope of the Annex[40] and how to define damage.[41] As regards the scope of the Annex there was no common view as to whether fishing vessels should be included or not.[42] In the end they were not included. Due to the position of some states to hinder the adoption of a comprehensive regime, the Annex ties liability to the costs of the response action which should have been taken at the occurrence of the environmental emergency and not to the caused environmental damage.[43]

Whether there will be other annexes leading to a comprehensive liability regime, is still open. The Annex does not contain a provision creating the goal of establishing a comprehensive liability regime in future. Aware that the Annex does not fulfil the conditions set forth in the Environmental Protocol to create a comprehensive liability regime,[44] the ATCM adopted a decision[45] which foresees first the annual review of the entry into force of the Liability Annex and second a review after five years to determine whether additional liability annexes are needed.

Review of the Most Important Stipulations of the Annex

The Annex as a whole comprises 13 Articles. In the following part I will concentrate on only some of the regulations, making up the core of the Annex. This is the obligation to take response action and the liability that applies in case of failure. Furthermore I will touch on some of the stipulations that relate to these duties. In short I will treat the following topics: scope of the Annex, preventive measures and contingency plans, response action, liability, exemptions from liability, limits on liability, insurance and other financial security, and the fund.

Scope

The Annex covers environmental emergencies in the Antarctic Treaty area in reference to activities for which advanced notice is required.[46] Thus, the Annex's scope is more limited than the stipulation contained in the Eighth

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Offering as well as that in CRAMRA. According to the Eighth Offering, liability applied to all damages arising from activities in the Antarctic Treaty area.[47] CRAMRA, as well, comprehended all damages "to the Antarctic Environment or dependent or associated ecosystems arising from [an operator's] Antarctic mineral resource activities […]".[48]

1. Environmental Emergencies

Firstly the Liability Annex comprises only environmental emergencies. The Annex defines such environmental emergencies as "any accidental event that has occurred, having taken place after the entry into force of this Annex, and that results in, or immediately threatens to result in, any significant and harmful impact on the Antarctic environment". Thus it is necessary that a significant and harmful impact on the environment has taken place. This threshold is quite common to liability treaties since they are not intended to cover minor events.[49]

Furthermore only accidental events are to be covered. If this has to be taken literally, intentional actions that lead to an environmental emergency would not be comprised.

Although the wording at this point seems to be explicit, there might be room for a broader interpretation since another provision stands in contrast to the definition of the scope of the Annex. In the stipulation that lays down the limits of liability it is stated that due to actions or omissions that lead intentionally to an emergency or "recklessly and with knowledge that such emergency would probably result"[50] limits of liability shall not apply. Thus these behaviours must be seen to be included in the scope of the Annex; otherwise the regulation would not make sense.[51] Whether this interpretation will prevail is yet to be seen. Since the scope of the Annex was one of the major points of contention, and debate on this point finally led to a narrow definition of the scope, it can be expected that many will object to such a broader interpretation.

2. Activities for which Advance Notice is Required

The Annex comprises only activities for which advance notice under the Antarctic Treaty is required. Advance notice is required for many of the actions undertaken in Antarctica, especially expeditions to and within Antarctica on the part of ships or nationals of state parties, expeditions organised from its territory and any military personnel or equipment that is to be introduced there.[52] Thus the scope is relatively wide. To make sure that there would not be any different interpretation of this provision tourist vessels were explicitly included in the scope of the Annex.[53] The inclusion of tourist vessels is very important, since tourism is steadily increasing and boosting the danger of environmental damage. Due to reasons of clarity the specific mention is to be welcomed.

But one thing that cannot be welcomed is the exclusion of fishing vessels from the scope of the Annex. The proponents of this exclusion argued that the question of liability for environmental emergencies in connection with activities of fishing vessels should be addressed in another context. Since fishing activities were covered by another regime, namely the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), and since the relation between the Environmental Protocol and CCAMLR was regulated by the Protocol and the Madrid Final Act, this framework would be the proper one to regulate comprehensively the actions of fishing vessels.[54]

The problem with this argument is that CCAMLR does not include liability regulations, and there is no liability regime that applies to fishing activities. Thus fishing vessels are covered by their own regime, but not by their own liability regime. Due to the high number of fishing vessels in Antarctica,[55] and the fact that they are one of the potential major sources of pollution in the Antarctic environment by an accidental event,[56] it would have been preferable to include them in the Annex. Furthermore the fishing activity is done by and from ships that do not differ from tourist vessels in terms of ship safety, navigation, marine pollution etc.[57] Thus also from a logical point of view the exclusion is at least questionable.

Preventive Measures and Contingency Plans

The Annex stipulates that states have to require their operators to undertake reasonable preventive measures[58] and cooperate in formulating and establishing contingency plans.[59] This is very positive. Hopefully this can help to avoid a lot of otherwise possible environmental emergencies.

Response Action

The Annex obligates every party to require its operators to take prompt and effective response action in the case of an environmental emergency.[60] Response action is defined as "reasonable measures taken after an environmental emergency has occurred to avoid, minimize or contain the impact of that environmental emergency, which to that end may include clean-up in appropriate circumstances, and includes determining the extent of that emergency and its impact."[61] Thus response action is potentially quite broad, as it may cover clean-up actions and actions to determine the extent and impact of the emergency. Although this explicit inclusion is to be welcomed, one has to admit that the formulation "may include" is quite soft and noncommittal. Hence the actual range of coverage in practice may prove narrower than the potential range suggested by the named examples. Furthermore, unfortunately, restoration measures are not included. Their inclusion has been foreseen by the Eighth Offering, under which response action comprised "any appropriate and reasonable measure to clean up or otherwise remedy" any damage or harm.[62] Moreover other liability regimes contain regulations that encompass measures intended to restore the environment to its state *ex ante*. Under e.g. CRAMRA the response action that should be taken by an operator includes containment, clean up and removal measures.[63] The Basel Protocol on Liability and Compensation covers "the costs of measures of reinstatement" in its definition of damage[64] and defines them as "any reasonable measures aiming to assess, reinstate or restore damaged or destroyed components of the environment".[65] Thus liability includes compensation for reinstatement that has been carried out by competent persons. But in the negotiation

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process of the Liability Annex the inclusion of restoration measures could not find overall approval. The inclusion of clean-up measures already formed a compromise between states advocating even for an exclusion of clean-up measures and those pleading for an inclusion of restorative or restitutionary measures within the definition of response action.[66]

Because the Annex does not foresee any other mechanism that could guarantee that restoration measures are taken, the exclusion of restoration measures marks a gap in the environmental protection of Antarctica.

But despite the shortcomings, the duty to take prompt and effective response action, reinforced by potential liability if the operator fails to do so (see below), gives the responsible operator an incentive to take response action. Therefore this regulation in combination with the liability provision will probably serve the protection of the environment in Antarctica to a great extent.

In contrast, this relatively positive assessment does not apply to a second part of this provision[67] that relates to the situation in which the responsible operator fails to take prompt and effective response action. In this situation the state party of that operator or other state parties are "encouraged" to take response action. They "shall not take response action" unless certain conditions are met, such as that otherwise "a threat of significant and harmful impact to the Antarctic Environment is imminent and it would be reasonable in all circumstances to take immediate response action, or the Party of the operator has failed within a reasonable time to notify the Secretariat of the Antarctic Treaty that it will take the response action itself, or where that response action has not been taken within a reasonable time after such notification."[68]

Only in the case that "a threat of significant and harmful impact to the Antarctic environment is imminent and it would be reasonable in all circumstances to take immediate response action" the other parties may take response action without former notification of the party of the operator and the Antarctic Treaty Secretariat.

Thus the other parties are only encouraged but not obliged to take response action in case of the failure of the responsible operator to take it. Moreover, there is no regulation as regards the case that the operator does not take any response action at all and no other party wants to take it. It would have been desirable to have a stipulation or procedure that guarantees that at least some response action is taken to hinder a negative impact on the Antarctic environment. One solution would have been to oblige the party who detects the environmental emergency first to start with response action at once, that is, without first notifying the party of the responsible operator and the Antarctic Treaty Secretariat.

Courtesy: CAN Europe

Apart from the fact that nothing guarantees that any response action will be taken at all, the procedure that applies when another state takes response action is time-consuming, and the risk is quite high that this state party may itself ultimately have to carry the costs of its response action on behalf of the other state.

As concerns the procedure, the other party has to notify the party of the responsible operator and the Antarctic Treaty Secretariat in advance. Then the other party has to wait a "reasonable time", and if the party of the operator has not acted within this timeframe, the other party may take response action. The reason for that procedure is that the party of the responsible operator is supposed to have the chance to take the response action itself. But this procedure costs valuable time that may lead to a situation in which it may be too late for an effective response action to protect the Antarctic environment.[69]

Immediate action is only permissible if certain circumstances are met. The reason here again is that the party of the responsible operator is to have the right of first redress. If another party takes prompt, immediate response action it runs a great risk of not being reimbursed in the end. The other party taking response action (instead of the responsible operator or the party of that operator) bears the burden of proof as regards the existence of the preconditions for taking the response action. That means that it has to prove that there was a threat of significant and harmful impact to the Antarctic environment and that it was reasonable in all the circumstances to take immediate response action. First of all there must be a threat of significant and harmful impact to the Antarctic environment. Secondly, the taking of the immediate response action need not only be reasonable, but reasonable in all the circumstances. Thirdly the definition of reasonable as laid down

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in the Annex may be deterrent. Reasonable as applied to response action is defined as "measures or actions which are appropriate, practicable, proportionate and based on the availability of objective criteria and information". In a situation in which quick decisions have to be taken (in the case of the detection of an environmental emergency in which heavy damage is possible) it is at least very difficult to weigh all the factors in the way the Annex requires, and again the state has to prove that it has observed this very strict standard. This proof is crucial for it, since only if it has observed the preconditions for taking response action, can it claim reimbursement from the responsible operator. There are many imponderabilities and difficulties so that a state may never know if it will be reimbursed in the end or not. This stipulation sets a high threshold that is more likely to prevent other parties from taking response action than give them an incentive to do so. Possibly a lighter standard would have served environmental protection better.

Liability[70]

1. General Aspects

The regulation of liability gives the responsible operator a great incentive to prevent any emergencies or, if an emergency occurs, to take prompt and effective response action.

The reason for that is not only that it has to reimburse another party if it takes the prompt and effective response action on its behalf – as I have shown above, the probability of that is not too high[71] – but that the responsible operator has to pay "the costs of the response action that should have been undertaken" into a fund that is established by the Annex as well. Thus there is no way for the operator to circumvent its liability. A very positive fact is that this obligation applies both to non-state and to state operators. By this, states are through their state operators liable for environmental emergencies and may be encouraged to take proper preventive measures to hinder any occurrence of emergencies.

2. Differentiation between State and Non-state Operators

The Annex distinguishes between state operators and non-state operators. State operators have to pay the whole sum of the cost of a response action that should have been taken whereas non-state operators only have to pay "an amount of money that reflects as much as possible the costs of the response action that should have been taken".[72]

Where state operators are concerned, the money must be paid directly into the fund. In the other case, it could be paid directly, but can also be paid to the state which then "shall make best efforts to make a contribution to the fund established by the Annex, which at least equals the money received from the operator". The reason for this stipulation was that the states wanted to formulate a quite flexible provision since the implementation of this duty in the national orders would vary significantly.[73]

The intention of the regulation that the state shall make best efforts to make a contribution to the fund, which at least equals the money received from the operator, seems to be clear. The state should, even if the non-state operator does not pay such an amount of money to it, try to pay into the fund a sum that equals the costs of the response action that should have been undertaken. Thus the state should possibly add to the amount received by the non-state operator a certain further amount.

But this sense is not really made clear by the formulation chosen by the Annex. The wording of the provision can be interpreted also in the way that in special circumstances the state has not even to give the sum it has received from the non-state operator to the fund since it shall make only "best efforts" to give the amount received to the fund. But this is not at all in the interest of the environmental protection of Antarctica and the Annex. Thus this provision may open a possibility for states to evade their responsibility to pay this money to the fund. Another explicit formulation that does not leave any possibility for misunderstandings or loopholes would have been favourable.

3. Strict Liability

The Annex sets a strict liability standard.[74] That means that liability is triggered if there is a causal link between the conduct of the operator and the respective damage. In contrast to absolute liability this standard is open to certain exceptions,[75] as laid down in the Annex.[76] The choice of strict liability instead of liability based on due diligence should be seen as very positive. In case of liability based on due diligence, one would have to prove that the operator has violated some due diligence obligation.[77] Thus where an operator did not violate such an obligation, e.g. the operator of an oil-tanker accidentally hits an iceberg and oil leaks, liability would not arise, and thus the great incentive given to operators to take response action to avoid liability would diminish. But this danger has been avoided. To take strict instead of absolute liability also seems to be appropriate. Because strict liability is open to some exceptions, it takes into consideration some special situations in which the risk of emergency is not attributable to the operator. It seems thus more just.

4. State Liability[78]

As concerns state liability, the Annex on the one hand limits it but on the other hand extends the state liability compared to the legal situation beforehand. Due to the Annex a party shall only be liable insofar as it did not take "appropriate measures within its competence, including the adoption of laws and regulations, administrative actions and enforcement measures, to ensure compliance with this Annex." Thus liability is limited. But the existence of this regulation, involving liability for actions of non-state operators, can be seen at the same time as an expansion of state liability and something new in the area of state liability.[79] Thus this regulation can be evaluated quite positively.

Exemptions from Liability

The Annex foresees certain exceptions from liability. The operator shall not be liable if the environmental emergency was caused by "an act or omission necessary to protect human life or safety", "an event constituting in the

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circumstances of Antarctica a natural disaster of an exceptional character, which could not have been reasonably foreseen […]", "an act of terrorism", "an act of belligerency against the activities of the operator" or a response action taken by another party instead of the responsible operator, if and insofar as the response action was reasonable in all the circumstances.[80] Not encompassed by the Annex is an exemption for scientific research activities.

The first four exceptions laid down in the Annex reflect more or less the typical exceptions laid down in liability regimes.[81] This is also true of the exception for "an act of terrorism". But opponents of the exception for "an act of terrorism" objected that the Annex does not contain any definition of terrorism and that the expression therefore is rather broad. They would have favoured at least a limitation to "an act of terrorism directed against the activities of the operator, against which no reasonable precautionary measures could have been effective", as was encompassed by CRAMRA.[82] But they did not prevail.[83]

The Annex contains one further very important exception from liability. Liability does not arise for "an environmental emergency resulting from response action" that has been taken by another party instead of the responsible operator "to the extent that such response action was reasonable in all the circumstances". Although the party that actually takes the response action has the burden of proof to show that the response action was reasonable in all the circumstances, the limitation of liability favours the intervening party and does at least not further discourage other parties from taking response action. Additionally, the requirement "reasonable in all the circumstances" might hinder ineffectual or unserious response action that might lead –in the worst-case scenario – to even more serious harm to the Antarctic environment than the first emergency would have led to without any response action.[84]

But that this stipulation can really be seen as an incentive to take response action[85] is dubious.

As indicated before, the Annex does not foresee any exceptions for scientific research activities. Although especially the Scientific Committee on Antarctic Research (SCAR) claimed an exception for this kind of activity,[86] there was an agreement not to include such an exception.[87] Inclusion of such an exemption would have led to an exclusion of entire national scientific programmes from liability and could have made the Annex almost ineffective.[88]

Limits of Liability

The Annex does contain limits of liability.[89] Here the Annex distinguishes between events in which a ship was and was not involved. Where a ship is involved the limitation refers to the tonnage of the ship. The limitation for a ship with a tonnage that does not exceed 2,000 tons is one million Special Drawing Rights (SDRs), as defined by the International Monetary Fund. The SDR currency is revalued daily, and one SDR is about US$1.50.

The limits of liability are very important against the background of another provision in the Annex, the provision that each party shall require its operators to maintain adequate insurance or other financial guarantee.[90] If the Annex did not foresee limits of liability, insurance would not be possible.[91] And the existence of insurance actually guarantees that the liability provision will have effect, since no liability standard could help protect the environment if the responsible operator were insolvent and no insurance company stepped in.

The provision furthermore states that there shall not be any limitation of liability in the case that the environmental emergency "resulted from an act or omission of the operator, committed with the intent to cause such emergency or recklessly and with knowledge that such emergency would probably result."[92] This stipulation is crucial since it may widen the scope of the Annex which only covers accidents and does not include intentionally or recklessly caused actions.[93]

To prevent the limits from sinking too low and thus rendering the Liability Annex ineffective, the limits are to be revised at least every three years.[94]

Insurance and Other Financial Security

As stated above the parties "shall require [their] operators to maintain adequate insurance or other financial security".[95]

This regulation is very positive since only the duty to maintain financial security for the case of liability can guarantee the practical effectiveness of the liability provision.

But the critical point here is that the obligation for states to require operators to maintain financial security only applies in the very important cases in which another party has actually taken response action. In the other cases, in which the responsible operator has to pay the sum into the fund for a response action that should have been taken, there is no requirement of insurance.[96] This is unfortunate but inheres in the difficulties or perhaps even impossibility to insure against liability that resembles or even constitutes criminal liability.[97]

Fund

The Annex establishes a fund that shall be maintained and administered by the Antarctic Treaty Secretariat and in accordance with decisions by the parties.[98] The fund foresees "*inter alia*, for the reimbursement of the reasonable and justified costs incurred by a Party or Parties in taking response action". But the procedure is again quite complicated. Firstly a party has to make a proposal to the Antarctic Treaty Consultative Meeting. This proposal then has to be approved by a decision of this Meeting. Hence the reimbursement of another party having taken response action lies in the discretion of the Meeting. Unfortunately this fact can be another disincentive for another party that considers taking response action in place of the responsible operator to finally do it.

Short Assessment against the Background of the Principles of the Antarctic Treaty Systems and the Goals of the Annex

To assess the Annex, one has to examine whether the Annex serves the principles it supposedly stands for. These

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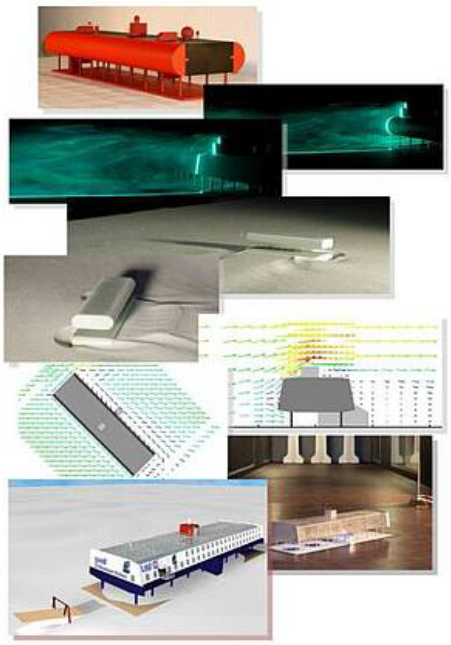
are the principles laid down in the Antarctic Treaty, the Environmental Protocol and the Liability Annex itself. The Antarctic Treaty stands for the principles of peaceful use of this area, the continuance of scientific research and the protection and preservation of the Antarctic environment.[99] The Environmental Protocol formulates in its preamble, among other things, that the task is to establish a comprehensive regime for the protection of Antarctica.[100] The Liability Annex itself names in its preamble especially two aims: first the preventing, minimising and containing of the impact of environmental emergencies and second the priority of scientific research.

The Annex does not touch on the question of peaceful or unpeaceful use of Antarctica, so that the Annex cannot promote the principle of peaceful use.

To answer the question of whether the priority of scientific research has been observed one has to consider the regulations and their impact on scientific research or people conducting scientific research. The Annex does not comprise any regulation that deals directly with scientific research. All regulations apply for all operators irrespective of which activity they conduct. Thus there is at least no discrimination of scientific research activities. The question remains, whether there should have been necessarily some regulations in favour of scientific research. Some argue that an exception of liability for scientific research would have been appropriate.[101] Since the goal of "priority of scientific research" stands beside the one of environmental protection, a well-balanced relationship between both has to be found.[102] By this, none of the goals, neither the execution of scientific research nor the preservation of the Antarctic environment, may be neglected. But an exception of liability for all scientific research activities would finally lead to a disregard of environmental protection in an area that is intended to and practically does guarantee environmental protection, the area of liability. Since most of the activities conducted in Antarctica are still those of scientific research, a limitation would have endangered the effectiveness of the Liability Annex.



New German Antarctic station

Courtesy: ZMK Uni Hamburg

As has already been shown the Liability Annex does not accomplish the goal of establishing a comprehensive liability regime and thereby closing the existing liability gap in the Environmental Protocol. First it covers only environmental emergencies. Second, by protecting the environment in an indirect way (by giving operators incentives to avoid liability and by this protect the environment), the Annex does not foresee an effective strategy in case an operator does not take response action. In this case there is no mechanism that can guarantee the protection of the environment and since, in my view, the Annex does not manage to lay down an incentive for other parties to take response action, the strategy to protect the environment in an indirect way is not made complete and overall effective.

Conclusion

The Liability Annex is a first very important step towards a comprehensive liability regime as envisioned in the Environmental Protocol. After thirteen years of negotiations it can be seen as a great success that the adoption of a Liability Annex could be reached at all.

In my view the Annex has two main shortcomings. The first one is the scope of the Annex, covering only environmental emergencies and excluding fishing vessels. By that the Annex only provides for a limited instead of a comprehensive liability regime. A second flaw is that it does not provide for a mechanism that guarantees the taking of measures to protect the environment in case of an environmental emergency and in case the responsible operator does not take response action. There are no incentives for other parties to take response action instead of the failing operator. Thus the very promising idea of indirect environmental protection could not, due to resistance of some states, be fully realised.

But there is well-founded hope that further negotiations will lead to the adoption of further liability annexes, completing the now imperfect chart. There is only a soft commitment towards further negotiations. The now highly debated questions of climate change and the fact that this topic has increasingly been entering into people's awareness in the whole world could give the preservation of the Antarctic environment some impetus and lead to further negotiations in the near future.

For now, the implementation of the Annex has to be managed. Since currently only Sweden has managed to ratify the Annex, one can only hope that the other Consultative Parties will manage to ratify the Annex soon, so that the Antarctic environment can benefit from its first liability provisions.

Notes

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5 *Cf. K. Zou* Environmental Liability and the Antarctic Treaty System, Singapore Journal of International and Comparative Law (1998), 596, 614; *S. Vöneky* The Liability Annex to the Protocol on Environmental Protection to the Antarctic Treaty, V., in: *Nele Matz-Lück* (ed.), International Law Today: New Challenges and the Need for Reform?, Forthcoming 2007; ASOC Analysis of First Antarctic Liability Regime, 3 August 2005, <http://www.asoc.org/pdfs/liability%20 regime%20 summary0803.pdf> (27 March 2007).
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12 For further information *see* homepage of the International Association of Antarctica Tour Operators <http://www.iaato.org/tourism_stats.html>.
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14 Antarctic Treaty, UNTS Vol. 402 No. 5778, 71–85.
15 *R. Wolfrum* The Convention on the Regulation of Antarctic Mineral Resources Activities, 1992, 92–93; *G. Dahm/R. Wolfrum/J. Delbrück/* Völkerrecht I 2, 2nd Edition 2002, 502; *F. Francioni*, 223, *see* note 2.
16 *R. Wolfrum/U.D. Klemm*, Antarctica, in: *R. Bernhardt* (ed.), Encyclopedia of Public International Law (EPIL), Vol. VII, 1990, 12.
17 *See* the Environmental Protocol in which is stated, that the state parties have to observe that an environmental damage assessment takes place before actions in Antarctica are carried out (Article 8 (2)). Furthermore the Protocol requires the parties to ensure that the activities carried out are not against the regulations in the protocol (Article 13).
18 Protocol on Environmental Protection to the Antarctic Treaty, *cf.* Attachment to Recommendation SX I-4-0 (Madrid, 1991), <http://www.ats.aq/Atcm/RecAtt/Att006_e.pdf>.
19 Article 16 Environmental Protocol.
20 *R. Wolfrum*, *see* note 15, 92–93; G. *Dahm/ R. Wolfrum/J. Delbrück, see* note 15, 502; *F. Francioni* 223, *see* note 2.
21 *R. Wolfrum* The Convention on the Regulation of Antarctic Mineral Resources Activities, 1992, 92–93; *G. Dahm/ R. Wolfrum/J. Delbrück, see* note 15, 502, especially footnote 35 (in German); *R.Wolfrum/C. Langenfeld/ P. Minnerop (eds.)* Environmental Liability in International Law, 2005, 503.
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23 *Cf.* Article 8 CRAMRA, which particularly required the operator, in the case that its activity results or threatens to result in environmental damage in Antarctica or dependent or associated ecosystems, to take "necessary and timely response action, including prevention, containment, clean up and removal measures".
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34 *D. Shelton* Discussion on Liability Annex, 29 Environmental Policy and Law 1999, 133; *cf.* Final Report of the 28th ATCM, *see* note 1, para. 1.
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37 *See* Article 16 Madrid Protocol.
38 *D. Vidas*, *see* note 2, 51, 57.
39 *D.J. Bederman/S. Keskar*, 1383, 1388, *see* note 6.
40 *Cf.* Final Report of the 28th ATCM, *see* note 1, para. 100.
41 *D.J. Bederman/S. Keskar*, 1383, 1388, *see* note 6.
42 *Cf.* Final Report of the 28th ATCM, *see* note 1, para. 101.
43 *See* Article 6 Liability Annex.
44 Article 16 Environmental Protocol.
45 Decision 1(2005), *cf.* Final Report of the 28th ATCM, *see* note 1, 333.
46 Article 1 Liability Annex.
47 Article 2 (1) Eights Offering.
48 Article 8 (2) CRAMRA.
49 *S. Vöneky*, *see* note 5, IV.1.
50 Article 9 (3) Liability Annex.
51 More cautious: S. Vöneky, *see* note 5, IV.3.
52 Article VII (5) Antarctic Treaty.
53 Final Report of the 28th ATCM, *see* note 1, para. 102.
54 Final Report of the 28th ATCM, *see* note 1, para. 101.
55 Final Report of the 28th ATCM, *see* note 1, para. 101.
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57 *F. Francioni*, 223, 225, *see* note 2.
58 Article 3 Liability Annex.
59 Article 4 Liability Annex.
60 Article 5 Liability Annex.
61 Article 2 (f) Liability Annex.
62 Article 4 (c) Eighth Offering; there was no agreement as to the use of the expression damage or harm.
63 Article 8 (1) CRAMRA.
64 Article 2 (c) (iv) Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal of 10 December 1999 (Basel Protocol on Liability and Compensation), not yet entered into force.
65 Article 2 (d) Basel Protocol on Liability and Compensation.
66 *Cf.* Final Report of the 28th ATCM, *see* note 1, para. 106.
67 Article 5 (3) Liability Annex.
68 Article 5 (3) (b) Liability Annex.
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70 Article 6 Liability Annex.
71 *See* part IV.3. *supra*.
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74 Article 6 (3) Liability Annex.
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76 Article 8 Liability Annex; *cf.* Part IV.f. *infra*.
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78 Article 10 Liability Annex.
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80 Article 8 Liability Annex.
81 *S. Vöneky*, *see* note 5, IV.4.
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87 Final Report of the 28th ATCM, *see* note 1, para. 113.
88 *K. Zou*, *see* note 3, 596, 620.
89 Article 9 Liability Annex.
90 Article 11 Liability Annex, *see* also Part IV 7. *infra*.
91 *S. Vöneky*, *see* note 5, IV.4.
92 Article 9 (3) Liability Annex.
93 *See* Part IV. 1. a. *supra*.
94 Article 9 (4) Liability Annex.
95 Article 11 Liability Annex.
96 Article 11 (2) Liability Annex.
97 *See* Final Report of the 28th ATCM, *see* note 1, para. 120.
98 Article 12 Liability Annex.
99 *R. Wolfrum/U.D. Klemm*, *see* note 15,12.
100 Preamble Part 8 Environmental Protocol.
101 *Cf. F. Francioni*, *see* note 2, 223, 226.
102 *Cf.* K. Zou, *see* note 3, 596, 620.

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Arctic Region

Reflections on the Possibilities and Limitations of a Binding Legal Regime

by Hans Corell*

This article argues three points:

1. There is already a binding legal regime that applies in the Arctic. Rather than focusing on new regimes, we should concentrate our resources on working with what we have – examine it to determine whether the present legal regime is sufficient and, if not, work towards strengthening it.
2. We should ensure that the existing regime is implemented and that States that have not yet acceded to or otherwise accepted elements of this regime do so.
3. We should work to build political support to achieve the necessary protection of the Arctic.

Some of these reflections are based on scientific material and, in particular, the Arctic Climate Impact Assessment, established at the request of the Arctic Council and first presented in November 2004.[1] This assessment is a significant document representing the first effort to comprehensively examine climate change and its impacts in the Arctic region.

The Assessment identifies two points relevant to this article. First, climate change will have great impacts in the Arctic. Second, and most importantly, these impacts are generated from outside the Arctic and their effects will also occur outside the Arctic. This is of tremendous consequence when one examines the possibilities and limitations of a binding legal regime for the Arctic.

There is Already a Binding Legal Regime in the Arctic

The title of this article may seem to suggest that there is no binding legal regime for the Arctic. But the fact is that there is already a wide-ranging legal regime, in particular under the United Nations Convention on the Law of the Sea (UNCLOS). Some of the global conventions for the protection of the environment should also be highlighted in this context.

Of special importance, Part V sets out UNCLOS's rules on the exclusive economic zone (EEZ) and Part VI, on the continental shelf, governs large portions of the Arctic. With respect to the exclusive economic zone, UNCLOS prescribes that it shall not extend beyond 200 nautical miles from national baselines. UNCLOS also contains provisions on the rights, jurisdiction and duties of the coastal State in the zone, and rules on rights and duties of other States in the same.[2]

With respect to the continental shelf, this article briefly notes only two elements, namely the Russian and Norwegian submissions to the Commission on the Limits of the Continental Shelf (CLCS).[3]

The Russian Federation was the first country to make a submission to the Commission for the entitlement to the continental shelf beyond 200 nautical miles. Among four areas identified in the application, the claim included the Central Arctic Ocean, where it extended all the way to the North Pole.

The Norwegian submission to the CLCS was presented to the Commission on 27 November 2006 and identified three separate areas in the North East Atlantic and the Arctic. The northernmost point in that submission is not the North Pole but a point some six degrees south of the Pole.

Other States bordering the Arctic will no doubt make similar submissions to the CLCS, and Norway has indicated that a further submission may be made in respect of other areas. All this should be borne in mind when one discusses how to protect the Arctic.

Another important factor is shipping. Given the evidence that the sea ice in the Arctic is melting, larger areas of the Arctic will in the future be open to shipping. This may require the designation of special maritime regimes in the area. At the same time, there are limits to the possibilities for coastal states to adopt special regimes for traditional maritime shipping on the high seas.[4]

Finally, on this point, one question that is sometimes asked is whether it is possible to create a legal regime for the Arctic that is similar to the one that applies in Antarctica. A comparison of the two areas is appropriate. Antarctica is a continent of some 14 million square kilometres, surrounded by sea. In the Arctic, the situation is quite the opposite: it is an ocean of about the same size, 14 million square kilometres, surrounded by continents. The area north of the Arctic Circle is 21 million square kilometres. This area is larger than the entire territory of the US (over 9 million square kilometres), of Canada (10 million square kilometres), or of the Russian Federation (17 million square kilometres). However, as the author has elaborated in another context,[5] his analysis of the possible application of the Antarctic regime has concluded that the Antarctic Treaty could hardly serve as a model for organising a com-

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prehensive legal regime for the Arctic. Instead, it is possible to create a specific environmental regime for the Arctic, perhaps on the basis of UNCLOS Articles 122 and 123 (on cooperation of States bordering enclosed or semi-enclosed seas, and Article 234 on ice-covered areas[6]).

A Non-sectoral Approach to Regulating the Arctic?

A sometimes expressed option recommends a sectoral approach to the regulation of the Arctic. This option is detrimental, as it would be better to have in place a comprehensive regime covering all aspects that need to be regulated. Such a regime would be easier to understand. Already, the rules that apply in the Arctic region's environmental sector are not always easy to comprehend – particularly with regard to their relationship to one another, and the extent to which they apply in the Arctic. Even experts complain that it is difficult to get a general overview.

However, as noted, the existing binding legal regime covers many different aspects of human activity in the Arctic. To create a separate, specific and non-sectoral legal regime for the Arctic would require a tremendous effort, including contributions from many States with no specific direct interest in or knowledge of the Arctic. Furthermore, to be authoritative, the regime would have to be accepted by the major players on the international arena. Rather than focusing on new regimes, it would be important to analyse the threats, and then act on them accordingly, mainly by making sure that the existing regime is implemented and that States that have not yet acceded to or otherwise accepted elements of this regime do so.

The Real Dilemma

The Arctic Climate Impact Assessment demonstrates the most difficult element in the equation – activities outside the Arctic. The real dilemma is that significant threats to the Arctic are not primarily generated in the Arctic. This is a decisive element.

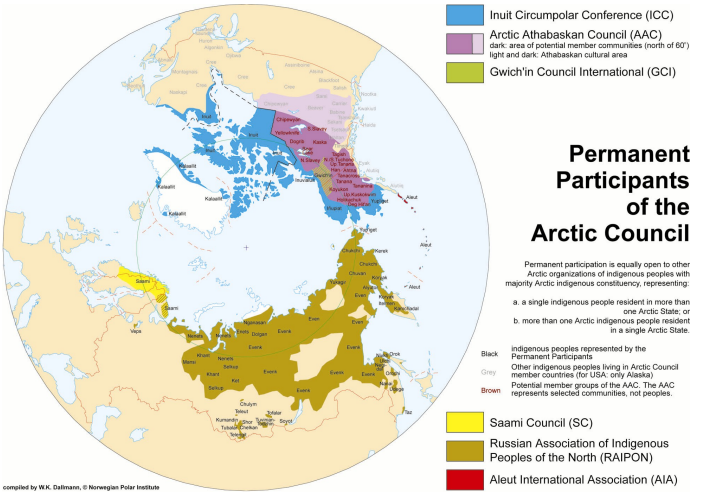
This dilemma is clearly understood by imagining a "fresh start" – that there is no pre-existing legal regime for the Arctic. To create a comprehensive legal regime, the first question is "Who should participate?" The Arctic States only have competence to deal with matters over which they have control. Would they be able to fully address the threats to the Arctic that are generated globally? It becomes clear that a meaningful agreement establishing a comprehensive legal regime in the Arctic would have to aim for global participation.[7]

The first question to ask before such an endeavour is undertaken would be: which are the most important issues to be addressed? Judging from their (sometimes diverging) views, scientists would choose emissions of carbon dioxide and other greenhouse gases, and threats to the ozone layer. This choice would place the new regime squarely in the realm of the Kyoto and Montreal Protocols and indeed the whole field of global environmental agreements.

Considering the example of eight UN conventions and protocols in the environmental field, it is useful to consider the number of parties to these conventions and protocols (remembering that there are 192 UN Member States). The latest available figures in the United Nations Treaty Database (as of 19 January 2007) are the following:

- Vienna Convention for the Protection of the Ozone Layer – 191 parties
- Montreal Protocol on Substances that Deplete the Ozone Layer – 191 parties
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal – 169 parties
- United Nations Framework Convention on Climate Change – 190 parties
- Kyoto Protocol to the United Nations Framework Convention on Climate Change – 169 parties[8]
- Convention on Biological Diversity – 190 parties
- United Nations Convention to Combat Desertification – 191 parties
- Stockholm Convention on Persistent Organic Pollutants – 136 parties.

There is an almost universal participation in these agreements by the international community of States. This is an important factor when we look at the Arctic and the possibilities of creating a comprehensive legal regime in a situation where the effects on the Arctic are mainly generated outside the region.



Courtesy: NPI

In addition, the UNCLOS comprehensive regime – often referred to as the Constitution of the Oceans – already applies specifically to the Arctic. It even contains the specific provisions on enclosed and semi-enclosed seas and ice-covered areas referred to above. Presently, UNCLOS has 152 parties.

For this and other reasons, it would be counterproductive to engage the world community in negotiating a single comprehensive binding legal regime for the Arctic. There is sometimes a superstition that everything will be

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solved if new norms are developed – perhaps a comprehensive or overarching regime – in a field that is already regulated: but this may not be the case at all. It may even be missing the point, namely the issue of implementation.

We should Concentrate on Working with What we Have

Legal experience indicates, in the author's opinion, the need to focus on implementing the norms that are already binding upon States, irrespective of whether they are Arctic States or members of the global community at large. The use of national and international resources should be turned to determining if the present legal regime is sufficient, and identifying elements that need strengthening.

In this exercise, it is useful to distinguish norm-setting from implementation. Analysis of the existing regime should look at existing norms, both binding rules and soft law. This analysis must be done in a systematic manner using three separate steps: the situation in the Arctic, the situation in the northern region, and the situation at the global level. Distinct issues must be identified and addressed systematically – but always with awareness of the entirety of the regime.

This approach must be repeated systematically, sector by sector and topic by topic. The questions that need answers are: what are the threats? Are there norms to address the problem? Are these norms sufficient and established at the appropriate level? Are they applied? If not, why? Is it possible to correct this? What are the remedies? How can one achieve better respect?

The Arctic Climate Impact Assessment provides an excellent example of the way to do this. This assessment, by its terms, represents "the beginning of a process which should continue with a focus on reducing uncertainties, filling gaps in the knowledge identified during the assessment, and more explicitly including issues that interact with climate change and its impacts."

It is Necessary to Build Political Support

The next step is to engage politicians and non-governmental organisations to create political support, based on knowledge, to achieve results. For this, it is also important to engage the business community, which can make a tremendous contribution. Even if the final result of the process is legislation that business may not appreciate in every respect, business nevertheless appreciates clear rules to be observed by all concerned – that there is a level playing field.

New international legal regimes or amendments to existing international regimes are the product of a political process in which, ultimately, politicians at the highest level in the States concerned must be involved. This is a precondition for policy decisions that can give legitimacy to the results of the process – norms elaborated with the assistance of lawyers and other experts. Legally binding norms – at the national level in Statute Law, at the international level in treaties – embody the most sophisticated manner in which to adopt a policy.

As we know, tremendous advances have been made over the past years in the fields of human rights and international criminal law. However, over the same time, engagement in environmental matters has also increased. In this process, one must also bear in mind the political realities: politicians engage in matters that interest the electorate. In order to engage the electorate it is important that the appropriate information is disseminated, asking questions such as these: what facts do the general public need to know? Are those facts reliable? How does one deal with those who – for one reason or another – belittle or even deny these facts and their consequences? In this context the role of the media comes to the forefront, balancing human use and ecosystem protection.

The role of non-governmental organisations must also be highlighted. What support can one count on from these organisations? They are often the ones who inform and engage the general public in a manner that moves politicians into taking action. The relevant questions include: which organisations are particularly interested in these matters? What information do they have? Can they join hands in order to make more impact? Reference should also be made to the World Conservation Union (IUCN), a conservation network that brings together 82 States, 111 government agencies, more than 800 non-governmental organisations, and some 10,000 scientists and experts from 181 countries.[9]

The Arctic Council

Obviously, the Arctic Council plays a key role in the evaluation and implementation of the Arctic legal regime. In particular, is it possible for the Council to engage the general public, the non-governmental organisations and the media in a more effective manner and raise their awareness of the three pillars of sustainable development: the environmental, social and economic?[10]

The Tällberg Forum and the High North

In June last year, a Tällberg Forum workshop[11] discussed the dilemma that the melting of the ice in the Arctic is caused by sharply rising temperatures in that area. This impact, in turn, is caused by the burning of fossil fuel in other parts of the world. Serious effects of this melting will materialise in other parts of the world, as well as in the Arctic itself.

The workshop concluded that something must be done to reverse this threat. The environmental degradation and the continued burning of fossil fuel need to be addressed. In the Forum's plenary, the workshop made the following eleven pronouncements and recommendations:

- The Arctic is a high-speed indicator of global change.
- At the same time it is an emerging arena for fossil fuel exploitation.
- Thus, it is a region where the triple E-equation (economy/energy/environment) is put to the test.
- Nanook – the polar bear – is an indicator species. If and when the polar bear becomes extinct, oceans will have risen everywhere.
- Therefore, what happens in the High North is relevant to the entire world.
- There is already a legal regime in the Arctic, *i.e.* UNCLOS and other treaties. ➳

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- We need to take stock of the existing norms and present the results in a manner that is accessible to laymen.
- We have to look to science, asking "Is the existing regime sufficient?"
- We need to draw conclusions, come up with ideas, and present these to the general public and politicians.
- In particular with respect to the extension of oil transport into new ocean areas: "Do we have a safe regime for that? What actions have been taken by the International Maritime Organisation?"
- The International Polar Year 2007–2008 provides a window of opportunity and a platform for change.[12]

These recommendations may be of assistance in future endeavours to strengthen the protection of the Arctic.

Conclusion

In conclusion, this article reverts to its initial three points: (1) There is already a binding legal regime for the Arctic; (2) Our focus should be on implementation, as well as examining whether the regime needs strengthening; (3) To achieve the necessary protection of the Arctic, we must increase our efforts of engaging the general public, business, politicians and governments.

Finally, it is essential to stress the importance of engaging the major players on the international arena – in matters relating to the Arctic. In particular, it is imperative to bring the USA on board in order to achieve results in these matters.

Notes

1 Available at http://www.acia.uaf.edu/.

2 For ease of reference, UNCLOS Articles 55 to 58 are included here:

Article 55

Specific legal regime of the exclusive economic zone

The exclusive economic zone is an area beyond and adjacent to the territorial sea, subject to the specific legal regime established in this Part, under which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention.

Article 56

Rights, jurisdiction and duties of the coastal State in the exclusive economic zone

1. In the exclusive economic zone, the coastal State has:

(a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds;

(b) jurisdiction as provided for in the relevant provisions of this Convention with regard to:

(i) the establishment and use of artificial islands, installations and structures;

(ii) marine scientific research;

(iii) the protection and preservation of the marine environment;

(c) other rights and duties provided for in this Convention.

2. In exercising its rights and performing its duties under this Convention in the exclusive economic zone, the coastal State shall have due regard to the rights and duties of other States and shall act in a manner compatible with the provisions of this Convention.

3. The rights set out in this article with respect to the seabed and subsoil shall be exercised in accordance with Part VI.

Article 57

Breadth of the exclusive economic zone

The exclusive economic zone shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured.

Article 58

Rights and duties of other States in the exclusive economic zone

1. In the exclusive economic zone, all States, whether coastal or land-locked, enjoy, subject to the relevant provisions of this Convention, the freedoms referred to in article 87 of navigation and overflight and of the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms, such as those associated with the operation of ships, aircraft and submarine cables and pipelines, and compatible with the other provisions of this Convention.

2. Articles 88 to 115 and other pertinent rules of international law apply to the exclusive economic zone in so far as they are not incompatible with this Part.

3. In exercising their rights and performing their duties under this Convention in the exclusive economic zone, States shall have due regard to the rights and duties of the coastal State and shall comply with the laws and regulations adopted by the coastal State in accordance with the provisions of this Convention and other rules of international law in so far as they are not incompatible with this Part.

3 See page 355.

4 See, *e.g.*, "*The Law of the Sea Convention and the Idea of a Binding Regime for the Arctic Marine Environment*" by Olav Schram Stokke available at http://www.arcticparl.org/?/element/elementid/conference7.

5 Reference is made to an address on the same topic presented by the author on 3 August 2006 at Kiruna, Sweden, at the Seventh Conference of Parliamentarians of the Arctic Region. See http://www.arcticparl.org/?/element/elementid/conference7.

6 Article 122 on Definition reads: *"For the purposes of this Convention, 'enclosed or semi-enclosed sea' means a gulf, basin or sea surrounded by two or more States and connected to another sea or the ocean by a narrow outlet or consisting entirely or primarily of the territorial seas and exclusive economic zones of two or more coastal States."*

Article 123 on Cooperation of States bordering enclosed or semi-enclosed seas reads: *"States bordering an enclosed or semi-enclosed sea should cooperate with each other in the exercise of their rights and in the performance of their duties under this Convention. To this end they shall endeavour, directly or through an appropriate regional organisation:*

(a) to coordinate the management, conservation, exploration and exploitation of the living resources of the sea;

(b) to coordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment;

(c) to coordinate their scientific research policies and undertake where appropriate joint programmes of scientific research in the area;

(d) to invite, as appropriate, other interested States or international organisations to cooperate with them in furtherance of the provisions of this article."

Article 234 on Ice-covered Areas reads: *"Coastal States have the right to adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone, where particularly severe climatic conditions and the presence of ice covering such areas for most of the year create obstructions or exceptional hazards to navigation, and pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance. Such laws and regulations shall have due regard to navigation and the protection and preservation of the marine environment based on the best available scientific evidence."*

7 The fact that only 45 of the 191 UN Member States are parties to the Antarctic Treaty could be invoked against this argument. But the nature of the Antarctic Treaty is very special and the most important rules to protect the Arctic are contained in global treaties.

8 Entered into force on 16 February 2005, in accordance with article 25 (1) of the Protocol.

9 See http://www.iucn.org/. An excellent overview of the situation appears in *The Arctic: Towards a New Environmental Regime* by Wolfgang E. Burhenne in collaboration with Carine Nadal. This article will be published in early 2007 in *Environmental Policy and Law*, Vol. 37, No. 2/3, IOS Press, Amsterdam. It can also be accessed through the International Council of Environmental Law, Godesberger Allee 108–112, 53175 Bonn, Tel.: ++49/228/2 69 22 28, Fax.: ++49/228/2 69 22 251, email: icel@intlawpol.org, www.i-c-e-l.org. Reference can also be made to the 2006 Newsletter from IUCN, available at http://www.iucn.org/themes/law/pdfdocuments/Newsletter_2006_en.pdf and to L. Nowlan, *Arctic Legal Regime for Environmental Protection*, IUCN Environmental Policy and Law Paper No. 44, 2001, available at http://www.iucn.org/themes/law/pdfdocuments/EPLP44EN.pdf.

10 In this context, attention is drawn to paragraph 28 of the Conference Statement of the Seventh Conference of Parliamentarians of the Arctic Region, Kiruna, Sweden, 2–4 August 2006, which contains a request to governments in the Arctic region and the institutions of the European Union to: *"In light of the impact of climate change, and the increasing economic and human activity, initiate, as a matter of urgency, an audit of existing legal regimes that impact the Arctic and to continue the discussion about strengthening or adding to them where necessary." See* http://www.arcticparl.org/?/element/elementid/conference7.

11 Http://www.tallbergforum.org/. This Forum takes place in Dalecarlia in Sweden every summer and brings together participants from different walks of life from all over the world: heads of state, politicians, businessmen, scientists, journalists, writers, artists, lawyers, representatives of non-governmental organisations and indigenous peoples. In 2006, there were some 450 people from more than 60 countries from all continents.

12 Http://www.ipy.org.

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CoE / CEMAT

Networks for Sustainable Spatial Development
– Bridges over Europe –

by Maguelonne Déjeant-Pons*

... "We, the Ministers of CEMAT, are 'guardians of the European territory' and, as such, it is our duty to leave to future generations a more balanced, better integrated and territorially more cohesive continent, but one which is also more competitive and sustainable and provides quality of life to all its inhabitants."
Francisco Nunes Correia, Minister for Environment, Spatial Planning and Regional Development of Portugal, President of the CEMAT

The 14th Session of the European Conference of Ministers responsible for Spatial/Regional Planning of the Council of Europe met in Lisbon, Portugal, from 26–27 October 2006. Its theme was: "*Networks for sustainable spatial development of the European continent: Bridges over Europe*."

The main objectives of the Council of Europe are to promote democracy, human rights and the rule of law and to seek common solutions to the main problems facing European society today. The organisation actively promotes the protection of the environment and sustainable spatial development in line with Recommendation (2002) 1 of the Committee of Ministers of the Council of Europe to Member States on the Guiding Principles for Sustainable Spatial Development of the European Continent (GPSSDEC), previously adopted by the European Conference of Ministers responsible for Regional Planning of the Council of Europe (CEMAT/CoE).[1] The aim is to bring the economic and social requirements to be met by the territory into harmony with its ecological and cultural functions and therefore to contribute to long-term, large-scale and balanced spatial development. It is possible to consider that this Recommendation and the European Landscape Convention, which was adopted in Florence on 20 October 2000,[2] began the twenty-first century with a debate and offered fundamental guidelines for the evolution of European societies in terms of their relationship with their territory, i.e., their living environment. It was later presented at the United Nations World Summit on Sustainable Development (Johannesburg 2002), and formed a part of the deliberations of the 13th Session of the European Conference of Ministers responsible for Spatial/Regional Planning (Ljubljana 2003), as a key input to the Ljubljana Declaration on the territorial dimension of sustainable development. On these foundations, the Committee of Ministers agreed to consider sustainable spatial development at the Third Summit of the Council of Europe.

Over the course of the 14th Session, the Conference discussed the impact and application of Guiding Principles and the Ljubljana Declaration at national and international levels, and in particular at transnational, transfrontier and inter-regional levels:[3]

National Level

Two documents were presented in order to investigate how far the Guiding Principles – in their substance – are applied in the territorial development policies of the various levels in the Member Countries of the Council of Europe, and to identify the more formal impacts that the Guiding Principles have had on the evolution of the territorial planning systems (legislation, procedures, etc.) in the Member Countries:

- General National Reports on the implementation of the Recommendation of the Committee of Ministers of the Council of Europe Rec. (2002) 1 on the Guiding Principles on Sustainable Spatial Development of the European Continent (GPSSDEC-CEMAT);[4]
- National Reports on the follow-up to Resolution No. 3 concerning the prevention of floods and better coordination of all activities designed to minimise the risks and consequences of disastrous floods, adopted at the 13th Session of the European Conference of Ministers responsible for Regional Planning (CEMAT/CoE), in Ljubljana, on 17 September 2003.[5]

International Level

A vast amount of work has been done in implementing guiding principles for sustainable spatial development of the European continent over the past six years. This issue has been discussed in depth at international CEMAT seminars and conferences on themes such as spatial development governance and institutional cooperation networks, the role of training in the implementation of sustainable development policy in Europe, networking for sustainable spatial development of the European Continent, urban management in networking Europe and, last but not least, sharing responsibility for our region: redefining public interest for territorial development. All this work is based on an analysis of trends and developments in Council of Europe member states. The CEMAT Pan-European Compendium of national policies and the CEMAT Directory of Legislations on Spatial/Regional Planning provide data and essential information on the tools and instruments used in the different countries. ➳

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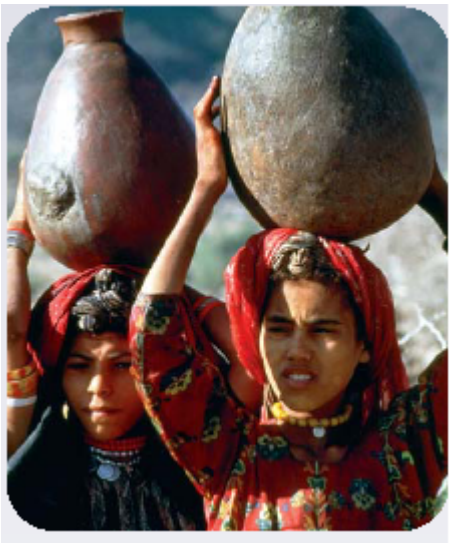
Three documents were notably discussed at the Ministerial Conference, the CEMAT Report of activities 2004–2006,[6] an included survey carried out in 2005–2006 among the Member Countries of the Council of Europe regarding the application and implementation of the Guiding Principles on Sustainable Spatial Development of the European Continent[7] and the Resolution concerning the prevention of floods and the better coordination of all activities designed to minimise the risks and consequences of disastrous floods.[8] A summary of the conclusions of eight CEMAT 2004–2006 Seminars and Conferences was also presented in this report.[9]

In addition, the CEMAT Glossary of key expressions used in spatial development policies in Europe was presented. In the context of spatial development policies, a number of specific expressions and concepts are frequently used in most European States. Some of them are traditional professional expressions, while others have recently been introduced into the professional vocabulary, especially through the elaboration and publication of the Guiding Principles or the European Spatial Development Perspective (ESDP). The objective of the Glossary is to provide a definition of such expressions, as well as some explanations of their use and recent evolution. The Glossary is written for a wide range of officials, professionals and representatives of civil society involved in territorial development policies and related activities at the various levels. It is aimed at clarifying the content of widely used concepts and expressions in this field as well as the distinctions between them.



Courtesy: FAO

The report also presented the CEMAT Pan-European Compendium on national spatial planning policies. For each Council of Europe member state, the Compendium is intended to provide data on the following items: general information (statistical data; administrative organisation; brief overview of the spatial planning legislation); spatial planning content and process according to the relevant legislation and regulation (basic principles, authorities and instruments); content and role of the instruments – (coordination, monitoring and control); impact assessment – environmental, strategic or territorial impact assessment; information and public participation; and current situation and main problems (national, regional, local level); main problems in implementation and in spatial planning practice.

Transnational, Transfrontier and Interregional Levels: the "Pan-European Network of CEMAT Model Regions (Regions of Innovation)"

Resolution No. 2 adopted in 2003 in Ljubljana provides that the CEMAT Model Regions should constitute pilot examples for other regions in Europe. Concrete action has been therefore taken, mainly through this "Pan-European Network of CEMAT Model Regions". Several speeches were delivered during the Lisbon Ministerial Conference in order to present the progress made:

- "Implementation of the CEMAT Guiding Principles by the Pan-European Network of CEMAT Model Regions (Regions of Innovation)", by the Parliamentary State Secretary at the Federal Ministry of Transport, Building and Urban Affairs, Germany;[10]
- "Implementation of the CEMAT Guiding Principles for Sustainable Spatial Development in some regions of Russia (transnational cooperation between the Russian Federation and Germany)", by the Russian Federation Delegate and Vice-Chair of the Committee of Senior Officials;[11]
- "Implementation of the Initiative on the Sustainable Spatial Development of the Tisza/Tisa River Basin (transfrontier cooperation: Hungary, Romania, Slovak Republic, Ukraine, Serbia and Montenegro)", by the Chair of the Joint Committee on the Sustainable Spatial Development of the Tisza/Tisa River Basin, General Manager, Ministry of Transport, Construction and Tourism, General Division for Urban and Territorial Planning, Romania;[12]
- "Programme 'Armenia as a New Bridge of CEMAT in European Model Regions' (transnational cooperation between Germany and Armenia)", by the Deputy Minister, Ministry of Urban Development of the Republic of Armenia;[13]
- "Spatial and Regional Development in Georgia and Cross-border Cooperation between Georgia and Armenia", by the Deputy Secretary of National Security Council of Georgia State Chancellery, Georgia;[14]
- "Transnational cooperation conducted by Norway in Armenia and Georgia", by the Director-General, Department for Regional Planning, Ministry of the Environment of Norway.[15]

Introductory speeches were also given on several subjects:

- "Cooperation and poles of competitiveness", by the Minister Delegate for Spatial Planning, France;
- "Policentricity without frontiers and balanced territorial development", by the Vice-President of the Walloon Government, in charge of Housing, Transport, Energy and Territorial Development;
- "The Croatian Mediterranean Area in a context of Polycentric Development" by the President of the Spatial Planning Council of the Government of the Republic of Croatia;
- "CEMAT: a strong framework to push forward territorial development", by the Ambassador of Spain in Portugal;

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- "Central European transport corridor – establishment of a regional cooperation network in Europe", by the Under-Secretary of State, Ministry of Regional Development of Poland;
- "Spatial Development in Macedonia and Initial Project of Aquapura – New European Bridge", by the Deputy Minister of Environment and Physical Planning of "The Former Yugoslav Republic of Macedonia";
- "Networks for Sustainable Spatial Development of the European Continent - building bridges in Cyprus and across Europe", by the Director of the Department of Town Planning and Housing of the Ministry of Interior of the Republic of Cyprus;
- "The contribution of the International Federation for Housing and Planning (IFHP)", by the Vice-Chair of IFHP;
- "The ESPON Programme: its contribution to the CEMAT and to networking", by the Minister of Interior and Spatial Planning, Luxembourg;
- "Implementation of the CEMAT Guiding Principles for sustainable development in Hungarian Spatial Policy", by the State Secretary for Regional Development and Building, Ministry of Local Government and Regional Development of Hungary;
- "The Territorial Agenda of the European Union", by the State Secretary at the Ministry of the Environment of Finland;
- "The Territorial Agenda of the European Union and its Relation to CEMAT as a Stakeholder", by the Parliamentary State Secretary at the Federal Ministry of Transport, Building and Urban Affairs of Germany.

Documents adopted: Lisbon Declaration, Resolutions and Memorandums

The Ministers unanimously adopted the Final Declaration and four resolutions:

- the Lisbon Declaration on "Networks for sustainable spatial development of the European continent: Bridges over Europe";
- Resolution No. 1 on "Polycentric development: promoting competitiveness, enhancing cohesion";
- Resolution No. 2 on "Territorial governance: empowerment through enhanced coordination";
- Resolution No. 3 on "The Territorial Agenda of the European Union and its relation to CEMAT"; and
- Resolution No. 4 on "The organisation of the 15th Session of the European Conference of Ministers responsible for Spatial/Regional Planning".

The Ministers called on the member states of the Council of Europe to strengthen, diversify and implement cooperation networks in the field of territorial development, thus creating synergies for the sustainable spatial and socio-economic development of the European continent.

Two documents were moreover signed by ministers/heads of delegation under the auspices of the Council of Europe:

- Memorandum of Understanding between the Urban Development Ministry of the Republic of Armenia, the Office of the National Security Council of Georgia, and the Federal Ministry of Transport, Building and Urban Affairs of the Federal Republic of Germany on the Programme "CEMAT Model Region: Armenia-Georgia. Sustainable Spatial Development of Frontier Regions";
- Memorandum of Understanding on the continuation of cooperation in the field of spatial development policy between the Federal Ministry of Transport, Building and Urban Affairs of the Federal Republic of Germany and the Ministry of Regional Development of the Russian Federation.

Information documents were also presented at the Ministerial Conference:

- "The Scheme of Spatial Planning in Moscow Oblast" (Russian Federation);[16]
- "The Romanian contribution to the preservation and enhancement of the rural heritage: The Declaration of Slatioara" and "Ghid de valorificare a patrimoniului rural" (Romania);[17]
- "La coopération métropolitaine en France" (France);[18]
- "Guia Europea de observacion del patrimonio rural – CEMAT" (Spain).

* * *

Each European Conference of Ministers responsible for spatial/regional planning is a step forward in implementing new forms of good governance that seek to promote regional development based on the four pillars of sustainable development: the environmental, social, cultural and economic aspects. The CEMAT is at the centre of these activities and holds very useful discussions, which usually lead to concrete action. Through the unifying force represented by the territory, the CEMAT helps to link up initiatives, activities and projects concerning its future and consequently the future of society and individuals.

The Council of Europe, whose main concerns are human rights and democracy, is a pan-European organisation which, under the terms of its statute, is responsible for addressing the major problems facing society. It therefore fosters debate on the local and regional aspects of human rights and democracy. The Council of Europe brings European Union member countries and non-member countries together on an equal footing and provides a unique forum for discussing issues concerning the future of European regions and Europe as a whole. Discussions are currently taking place to guide the work of intergovernmental committees towards taking greater account of the need for sustainable development.

The Minister for Regional Development of Russian Federation offered to host the next ministerial Conference in 2009 on the extremely important theme of "Challenges of the Future: Sustainable Spatial Development of the European Continent in a Changing World", thus reflecting the resolve of the Heads of State and Government at the Warsaw Summit to improve the quality of life of citizens from a sustainable development perspective. The next three years will be used to make further progress on the question of the sustainable development of Europe, which

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should be seen not as a fortress but as part of the world. Intercultural dialogue must therefore be considered as one of the major themes for discussion and action in the coming years.

Drinking water, energy, climatic changes, access to fundamental services, the ageing of the population and other demographic changes, immigration, the need to preserve and enhance the natural and cultural heritage and take account of the landscape as people's living environment: there is a long list of issues and problems relating to territory that we must address without further delay. If we ignore these problems they will simply return with a vengeance in a few years' time, and we will have failed in our duty to future generations to behave in a responsible manner.

Notes

1 Website of the European Conference of Ministers responsible for Spatial/Regional Planning (CEMAT): http://www.coe.int/CEMAT.

2 Website of the European Landscape Convention http://www.coe.int/EuropeanLandscapeConvention.

3 The documents and several speeches are available on the CEMAT website: http://www.coe.int/CEMAT/en under European Conferences of Ministers Responsible for Spatial Planning (CEMAT), Lisbon Conference. See http://www.coe.int/t/e/cultural_co-operation/environment/cemat/list_of_conferences/1.8_cemat2006.asp#TopOfPage.

4 14 CEMAT (2006) 2.

5 14 CEMAT (2006) 3.

6 14 CEMAT (2006) 4.

7 The survey was based on a questionnaire adopted by the Committee of Senior Officials.

8 The survey was divided into two parts: the internal activities of each country at the national, regional and local level and the activities of international character related to cooperation with other countries. The document relates the results of the survey in the form of a synthesis report of the national replies to a questionnaire.

9 These included (i) CEMAT International Seminar on "Spatial development governance: institutional cooperation networks", held in cooperation with the Armenian authorities in Yerevan on 28–29 October 2004 (all published documents listed in this footnote are published in the Council of Europe "European spatial planning and landscape" Series 2006. In that series, this document was No. 73); (ii) International Seminar on "The role of training in the implementation of the policy of sustainable spatial development in Europe", held by the European Network of Training Organisations for Local and Regional Authorities (ENTO) in cooperation with the Committee on the Sustainable Development of the Council of Europe Congress of Local and Regional Authorities, the Committee of Senior Officials of the European Conference of Ministers responsible for Spatial Planning (CEMAT) – Spatial Planning and Landscape Division (DGIV) of the Council of Europe – and the Union of Local Authority Chief Executives of Europe (UDITE) in Strasbourg on 15 March 2005 (No. 76); (iii) CEMAT International Seminar on "Networking for Sustainable Spatial Development of the European Continent" held in cooperation with the authorities of the Russian Federation in Moscow on 26 September 2005 (No. 79); (iv) CEMAT International Seminar held in cooperation with the authorities of Slovenia on "Urban management in networking Europe", in Bled, Slovenia, on 17–18 November 2005 (No. 80); (v) International Conference on "Sharing responsibility for our region: redefining the public interest for territorial development", held in Bratislava on 22–23 May 2006 in cooperation with the authorities of the Slovak Republic and the UN Economic Commission for Europe as part of the CEMAT activities.

10 14 CEMAT (2006) 5.

11 14 CEMAT (2006) 7.

12 14 CEMAT (2006) 9.

13 14 CEMAT (2006) 10.

14 14 CEMAT (2006) 11.

15 14 CEMAT (2006) 12.

16 14 CEMAT (2006) 16.

17 14 CEMAT (2006) 20. The "CEMAT European Rural Heritage Observation Guide" adopted in 2003 (13 CEMAT (2003) 4) has been now translated into Italian, Romanian, Russian and Spanish. An adapted version for Romania, "Guide for rural heritage evaluation", was presented during the International Symposium "Local Communitarian Associations and Rural Architecture at the Beginning of the Third Millennium", held at Slatioara, Romania, on 4 September 2006. The "Statement from Slatioara" was adopted on this occasion.

18 14 CEMAT (2006) 19.

EU

Common Fisheries Policy

– The Present Situation and the Challenges that Lie Ahead –

by Alain Laurec*

Introduction

It is well known that many fisheries throughout the world are facing difficulties due to the serious depletion of the fish stocks they pursue. This is true for a number of EU fisheries as well. The need to take appropriate management measures is now widely accepted in public opinion. Over the past decades, in response to this need, significant progress has been achieved in terms of management principles, including at the highest international level (as evidenced by the Food and Agriculture Organisation's (FAO) 1995 Code of Conduct for Responsible Fisheries), and the development of the Regional Fisheries Management Organisations (RFMOs). Progress is also evident in the framework provided by the Common Fisheries Policy (CFP), which was subject to a major reform in 2002 (herein, the "Basic Regulation").[1]

Among its other achievements, the reform reflected in the Basic Regulation has facilitated management decisions which are fully compatible with the sustainability "principle". However, these stricter management decisions have also resulted in aggravated compliance problems, and ensuring efficient enforcement has now become the most important challenge facing the CFP. Certain blatant examples of non-compliance have recently received wide publicity, for instance, in the Mediterranean blue fin tuna and in the Baltic Sea cod fisheries. Outside the limited circle of dedicated control experts, the difficulty of ensuring compliance with fisheries management rules is often poorly appreciated. Yet the only way we can successfully address this issue is by first making a proper assessment

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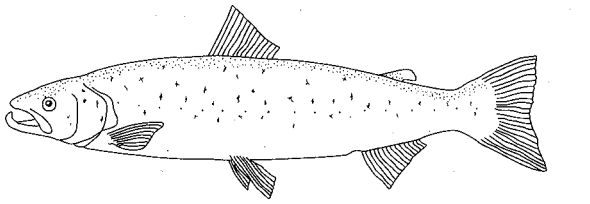
of the real underlying problems. The present paper seeks to offer a few basic elements for such an assessment.

I. The Overwhelming Importance of Non-compliance Problems

The major non-compliance problems mentioned above (Mediteranean Blue-fin and Baltic cod fisheries) have been broadly publicised. Although they may represent extreme cases, they are certainly not the only examples of poor compliance. Scientific advisory bodies often have to build their own "real catch" estimates, which are an essential input under stock assessment methods, because scientists in these bodies feel that they have good reasons not to trust "official figures". Since scientists usually refer to total catches, including discards, while official figures, at least for the EU, only include landings, it may be difficult to assess whether discrepancies between scientists' estimates of catches and official figures for landings are due mainly to discards or to so-called "black landings" (landings of unauthorised or unreported catches). It is nevertheless clear that for a number of stocks, black landings may be as high as 30% of the allowed catches. Non-compliance can create similar problems for other management measures, such as technical measures which are designed to prevent catches of undersized fish and/or prohibit certain kinds of not-properly-selective fishing practice (e.g. net mesh size restrictions and prohibitions on driftnets).



Salmo salar Courtesy: VDG

Review of the relevant literature[2] highlights a number of stocks where rules have been significantly infringed. This is not true for all fisheries, but it is nevertheless a widespread phenomenon within the EU.[3] Nor is it a problem specific to the European Union. Similar problems are encountered by fisheries managers throughout the world. Reports from RFMOs describe just these kinds of problems, and fisheries managed at the national or local level are far from exempt from non-compliance problems.[4] Some non-compliance problems may indeed be of largely anecdotal interest. On the other hand, large-scale frauds such as those encountered on the high seas within the context of Illegal, Unregulated and Unreported (IUU) fishing, should be considered as a form of organized crime. Even in small-scale coastal fisheries, non-compliance can result in the unsustainable over-exploitation of key resources.

All management attempts will fail if rules are not complied with. If IUU fisheries cannot be stopped, and if management measures decided within RFMOs are not really implemented, the ability of the international community to prevent the plundering of natural resources will be legitimately called into question. For the EU, it is the credibility of the CFP that is at stake. If we fail to come up with an appropriate and effective solution to non-compliance, then the negative political repercussions will spread far beyond the domain of fisheries management.

II. Obstacles to Securing Compliance[5]

Fisheries are not the only area in which securing compliance is difficult. However, it does present a particular challenge in this domain, and in a number of fisheries there may be special aggravating factors.

These difficulties have to be viewed in a context where enforcement must take fully into account the basic principles of the rule of law: it is much easier for an authoritarian regime to secure compliance in a domain such as fisheries, but nobody would seriously seek to have fisheries exempted from the rule of law for that reason! Thus, under the rule of law, violations must be proven on the basis of evidence which cannot be challenged in the courts, and such evidence is often difficult and/or expensive to gather.

Technical Obstacles to the Collection of Evidence

The first technical obstacle to the proper enforcement of fisheries management decisions is the particular difficulty of collecting evidence that rules have been violated at sea, that is, most often, far away from any inspection service. Various strategies may be considered to reduce such difficulties – patrol vessels or airplanes, observers or even fisheries inspectors embarked onboard fishing vessels, Vessel Detection Systems (VDS) using satellite monitoring, embarked automatic camera recordings, and so forth. All of these techniques have their limitations. For example, VDS cannot be used to detect mesh sizes, which are often the subject of precise and strictly binding regulations; a single observer cannot monitor every part of a fishing vessel all day long; small fishing vessels cannot "carry" observers; inspectors boarding a fishing vessel at sea will face difficulties in assessing exactly what and how much cargo is being carried. Every technique also has a cost, which can be very high, especially for patrol vessels or airplanes, and/or problems of political/social acceptance (e.g. embarked cameras). In a number of cases, only harbour inspections will make it possible to identify and assess a ship's cargo precisely, so as to know the exact weight per species. On the other hand, once the vessel has docked, it is no longer possible to prove the exact characteristics of the gears which were used during the fishing trip, or when and where the various quantities of the different species found on board were caught. Even with every imaginable improvement, it will remain for the foreseeable future much more difficult to secure legal evidence of illegal behaviour at sea than for most land-based activities.

Enforcement Costs

When awareness first began to develop about the scale of the enforcement problems facing fisheries, the basic response was to intensify controls. This was possible as long as enforcement costs remained low. However, that is no longer the case today. Although it is difficult to collect reliable figures (given the difficulty of securing transparency between the European Member States as regards their

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fisheries enforcement efforts – see further below), it is nevertheless obvious that, for a number of fisheries, enforcement costs now account for a significant part of the value of the landings, and may even in some extreme cases be larger than the economic added value created by the fishing activity.

Cooperation Problems between Services/Administrations

Experience has shown that in most cases efficient enforcement requires a combination of inspections at sea, harbour inspections and post-first-landing inspections. In most cases, the relevant competences are shared between different services or even ministries, and in some cases are divided between regional and national authorities. It is even quite common for inspections at sea to involve a number of services (e.g. the Navy; customs officers; and inspection services from the Ministry in charge of fisheries). This further complicates attempts to establish an efficient inspection regime: practical cooperation problems can be very difficult to solve, and it can be even more difficult to optimise the allocation of resources. For instance, should it appear rational to reduce inspection costs at sea in order to intensify harbour inspections, the corresponding resources may well prove difficult, if not impossible, to transfer.

On the other hand, it is quite common for the services involved in fisheries enforcement to have other duties as well. This is obviously true of naval vessels, but coast guards are also usually multi-purpose services. In such cases it is almost always difficult to ensure that fisheries inspections are given a sufficiently high priority, and it is almost always *very* difficult to assess the fisheries-related costs and thus optimise fisheries enforcement costs.

Social Acceptance

Over the last decades the fishing industry has seen a succession of new rules and constraints, especially since 1976 and the definition of Exclusive Economic Zones (EEZs) which created a totally new context for many large-scale fisheries. Up until 1976, most Coastal States exerted control only over a coastal zone extending up to 12 miles from their shores. As a result, many valuable fishing grounds, such as most of the North Sea in Europe, and most of the George Bank and the Grand Banks off USA and Canada, lay in international waters. Since then, apart from some specific areas such as part of the Flemish Cap off Newfoundland or the central part of the Barents Sea, the continental shelves where most of the valuable fish stocks are located are now to be found within national EEZs. RFMOs which manage high seas fisheries (that is, those which lie beyond the 200-mile limit) deal mainly with straddling stocks (i.e. which straddle the 200-mile limit between one or more EEZs and the high seas), highly migratory species such as tuna, and some deep-water species. As a result, most of the more valuable stocks are now to be found within EEZs (with the exception of the Mediterranean Sea, where the situation remains complex). This has largely facilitated the definition of management regimes.

In the case of the EU, the CFP was established in 1983 on the basis of the situation created by the extension of the EEZ. One of the pillars of the CFP is the principle of so-called "community waters": this means that fisheries falling within the EEZs of the Member States are managed jointly, along the lines now described in the 2002 Basic Regulation.

The management rules used to regulate these fisheries have often been decided in what fishermen consider a remote decision-making centre, on the basis of scientific analyses whose soundness are challenged by many people in the industry (scientific analyses often contradict fishermen's feelings about the evolution of fish abundance).

The fact that strict management rules were absolutely necessary, and even that in many cases they should have been stricter, does not change the fact that many fishermen considered that these rules placed a disproportionate burden on them, forcing abrupt changes in the ways they conducted their activities.

This conflict of perceptions is a crucial challenge. The industry needs to be convinced that constraints are unavoidable, and above all that the scientific diagnoses on which management decisions are based are essentially correct. Stakeholders must be involved in the preparation of management decisions, and they must be convinced that their views and specific expertise and knowledge are taken into account. Although it might be seen as a side-effect of recent enforcement problems, effective dialogue with stakeholders about management and enforcement rules is and always has been a prerequisite for success. Securing compliance is not simply a matter of strict enforcement through numerous and rigorous inspections combined with tough sanctions. Indeed, historically, the importance of ensuring that the industry accepts the legitimacy of management and enforcement rules may have been underestimated. Within the EU this has now been taken into account through the 2002 reform of the CFP, with the establishment of Regional Advisory Councils (RAC). The RACs provide a forum in which stakeholders, including not only representatives of the fishing industry but also from NGOs and other concerned groups, can debate fisheries policy with expert input from scientists, and present their opinions to the European Commission and the national authorities concerned.

The most Important Aggravating Factor: Past and Present Overcapacity

A number of fisheries have suffered, and still suffer, from overcapacity, including a number of fisheries within the EU. In other words, their fishing fleets have been, and still are, able to catch more fish than the amount the natural resources can reasonably yield in a sustainable manner. Within the EU, there are a number of fish stocks for which exploitation rates have been higher than is compatible with Maximum Sustainable Yield.[6]

How best to combat overcapacity at the level of fisheries management policy is a highly disputed issue. The task is all the more difficult because even when the nominal capacity (that is, measures such as the overall size of the fishing fleets in terms of total tonnage, or aggregate

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horsepower of the engines) is stable or even slightly decreases, the real fishing power (that is, the ability to create what scientists call "fishing mortality", which measures catches as a ratio of stock size) tends to increase, due to the deployment of modern technologies.

Many fisheries now combine depleted fish stocks with fishing capacity far in excess of what would be necessary for the optimum sustainable exploitation of those stocks. This makes it more difficult to obtain compliance with measures designed to protect small fish, since large fish are not plentiful enough. It also limits the profitability of the fishing fleets which are confronted with low catch rates, and creates a very strong incentive to catch more fish than is allowed.

Another Significant Element: Rapidly Changing Conditions

Fisheries rely on the exploitation of natural resources which are prone to instability. As a result, no sooner has one set of problems been fixed, than a new set will often emerge. Even when stocks are not subject to strong natural fluctuations, management rules can change quickly either because the existing rules are discovered to be inadequate, or because of a change in the political situation.

Some Specificities of the CFP

Enforcing CFP rules is basically the responsibility of the EU Member States. Each Member State must ensure the proper implementation of CFP rules on its territory, including sites where fish are landed, and within its EEZ, but also onboard vessels flying its flag wherever they may operate (although when a vessel is within the EEZ of another Member State, then the "coastal Member State" can also conduct boardings). Each Member State must take into account monitoring and control rules which are defined at EU level, and which can in some cases be detailed enough to set benchmarks in terms of inspection rates (proportion of the landings which should be monitored). It is nevertheless up to each Member State to establish the organisations it prefers to carry out the control tasks, and it is free to allocate these tasks between several services, or to concentrate them within a dedicated fisheries enforcement service or agency. This creates obvious disparities between the EU Member States in terms of their inspection regimes. The same is true as regards sanctions: despite attempts to harmonise sanctions, the Member States have been very reluctant to move in such a direction, for fears that this would raise matters of principle and create precedents. As a consequence, while all Member States are obliged to set up deterrent sanction regimes, they are, at least for the present, free to choose how they will achieve this goal. Some of them rely on administrative sanctions, while others mainly use criminal sanctions; in practice, several Member States use a combination of these two systems. Such heterogeneities feed mutual suspicions, and have created a strong demand for an equal playing field within the EU and, above all, for cross-border transparency.

The difficulties encountered with control within the CFP framework should not be underestimated. But at the same time, they must not be exaggerated either: effective control is much more difficult to achieve in an RFMO. The demand for transparency and an equal playing field has provided a strong incentive and led to significant steps forward for the CFP. Thus, it has been easier to adopt new legislative rules under the CFP than would have been the case within the individual Member States, or than it has proven in a number of third countries. For example, the EU has pioneered the large-scale use of Vessel Monitoring Systems (VMS) which make it possible to track fishing vessels' positions and movements in a way that is both cost-effective and transparent.

III. The Distribution of Responsibilities within the CFP Framework

Specific Responsibilities of the Member States, the Council, the European Parliament and the European Commission

As mentioned above, the primary responsibility for implementing CFP rules lies with the Member States. For its part, the Commission has no direct powers of control, and is merely responsible for monitoring the ways in which the Member States undertake to ensure compliance. The CFP rules are, nevertheless, defined at EU level, in accordance with the standard rules governing EU legislative procedure. These imply that Council Regulations must be based upon a proposal from the European Commission, submitted to the European Parliament, and if necessary to certain EU advisory bodies (including the European Economic and Social Committee (EESC)), before being subject to a vote by qualified majority in the Council. Council Regulations and/or Decisions may then be "completed" by the drawing up of implementing rules, in line with the so-called "comitology" procedure.[7] This provides only one example of the responsibility of the European Commission (its legislative function) in the context of the CFP.

However, the Commission also has other responsibilities which are laid down in detail in the regulations which define the CFP framework. Of these, the most important texts are the new Basic Regulation, mentioned above, and an earlier specific regulation on monitoring and control, adopted in 1993 and amended several times since then.[8] These tasks which belong to the Commission can be grouped into four categories: (1) processing various data and documents; (2) financial and operational assistance to the Member States, including through promotion of cooperation with and between Member States, and the use of new technologies; (3) promoting transparency as regards the Member States' achievements in securing compliance with CFP rules; and, (4) whenever necessary, acting if a Member State does not take the appropriate action to enforce the CFP rules.

In order to perform such tasks, the Directorate General for Fisheries and Maritime Affairs relies on dedicated units, including a team of inspectors who can conduct inspections in the Member States in order to monitor the efficiency of the inspection regimes that have been put in place by the national authorities. ➳

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(1) Data Processing and Information Retrieval

The Commission must process the catch and effort figures received from the Member States and take the appropriate actions which may result (e.g. closing a fishery when the quota is exhausted). It is also in charge of day-to-day contacts concerning fisheries with third countries and RFMOs: the Commission must thus transmit requests for fishing licences in the framework of Fisheries Partnership Agreements, as well as transmitting relevant catch and effort figures for EU vessels to third countries and RFMOs.

(2) Assistance to Member States

Member States' expenditures relating to the enforcement of the CFP can be co-funded using a dedicated budget line. This line, together with its predecessor,[9] has been used to facilitate, among other projects, the acquisition of VMS equipment, and will in the future be used to help with the introduction of the electronic reporting system (electronic logbooks) whose adoption was decided by Council in November 2006 (see Council Regulation (EC) No 1966/2006 of 21 December 2006).

The Commission has also been very active in promoting coordination between national administrations involved in enforcement, including through joint operations at sea, especially in the area covered by the Northwest Atlantic Fisheries Organisation (NAFO), and organising meetings for the exchange of best practice.

(3) Promoting Transparency

The Commission has been responsible for reporting to the Council and to the European Parliament its conclusions as regards Member States' comparative performance in terms of inspections and sanctions (at least where sanctions imposed following infringements mentioned in a specific list of so-called "serious infringements" are concerned). At present two types of Communication must be produced. The first which is published every third year – the so called "tri-annual report" – summarises the main conclusions of the inspections conducted by Commission fisheries inspectors and assesses the situation in the various Member States of the EU, taking into account the annual reports which they must transmit to the Commission describing their own inspection activities. The second Communication, which must be provided each year and which is commonly referred to as the "serious infringements report" analyses the different sanctions imposed in the various Member States for each type of infringement listed under this heading, on the basis of information transmitted annually by the national authorities. The concept of the serious infringement report dates from 1999,[10] when it was considered that it was not possible, at least for the time being, to establish a harmonised sanctions system. In this context, increased transparency between the Member States as to their respective follow-up of similar infringements (insofar as they were indeed similar) seemed like a significant first step to take.

In the wake of the 2002 reform, the Commission also produced an annual "compliance scoreboard", comparing the performances of the Member States on a number of key enforcement issues. Again, the underlying intention was the same – to facilitate transparency between the Member States.

(4) Putting Pressure on the Member States

The most powerful tool which the Commission has for bringing pressure to bear on the Member States is to bring an infringement procedure against a Member State before the European Court of Justice for not fulfilling its obligation to enforce CFP rules. Such a procedure requires, of course, the gathering of sufficiently strong evidence. The Commission's inspectors usually play a key role in putting such cases together.

The Commission may also make use of other powers under the 2002 Basic Regulation. For instance, it can decide to close a fishery despite the fact that figures transmitted by the Member State in question suggest that its quota is not yet exhausted, if other data available to the Commission (including figures gathered by its own inspectors) lead it to conclude that the real catches have reached (or will shortly reach) the quota allowed for this stock.

A New Partner: the Community Fisheries Control Agency

The reform of the CFP decided in 2002 led, among other results, to the creation of a new Agency: the Community Fisheries Control Agency (CFCA). A specific Council Regulation[11] was adopted, which defines the role to be played by this Agency. Its primary responsibility is to assist the Member States in their control duties, including through so-called Joint Deployment Plans, which will bring together inspectors belonging to the CFCA and inspectors which the Member States have placed at the disposal of such programmes, who will thus be working as Community inspectors (as distinct from Commission inspectors). It is also likely that the Agency will assist the Member States in a number of other ways, including help with training fisheries inspectors. The CFCA will in fact take over most of the tasks previously performed by the Commission which relate to coordination between the Member States, as well as possibly the exploration and the promotion of the use of new technologies for fisheries control. The CFCA has only just begun its work: its Management Board was put in place in 2006, the Executive Director was appointed in June 2006 and by the beginning of 2007 only a few staff members had been recruited. Its future headquarters, located in Vigo (Spain), are still in preparation. As a result, it is difficult at present to assess the exact role the CFCA will play in the coming years. But it is certain to be a crucial one.

IV. What has been Achieved up to Now and Major Difficulties Encountered

Achievements within the Framework of the CFP

A simple survey of the non-compliance problems we presently face might seem to cast doubt on the effectiveness of actions taken in the past. Real progress has nevertheless been achieved. However, this success has not been enough to reduce non-compliance to a marginal phenomenon. The remarks in section II above about the intrinsic

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difficulties of securing compliance must be taken into account, as well as the fact that at the time that the CFP was launched in 1983 most of the then Member States had no real tradition of strict enforcement of fisheries management decisions. The countries which have recently joined the EU have had even less time to improve their record in this area. Viewed in the light of these facts, what has been achieved should not be underestimated.

Awareness

For too long, and to a large extent up to the mid-90s, enforcement was not considered a crucial issue for fisheries. Controls were too often considered by the industry as undue harassment by administrations, be they national or European. The Member States were more keen to protect their industry from constraints than to ensure effective enforcement, and more eager to limit the powers of the Commission than to facilitate impartial quality control of their inspection and sanction regimes. Indeed, it was not until 1993 that Commission inspectors were given the possibility of conducting unannounced inspections in the Member States.

Even if such reticence has not entirely disappeared, neither industry nor national authorities would now seek to deny the importance of non-compliance problems. The predominant request from the EU industry is not for enforcement rules to be watered down, but for them to be applied with equal rigour in every Member State. Public opinion has been alerted by a number of symbolic cases of blatant non-compliance (e.g. blue fin tuna; cod, especially in the Baltic; and various IUU-related problems), and the appropriate political will to react has developed in a number of Member States. The various reports and Communications issued by the Commission have made it clear that some Member States needed to make a special effort just to approach an "average" level of inspection performance. The need to consider much more severe sanction regimes is now widely accepted. Member States are aware of their specific weaknesses and, where necessary, of existing best practices in other Member States which could help remedy them.

Possibilities Offered by Existing Legislation

The existing set of CFP regulations and decisions offers the Member States a large range of possibilities for effective enforcement. In the first place, it provides the legal basis for conducting inspections on practically all key issues, at sea as well as at landing sites, during subsequent transport and at point of sale. It makes it possible, for instance, to check the origin of fish transported or sold, which builds a strong asset for traceability policies. New technologies have also been made available. While in other parts of the world, progress with the acceptance of VMS has been much slower, within the EU neither the industry nor any of the Member States would now question the utility and legitimacy of this technology, which is the *de facto* backbone of many monitoring and control operations. The recently adopted regulation on Electronic Reporting Systems and Vessel Detection Systems (Council Regulation (EC) No 1966/2006 of 21 December 2006 on electronic recording and reporting of fishing activities and on means of remote sensing) will make it possible to achieve a further breakthrough in the means at our disposal. And it is thanks to EU funding that the Member States have been able not only to acquire the most modern control equipment, but also to develop training and exchanges with other Member States.

Major Improvements in a Number of Member States, Especially in Recent Years

In many Member States, enforcement is now much more effective than it used to be.

Most Member States can now rely on properly organised inspection services, staffed by people who are much better trained than in the past, and who have at their disposal the most modern equipment. There has been particularly strong progress in the last few years. New structures have been put in place, including dedicated agencies in several Member States, and human resources have been increased in many places.

While no success in the field of control will ever be definitive and irreversible, the evolution of enforcement practices in the mackerel fisheries in northern waters offers an especially positive example of what can be achieved. Mackerel fisheries in the North East Atlantic Ocean and adjacent seas are important for the EU, Norway and the Faeroes Islands. Up till recently, however, they suffered from serious non-compliance problems. The situation in certain Member States was so bad that it threatened to seriously upset relations with Norway and the Faeroes. In 2002, a working group was set up bringing together control experts from those Member States most closely involved in the fisheries as well as from Norway and the Faeroes. Close cooperation in this group resulted in the adoption of clear rules regarding the weighing and inspection of landings of pelagic fish. By 2005 the situation on the ground had begun to show real signs of improvement. During on-the-spot visits carried out in 2006, the Commission's inspectors noted that the level of compliance by Member States could now be said to be rather high. The industry also concluded that improved controls had been a good thing, as they had contributed to the creation of a real "level playing field".

Key Immediate Problems

A Global Problem: the Need to Recast the Legislative Framework

Since the adoption of the 1993 regulation on monitoring and control,[12] a number of modifications have been made to the CFP control framework, including the introduction of VMS and other modern technologies as described above. Other key improvements, such as the creation of the CAFC, stem from the Basic Regulation, described above. One unfortunate side-effect of these improvements is that the relevant provisions are now spread across a number of texts, which makes it harder to grasp the existing rules as a single framework. Within the context of the Commission-wide initiative for "better regulation" which defined guidelines for improving the "regulation-making process" within the EU,[13] enforcement rules

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have been identified as one of the key targets of the 2005 CFP Simplification Action Plan.[14] At the same time, the 1993 regulation, although remarkably innovative at the time, and despite the introduction of many new elements since then, contains many elements that are now outdated. So an overall recast has now become necessary, which will have to combine simplification with greater effectiveness.

Difficulties Encountered within the Member States

As illustrated in the Commission's most recent triannual report on monitoring and control,[15] most Member States are still far from making full use of all the tools put at their disposal by the CFP. To take just one example, the legal powers which exist and which would allow real traceability of fish products landed by vessels from third countries are often under-utilised.

VMS data tend to be largely under-utilised for optimising inspections. VMS tracking makes it possible to allocate inspections to vessels which are pre-identified on the basis of specific risk analyses, and to schedule them at the most appropriate time, for instance, when they are landing, or are about to land, their catches. But this will only work if VMS data is made available to all the inspection services which need them in a timely manner.

In many Member States, the resources available, especially human resources, still remain insufficient in terms of the numbers of inspectors, as well as of their training. Most Member States also continue to face major problems in developing a properly integrated strategy for fisheries inspections, which would cover the whole chain from controls at sea down to the last point of sale. This is particularly the case where many different administrations are involved. These difficulties then impact on operational coordination, including intelligence sharing (for instance, making VMS data available rapidly, as discussed above). They also lead to broader problems of rational allocation of available resources across the various categories of inspections (in many Member States, there is a need to expand the resources allocated to inspections on land, even at the expense of inspections at sea).

For the European Commission

The tasks which lie with the Commission – of promoting transparency between Member States and taking actions against Member States for failing to fulfil their national responsibilities – have proved to be highly demanding in terms of both time and human resources.

Both tasks are hampered by the still restricted powers of Commission inspectors: they cannot, for instance, collect evidence on their own and need to be accompanied by national inspectors. As regards improving transparency, it is also now clear that the existing rules are not sufficiently precise to make sure that the information Member States transmit to the Commission is really comparable. Despite many attempts to remedy the problem, there is still no common definition of an effective standard inspection, so the number of inspections reported by the Member States cannot be directly compared. Major discrepancies between Member States in terms of inspection intensity still exist, but they cannot be demonstrated on the basis of indisputable figures. Similar difficulties have been encountered with sanctions. There can be major variations between infringements which currently fall within the same category, so that the sanctions imposed on them cannot really be compared. For instance, it is often not possible to distinguish in reports filed between sanctions imposed on small as opposed to large vessels, yet the same fine of, for example, 5,000 euros will have a much greater impact on a small fishing vessel whose annual turnover is less than 100,000 euros, than it will on a large one whose turnover might come close to one million euros. In most Member States, the databases which contain information on the follow-up of apparent infringements are not sufficiently detailed and/or structured for it to be possible to extract cases related to a particular species or stock, or those which fall under a specific Regulation (e.g. so as to distinguish between non-compliance with rules for catch registration, and those on minimum landing sizes). A number of Member States do not even distinguish between sanctions for infringements of European rules and those that result from non-compliance with national or even local rules. Nor is it possible to know the annual turnover of the company on which an individual sanction has been imposed (which would make it possible to assess whether certain fines were truly proportional to the offence). In the same vein, it is not possible to know the various possible components of a sanction: it may consist not simply of a fine, but include also an order immobilising the vessel (for a large vessel, the mere fact that a vessel has to be rerouted for harbour inspections can result in very significant losses of fishing time), withdrawal or suspension of fishing licences, gear and/or catch seizure, etc.. As a result, it is impossible to quantify the overall penalty imposed taking into account all the relevant elements. This is all the more important given that the available "arsenals" differ widely from one Member State to another. At present, the information transmitted to the Commission often makes it difficult to demonstrate that a Member State does or does not comply with its obligation to put in place a deterrent inspection and sanction regime. It is not possible to conduct the kind of global integrated analysis which would take into account the probability for a wrong doer of being caught and sanctioned, and the overall level of sanction really imposed.[16]

The Commission also has difficulties making full use of the tools which are provided for it under the CFP rules. It takes many years to launch and conclude an infringement procedure against a Member State before the European Court of Justice. This is partly because the limited powers of the Commission's inspectors, as discussed above, make it difficult to build a strong evidential basis for potential cases.

V. The Next Steps

Changes Necessary in the Short Term

As mentioned above, recasting the legislative framework has become a priority. The texts need to be fully updated and more effective; they also need to be simpler to read and to apply. The specific difficulties mentioned in section IV should be addressed so as to ensure a really

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equal playing field at EU level, and secure full transparency between Member States about the comparative efficiency of their respective inspection and sanctions regimes, and thus about their corresponding ability to secure deterrence. This must include reviewing the powers and responsibilities of the Commission's inspectorate, as well as those of the Community inspectors who will operate through the CFCA.

The EU Member States should put in place the appropriate human, budgetary and legal resources, within the context of truly integrated strategies which can achieve effective monitoring and control without resulting in disproportionate costs. This issue of the cost of enforcement is bound to become a crucial one. In this respect, making the CFCA a success is of paramount importance. Now that enforcement costs are recognised as a major and legitimate issue, all possible opportunities for synergy between Member States must be seized.[17] Making proper use of all available modern technologies will also be critical in ensuring that enforcement policies have a good cost/benefit ratio. Here again, the CFCA can and must play a key role.

Paving the Way for Further Developments

It is not yet possible to predict what will be the appropriate decisions to take in the longer term. If future choices could be determined now, it would be rational to propose them immediately, without further delay. On the other hand, some topics will clearly require close attention in the coming years, in order to pave the way for the future evolution of our control systems.

It will clearly be important to assess how the CFCA can best play its role on the basis of the experience of the next few years once it is up and running. This should include the possibility of extending its responsibilities and powers wherever that may be appropriate.

It will also be crucial to stimulate the interest of scientists in issues related to compliance with fisheries management rules. Among other benefits, this will help those who are in charge of enforcement keep abreast of scientific and technological developments which could facilitate monitoring and control.[18] In order to analyse broader questions such as the real deterrent effect of any given inspection and sanctions regime, multidisciplinary projects must be developed, encompassing the technical, economic and legal dimensions.

Future discussions about management decisions will also have to pay increased attention to the issue of "controllability". This is true even with regard to possible management tools, for some tools are much easier to enforce than others (for example, it is much easier to monitor the location of a fishing vessel than its catches, or the details of the rigging of the gear it really uses at sea).

Finally, it is vital that we continue to develop broad stakeholder involvement in discussions about compliance. It is possible to close and ban a fishery against the fishermen's will. But it is not possible to manage a fishery by enforcing rules which are not seen to be necessary by the industry.

Conclusion

Outsiders and newcomers may believe that there are easy solutions to compliance problems in fisheries. A little knowledge of reality may, on the other hand, lead to negative conclusions about the possibility of achieving any significant progress. More detailed analyses lead to subtler conclusions. It was, in fact, almost unavoidable that the CFP, like other fisheries policies, would face problems of non-compliance. It is only after binding management decisions have been made that it becomes fully possible to assess, and so address, the compliance problems associated with such rules. Though it has not been achieved up to now, building a culture of compliance is possible. The most promising aspect of the present situation is the broad awareness of the importance of compliance problems, and the general consensus as to what the main problems are to be solved.[19]

Notes

1 Council Regulation (EC) No 2371/2002 of 20 December 2002, hereafter referred to as the "Basic Regulation".

2 Much of the relevant literature in the case of the CFP is found in documents published by the International Council for the Exploration of the Sea (http://www.ices.dk/indexfla.asp).

3 See, for instance, the Report from the Commission to the Council and the European Parliament on the monitoring of the Member States' implementation of the Common Fisheries Policies 2003–2005 COM (2007) 167 final {SEC(2007)425}.

4 See, for instance, discussions of the Northwest Atlantic Fisheries Organisation (NAFO), North East Atlantic Fisheries Commission (NEAFC), International Commission for the Conservation of Atlantic Tuna (ICCAT), Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), or the Inter-American Tropical Tuna Commissions (IATTC) in the Proceedings of the International Conference on Integrated Fisheries Monitoring; Sydney, Australia, 1–5 February 1999; Rome, FAO, 1999.

5 Many economists relate problems in enforcing fisheries rules to the "common property syndrome". It is true that the prisoner's dilemma applies in a particularly acute way in a context where fish stocks remain a common resource. On the other hand, conflicts between short-term individual interests, which may favour fraudulent behaviour, and long-term collective interests, are present in most discussions about enforcement whatever the property structure of the domain at issue, be it fisheries or something completely different.

6 Communication from the Commission to the Council and the European Parliament: Implementing sustainability in EU fisheries through maximum sustainable yield, COM(2006) 360 final, {SEC(2006)868}, and the same phenomenon can be seen in many fisheries throughout the world (see, for instance, the FAO's report on "*The State of World Fisheries and Aquaculture*", 2006.

7 See Council Decision (EC) No 468/1999 of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission.

8 Council Regulations (EC) No 2847/1993 of 12 October 1993 establishing a control system applicable to the Common Fisheries Policy.

9 A new regulation was recently adopted, see Council Regulation (EC) N°861/2006 of 22 May 2006, but does not alter the relevant points set out in the text.

10 See Regulations (EC) n° 1447/99 and 2740/99.

11 Council Regulation (EC) No 768/2005 of 26 April 2005.

12 See note 8 above.

13 COM 2005/535 final.

14 COM//647/2005.

15 Cited in note 3 above.

16 Here again cooperation between services should be improved, since in most Member States there is a gap between the inspection services and the authorities competent to decide sanctions, to whom the file must be transmitted.

17 For example, it would be unreasonable for all Member States to address their training problems in isolation, or to insist in every case on their own independent equipment (for instance, for analysing satellite images, as may happen in the context of VDS systems).

18 Recently developed biological methods, including genetic techniques, but also other approaches such as chemical or isotope-based techniques, can be instrumental in addressing traceability problems.

19 I would like to thank my colleague Peter Snowdon for controlling my text so as to ensure my compliance with some of the more abstruse rules and regulations governing the English language.

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Europe

How Science and Policy Combined to Combat Air Pollution Problems

by Leen Hordijk* and Markus Amann**

The British scientist Robert Angus Smith first noted the problem of acid rain in Europe in 1872, but it took another century before its environmental effects were widely recognised as a major problem. During that century the acidity of Europe's rain increased at least tenfold; and in the second half of the twentieth century, the soils of Europe's forests became five to ten times more acid.

By the 1980s the effects of acid rain were highly visible. Coniferous trees in Germany's Black Forest had lost needles and turned yellow, fish had disappeared from thousands of lakes in the northern hemisphere, and the gilded roof of the sixteenth-century Sigismund Chapel in Katowice, Poland, was so eroded it had to be replaced. People's health was also at risk – neutralising chemicals had to be added to the largest reservoir in the United States in Quabbin, Massachusetts, to protect the drinking water supply of millions of people living in this densely populated area, which includes the city of Boston.

Acid rain occurs when sulphur dioxide, nitrogen oxides and ammonia are emitted into the atmosphere from various sources such as power stations, vehicles and agriculture. The pollutants are absorbed by water droplets in clouds and subsequently fall to earth as rain, snow, mist, dry dust, hail or sleet. The resulting acid rain acidifies lakes, which kills fish. It dissolves nutrients in the soil, which then leach out, making the soil infertile and killing trees. And acid rain also attacks the stonework of buildings, costing a fortune to repair.

Yet why were many of the forests and lakes affected by acid rain in remote places, far from industrial activities? The problem is that the air pollutants are not static, but are blown by the wind across "artificial" international boundaries, meaning that any attempt to curb air pollution requires agreement among countries on the measures to be used. In Europe in the 1980s this meant forging an agreement across the iron curtain between countries in east and west Europe.

To this, add the scientific complexity of air pollution. As the sources of air pollution are numerous, ranging from agriculture through industry to transport, measures to tackle it must be equally numerous. There are a range of air pollutants which, individually and in combination, have multiple effects on the environment, including acidification and eutrophication. The latter process occurs when pollutants cause an excessive amount of nutrients (*e.g.*, nitrogen) to enter soils, lakes and rivers, threatening biodiversity, encouraging the overgrowth of algae and killing other organisms. Any attempt to tackle air pollution thus requires an excellent scientific understanding of both its causes and its effects.

And as if the scientific and international nature of acid rain were not complicated enough, there are large differences among countries in terms of the type and amount of air pollution generated, and these must be taken into account if any agreement to curb air pollution is to be effective. For example, in Europe, countries are not equal contributors to the acid rain problem. The London-Paris-Ruhr triangle has the highest concentration of industry, traffic and people in Europe, which are the main sources of air pollution. The Leipzig-Dresden-Halle triangle, then in East Germany, and the Donetsk basin in the former USSR and now in the Ukraine had even higher pollution. Nor are the effects of acid rain felt equally. The north of Europe is more sensitive to acidification than the south. Moreover, the prevailing wind is from the south-west and so sends more air pollutants to the north-east of Europe. Not surprisingly, developing an environmental policy that identifies the most cost-effective measures to reduce emissions across a large number of different countries is far from easy.

Yet, the Convention on Long-range Transboundary Air Pollution of the United Nations Economic Commission for Europe (UNECE) has done precisely that. It is one of the oldest and most successful multilateral international treaties protecting the environment, with targets that have led its Parties to slash their emissions of air pollutants drastically. Indeed, over the past 20 years sulphur dioxide emissions in Europe have plunged by more than 60 per cent.

What was and is the secret of the Convention's success? The answer is the close collaboration that took place between scientists and policy makers who negotiated the international agreement. This may sound simple, but more often than not scientists and policy makers talk past each other, as each group has different agendas and operates under different constraints.

In much applied research, the scientists view their task as the proper marshalling of all the facts to identify the most rational course of action in support of the common good. In other words, in order to induce national governments to reduce emissions of air pollutants from their power plants, it should be sufficient to produce a cogent forecast of the cumulative destructive effects of these

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emissions on the environment of their own or nearby countries.

But this is seldom enough for the policy maker working in the real world. It is not the case that decision makers fail to heed the warnings of scientists, but that the costs and benefits of adopting any policy are not equally distributed – or place too large a burden on the economy. Therefore policy makers may agree on the net benefits of certain policies or actions but find it impossible to agree on how the costs of taking these actions should be shared among the people and interest groups affected.

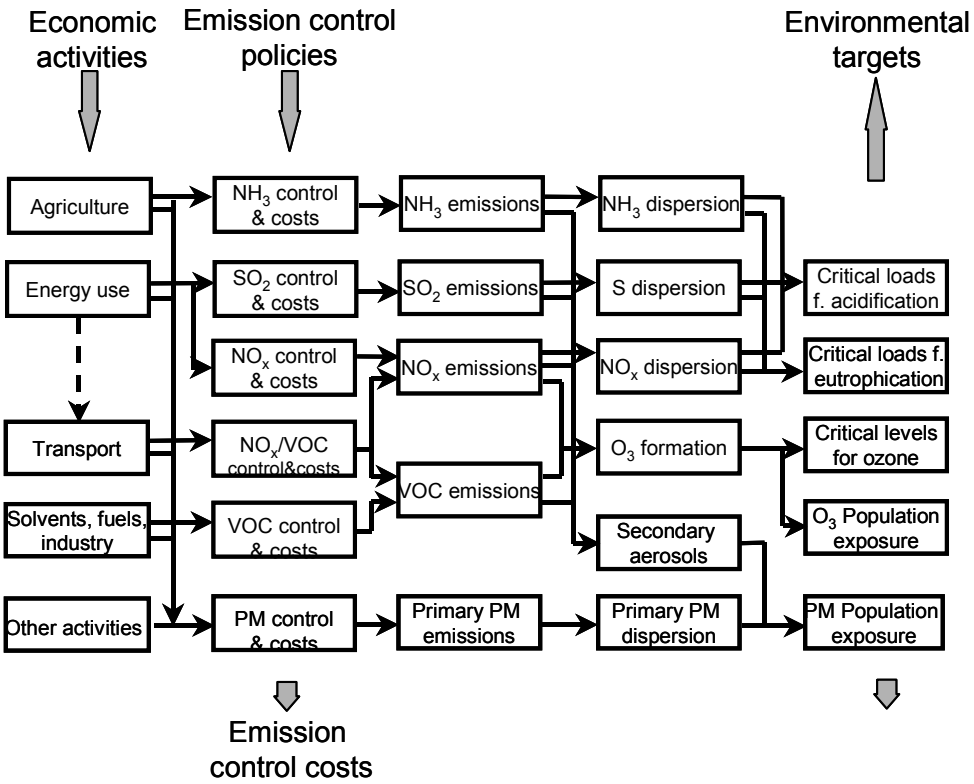
Behind the success of the Convention lies the willingness of scientists and policy makers to jointly analyse the implications of implementing different policies to curb air pollution. And to identify points of resistance from certain groups and countries so that policies can be devised that mitigate their opposition.

Especially important in helping to build a crucial bridge between the science and the policy in this area has been a scientific tool, developed by the International Institute for Applied Systems Analysis (IIASA), known as the Regional Acidification INformation and Simulation (RAINS) model. RAINS was the first computer model to be at the centre of major international environmental negotiations.

The Scientific Tool

RAINS, one of the first successful integrated assessment tools, comprises a series of submodels and databases that organise information in three broad categories: pollution generation and control options, including costs; atmospheric transport and deposition; and impacts on the environment (see Figure 1).

Figure 1. Structure of the RAINS model in 2006



In essence, RAINS is a scenario-generating device that helps users to understand the impacts of future actions – or inaction – and to design strategies to achieve long-term environmental goals at the lowest possible cost. With a few hours of training, scientists, bureaucrats, politicians and other non-technical users can pose any number of "What if…?" questions to RAINS. How much would it cost to reduce ozone levels to a given standard for all of Europe? For the worst affected areas only? What is the cheapest way to stop acidification of forest soils in Bohemia? What would be the impact of a new emissions standard for, say, power plants on eutrophication? On acidification? On ozone formation? RAINS gives answers to such questions, usually within minutes.

The European version of RAINS covers 43 countries stretching as far east as the Urals. A version of the model

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has been developed to cover 23 countries in Asia including China, India, Indonesia, Japan and the Philippines. Databases and simulations for the versions extend from 1990–2030.

IIASA began to develop RAINS in 1983 with the vision to produce a scientific tool that would help national governments in Europe not only to understand air pollution but to collaborate and agree on strategies to reduce emissions. Many years of hard work followed; this continues today.

Unlike universities which group researchers according to academic discipline, IIASA's researchers are organised into programmes that meld different academic disciplines to research real world problems. This approach frequently results in both innovative and practical research. To develop RAINS, chemists specialising in air pollution worked with ecologists who studied the environmental impacts of acid rain, and together they worked with economists to find cost-effective measures to reduce air pollution.

Moreover, the researchers came from many different countries and thus did not represent any national self-interest. This international cooperation in developing the model ensured that when countries began to use the model's results in the international negotiations, the results were free from the type of suspicion that would have arisen if, say, only Russian or Swedish researchers had produced the model. IIASA's independent position as an international institute funded by scientific organisations in both the East and the West ensured its science was free from such mistrust.

The first version of the model focused on the air pollutant sulphur dioxide (SO_2) because of the prime role of sulphur in the formation of acid rain. RAINS helped policy makers to make decisions in two main ways. Decision makers could view the implications for sulphur emissions of their current environmental decisions for up to 40 years into the future. Alternatively, they could specify the emissions level that they wished to achieve in, say, 2030 and ask the RAINS model to determine a cost-effective approach to achieving it. During these approaches, the model queried its massive air–pollution-related database and produced concise information that could be understood by the policy maker.

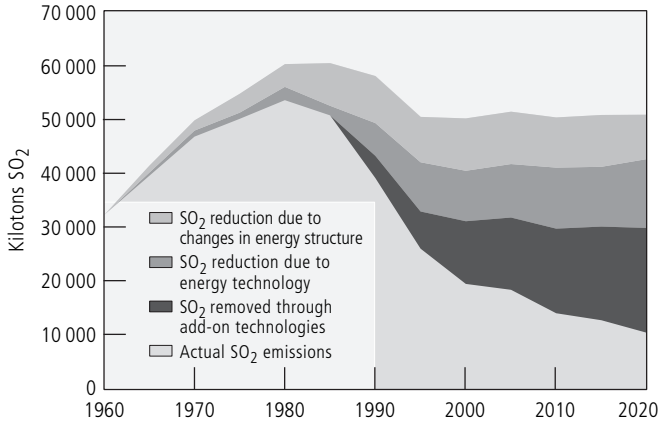
Science and Policy Combined

In 1994 the IIASA RAINS model underpinned the agreement of 33 European governments to reduce damaging SO_2 emissions, when the Second Sulphur Protocol to the Convention on Long-range Transboundary Air Pollution was signed in Oslo. Also known as the Oslo Protocol, it contributed to the sharp decrease in SO_2 emissions during the 1990s (see Figure 2).

RAINS played a key role in reaching such a successful environmental agreement by providing a workable interface between two completely different worlds: science and policy.

To give an example: before the Oslo Protocol, negotiators were set on reducing their annual sulphur emissions by a uniform 60 per cent per country to build on the 1985 agreement of a 30 per cent flat rate cut. While better than nothing, this uniform approach is crude and inefficient. RAINS provided the decision makers with the expertise to make a far more efficient agreement that resulted in a cost saving of several billion euros per year over the original plan to cut emissions in each country equally.

Figure 2. The prevention of sulphur dioxide (SO_2) emissions in Europe 1960–2020: Actual levels compared to hypothetical levels, taking into account energy consumption growth



An equal reduction of emissions for each country ignores the fact that some ecosystems are very sensitive to acidification while others are not. If the goal is to protect the environment, it makes little sense to cut emissions if they occur where they do no harm. Moreover, across-the-board cuts do not take into account that some emissions can be cut more cheaply and quickly than others, that some countries have already implemented stricter controls than others, and that in some countries the cost are lower than in others.

In essence, RAINS helped a process of mutual education between the scientists and the policy makers. Slowly, negotiators came to accept the need to target cuts in emissions; and sample calculations showed them how targeted cuts could protect the environment more effectively than across-the-board cuts, and at a fraction of the cost.

While scientists educated the negotiators, scientists were also sensitised to political realities. A uniform cut in emissions has its virtues. It appears fair. Targeted cuts, by definition, are unequal; if they oblige some industries or countries to cut more and pay more than others, they can distort competition. For the negotiators and their political masters, this was a long bridge to cross. But the potential benefits were simply too great to ignore.

Over time decision makers accepted the concept of "critical loads" as a key aid to negotiation. A critical load is a quantitative estimate of an ecosystem's vulnerability

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to pollution. For the purposes of the sulphur negotiation, it was defined as the amount of acid deposition that an ecosystem can tolerate annually without long-term damage. Vulnerability to acidity depends on local conditions, especially soil chemistry; soils derived from limestone, for example, readily absorb and neutralise acids, while granitic soils do not. Other important factors are soil thickness, precipitation, and deposition of dust and other acid-neutralising materials.

In 1992 negotiators asked IIASA to analyse a range of scenarios for sulphur emissions, using the RAINS model. Under one scenario, only seven per cent of ecosystems would receive sulphur depositions above their critical loads (compared to 30 per cent in 1990). With minor alterations, this scenario, and all that it implied for each country, became the basis of the Second Sulphur Protocol, signed in 1994. Never before had international negotiators allowed a computer tool so closely to guide discussions and influence their outcome.

Toward Comprehensive Air Pollution Control

By 1999 international negotiators from 35 countries had signed an even more ambitious agreement to sharply limit air pollution in Europe. Known as the Gothenburg Protocol, it addressed a complex range of related air pollutants and problems simultaneously. Without the RAINS model this far more efficient approach (compared to artificially isolating air pollutants in separate agreements) would not have been possible.

It was during renegotiation of the Oslo Protocol in the early 1990s that negotiators learned a great deal about the complexity of air pollution chains and the power of integrated assessment tools to help them find more effective, less costly solutions. The inefficiency of single-pollutant agreements became obvious when they began to consider the next agreement up for renegotiation, the Nitrogen Oxides Protocol.

The paths of nitrogen oxide (NO_x) through the environment, and its impact, are much more complex than those of sulphur. In the presence of sunlight, NO_x combines with volatile organic compounds (VOCs) and carbon monoxide to form ozone – hence the need to negotiate controls of NO_x and VOCs simultaneously.

Like sulphur dioxide, NO_x is also an important source of environmental acidification (responsible for about 20 per cent in Europe, compared to 60 per cent for sulphur and 20 per cent for ammonia). But unlike sulphur, nitrogen is also a basic plant nutrient. It can be taken up by plants, often to excess, creating the problem of over-fertilisation or eutrophication. Nitrogen from ammonia (NH_3) can have the same impact.

Clearly, a comprehensive approach to acidification and eutrophication means that ammonia had to be included in the negotiations. Hence negotiations to improve the Nitrogen Oxides Protocol expanded to an international agreement of measures to control the four pollutants (SO_2, NH_3, NO_x and VOCs) responsible for three major environmental problems: acidification, eutrophication and ozone formation. This was the Convention's Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone, the first-ever multi-pollutant and multi-effect Protocol.

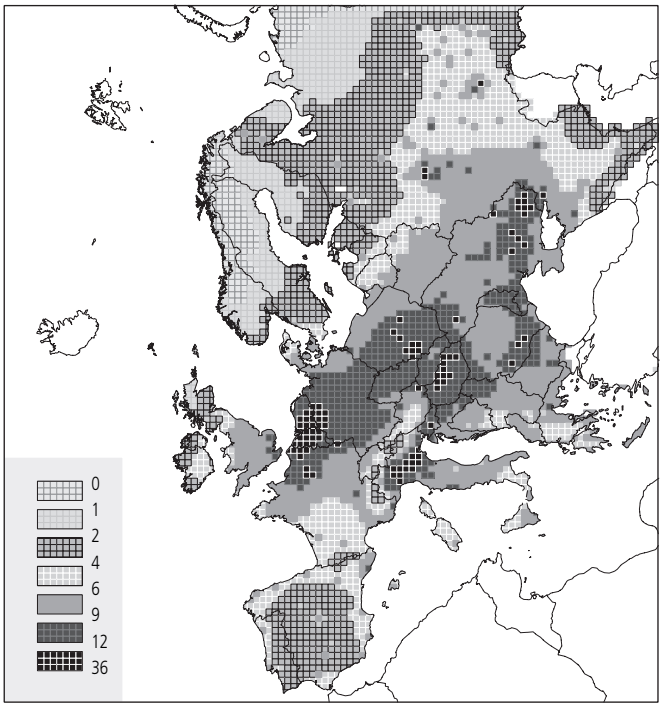
Health and Climate Change

Both the Oslo and Gothenburg Protocols have greatly reduced problems of acid rain and ozone pollution. But these agreements overlooked another pollution problem: the damage to human health caused by fine airborne particles which, according to estimates, reduce average life expectancy of European citizens by more than nine months.

Airborne particulates come mostly from the exhausts of cars, trucks, heating and power plants. Some of them are directly emitted. In addition, the so-called secondary particles are formed from pollutant gases, including sulphur dioxide and nitrogen oxides. They cause respiratory and cardiovascular diseases and have been linked to increased rates of mortality.

The European Commission's Thematic Strategy on Air Pollution for Europe, which was agreed in 2005, was also based on work by IIASA scientists using the RAINS model. The strategy sets out the air-quality objectives for 2020 and maximises the synergies and minimises the costs from controlling a range of air pollutants. According to RAINS projections, the envisaged decline in particulate matter by 2020 will bring about an average gain in statistical life expectancy of three months for people living in Europe (see Figure 3).

Figure 3. RAINS estimates of loss in statistical life expectancy attributable to exposure to fine particulate matter from emissions from human sources for the year 2000 (months)



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Air pollution and greenhouse gases are often generated by the same sources and interact in the atmosphere through complex chemical reactions. Therefore, policies to reduce emissions of both air pollutants and greenhouse gases at the same time are the most cost-effective approach to improving air quality and addressing climate change. IIASA's scientists have extended the RAINS model to identify the most economic approaches to further improving local and regional air quality while controlling emissions of various greenhouse gases. This new model is known as the Greenhouse Gas and Air Pollution Interactions and Synergies (GAINS) model and is available for Europe and being developed for Asia.

Lessons Learned

The key position that IIASA's RAINS model plays in the international agreement requires all those countries and stakeholders involved to trust and understand the model and the science. To achieve such a high level of trust, IIASA's scientists ensure transparency of the model and the input data. All input data is scrutinised through extensive bilateral review sessions and information is made freely available online.

The availability of the model online has encouraged the use of RAINS by experts for national purposes. As a result of training workshops and continued reports to policy makers in an atmosphere where there is willingness to understand mutual viewpoints, policy makers have a far greater appreciation of the relationship between costs and environmental improvements, so vital to defining a generally agreed level of emission reductions.

The achievements of the Convention encourage decision makers to strive for even more ambitious reductions of combinations of air pollutants which, in turn, poses important challenges to the users and developers of the model. First, the integration of more and more aspects makes the model increasingly complex. For negotiators, this complexity raises a host of problems. It takes more effort and commitment from national experts to understand the model in detail and to validate all input data. And it forces model developers to identify the critical issues and interactions and present them in understandable and manageable ways.

Furthermore, negotiators are faced with a staggering number and variety of cross-linkages. Almost everything becomes a trade-off with something else. Many trade-offs can be framed as scientific or technical questions, as in the balancing of emissions between sulphur and nitrogen. In such cases RAINS can help. But in other cases, the trade-offs are moral and social, and hence political. Which is more important, protecting forests from acid rain or limiting human exposure to harmful ozone? Should we put all our efforts into helping the worst affected areas, or should we try to spread benefits evenly? How do we balance the interests of agriculture versus transport versus electricity production? These questions require political judgment and cannot be answered by a formal scientific model.

When negotiators choose to put RAINS at the centre of their negotiations, they open the door to such complexity. However, integrated assessment also helps them to separate scientific questions from purely political ones. Combining and linking the relevant scientific and technical information in one package minimises the chances that negotiators will get bogged down in scientific minutiae. It helps them to set overarching goals for environmental protection, then focus on the search for practical, fair solutions. In a sense, RAINS contains and bounds the science, and leaves the politics to the politicians. The results should benefit everybody.

The Future

A great deal has been achieved to clean Europe's air since Leen Hordijk became leader of IIASA's Acid Rain Project in the 1980s, but still more needs to be done. Science is showing us that air pollution is a global phenomenon. In Europe, background concentrations of ozone and particulate matter across the northern hemisphere have a critical influence on the achievability and costs of air quality targets.

In Asia, huge economic growth is contributing to air pollution. Many Asian countries have begun to use advanced technical measures to reduce emission and improve local air quality. As we have seen with RAINS, it is now possible to design more refined emission control strategies that simultaneously address multiple air quality problems, balancing emission controls over different economic sectors so that societies can improve the air quality at least cost.

IIASA is delighted that its scientists are now working with researchers in China and India to build a scientific model (GAINS-Asia) to give decision makers a valuable scientific tool to continue cleaning up the world's air.

More information:

RAINS model: www.iiasa.ac.at/rains
GAINS-Asia model: www.iiasa.ac.at/rains/gains_asia

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Carpathian Convention / MOP-1

Protection and Sustainable Development of the Carpathians

by Harald Egerer*

The Opening

The First Meeting of the Conference of the Parties to the Carpathian Convention was held in Kyiv, Ukraine from 11–13 December 2006. Vasyl Dzharty, Minister of Environmental Protection of Ukraine, officially opened the meeting. He remarked that it was appropriate that the COP coincided with International Mountain Day (11 December). He also emphasised the importance of the Rio Earth Summit results and regional and international partnerships in promoting the environmentally sustainable development of the Carpathian region, in the context of the Mountain Partnership.

The Carpathian Convention

The Framework Convention on the Protection and Sustainable Development of the Carpathians was adopted by the Carpathian countries at the Fifth Ministerial Conference "Environment for Europe" (Kyiv, May 2003) and consequently signed by all seven countries (the Czech Republic, the Republic of Hungary, the Republic of Poland, Romania, the Republic of Serbia, the Slovak Republic and Ukraine). The Carpathian Convention is a framework-type convention pursuing a comprehensive policy and cooperation in the protection and sustainable development of the Carpathians. The Carpathian Convention has currently six Parties (only ratification by the Republic of Serbia remains outstanding). The Interim Secretariat is assured by the United Nations Environment Programme – Regional Office for Europe (UNEP-ROE) and its premises are hosted with the support of the government of Austria in Vienna.

From left: Executive Secretary of COP-1, Harald Egerer (UNEP Vienna); Frits Schlingemann (Director UNEP ROE); Co-President of COP-1, Josef Markus Wuketich (Ambassador of Austria); Miklos Persanyi (Minister of Environment and Water Management, Hungary); Jan Szysko (Minister of Environment, Poland); Jan Dusik (Deputy Minister of Environment, Czech Republic); Vasyl Dzharty (Minister of Environment, Ukraine); President of COP-1, Sulfina Barbu (Minister of Environment, Romania). Courtesy: H. Egerer

The Proceedings of the Conference

At the beginning of the first session of the Meeting, the Conference of the Parties elected a Bureau of the Conference of the Parties, which consists of the President, the Vice-President and the Rapporteur. The Meeting elected Vasyl Dzharty, Minister of Environmental Protection of Ukraine, as President, Jana Brozova representing the Czech Republic as Vice-President and Carmen Damian representing Romania as Rapporteur. It was agreed that the Bureau of the Conference of the Parties would consist of one member from each of the seven signatory countries. The Bureau shall remain in office until their successors are elected at the next COP.

Frits Schlingemann, Director and Regional Representative, United Nations Environment Programme (UNEP) – Regional Office for Europe, was appointed Co-President and Igor Ivanenko, Head of the State Agency for Protected Areas of Ukraine, served as President of the COP during the absence of Vasyl Dzharty. The meeting agreed that Harald Egerer, Head of the UNEP Vienna – Interim Secretariat of the Carpathian Convention Office, would act as the COP's Executive Secretary.

In addition to the seven participating government delegations, some 50 representatives of non-governmental organisations were represented at the meeting.

The Meeting adopted the Convention's Programme of Work for the three-year period 2006 to 2008, consisting of 19 decisions, and the COP Rules of Procedures and the Carpathian Convention Financial Rules. The agreed result is an ambitious but realistic Programme through which the Convention can make a practical impact on the health

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and well-being of the wilderness areas and local communities of the Carpathians. The Meeting established the Carpathian Convention Implementation Committee as the Subsidiary Body of the Convention. The Committee will oversee the convening of the six Working Groups responsible for managing the projects and activities related to the Convention, notably the EU co-financed INTERREG IIIB CADSES "Carpathian Project". The established working groups are the following: *on conservation and sustainable use of biological and landscape diversity; on cultural heritage and traditional knowledge; on sustainable agriculture, rural development and forestry; on sustainable industry, energy, transport and infrastructure; on sustainable tourism; on spatial planning.*

A key feature of the Programme of Work is the recommendation that the Parties develop a Protocol on the Conservation of Biological and Landscape Diversity. The Protocol will detail concrete measures for strengthening the Convention's impact and is to be adopted "as soon as possible". The Meeting established the Carpathian Network of Protected Areas (CNPA) constituting a thematic network of mountain protected areas in the Carpathians, and its Steering Committee, composed of the CNPA Focal Points to be designated by each country. The Meeting appreciated the cooperation with the Alpine Network of Protected Areas to advance this new Network.

The work programme addresses the critical issue of sustainable energy. The Convention's key partners in this field will include the European Commission, the Secretariat of the Energy Community and the Secretariat of the Renewable Energy and Energy Efficiency Partnership.

In the field of sustainable tourism, the work programme is to support and promote a number of highly promising and practical initiatives in this field. During discussions, it was clear that delegations believe that sustainable tourism offers enormous potential for regional cooperation, such as the further development of the Via Carpatica as a sustainable tourism package.

Concerning the issue of awareness raising, education, public participation and capacity building, the Interim Secretariat is requested to cooperate with the Aarhus Convention Secretariat and to work with other partners to promote awareness of the Convention among civil society and the general public. The work programme also recommends establishing national mechanisms to foster the Convention implementation.

The Meeting adopted a Decision on cooperation with the European Union. The European Community is invited to accede to the Carpathian Convention. The Interim Secretariat is requested, in close cooperation with the Parties and the EU institutions, to develop and further negotiate the follow-up projects to the INTERREG IIIB CADSES Carpathian Project, aiming at the environmentally sustainable development of the "Carpathian Space" and the EU Operational Programme.

The Memorandum of Understanding with the Carpathian EcoRegion Initiative (CERI) was signed at COP-1.

The Meeting agreed to postpone decisions on the geographical scope of the Convention's application as well as on arrangements for the Permanent Secretariat of the Convention until COP-2, which will take place in Romania in 2008.

The High-level Segment

The Ministerial High-level Segment was officially opened by the Ukrainian Minister Vasyl Dzharty, President of COP-1. A welcoming speech was given by Frits Schlingemann on behalf of UNEP Executive Director Achim Steiner. Ministers from Hungary, Poland, Romania, the Slovak Republic and Ukraine, the Deputy Minister from the Czech Republic and the Ambassador of the Republic of Serbia in Ukraine participated in the final day of COP-1.

The Rapporteur, Carmen Damian from Romania, presented a brief oral report of the expert session. Statements were made by HE Jan Dusik, Deputy Minister and Director General for Legislation and International Relations, Ministry of Environment of the Czech Republic, HE Miklos Persanyi, Minister, Ministry of Environment and Water Management of Hungary, HE Jan Szyszko, Minister, Ministry of Environment of Poland, HE Sulfina Barbu, Minister, Ministry of Environment and Water Management of Romania, HE Goran Aleksic, Ambassador, Embassy of the Republic of Serbia in Ukraine, HE Jaroslav Izak, Minister, Ministry of Environment of the Slovak Republic and HE Pavlo Bol'shakov, Deputy Minister, Ministry of Environmental Protection of Ukraine.

The following observers also made statements: HE Josef Markus Wuketich, Ambassador of Austria in Ukraine; Corrado Clini, Director General, Ministry of Environment, Land and Sea of Italy; Mykola Melenevsky, Deputy Director-General of the Central European Initiative; Aline Kuster-Menager, Head of International Affairs Division, Ministry of Ecology and Sustainable Development of France, representing the Presidency of the Alpine Convention; Peter Bridgewater, Secretary-General of the Ramsar Convention on Wetlands; Douglas McGuire, Coordinator of the Mountain Partnership Secretariat; Beata Wiszniewska, Regional Director of the Regional Environment Centre (REC); Jan Seffer, Chair of the Carpathian EcoRegional Initiative (CERI); Ivan Rybaruk, All-Ukrainian Association "Hutsulshchyna", and Monika Ochwat, League of Nature Protection, Poland, (ANPED).

The Carpathian Declaration – towards the "Carpathian Space" in Europe

The Ministers and Heads of Delegation formally adopted all 19 decisions and the Carpathian Declaration, expressing a vision for the future of the Carpathian Convention and highlighting achievements, challenges and cooperation and partnerships. The Declaration acknowledges the contribution made by partners outside the Carpathian region, namely the European Community, Austria and Italy for their continuous support for many activities, leading to the successful implementation of the Convention. The Declaration invites the European Community to become a Party to the Carpathian Convention, and to continue to support the protection and sustainable

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development of the "Carpathian Space" in the heart of Europe.

Partnerships

The Conference culminated in the signature of partnerships with important regional and global partners. A Memorandum of Understanding between the Alpine and the Carpathian Conventions was signed by both the Presidencies and the Secretariats of the Conventions. One Memorandum of Understanding was signed with the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention) and another one with the Central European Initiative (CEI).

Carpathian Celebrations

The Meeting agreed that the Carpathian Convention would also be referred to as the Kyiv Convention, after the city where it was adopted in 2003. The Ministerial Segment was officially concluded by the President's closing statement on 13 December 2006. The Second Meeting of the Conference of the Parties to the Carpathian Convention will be held in Brasov, Romania, in spring 2008. The official part of the Meeting was followed by the Carpathian Celebrations, with the presentation of cultural heritage and traditional knowledge of the Carpathians, accompanied by the sounds of Trembita trumpets, traditional Hutsul folk music and dancing.

Barcelona Convention

La gestion intégrée des zones côtières de la Méditerranée

par Michel Prieur*

La Convention de Barcelone sur la protection du milieu marin et du littoral de la Méditerranée de 1976 telle que modifiée le 10 juin 1995 fixe aux Parties (les 21 Etats riverains de la Méditerranée et la Communauté européenne) une obligation générale selon laquelle ils: «s'engagent à promouvoir la gestion intégrée du littoral en tenant compte de la protection des zones d'intérêt écologique et paysager et de l'utilisation rationnelle des ressources naturelles» (art. 4 para. 3-e).

Sur cette base divers travaux sur les zones côtières furent réalisés par le secrétariat de la Convention dès 1998 avec notamment une étude de droit comparé sur les zones côtières des pays de la Méditerranée. La 12° réunion des Parties contractantes de Monaco en 2001 approuva une recommandation invitant à élaborer une étude de faisabilité concernant un instrument régional légal sur la gestion durable des zones côtières. Cette étude fut présentée et approuvée à la 13° réunion des Parties à Catane en 2003 qui confia au secrétariat le soin de faire élaborer un avant projet de Protocole par un groupe d'experts juridiques dirigé par le Doyen Michel Prieur. Puis, sur cette base, la 14° réunion des Parties à Portoroz en 2005 décida de réunir un groupe de travail d'experts juridiques et techniques désignés par les Parties contractantes pour négocier le projet de protocole. Le texte du projet de protocole devra être présenté à la 15° réunion des Parties fin 2007.

Le travail de négociation a donc été entrepris et a fait l'objet de trois réunions: à Split (Croatie) du 27 au 29 avril 2006, à Loutraki (Grèce) du 6 au 9 septembre 2006 et à Loutraki à nouveau du 12 au 15 février 2007. Tous les articles du projet initial ont été examinés. Une dernière réunion est prévue en juin 2007 pour aboutir à un texte finalisé.

Le projet de Protocole est divisé en six parties : dispositions générales, principes et éléments de la gestion intégrée des zones côtières, instruments de la gestion intégrée des zones côtières, coopération internationale, dispositions institutionnelles et dispositions finales.

Il s'agit du premier traité international consacré à la gestion intégrée des zones côtières. Il s'inspire du chapitre 17 de l'Agenda 21 de Rio, du modèle de loi sur la gestion durable des zones côtières du Conseil de l'Europe de 1999 et de la Recommandation du Parlement européen et du Conseil de 2002 relative à la mise en œuvre d'une stratégie de gestion intégrée des zones côtières en Europe.

Les questions les plus délicates qui ont donné lieu aux discussions les plus nombreuses concernent les points suivants:

- Champ d'application du Protocole: jusqu'alors les traités sur les mers régionales qui évoquent les zones côtières se gardent bien de les délimiter territorialement. Il en résulte un flou préjudiciable à l'effectivité, sur le terrain, des dispositions en cause. Mais la variété des configurations locales rendait difficile un champ d'application uniforme. C'est pourquoi le projet de Protocole a choisi un système souple: les zones côtières sont constituées normalement du côté mer, de la mer territoriale et du côté terre des limites du territoire des entités administratives côtières. Mais les Etats peuvent, à condition d'en faire une déclaration, choisir d'autres limites : vers la mer, en deçà des limites de la mer territoriale, et vers la terre, en deçà ou au-delà des limites des entités administratives côtières en s'appuyant sur une approche écosystémique ou sur des critères économiques et sociaux.

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- Objectifs et principes de la gestion intégrée des zones côtières: une énumération détaillée des objectifs et des principes donne un contenu substantiel à la gestion intégrée et pourra guider les Etats dans la mise en œuvre du texte. On relèvera entre autres : la complémentarité et l'interdépendance entre la partie maritime et la partie terrestre de la zone côtière, l'approche écosystémique dans l'aménagement et la gestion, la prévention des risques liés aux changements climatiques, la répartition harmonieuse des activités, l'attention portée aux limites de la capacité de charge de la zone côtière, la nécessité d'une coordination institutionnelle.
- Protection et utilisation durable de la zone côtière: l'interdiction de construire dans la zone des 100 mètres est encore en débat compte tenu de la réserve de la Grèce, elle est toutefois accompagnée de possibilités de dérogations à la demande de l'Italie. Sont prévus: la limitation du développement linéaire des agglomérations, l'accès libre et gratuit du public à la mer, la limitation ou l'interdiction de la circulation et du stationnement des véhicules et l'ancrage des bateaux sur les espaces naturels terrestres ou maritimes fragiles y compris les plages et les dunes.
- Activités économiques: est prévue la définition d'indicateurs de développement des activités économiques en vue d'assurer l'utilisation durable des zones côtières. Des dispositions très souples concernent l'agriculture, l'industrie, la pêche, l'aquaculture, le tourisme et les activités de loisirs, l'utilisation des ressources naturelles, les infrastructures, installations énergétiques, ports et ouvrages maritimes. Un paragraphe sur les transports maritimes résultant d'une proposition de l'Italie fait l'objet d'une opposition de la France et de l'Union européenne comme ne relevant pas d'un tel protocole.
- Stratégie méditerranéenne et stratégie nationale: un cadre régional commun devra être élaboré pour guider les stratégies nationales. Ce cadre commun résultera de la Stratégie méditerranéenne pour le développement durable éventuellement complétée.
- Évaluations environnementales: déjà prévues par la Convention de Barcelone à l'art. 4-3-c et d), le Protocole insiste sur la nécessité de prendre en compte, dans les études d'impact des projets ainsi que dans celles des plans et programmes, la sensibilité particulière des zones côtières, l'interrelation entre les parties marines et terrestres, les impacts cumulatifs et la capacité de charge des zones côtières.
- Risques naturels et catastrophes: compte tenu des effets de l'élévation du niveau des mers, des risques d'inondations et des tsunamis, le Protocole exige des Etats de prendre en compte précisément ces phénomènes dans leurs stratégies nationales par des mesures de prévention, d'atténuation et d'adaptation pour faire face aux effets de ces catastrophes. Une coordination des réseaux de détection et d'alerte est imposée en liaison avec les mécanismes déjà existants ainsi que la désignation des autorités compétentes pour donner et recevoir les informations d'urgence. Une assistance et une solidarité mutuelle sont prévues après la catastrophe.

The 22 Contracting Parties to the Barcelona Convention are: Albania, Algeria, Bosnia/Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Serbia and Montenegro, Slovenia, Spain, Syria, Tunisia, Turkey and the European Union Courtesy: UNEP-WCMC

Lors de la dernière réunion de négociation avant de soumettre le texte à la réunion des Parties fin 2007 pour éventuelle convocation en 2008 d'une conférence diplomatique plénipotentiaire pour signature du Protocole, seront examinés pour approbation les articles concernant les définitions, l'érosion, la politique foncière, les instruments économiques et financiers, les études d'impact transfrontières, les compétences de coordination du secrétariat et des centres techniques. Enfin les parties entre crochets de certains articles déjà approuvés seront à nouveau examinées.

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ASEAN / 12th Summit

Environmental Aspects

by Koh Kheng-Lian*

The 12th ASEAN Summit consists of a number of meetings which took place in Cebu from 9–12 January 2007. This Report focuses on the areas of the environment discussed at the Cebu Summit. Under the VAP (Vientiane Action Plan 2004–2010), promoting environmental sustainability comes under chapter 3 *ASEAN Socio-Cultural Community* (para 3.3 and the relevant parts of its Annex 3).

Regarding the environment, the Chairperson's statement stressed the importance of regional and international developments which require ASEAN to deepen its integration to better foster the region's sustainable development. The following are some of the highlights of the Summit that deal with or impact on environmental matters.

ASEAN Community 2015

Under the ASEAN Vision 2020 of 15 December 1997, ASEAN resolved to make this Vision for the Year 2020 a reality. This Vision includes (under "A Community of Caring Societies") a vision of:

> … a clean and green ASEAN with fully established mechanisms for sustainable development to ensure the protection of the region's environment, the sustainability of its natural resources, and the high quality of life of its peoples.

At the 12th Summit, a decision was taken to expedite the process of the ASEAN community and to push its date forward to 2015. In this context, the Summit reviewed its three communities including the socio-cultural community.

ASEAN Charter

The Cebu Declaration on the Blueprint of the ASEAN Charter (http://www.aseansec.org/19257.htm) made a commitment to establish an ASEAN Charter and endorsed the Report of the EPG (Eminent Persons' Group) (http://www.aseansec.org/19247) on the Charter and agreed that the High Level Task Force should commence its drafting to be completed and to submit to the 13th ASEAN Summit in Singapore in November 2007.

The ASEAN Charter will have an important impact on the environment as questions relating to sovereignty of natural resources, implementation, compliance and enforcement of ASEAN environmental instruments would be affected. It will also modify the ASEAN Way by injecting more legal teeth and will put into place more structures for effective governance.

Cebu Declaration on East Asian Energy Security

At the Summit, the Second East Asia Summit was held on 15 January 2007 and attended by the Heads of State/Government of the 10 ASEAN countries, Australia, China, India, Japan, Republic of Korea and New Zealand.

The Preamble to the above Declaration recognises the limited global reserve of fossil energy, the unstable world prices of fuel oil, the worsening problems of environment and health, and the urgent need to address global warming and climate change. It also acknowledges the need to strengthen the renewable energy development such as in biofuels, and to promote open trade, facilitation and cooperation in the sector and related industries. The following are some of the aims of the Declaration:

- Improve the efficiency and environmental performance of fossil fuel use;
- Reduce dependence on conventional fuels through intensified energy efficiency and conservation programmes;
- Encourage open and competitive regional and international markets geared towards providing affordable energy at all economic levels;
- Mitigate greenhouse-gas emission through effective policies and measures;
- Pursue and encourage investment in energy resource and infrastructure development through greater private sector involvement.

Indonesian Haze Left out of Summit Meetings

The Summit meetings did not deal with the Indonesian Haze ("Haze left off Cebu Agendas" – http://www.budpar.go.id/page.php?ic=611&id=2188).

However, earlier, the ASEAN Environment Ministers met in Cebu from 9–11 November 2006. At this meeting, the Cebu Resolution on Sustainable Development, 2006 was adopted. Its Preamble was emphatic in dealing with the Haze:

- Express our serious concern over the recurring transboundary haze pollution, which was aggravated by the extended drier weather conditions during El Niño years, and resolve further to enhance preventive, monitoring and mitigation efforts to address land and forest fires;

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- Commit to continue assisting member countries affected by land and forest fires, within the framework of the ASEAN Agreement on Transboundary Haze Pollution, and for this purpose encourage the remaining member countries to quickly ratify the Agreement;
- Establish the Sub-regional Ministerial Steering Committee consisting of Ministers from the five most affected countries, namely, Brunei Darussalam**,** Indonesia, Malaysia, Singapore and Thailand to oversee the implementation of concrete actions to address land and forest fires and the resulting transboundary haze pollution.

At the Environment Ministers' meeting in Cebu, Indonesia's Environment Minister, Rachmat Witoelar, discussed an action plan for Indonesia which would include the following:

- Create more effective enforcement against plantation companies and forest concessionaries caught violating laws against indiscriminate burning to clear land.
- Make it mandatory for plantations and companies to comply with firefighting regulations and help pay for firefighting equipment and personnel in their regions.
- Establish a panel of experts.
- Conduct water bombing and cloud-seeding operations when they are most effective, during the early stages of the fires.
- Develop an emergency response system.
- Form the ASEAN Haze Fund and hold joint taskforces in fire prevention and suppression. Plantation owners should be made to contribute to a regional fund to fight the Haze.
- Plantation conglomerates granted tree-cutting rights should be made to foot part of the expenses for firefighting and control measures.

Dr Raman Letchumanan, head of ASEAN Secretariat's Environment and Disaster Management Unit, said, "it's very clear from the presentation and their action points that they have a very targeted immediate goal – certainly there is a greater commitment here." But what remains to be seen is how the plan translates into action, he added. Lee Yuen Hee, chief executive officer of Singapore's National Environment Agency, described the discussions as comprehensive and noted that the plans were a good basis to solve the problem.[1]

The Chairperson at the Summit stressed the importance of bringing the Haze issue to the attention of other countries and international organisations.[2]

Notes

1 Online at http://www.siiaonline.org/news_highlights?func=viewSubmission&sid=990&wid=171.
2 See, http://www.sunstar.com.ph/blogs/asean/?p=244.

Central Asia

Creating a Legal Framework for Sustainable Development

by Alexandre Timoshenko*

Precursors

Multiple factors have led the Central Asian states toward establishing a comprehensive regional legally-binding regime to regulate and foster their environmental cooperation. Besides the well-known factors like similarity of geophysical conditions, historical traditions of coexistence, and growing economic cooperation and common interests in many spheres, the majority of environmental problems in the region are either of a transboundary or common nature and, consequently, require joint and concerted efforts for their solution.

The need for strengthening regional environmental cooperation to pursue common concerns and interests has been articulated in a number of high-level political statements and reflected in various legal and institutional arrangements introduced over time in the Central Asian region. Central Asian leaders have repeatedly expressed a general commitment to strengthen the legal and institutional platform of regional environmental cooperation in Central Asia, based on generally recognised principles and norms of international law and in the context of economic integration, in particular by creation of the relevant institutions and conclusion of international agreements.[1]

More specifically, they have expressed and reaffirmed their intention to develop and conclude a Central Asian framework agreement on environmental protection and sustainable development.[2] Other suggestions relevant to the idea of a framework environmental convention may also be considered, such as the proposal to institute a permanent sub-regional forum for elaboration of mutually agreed strategic decisions, in particular to establish a permanent Central Asian conference on sustainable development.[3]

Generally, the high-level political support to the framework convention was based on a holistic approach to environmental protection in Central Asia paying special attention to sectoral problems related to ecological situations around the critical areas of Central Asia, such as the Aral Sea Basin, Syr Darya and Amu Darya rivers, West Tien Shan Mountains and the areas threatened or affected by desertification. In particular, the environmental situa-

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tion in the Aral Sea basin led to specific regional commitments where the integrated management of natural resources has been recognised as a main tool of sustainable development. These commitments included a call to reinforce regional cooperation on saving the Aral Sea by the development and adoption of an international convention on sustainable development of the Aral Sea basin, where the issues of cooperative water use and of unification of environmental standards and the related legislation would be of priority. They also recognise the need to enhance implementation of the existing agreements on environmental problems of the Aral Sea and the Caspian Sea.[4]

Existing legal and organisational arrangements indicated that the Central Asian States were willing to try to find cooperative solutions to regional environmental problems by means of a legally binding agreement. The 1992 Agreement between the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan and the Republic of Uzbekistan on the Cooperation in the Field of Joint Management of the Use and Protection of Inter-State Water Resources recognised the unity of the region's water resources and affirmed the need for the mutually agreed mechanism of joint management of inter-State water resources. Similarly, in the 1997 Agreement on Cooperation in the Field of Prevention and Mitigation of Emergency Situations, the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan and the Republic of Uzbekistan acknowledged interdependence of the Central Asian ecosystems and the resulting need for coordinated action by the states concerned. In 1998 the Governments of the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan and the Republic of Uzbekistan signed the Agreement on the Cooperation in the Field of Environmental Protection and Rational Resource Use, aimed at cooperation in multiple areas:

- harmonisation of environmental legislation;
- development and implementation of environmental programmes and projects;
- improvement of economic management of environmental protection and rational resource use;
- establishment of protected territories;
- soil protection and rational land use;
- protection and rational use of mineral resources;
- protection of air from transboundary pollution;
- protection, rational use and prevention of pollution of transboundary water resources;
- management and disposal of toxic and nuclear wastes;
- joint ecological expertise of the objects with potential transboundary effects;
- development and application of environmentally sound, clean and resource-efficient technologies;
- creation of information networks in the field of environment and resource use;
- notification of emergency situations in the frontier territories.

Use of water from the Amu Darya and Syr Darya rivers for irrigation purposes has been a major contributing factor in the shrinking of the Aral Sea since the late 1950s

Courtesy: BBS News

This all-embracing Agreement is, however, of a general nature, lacking an adequate implementation mechanism.

In another comprehensive regional arrangement, the Regional Environmental Action Plan for Central Asia (REAP), the Central Asian Governments focused on five priorities for regional environmental cooperation: air pollution, water pollution, land degradation, waste management and mountain ecosystem degradation. Though REAP did not refer to biodiversity conservation, the Central Asian states have repeatedly declared their intention to improve the conservation of biodiversity and sustainable use of its components, in particular by development and adoption of a regional agreement on the creation of a network of natural reserves. Accordingly, the Central Asian Intergovernmental Commission on Sustainable Development (ICSD) integrated the biodiversity projects into the REAP.[5]

The reviewed environmental arrangements and agreements demonstrate significant progress in establishing environmental cooperation in Central Asia, expressed in political declarations, and in binding and non-binding agreements. On the other hand, implementation of these agreements has often been hindered by their insufficient focus and coherence. The commitments were numerous, overlapping, loosely formulated and not correlated with limited financial resources in the region. The institutional support was dispersed among multiple national agencies vested with diverse objectives and functions.

In a way, the development and adoption of the REAP was an attempt to consolidate the environmental obligations contained in the existing agreements and arrangements, and to direct them toward sustainable development objectives. An integrated framework convention was conceived to reinforce the REAP with legal and institutional tools. While the provisions contained in REAP were considered of fundamental significance for a framework convention, the convention itself was to serve as a major mechanism of REAP implementation. The Central Asian states also wanted to link together the future Convention and the existing arrangements for regional cooperation. The Assessment Report on Strengthening Political and Institutional Support to the Implementation of the Regional Environmental Action Plan (REAP) for Central Asia[6] stated:

> "The construction of a legal support to the REAP implementation must proceed on the basis of the available Central Asian initiatives, in particular as regards the negotiation and conclusion of a Central Asian framework convention on sustainable development. If

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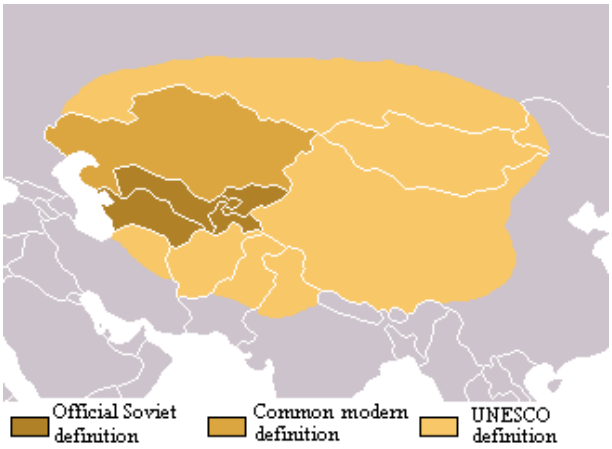
linked to the REAP implementation, such framework convention would reflect and affirm the fundamental principles of the REAP, legislate the rules of interaction of the REAP with the supporting national and regional activities and of the participation of external partners."

Another important consideration for the development of the Framework Convention was the need to engage all



Map of Central Asia showing three sets of possible boundaries for the region
Courtesy: Wikipedia

stakeholders in the process. Alongside the Central Asian States, the future Parties to the Convention, other actors were to be involved, such as the competent international organisations, regional banks and other relevant financial institutions, as well as the donor community. It was considered equally important to engage and seek the support of the Central Asian civil society. An adequate procedure would have to be found to ensure appropriate and constructive engagement of all stakeholders in the development of a comprehensive regional legal framework for sustainable development in Central Asia.

Negotiation

The negotiation of the Framework Convention on Environmental Protection for Sustainable Development in Central Asia was based on a strong and unremitting political support by the Central Asian Governments. Assistance was also obtained from competent international agencies. In particular, the United Nations Environment Programme (UNEP) was closely engaged in the negotiating process by providing continuous financial support and advisory services. Central Asian civil society contributed to the Convention negotiation through participation of regional and national environmental non-governmental organisations.

The negotiation process started with identification and recognition of divergent interests of individual stakeholders. One contentious issue was the protection and use of the Central Asian water resources. In particular, the primary interest of the low-lying countries with agriculture heavily dependent on irrigation, such as Uzbekistan, was to secure fair access to water resources. The Convention's negotiators sought to include provisions regulating equitable distribution of water resources in the region, but ultimately decided that this subject belonged to other agreements. Countries, such as the Kyrgyz Republic, with a significant percentage of territories occupied by mountain ecosystems, aimed at a detailed regime of protection and sustainable development of such territories. The situation in the Aral Sea basin remained a primary environmental challenge in the region, and a number of negotiators felt that it should constitute the crux of the Convention regime. Besides, some existing regional institutions feared that the Convention would meddle in their field of competence and would subsequently lead to redistribution of limited funds and donor attention. Hence, the negotiation demanded flexibility and a consistent search for compromise solutions acceptable to all Central Asian states. By and large, the spirit of constructive cooperation prevailed and helped to overcome differences of national interests, priorities and agendas.

From the inception, the negotiators were fully equipped with applicable international experience. The global environmental commitments served as a general background to the Convention negotiation. The principles of environmental cooperation formulated by the summits in Stockholm, Rio de Janeiro and Johannesburg were used as both guidance and inspiration. The UN Millennium Development Goals provided a contemporary vision of developmental aspects of sustainable use of natural resources. Appropriate lessons were drawn from various regional environmental treaties, in particular, the 1992 Convention on the Protection of the Marine Environment of the Baltic Sea Area, the 1992 Convention on the Protection of the Black Sea against Pollution, the 2002 ASEAN Agreement on Transboundary Haze Pollution, the 2003 Convention for the Protection of the Marine Environment of the Caspian Sea, the 2003 Algiers Convention on the Conservation of Nature and Natural Resources. The IUCN International Covenant on Environment and Development provided a primer for integrating general and sectoral approaches into a single regime of sustainable development.

Important practical support to the Convention negotiation was provided by the Central Asian Intergovernmental Commission on Sustainable Development. Firstly, the ICSD initiated the negotiation by its decision which approved the structure of the Framework Convention and scheduled the process of its preparation, entrusting it to a committee of government-nominated experts.[7] Further, the ICSD addressed UNEP with a request from the Central Asian States to render financial and consultative assistance in developing the Convention. During 2005–2006 each ICSD meeting had been reviewing and monitoring the progress of the negotiation, directing and encouraging the negotiators toward successful completion of their mandate. Additional impetus to the negotiation was given by the decision of the Ministers of the Environment of the Central Asian States[8] to request that the text of the Framework Convention on Environmental Protection for Sustainable Development in Central Asia be finalised in time for adoption and signature at the Ministerial Conference in November 2006. It is worth adding that the ICSD Chair-

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man, the Turkmenistan Minister of Environment Mahtumkuli Akmuradov, provided invaluable leadership to the negotiation by convening and personally chairing the negotiation sessions in Ashgabat. Four negotiating sessions, with vigorous informal consultations in between, were held during 2005–2006.[9] The negotiation was successfully concluded with the adoption and signing of the Convention at the Plenipotentiary Conference on 23 November 2006. The Convention had been developed and concluded at a record pace.

Convention

The Framework Convention on Environmental Protection for Sustainable Development in Central Asia was conceived as an overarching instrument that would create a legal core of regional environmental cooperation. The Central Asian States aimed at creation of a wide-ranging regional regime that would build on the existing agreements and arrangements, codify and consolidate the commitments contained therein and focus them on the goals of sustainable development. The resulting Convention acquired the format of a comprehensive framework regime based on the established regional environmental priorities viewed through the prism of sustainable development paradigms. The Convention is expected to further advance through subsequent protocols and other ancillary arrangements.

Accordingly, the body of the Convention has been arranged around four pillars: general provisions that determined the objectives and basic principles of the treaty; sectoral commitments which were built around recognised regional environmental priorities and mapped out the gist of future protocols; institutional provisions; and final clauses.

Forty years ago, Muynak was a busy fishing port where the waters of the Aral Sea lapped up against the shoreline. Today the waters have receded so much, that there is not a drop as far as the eye can see Courtesy: BBS News

In its objective, the Contracting Parties agreed to focus the Convention on effective protection of the environment for sustainable development, by securing sustainable use of natural resources, reducing and preventing transboundary environmental threats, and by harmonising and coordinating the relevant policies and actions of the Central Asian States. The Convention's scope of application covers all territories and activities under the national jurisdiction of Contracting Parties.

The codifying nature of the Convention is reflected in Article 4 which articulates the principles that would serve as the basis of actions to achieve the Convention's objectives and implement its provisions. In formulating these principles, the Contracting Parties made due reference to the Charter of the United Nations and the principles which would facilitate integration of the Convention in the corpus of international law. In this vein, they addressed such fundamentals of international environmental law as:

- the interplay between sovereign right to exploit national resources and the responsibility not to cause transnational damage, and
- the principles of prevention, precautionary approach, due diligence and the polluter pays principle.

The Convention's general obligations include the commitments to cooperate, to adopt national implementing measures, to integrate environmental concerns in social and economic development action, to use transboundary resources in an equitable and reasonable manner, to cooperate in the development of additional protocols and to improve the environmental situation in the Aral Sea basin. Specific provisions deal with the thorny issue of hierarchy and interrelationship between environmental protection and sustainable development. Article 6 provides a balanced formula that gives the needed priority to environmental considerations with a particular role attributed to environmental monitoring and impact assessment.

The central part of the Convention deals with sectoral issues reflecting the recognised regional environmental priorities. In each priority area, the Contracting Parties agreed to cooperate in the development of additional protocols and outlined the desirable regulations that might be contained therein. With regard to protection of the atmosphere, a future protocol may include rules and procedures on monitoring atmospheric air pollution, on scheduled reduction of pollutant emission, and on the introduction of a regional system of atmospheric air pollution indicators.

Cooperation in the protection and sustainable use of water resources was a contentious issue all through the negotiating process. It was agreed that an additional water protocol may refer to improvement in monitoring water quality and sources of water pollution, especially in transboundary watercourses; and contain the scheduled reduction of pollutant emissions, measures to ensure adequate supply and quality of drinking water, and actions to prevent and reduce pollution to the level where no damage is caused to the territory of downstream States.

A protocol on conservation and rational use of land resources might introduce cooperative actions for monitoring and combating land degradation, the application of sustainable agricultural and forestry practices, and measures for sustainable cattle-breeding and management of pastures in arid zones.

A waste management protocol would contemplate the improvement of national inventories of waste collection and disposal sites and the creation of a similar regional inventory for waste with potential transboundary effects, setting up a regional network of clean production and tech-

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nology centres, as well as measures to prevent the spread of transboundary radioactive pollution from the mountain excavation and test grounds.

An additional agreement on conservation of mountainous ecosystems may concern the development and introduction of sustainable development mechanisms adapted to the specific conditions of mountain areas, measures to rehabilitate damaged mountain ecosystems, and prevent pollution and depletion of snow and ice covers.

Measures to conserve the region's biological diversity may also constitute an additional protocol. They may include improvement of the national systems of identification and monitoring critical components of biological diversity, establishment of a regional biodiversity network, and cooperative measures of *in-situ* and *ex-situ* conservation of biological diversity.

Having in mind numerous fragile ecosystems in Central Asia, a special protocol on cooperation in emergency situations may be developed with measures to mobilise and coordinate the national and regional strategies of preparedness for emergency situations of a technological and natural origin, and for response to and mitigation of such emergency situations.

Convention obligations in the area of scientific and technical cooperation include strengthening the capabilities for scientific and technological research for the conservation and sustainable use of nature, with particular emphasis on the development and introduction of clean technologies and productions, in particular by creating a network of regional scientific and technological centres. The Contracting Parties also endeavour to ensure public access to information on the state of the environment in Central Asia.

The Convention addresses implementation measures in detail, assigning the key role to national infrastructures and in particular to National Authorities that are to be designated and empowered by the Contracting Parties to act on their behalf on all matters related to the Convention. Besides national action, the implementation will be further strengthened by the availability of financial resources of the Convention that shall consist of contributions from the Contracting Parties, as well as resources received from international organisations, financial institutions and donors. The Conference of the Parties shall develop a set of facilitative means of implementation, including assistance in cases of reasonable non-compliance. Implementation of the Convention will be verified by regular reports submitted by National Authorities. To ensure public participation, the Conference of the Parties shall establish rules and procedures for the engagement of civil society in the implementation of the Convention.

The Convention's institutional arrangements and final clauses are rather standard, taking due account, however, of the specifics of the region.

As its main institutions the Convention establishes the Conference of the Parties and the Secretariat. Subsidiary bodies as may be deemed necessary can be established by the Conference of the Parties. The Convention stipulates that the venue of the Conference of the Parties and its chairmanship will rotate among the Contracting Parties. All decisions of the Conference of the Parties shall be made by unanimous vote.

The Conference of the Parties shall serve as the supreme intergovernmental body to ensure the implementation of the Convention, particularly by developing its operational programmes and budget. In accordance with the established procedure, it shall adopt protocols, which will be the principal instruments to expand and advance the Convention regime. At its first meeting, the Conference of the Parties shall establish other Convention institutions, decide on the arrangements for the permanent Secretariat, particularly its location and staffing, and adopt the rules of procedure and financial rules for itself and its subsidiary bodies.

The issue of Convention languages was of specific concern to the negotiators, as none of the national languages could be used as a single working language. The solution was found in the experience of the Framework Convention on the Protection of the Marine Environment of the Caspian Sea, where national languages are similarly different and not usable for interstate communication. As the working languages of the Convention the negotiators suggested English and Russian, both being UN official languages and used for international communication. With regard to the authentic texts of the Convention, it was decided that the English, Kazakh, Kyrgyz, Russian, Tajik, Turkmen and Uzbek texts shall be equally authentic, while, in case of a dispute concerning interpretation or application of the Convention or its protocols, the Russian text shall be authoritative.

The Secretariat headed by the Executive Secretary is assigned with the usual functions and powers that ensure effective servicing of the Convention and its institutions. It includes a general dispute settlement procedure phrased traditionally, based on peaceful means such as consultations and negotiation between the Parties concerned. Turkmenistan was assigned with the functions of the Convention Depository.

The Convention will enter into force on the ninetieth day after the date of deposit of the instrument of ratification, acceptance, approval or accession by all States of Central Asia.

Perspectives

The Framework Convention on Environmental Protection for Sustainable Development in Central Asia was adopted by the Plenipotentiary Conference convened on 22 November 2006 in the city of Ashgabat, Turkmenistan. The representatives of all five Central Asian States signed the Final Act of the Conference and adopted a Resolution. The Resolution expressed gratitude to the people and the Government of Turkmenistan for hosting the Conference and decided to refer to the Framework Convention as the "Ashgabat Convention". The Resolution also called upon the State signatories to refrain, while the Convention is not yet in force, from acts that might contravene the object and the purpose of the Convention, take interim measures to implement the Convention and to consider taking action for early ratification of the Convention and its entry into force. Finally, the Resolution invited the UNEP Ex-

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ecutive Director to provide the Convention interim Secretariat until the permanent Secretariat is established, and to prepare the first Meeting of the Conference of the Parties and assist in the establishment of the permanent Secretariat of the Convention.

At the Plenipotentiary Conference, the Convention was signed by the Kyrgyz Republic and the Republics of Tajikistan and Turkmenistan. The representatives of the Republic of Kazakhstan and the Republic of Uzbekistan assured that the process of authorisation to sign the Convention was in its final stage. Thus, the remaining two Central Asian states are expected to sign the Framework Convention in the near future. The process of ratification and subsequent entry into force does not seem to be difficult, minding that the specific obligations will be provided at a later stage by the Convention protocols which in their turn will undergo negotiation.

However, divergent national interests will undoubtedly affect both Convention ratification and implementation. The factor of political instability in certain Central Asian countries should not be discarded or viewed lightly. Economic difficulties in any country of the region may also create obstacles for the Convention process, as they will impact on the Convention's financial resources.

Although it is expected that UNEP will react positively to the request to provide the interim Secretariat to the Convention, the full-scale operation may be ensured only when the Convention's permanent Secretariat is set up and put in motion. The prevailing experience of international treaties proves that the contentious issue of the Secretariat location and the related administrative arrangements may create additional hurdles and prolong the transition of the Convention from books to practice.

The Convention will start to operate against the background of existing regional institutions and arrangements. It is reasonable to expect that among the established and the new regional structures certain competition for influence, funds and hierarchical authority may occur. A healthy way to resolve the differences lies in systematic consolidation of the relevant institutions. This process, however, will require time to resolve satisfactorily the related controversies and consequently affect the Convention's operation.

The reference to various obstacles and impediments does not deny the fact that the establishment of a comprehensive regional legal framework of environmental protection for sustainable development is an achievement which places Central Asia at the forefront of international action to promote sustainable development. At the time this article was written it was hardly possible to find a comparable regional environmental treaty comprehensively dealing with major environmental challenges in both a general and particular manner. The Central Asian nations' aspiration is that their Governments will retain the high level of cooperative spirit they demonstrated in the course of the negotiation and enable the Framework Convention on Environmental Protection for Sustainable Development in Central Asia soon to become an operational tool of sustainable development in the region.

Notes

[1] See the 1999 Tashkent Statement of the Presidents of the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan and the Republic of Uzbekistan; the 2001 Bishkek Statement of the Heads of State of the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan and the Republic of Uzbekistan.

[2] See, for example, Recommendations and the Statement of the Finance Ministers and Environment Ministers at the Almaty Sub-regional meeting on the preparation for the World Summit on Sustainable Development, 2001; Decision 2 of the Meeting of the Intergovernmental Commission on Sustainable Development, 6 November 2004, Ashgabat.

[3] See the 1995 Issyk Kul Declaration on the Regional Cooperation of the CA States.

[4] The 1995 Nukus Declaration of the States of the Central Asia and the International Organisations on the Problems of Sustainable Development of the Aral Sea; the 1997 Almaty Declaration of the Presidents of the CA States; the 1999 Ashghabad Declaration of the Presidents of the CA States.

[5] ICSD decision 7 of 21 April 2001.

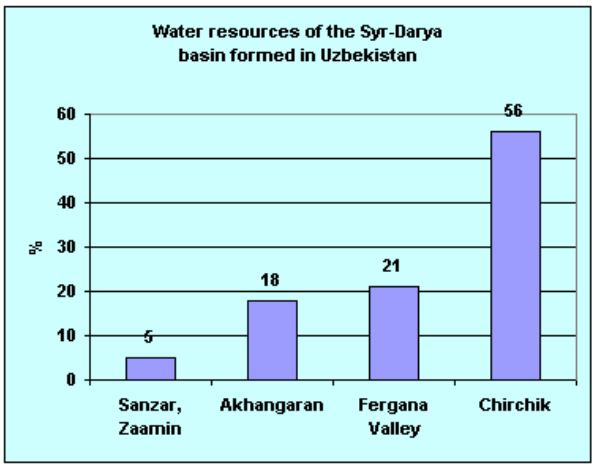
[6] Approved by the Ministers of Environment of Central Asian States in 2004.

[7] Decision 1 of the ICSD Meeting in Ashgabat on 18 June 2005.

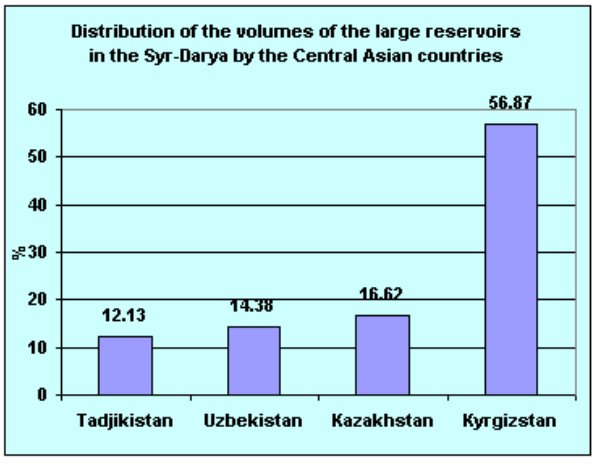
[8] Decision of 1 March 2006, Ashgabat, Turkmenistan.

[9] Four rounds of Regional Consultations were convened in Ashgabat, Turkmenistan in September 2005, November 2005, June 2006 and November 2006.

Surface water resources



Water resources of the Syr Darya basin make up 36,0 cubic meters a year including the own resources of Uzbekistan - 8,0 cubic meters a year



The large basin water reserves may hold almost all annual flow. The Uzbekistan water reserves make up about 5 cubic km

In the middle and lower part of basin there are salty lakes which were formed as a result of the collector-drainage water dumping. The largest lake of Ajdarkul (11,6 cubic km) is located in Uzbekistan

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