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Chapter 5.

Framework for Wise Use

Chapter 3 outlined the values and uses of mires and peatlands. Chapter 4 described the origins and types of conflicts. This chapter sets out a Framework within which conflicts between different values and uses of mires and peatlands can be resolved.

5.1 Introduction

Wise Use of peatlands can be described as the uses of peatlands for which reasonable people now and in the future will not attribute blame. This document sets out to provide a context for, and parameters within which, Wise Use decisions can be taken in relation to mires and peatlands. It proposes a Framework for the Wise Use of Mires and Peatlands.

The development of such a Framework must start from values, as outlined in Chapter 3. This proposed Framework is based on the anthropocentric premise that human beings have intrinsic moral value, the premise on which the Universal Declaration of Human Rights is based. Accepting the definition that “Sustainable development” is seeking to meet “the needs of the present without compromising the ability of future generations to meet their own needs¹” these Guidelines attach intrinsic moral value to human beings in the future. They are further based on the statement that “Human beings are at the centre of concerns for sustainable development².”

Chapter 3 described the values and functions of mires and peatlands. Chapter 4 outlined the types of conflict which can arise. In particular conflicts arise between

- different positions with respect to intrinsic moral values,
- the interests of human beings now and human beings in the future, and
- the different preferences of different people.

The rational resolution of such conflicts involves a structured framework for the examination of all the elements relating to a conflict or a decision concerning mires or peatlands.

The proposed Framework includes two stages:

1. The arrival at a decision in principle through answering the series of questions contained in the decision tree in Tables 5/1 and 5/2 as summarised in Figure 5/2, and by examining the application of a number of general *considerations* (§5.2) to the situation;
2. The examination of the decision in principle to see if its implementation
 - will be consistent with a series of guidance *principles* (§5.3);
 - which in turn may be *modified* by time and place (§5.4); and

¹ World Commission on Environment and Development, 1987, as quoted in § 3.2.

² Rio Declaration (UNED 1992) as quoted in § 3.2.

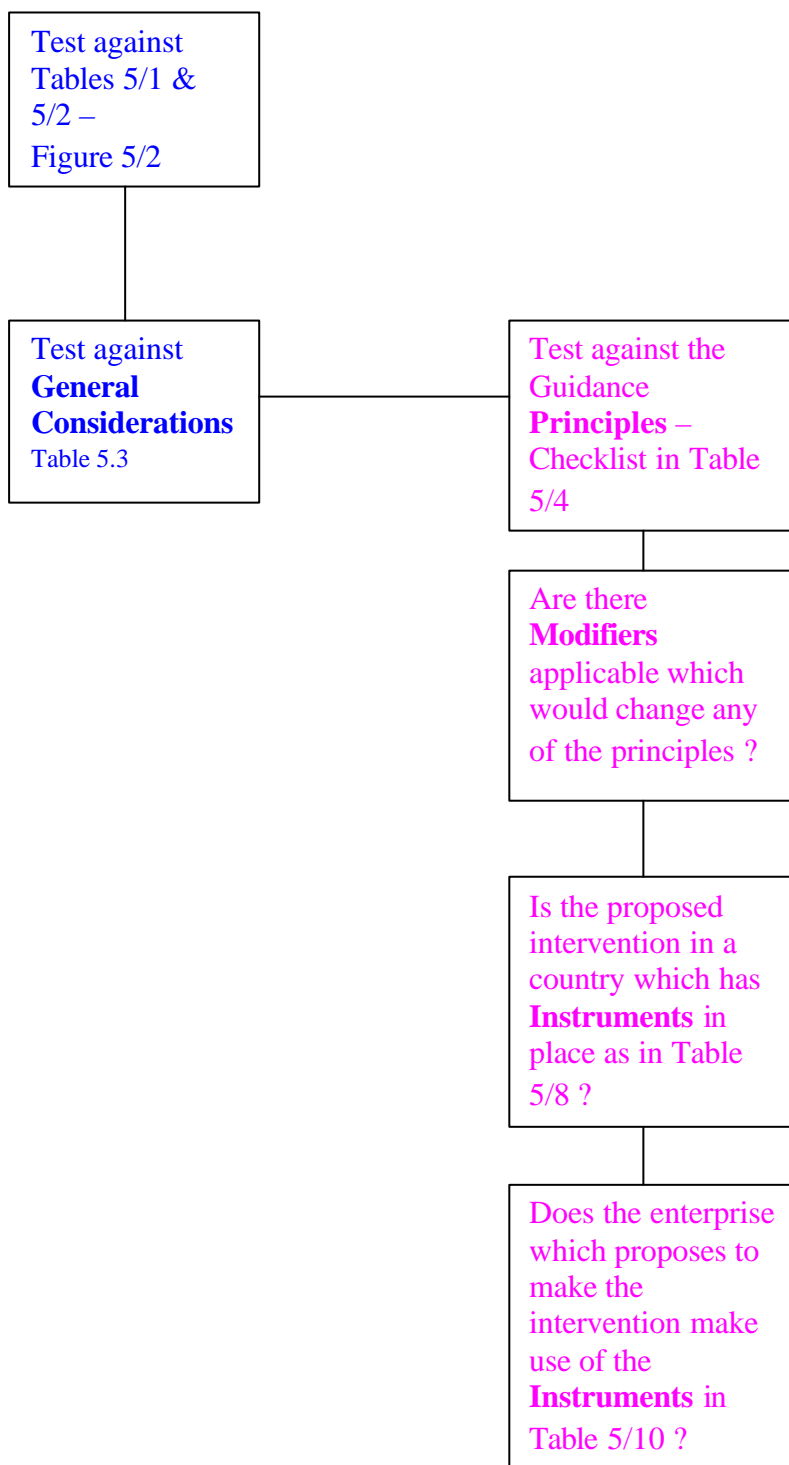
- will involve the use of *instruments* in arriving at or implementing the decision (§5.5).

This consistency can be evaluated through the use of *checklists*. These checklists are intended to be taken in the context of the document as a whole. Each checklist only has value as part of the framework illustrated in Figure 5/1. They are not intended to be taken out of context and should not be used as simplistic ‘ticking boxes’. The checklists can be used to establish *codes of conduct* (§5.6). Agreed codes of conduct make it easier to judge if a national or regional authority, or an enterprise, takes decisions in a manner consistent with the Framework.

This Framework is intended to be considered as a whole, and is illustrated in the following diagram (Figure 5/1). If a decision comes through the ‘decision in principle’ process with a clear ‘yes’ then it can be examined further under the elements of the ‘implementation decision’ column. If it comes through with a ‘no’ it should be established if the ‘no’ is a genuine stopper or more a reason to be cautious.

It is unlikely that any proposal would achieve 100% ‘yes’ under the ‘implementation decisions’ process. In most cases a proposal will emerge either preponderantly positive or preponderantly negative. It is to be decided in the circumstances of each case whether the negative elements are ‘stoppers’ or not. For example, in some cases a record of poor corporate governance would be a stopper. In other cases it might cause the authorities to say ‘yes’ but to impose a code of conduct.

In applying the Framework it should be recalled that Wise Use is not simple or simplistic and cannot be reduced to formulae.

FIGURE 5/1**Framework for making decisions on interventions in peatlands***Decision in principle**Implementation decisions*

5.2 Deciding in principle if an intervention is admissible

Overall, the major – anthropocentric - conflicts which arise with respect to peatland use are between those who wish to develop mires and peatlands for their production or carrier functions, and others who wish to preserve them for their regulation and non-material life-support functions.

In dealing with peatland conflicts, the approach of moral pluralism discussed earlier (§4.5 and §4.9) is relevant – different considerations apply in different cases: it is not possible to reduce all complexities to simple principles or single measures.

With respect to conflicts relating to human needs and wants, two aspects have to be considered:

- the effect of the proposed use³ on the function itself: does the intervention negatively affect the further provision of that function⁴
- the effect of the use on other functions: does the intervention negatively or positively affect other functions.

This section provides some assessment criteria for dealing with these questions.

5.2.1 The effect of a use on the function itself

The effect of the intervention on the function itself⁵ has to be judged using the criteria in Table 5/1.

³ Throughout this document the words ‘use’ and ‘intervention’ are employed to include any decision on a peatland – be it a decision to drain a mire or one to preserve it.

⁴ Cf. Convention on Biological Diversity (Rio de Janeiro, 5 June 1992): “*Sustainable use*” means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, ...”.

⁵ For example, the effect of a function (peat for horticulture) on the function itself (peat for horticulture). In this case question 3 might read “Does the use of this peat for horticulture enable the continuous provision of peat for horticulture?”. Question 4 might read “Are sphagnum peat mires abundant and do they remain abundant?”. The effect of a function on other functions is dealt with in Table 5/2. In this case the questions in Table 5/2 would examine the effect of peat for horticulture from this mire (a production function) on e.g. the hydrology of the catchment (a regulation function).

Table 5/1: Criteria and decision tree for assessing the admissibility of an intervention with respect to its effects on the function itself.

Criterion	Question	Answer	Consequence
1. Advantage	Will the proposed intervention have a positive effect on the satisfaction of human needs and wants?	No	No intervention
		Yes	Go to 2
2. Essentiality	Are the resources or services to be provided essential for the maintenance of human life ⁶ and non-substitutable?	Yes	Intervention agreed
		No	Go to 3
3. Self-maintenance	If the proposed resource use or service is implemented will the continuous provision of the same quantity and quality of resources or services remain possible?	Yes	Go to Table 5/2
		No	Go to 4
4. Abundance	Are the peatland resources or services to be consumed by the proposed intervention abundant and will they remain abundant?	Yes	Go to Table 5/2
		No	No intervention

Some examples may illustrate these criteria:

- If the maintenance of human life is at stake, it is not unwise to use a non-substitutable resource to the point of exhaustion. One cannot be blamed for killing the last bear if it is the only way to stay alive⁷.
- If the use of the resource keeps the quantity and quality of that resource intact, there is no reason not to use the resource. Even when the supply is decreasing, the use can be continued as long as the resource is abundant.
- If the resource is not abundant and getting rare, it is wise not to use the resource to the point of exhaustion, in case the resource might be needed for more urgent (and presently unknown) purposes in future (option value).

In all but 2 a positive answer is conditional on the effects the intervention has on other services and resources (see Table 5/2).

5.2.2. The effect of a use on other functions

The use of a peatland for a specific purpose may have considerable side-effects. These effects on all other functions⁸ must be taken into account in the full assessment of admissibility of an intervention. To judge the impact of the intervention, the criteria in Table 5/2 can be applied.

⁶ In the sense of the physical survival of the person.

⁷ From a societal point of view, it might be wiser not to do so, but that is a matter of precedence and priority (see § 4.6 and § 4.7) and of different focal points of responsibility at different organisational levels (see the “principle of responsibility” in § 5.4).

⁸ See §3.4.

Table 5/2: Criteria and decision tree for assessing the effect of an intervention with respect to other functions.

Criterion	Question	Answer	Consequence
1. Impact	Will the proposed intervention have negative effects on other functions?	Yes	Go to 2
		No	Consider approval
2. Essentiality	Are the negatively affected functions non-substitutable and essential for the maintenance of human life?	Yes	No intervention
		No	Go to 3
3. Abundance	Are the negatively affected functions sufficiently abundant to guarantee their adequate future provision?	Yes	Consider approval
		No	Go to 4
4. Substitutability	Are these negatively affected functions easily substitutable or are the negative impacts easily reversible?	Yes	Consider approval
		No	Do an integrated cost-benefit analysis

With respect to the side-effects, an intervention is considered permissible in principle when:

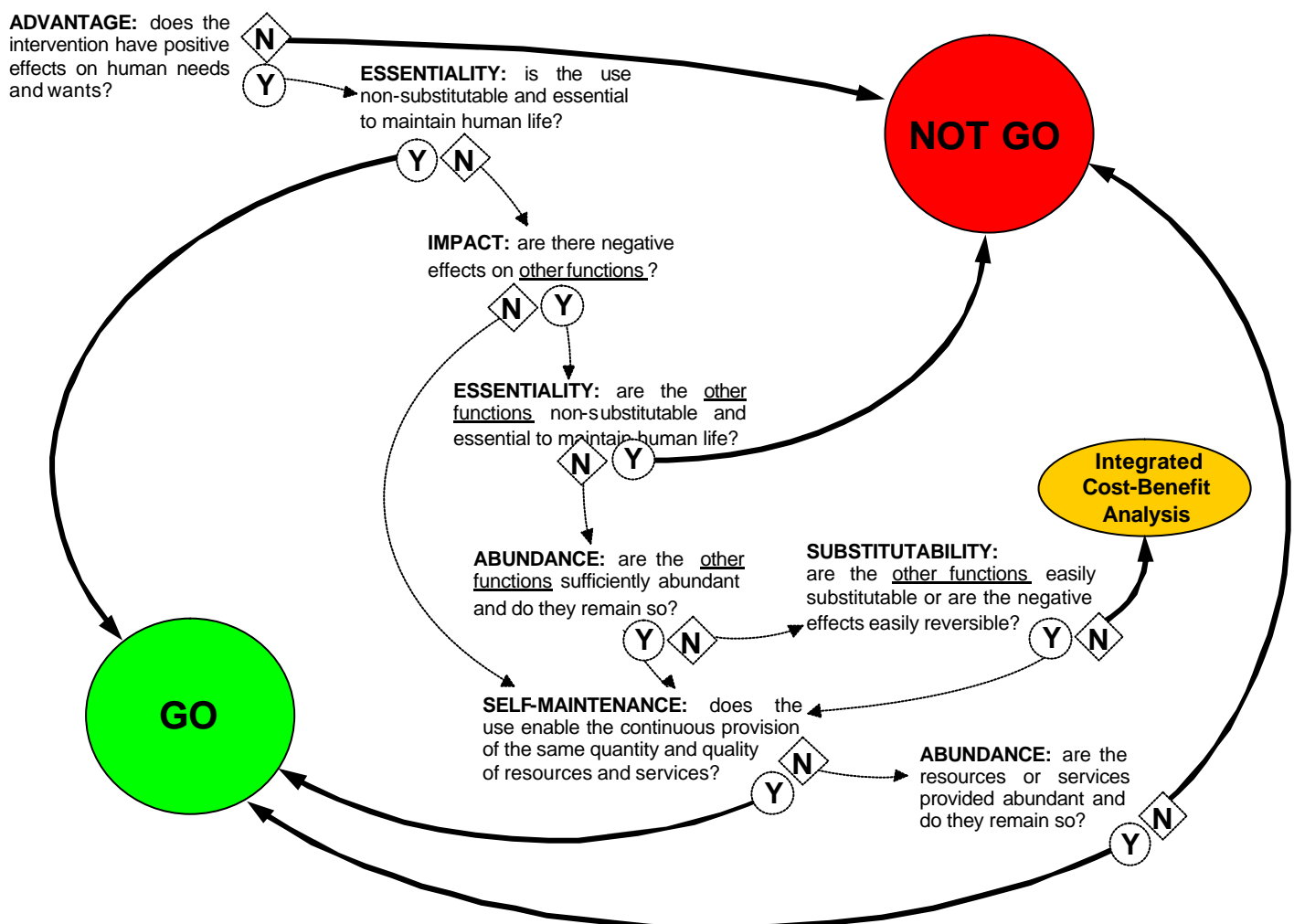
- no negative side-effects occur, OR
- the affected resources and services remain sufficiently abundant, OR
- the affected resources and services are easily (and completely) substitutable, OR
- the impact is easily reversible.

In all other cases an integrated cost-benefit-analysis has to be carried out that involves a thorough weighing of the pros and cons of the intervention, taking the considerations of Chapter 4 into account.

The two tables 5/1 and 5/2 are combined in the flow chart of Figure 5/2.

In deciding on the preservation or destruction of pristine mires, we have to be aware of our limited knowledge, the possibly high risks arising from development, and the long-term benefits and drawbacks of either preservation or development. Tables 5/1 and 5/2 and the flow chart of Figure 5/2, combined with a systematic evaluation of the peatland functions and values as dealt with in Chapter 3, provide a good start for a Wise Use assessment. Other elements to be considered in coming to a decision are provided in the rest of this Chapter. These are the components of the 'implementation decisions' column in Figure 5/1.

Fig. 5/2: Flow chart for assessing the permissibility of interventions in mires and peatlands.



5.3 General Considerations

Some general considerations also form part of the 'decision in principle' process. The following General Considerations are taken from parts of Chapter 4:

1. All human beings have rights, boundary conditions that may not be violated. In resolving value conflicts, and conflicts between rights, the satisfaction of essential *needs* take priority over the satisfaction of desirable *wants*. (§§ 4.2, 4.5)
2. In taking decisions an egalitarian principle should apply: a smaller amount of good equally distributed should be preferred to a larger amount of good disproportionately shared (including taking future people into account).

Preference in such decisions should be given to those with fewer native assets and less favourable social positions. (§ 4.2, 4.6)

3. There is no single set of concepts or principles which can govern every situation. Different considerations apply in different cases: it is not possible to reduce all complexities to simple principles or single measures. (§ 4.5)
4. The first stage in taking any decision is to describe the issue or issues to be resolved. The rules to be then taken into account include:
 - The alternative which achieves the desired end in the best way should be adopted.
 - Preference should be given to the alternative which is most likely to achieve the desired outcome.
 - Preference should be given to the alternative which achieves all of the direct aims and further aims in addition. (Table 4/3)

As an illustration of how such general considerations can be helpful a checklist follows. A negative answer does not necessarily mean that a use / intervention should be excluded. Not all the general considerations lend themselves to use in a checklist.

Table 5/3. Checklist against the General Considerations - Elements to be considered when decisions arise as to the use of a mire or peatland

What are the aims of the proposed intervention; will the proposed intervention achieve them; and will it achieve them in the best way.	
Does the proposed intervention interfere with a fundamental human right. or	
Does the proposed intervention reinforce a fundamental human right.	
Do the aims of the intervention relate to genuine needs, or merely to wants.	
Will the benefits accrue in an egalitarian manner, not just to a privileged few (including taking future people into account).	

5.4 Guidance Principles for the Wise Use of mires and peatlands

The following guidance principles are set out as an aid to resolving issues which arise in decisions relating to interventions in the fundamental properties of peatlands and mires.

1. The principle of clarity⁹: concepts should have clear content; terms should be clear and consistently applied.

2. The principle of public access to information: the public should have adequate access to information regarding proposed decisions¹⁰. The information should be transparent and understandable.

⁹ Guideline A1 of the GAP: see §1.4 and Ramsar 2001.

3. The principle of public participation: interventions should follow a consultation process in which all stakeholders¹¹ can actively and effectively participate¹².

4. The principle of motivation: interventions should be motivated by the prospect of greater advantage¹³ for society¹⁴.

5. The principle of careful decision-making: decisions should be made on the basis of the best available information¹⁵.

¹⁰ Cf. UN General Assembly Resolution 37/7 and Annex (28 October 1982): “16. All planning shall include, among its essential elements, the formulation of strategies for the conservation of nature, the establishment of inventories of ecosystems and assessments of the effects on nature of proposed policies and activities; all of these elements shall be disclosed to the public by appropriate means in time to permit effective consultation and participation.”

¹¹ In the widest sense of the word.

¹² Again, in the widest sense of the word.

¹³ A greater advantage for society may consist of :

- a greater benefit for all present and future members of society, or
- a greater benefit for the less favoured (cf. § 4.6).

¹⁴ Cf. UN General Assembly Resolution 1803 (XVII) on Permanent Sovereignty over Natural Resources (14 December 1962): “1. The rights of peoples and nations to permanent sovereignty over their natural wealth and resources must be exercised in the interest of their national development and of the well-being of the people of the State concerned.”

Cf. Declaration of the United Nations Conference on the Human Environment (Stockholm, 16 June 1972): “Principle 2: The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate. ... Principle 5: The non-renewable resources of the earth must be employed in such a way as to guard against the danger of their future exhaustion and to ensure that benefits from such employment are shared by all mankind.”

Cf. UN Framework Convention on Climate Change (New York, 9 May 1992): “Affirming that responses to climate change should be coordinated with social and economic developments in an integrated matter,..., taking into full account the legitimate priority needs of developing countries for the achievement of sustained economic growth and the eradication of poverty. ... Article 3.1. The Parties should protect the climate system for the benefit of present and future generations of humankind...”

Cf. the Convention on Biological Biodiversity (Rio de Janeiro, 5 June 1992): “Recognizing that economic and social development and poverty eradication are the first and overriding priorities of developing countries, Aware that conservation and sustainable use of biological diversity is of critical importance for meeting the food, health and other needs of the growing world population...; “*sustainable use*” means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.”

Cf. The Rio Declaration on Environment and Development (Rio de Janeiro, 13 June 1992): “Principle 3: The right to development must be fulfilled so to equitably meet development and environmental needs of present and future generations. ... Principle 8: To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption...” (our underlining).

¹⁵ Cf. UN General Assembly Resolution 37/7 and Annex (28 October 1982): “11. (b) Activities which are likely to pose a significant risk to nature shall be preceded by an exhaustive examination; their proponents shall demonstrate that expected benefits outweigh potential damage to nature, and where potential adverse effects are not fully understood, the activities should not proceed.. (c) Activities which may disturb nature shall be preceded by assessment of their consequences, and environmental impact studies of development projects shall be conducted sufficiently in advance, and if they are to be undertaken, such activities shall be planned and carried out so as to minimise potential adverse effects. ... 15. Knowledge of nature shall be broadly disseminated by all possible means, particularly by ecological education as an integral part of general education. ... 18. Constant efforts shall be made to increase knowledge of nature by scientific

6. The principle of responsibility: Any decision should take into account its effects on other individuals and entities. Decisions at one level should reflect the interests of other levels¹⁶.

7. The principle of plurality: Participants in a decision should accept that cases can be looked at from different perspectives and that a pluralist stance can be the best means of dealing with complex situations.

8. The principle of distributive justice: all means of meeting wants should be distributed equally unless an unequal distribution is to the advantage of the least favoured.

9. The principle of minimum intervention: if interventions have to take place, they should be limited to the minimum necessary.¹⁷

10. The principle of re-location: those activities that are harmful, and cannot be avoided, should be relocated to areas where they will cause least impact.

11. The precautionary principle: where it is anticipated that the effects of an intervention could be seriously damaging, measures to prevent this damage¹⁸ should not be avoided because of lack of full scientific certainty¹⁹.

research and to disseminate such knowledge unimpeded by restrictions of any kind. 19. The status of natural processes, ecosystems and species shall be closely monitored to enable early detection of degradation or threat, ensure timely intervention and facilitate the evaluation of conservation policies and methods.”

cf. The Rio Declaration on Environment and Development (Rio de Janeiro, 13 June 1992): “Principle 17: Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.”

¹⁶ As individuals we pursue self-interest, largely heedless of the cumulative effects of our individual actions. Though the maintenance of a healthy environment is in everyone's general interest, it is in no individual's personal interest to moderate his or her consumption. Eventually, a tragedy may result (Hardin 1968), unless the community sets limits to individual consumption.

¹⁷ Cf. The World Charter for Nature (UN General Assembly Resolution 37/7 and Annex, 28 October 1982): “7. In the planning and implementation of social and economic development activities, due account shall be taken of the fact that the conservation of nature is an integral part of those activities. ... 10 (b) The productivity of soils shall be maintained or enhanced through measures which safeguard their long-term fertility and the process of organic decomposition, and prevent erosion and all other forms of degradation. (c) Resources, including water, which are not consumed as they are used shall be reused or recycled. (d) Non-renewable resources which are consumed as they are used shall be exploited with restraint, taking into account their abundance, the rational possibilities of converting them for consumption, and the compatibility of their exploitation with the functioning of natural systems. 11. Activities which might have an impact on nature shall be controlled, and the best available technologies that minimize significant risks to nature or other adverse effects shall be used; in particular (a) Activities which are likely to cause irreversible damage to nature shall be avoided. ... (c) Activities which may disturb nature ... shall be planned and carried out so as to minimise potential adverse effects”.

¹⁸ Including if necessary a ban on exploitation.

¹⁹ cf. The Rio Declaration on Environment and Development (Rio de Janeiro, 13 June 1992): “Principle 15: In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental damage.” U.N. – Agenda 21.

12. The principle of avoidance: the exploitation of mires and peatlands should be adapted to the natural characteristics and constraints²⁰ of the mires and peatlands concerned.

13. The principle of species integrity: the ecological processes responsible for the survival of mire and peatland species should be protected and the habitats on which their survival depends maintained.²¹

14. The principle of compensation²²: when the fundamental properties of mires and peatlands and their hinterlands are violated, other than in accordance with these principles, the cost of measures to prevent, control, reduce, repair, and compensate for any damage should be borne by the responsible party²³.

Table 5/4. Checklist against the Principles - Elements to be considered when decisions arise as to the use of a mire or peatland

Are the relevant concepts clear: is everyone talking the same language.	
Has adequate information been made publicly available.	
Has adequate public consultation taken place.	
Will the proposed intervention produce a greater advantage than not intervening.	
Is the decision based on the best possible information.	
Have the implications for other entities and other parties indirectly affected been taken into account.	
Do all those participating in the decision acknowledge that other valid points of view may exist.	
Will the proposed intervention result in its benefits being distributed equitably unless an unequal distribution would advantage the least favoured.	

²⁰ Cf. UN General Assembly Resolution 37/7 and Annex (28 October 1982): “11 (d).Agriculture, grazing, forestry and fisheries practises shall be adapted to the natural characteristics and constraints of given areas”. See also the definition of Wise Use by the Ramsar Convention: “their sustainable utilisation ... in a way compatible with the maintenance of the natural properties of the ecosystem” (see § 1.2).

²¹ Cf. The World Charter for Nature (UN General Assembly Resolution 37/7 and Annex, 28 October 1982): “2. The genetic viability on the earth shall not be compromised; the population levels of all life forms, wild and domesticated, must be at least sufficient for their survival, and to this end necessary habitats shall be safeguarded. 3. All areas of the earth, both land and sea, shall be subject to these principles of conservation; special attention shall be given to unique areas, to representative samples of all the different types of ecosystems and to the habitats of rare or endangered species... 10 (a) Living resources shall not be utilized in excess of their natural capacity for regeneration.”

²² Cf. Declaration of the United Nations Conference on the Human Environment (Stockholm, 16 June 1972): “Principle 3: The capacity of the earth to produce vital renewable resources must be maintained and, wherever practicable, restored or improved.”

cf. UN General Assembly Resolution 37/7 and Annex (28 October 1982): “11 (e) Areas degraded by human activities shall be rehabilitated for purposes in accord with their natural potential and compatible with the well-being of affected populations”.

²³ Cf. The Rio Declaration on Environment and Development (Rio de Janeiro, 13 June 1992): “Principle 16: National authorities should endeavour to promote the internalisation of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.”

Is the intervention located where it will cause least impact – could it or should it be moved elsewhere.	
Is the proposed intervention limited to the minimum necessary.	
Will any damage consequent on the intervention be	
• prevented	
• controlled	
• reduced	
• repaired or	
• compensated for.	
Will the cost of these measures be borne by the responsible party.	
Is the user required to restore the mire/peatland after use to a wetland, a suo or a mire: or is alternative afteruse planned.	
Is the intervention consistent with the precautionary principle.	
Is the intervention adapted to the natural characteristics and constraints of the mire or peatland.	
Is every effort being made to preserve the ecological processes necessary for the survival of species.	

5.5 Modifiers

Guidance principles are general in nature and may be modified in practice²⁴. Factors which modify principles are defined here as *Modifiers*. An example of a modifier taken from law and morality would be:

Principle: Thou shalt not kill.

Modifier: Special circumstances – for example self-defence.

The main modifiers for the principles outlined in §5.3 above are SPACE and TIME (Table 5/5).

Table 5/5 Illustrations of Modifiers of Space and Time

Modifier	Aspect	Explanation
SPACE	Location	What might be relevant in Africa might not be at all relevant in Australia.
	Spatial scale	What might apply at national level might not apply at village level.
TIME	Point of time	What might be wise in 1980 might not be wise in 2020.
	Period of time	Wise over a decade may not be wise over a year.

²⁴ Cf. UN Framework Convention on Climate Change (New York, 9 May 1992): “Recognising ... that standards applied by some countries may be inappropriate and of unwarranted economic and social costs to other countries, in particular developing countries. ... Article 3.1 The Parties should protect the climate system ... in accordance with their common but differentiated responsibilities and respective capabilities....”.

Thus, the conditions for Wise Use will differ in different regions, countries and areas. Wise Use in one particular peatland may not be Wise Use in another. Similarly, the conditions for Wise Use will differ at different points and over different periods of time. Wise Use under one particular circumstance may not be Wise Use under other circumstances and changes over time may alter Wise Use to unwise use.

Examples of Principles combined with Modifiers would be :

- a. The principle of re-location: those activities that are exceptionally harmful to the fundamental properties of mires and peatlands and their hinterlands, and cannot be avoided, should be relocated to areas where they will cause less impact.

Modifier: SPACE

Example of combination: A small operator at local level may have no opportunity to re-locate: she cannot follow the principle without wiping herself out. She cannot be blamed for this if she has no alternative. Thus she has to take the decision to remain in the location. At a national level, a government could intervene and make an alternative location, or compensation, available.

- b. The "polluter pays" principle: The cost of measures to prevent, control and reduce damage to the fundamental properties of mires and peatlands should be borne by the responsible party.

Modifier: TIME.

Example of combination: In a case where immediate compensation could bankrupt an enterprise, it might be better to wait until the enterprise had sufficient means to compensate adequately.

Table 5/6. Checklist against the Modifiers - Elements to be considered when decisions arise as to the use of a mire or peatland

In this decision do the General Considerations or Guidance Principles need to be modified	
- because of the place regarding which the decision is taken	
- because of the spatial scale of the area regarding which the decision is taken	
- because of the time/date/era of the decision	
- because of the period over which the decision will have consequences.	

5.6 Instruments

Instruments are mechanisms which facilitate the application of the modifiers of time and place to the guidance principles. There are instruments at a variety of levels, including (but not limited to) at

- international level,
- regional level involving groups of countries,

- national²⁵ level,
- sub-national level involving provinces or regions,
- the level of the enterprise²⁶, and
- the level of the individual.

Decisions as to what is and what is not Wise Use have to be taken at all these levels simultaneously.

5.6.1 Instruments at an international level

(1) *International law:* International law is a body of rules of conduct accepted by participating countries and which regulate relations between them. International law is most frequently embodied in international agreements and conventions such as the Ramsar Convention and the Convention on Biological Diversity. A list of environmental conventions and agreements relevant to mires and peatlands is given in Appendix 5.

(2) *International co-operation:* Formal channels of co-operation exist in the United Nations and its constituent bodies; in other international organisations; and through and between NGOs²⁷. It is through such co-operation that agreement can be reached on global plans, structures for co-operation, and monitoring progress. It can also lead to international standardisation of terminology, compilation of comparable data, and agreed criteria for attaching importance to mires and peatlands.

The organisations sponsoring this document should take the lead in implementation by putting in place a mechanism whereby the actions at international level are (i) initiated, (ii) given target time-scales for implementation, and (iii) monitored.

(3) *Guidelines for Global Action on Peatlands*²⁸ (GAP): A specific example of an instrument in international co-operation is the “Guidelines for Global Action on Peatlands (GAP) (§1.4). The principal “themes” identified in the GAP are summarised in Chapter 1.

(4) *Certification:* Other industries including forestry and hydropower have drawn up systems for encouraging environmentally acceptable ways of conducting their business. In the case of hydropower²⁹ a set of ethical considerations, recommendations and guidelines has been compiled. In the case of forestry³⁰ a system of certification has been established. The essential elements of the forestry system are a set of Principles and Criteria to be followed in harvesting forestry products; the establishment of certifying organisations; and a Forestry Stewardship Council to accredit certifying bodies.

²⁵ In the case of some instruments at national level, they are agreed between groups of countries. An example of this is the European Union.

²⁶ Examples: responsible implementing body, commercial company, community group, village.

²⁷ Non-governmental organisations such as the World Conservation Union, the International Peat Society, the International Mire Conservation Group, Wetlands International and the Society of Wetland Scientists.

²⁸ Ramsar 2001.

²⁹ International Energy Agency 2000.

³⁰ www.fscoax.org

The system gives assurance to consumers that if they buy certified products these have been produced or harvested in accordance with accepted environmental principles. It gives assurance to wholesalers and retailers that they will not be subjected to negative publicity or campaigns. It gives the industry a context within which it can operate with predictability. It gives those interested in protecting the environment a way of using market forces to control or eliminate destructive processes and to change the way of thinking of the industry. The negatives of such a system include (a) for industry the cost; (b) for environmentalists the fact that it controls but may not eliminate the harvesting of virgin forests or the flooding of valleys; and (c) there remain markets in which uncertified products can be sold. Eco-labelling can be used as part of such a system. Eco-labelling is a process by which an agreed authority certifies that a product has been produced in an environmentally friendly way.

The peat industries, including extraction, agriculture and forestry might or might not lend themselves to certification systems. Such a system is, however, an available instrument to be considered.

Table 5/7. Checklist to follow up on action at international level³¹.

Action	Name of organisation taking lead responsibility	Status of Action taken
Establishment of structures for co-operation ³²		
Establishment of structures for monitoring progress		
Development and application of standardised terminology and classification systems.		
Establishment of a global data base of mires and peatlands.		
Establishment of criteria to attach international importance to individual mires and peatlands		
Detecting changes and trends in the quantity and quality of the peatland resource		
Development and implementation of peatland education and public awareness		

³¹ Based largely on the Guidelines for Global Action on Peatlands (GAP), Ramsar 2001.

³² Including, for example, international co-operation under the Ramsar Convention

Ensuring that policy and legislative instruments are in place		
Development and use of wise use guidelines		
Put in place research networks, regional centres of expertise and institutional capacity		
Establish communication and co-ordination mechanisms for implementation and support.		

5.6.2 Instruments at regional level involving groups of countries

A number of regional bodies have been set up by groups of countries in different parts of the world. They have available to them similar instruments to those available at international and national levels. For example regional international law can be established by treaties between these countries, they could agree on common licensing systems and they could co-operate on the establishment of protected areas.

5.6.3 Instruments at a national level

(1) Public policy and administration: Each country should provide a context of national policies within which Wise Use decisions can be made. National policies should cover environmental protection, land use planning, the development of industry and agriculture, property rights and other relevant matters. National policies should, in general, be implemented through legislation, stimulation (incentives), and education. There should be an adequate public administration function to administer these instruments in regard to mires and peatlands, and to carry out the necessary regulatory functions.

Relevant national policies³³ should, inter alia, include

1. promoting the formulation and implementation of a Wise Use strategy for mires and peatlands, including a peatlands conservation strategy;
2. increasing knowledge and promoting public awareness of peatlands and their values through education and the mass media;
3. carrying out an inventory of peatland in different categories (classes and degrees of use or degradation),
4. applying an internationally agreed classification system for peatland types;
5. placing responsibility for peatlands within a transparent administrative system and establishing or strengthening mire- and peatland-related institutions;
6. supporting research into mires and peatlands.

³³ Cf. Safford & Maltby 1998.

(2) **Legislation**³⁴: The *Wise Use* of mires and peatlands should, in each country, take place in a context of legislation. Legislation should cover such areas as

- Land-use planning
- Protection of wildlife, of habitats and of specific areas³⁵
- Environmental protection, including the licensing of industrial, agricultural and service activities likely to impact on the environment.

International agreements (including, but not restricted to, the Ramsar Convention and the Convention on Biological Diversity) should be incorporated into domestic legislation.

(3) **Land-use planning**: Land-use planning is a process or procedure to plan the use of land for the common good. It is carried out, as appropriate, by State, Regional or Local Government authorities. Land-use planning involves

- The preparation and updating of a development plan for each area, setting out the overall strategy for the planning of the area. Such a plan provides for the zoning of land for particular uses; the provision for infrastructure; conservation and protection; integration with the social, community and cultural requirements of the area and its population; the preservation of the character of a landscape; and the control of building and other development.
- A system of controls by the Planning Authority which controls the carrying out of any works in, on, over or under land in accordance with the area plan. It involves the Planning Authority giving or refusing permission for the use or development of land, and the setting of conditions for that use or development.
- Public access to, and participation in, the planning process.

Planning laws normally provide for the use of Environmental Impact Assessments (EIAs), whereby the probable or possible impact on the environment of a proposed project is assessed. An Environmental Impact Statement (EIS) is a written document submitted by, or on behalf of, a developer to a Planning Authority. It is a public document, part of a process of public consultation and participation³⁶. It is advisable for land-use planning officials to be aware of the values and functions of peatlands.

(4) **Licensing**: All development of peatlands should take place within a national environmental licensing system. Such a system should be enshrined in law and should govern the licensing and regulation of industrial and agricultural processes on mires and peatlands as part of an overall licensing system. The purpose of a licensing system is to prevent or eliminate environmental pollution, or where that is not practicable, to limit, abate or reduce it. The system should seek to control emissions of pollutants into the air, and the discharge of solid or liquid effluent into water or their deposit on or in the ground, and the disposal of waste. Such legislation normally involves the establishment of an independent agency to carry out the licensing and to monitor the implementation of licence conditions.

³⁴ Cf. Shine & de Klemm 1999.

³⁵ National parks, nature reserves, areas of conservation, heritage areas, sites of scientific interest. See also “(7) Establishment of Protected Areas” below.

³⁶ Cf. Shine & de Klemm 1999, pp 221-225.

In the case of developments on peatlands, a licence should govern the emission of dust into the air, the release of particulates into watercourses, and other relevant matters. Licences should ensure the responsible planning of the after-use of cutaway peatlands.

(5) *Property rights and compensation:* In any country the legal basis for ownership, and the pattern of ownership of mires and peatlands, is fundamental to the implementation of any Wise Use guidelines. For example, in Canada large areas of mires and peatlands are owned by the State, which can decide on whether or not to allow a mire or peatland be developed. In Ireland bog ownership is divided between small plots used for the extraction of sod peat for domestic fuel: a decision, for example, to cease development on a bog would have serious income implications for large numbers of people. In Finland mires and peatlands are owned by landowners, who lease them to forestry developers or extraction companies and who naturally expect a say in what happens to their property. In Lower Saxony in Germany the fact that the great majority of peatland was in private ownership has dictated its distribution between agriculture, peat extraction and pristine mires. In Kalimantan in Indonesia the lack of defined property rights has left to the government the power to designate/permit rights of usage.

The property and other rights of landowners and the rights of all those with an interest in land³⁷ should be well-defined and secure. Landowners and others with an interest in land should be fully compensated if public policy interferes with their rights. More detailed information on patterns of property ownership in some selected countries is given in Appendix 2 to this document.

(6) *Rehabilitation of degraded peatland:* The type of after-use which is appropriate for peatlands after they cease to be used for agriculture, extraction, or forestry will vary according to the extent of the resource in a country, drainage patterns and hydrological regime, sub-soil type and nutrient status, and socio-economic conditions. In each location and in each country the appropriate form of rehabilitation should be made a licensing condition for any new development on mires or peatlands.

(7) *Establishment of Protected areas:* Governments can provide legal protection³⁸ to mires and peatlands. Legislation varies from country to country as do its terms and designations. A designation available in all signatory countries is that of Ramsar site. Among the various terms used are “Special Areas of Conservation” and “Natural Heritage Areas” in the EU; “Nature Reserves” in Norway; “National Parks” and “Natural Monuments” in Japan³⁹; “Nature Reserves” (zapovedniks) and “Wildlife Refuges and other resource areas” (zakazniks) in Russia⁴⁰; “National Park” in Poland⁴¹; “Managed Resource Area” in Lesotho⁴². The level of legal protection varies. Some categories of protected sites are set aside and actively supervised and managed to preserve them as they are. The protection given to other sites, for

³⁷ E.g. rights of commonage, grazing rights, traditional rights of indigenous peoples, hunting rights.

³⁸ For a detailed description of the legal protection process in Switzerland see Kohli 1994. A similar description for Norway is to be found in Moen 1995.

³⁹ Iwakuma 1995.

⁴⁰ Minaeva & Sirin 2000

⁴¹ Okruszko & Byczkowski 2000.

⁴² Backéus & Grab 1995.

example, allows licensed activities to take place there. Notes on the six management categories agreed by IUCN are contained in Appendix 7.

(8) Education and Awareness⁴³: Education is critical for promoting sustainable development and improving the capacity of people to address the conservation and development issues relevant to mires and peatlands. Education programmes related to mires and peatlands should follow the principles of environmental education.

Environmental education is education that helps people to understand the forces (both natural and man-made) which determine human behaviour in relation to the environment. Peatland education should include a broad base of understanding, experience and skills, that enable people to analyse and evaluate their own relationship to mires and peatlands on both a local and global scale. People also need to be taught skills that enable them to take part in decision-making and in actions as consumers and producers which will lead to a sustainable use of this resource.

Such a programme of education is life-long and aimed at all sectors in society - citizens, communities, business and industry. It may begin in schools but will also require a considerable re-design of professional and occupational training in higher education and in-service training.

The following are guidelines for such programmes of mire and peatland education:

1. They should be targeted at citizens, communities, industry and the non-institutional sector.
2. Support should be given for the development and dissemination of multi-disciplinary resources which are linked to the official curriculum and which focus on mires and peatlands as a topic for environmental education.
3. Every institute for further and higher education should be encouraged to produce a policy for the integration of mire and peatland education and Wise Use within all relevant courses.
4. Educators should be actively encouraged to make use of new resources through in-service training programmes.
5. A network of centres for mire and peatland education should be established, which would promote good mire and peatland education practice.
6. Communities, industry and the non-institutional sector should be empowered to prepare mire and peatland sites for educational use.
7. Citizens should be provided with educational materials that will enable them to make informed choices concerning lifestyle and consumer behaviour.

(9) Socio-economic policy: Some countries (or wider political bodies such as the EU) have socio-economic policies. Such policies often include a commitment to promoting economic activity or employment in particular regions. In some cases these policies may involve the utilisation of peatlands with a view to social benefits. For

⁴³ Based on information provided by Catherine O'Connell. See also Guidelines D1 to D4 of the GAP – Ramsar 2001.

example employment⁴⁴ provided by Bord na Mona p.l.c in the midlands of Ireland and by Vapo Oy in the interior of Finland enables small farmers to earn enough money to keep their farms, and provides the possibility of wider economic activity in small towns and rural areas. Such socio-economic policies are usually incidental to energy or economic policies.

Table 5/8. Checklist of actions to be taken at national level.

In relation to a particular country, has it or does it -	
Ratified the principal international environmental conventions and has it incorporated relevant international legislation into domestic legislation	
Have in place national policies relevant to mires and peatlands	
Have a body of relevant legislation governing land use planning and environmental protection.	
Have an adequate public administration function to administer legislation governing mires and peatlands.	
Have a comprehensive and participative land-use-planning system.	
Operate a system of licensing for the commercial development of peatlands.	
Have clear property laws where mires and peatlands are concerned incorporating a legal framework which protects the rights of individuals and communities over land	
Require the appropriate rehabilitation of mires and peatlands after use.	
Established sufficient protected areas according to internationally accepted criteria	
Have a policy for increasing knowledge and promoting public awareness of peatlands and their values through education and the mass media.	
Encourage the exercise of civic responsibility in regard, inter alia, to mires and peatlands.	
Play an active role in stimulating wise use policies at the international level	
Operate any incentives to develop mires and peatlands within the context of overall coherent economic and social policies.	

5.6.4 Instruments at sub-national level involving provinces and regions

(1) *Integrated catchment management*⁴⁵: Integrated catchment management (ICM) is the management of rivers and the surrounding catchment or basin as a whole. Even remote ecosystems can be affected by the demands from distant urban areas. ICM is useful in identifying and solving such basin-wide problems, resolving sectoral conflicts and cross-boundary questions in the management of a water resource. It is particularly useful in the management of mires and peatlands because they are sensitive to problems arising elsewhere in a catchment, and can adversely affect large areas outside their immediate vicinity when they are developed inappropriately.

⁴⁴ See § 3.4.6.

⁴⁵ Safford & Maltby 1998.

(2) *Ecosystem Approach*⁴⁶: The Ecosystem Approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. The principles involved are contained in Appendix 1 to this document.

Table 5/9 Checklist of actions to be taken at sub-national regional or local government level

Ensure that mires and peatlands are seen in the context of integrated catchment management.	
Apply the Ecosystem Approach to catchment management.	

Depending on the legislative system in a particular country some of the instruments at national level apply instead at the sub-national level.

5.6.5 Instruments at the level of enterprises⁴⁷

(1) *Corporate Governance and commercial strategy*: Corporate governance is the system by which commercial companies and institutions are directed and controlled⁴⁸. It is normal practice for boards of directors to be appointed in companies and institutions and for these boards to be responsible for their governance. The responsibilities of the board include setting the company's or institution's strategic aims, providing the leadership to put them into effect, supervising the management, and reporting on their stewardship to their shareholders (in the case of companies) or to their sponsors (in the case of institutions).

Where management, or development where such is permitted, of a mire or peatland is in the hands of a company or institution with strong and ethical corporate governance it is far more likely that the management and/or development will be carried out in a responsible manner. Where such bodies have well-thought-out commercial strategies they will only contemplate the development of a mire or peatland if it makes long-term commercial sense (cf. the principle of motivation at § 5.4 above). Good corporate governance combined with sound commercial strategy are unlikely to lead to piecemeal or short-term destruction of mires.

(2) *Cost-benefit Analysis*⁴⁹: Cost-benefit analysis (CBA) is a comparison of the estimated costs of an action with the estimated benefits it is likely or intended to produce. It is a technique to evaluate the worth of an idea or project; a measure of the extent to which the overall benefits outweigh the overall costs, and with how much certainty; and a comparison of alternatives - a Cost-benefit Analysis of a single course of action cannot be carried out.

In summary, a Cost-benefit analysis should:

⁴⁶ UNEP 2000. The Ecosystem Approach is an instrument intended for implementation at a variety of levels. For convenience it has been included at the sub-national level.

⁴⁷ 'Enterprises' include responsible implementing body, commercial company, community group, village.

⁴⁸ Cf. Cadbury 1992.

⁴⁹ Jeffreys 1995; Fricker n/a. Cost-Benefit Analysis is an instrument intended for implementation at a variety of levels. For convenience it has been included at the enterprise level.

- describe the issue to be resolved;
- set out the proposal, the alternatives, the benefits and costs, the risks⁵⁰;
- calculate the Net Present Value⁵¹ of the proposal and the alternatives;
- outline who will enjoy the benefits and when;
- outline the options included and those excluded; the assumptions made; and the period over which the analysis is calculated.

The use of cost-benefit analysis will not necessarily ensure the best use of a mire or peatland from an environmental perspective⁵². However, it would at least ensure that only viable proposals for development were implemented.

(3) Environmental Management System: An environmental management system is a structured system, integrated into the overall management process, which monitors and controls the impact of an enterprise's activities on the environment. The enterprise first establishes an environmental policy with stringent objectives and then puts in place procedures to achieve conformance with these objectives. An essential part of a management system is that it be audited, preferably by an external certifying authority. An example of an internationally accepted standard for environment management systems is the ISO 14001 standard. Smaller enterprises may not have the resources to aspire to a full international standard, but can implement simple but effective systems.

(4) Rehabilitation of degraded peatland: It is the responsibility of the exploiting enterprise to ensure the implementation of the type of after-use which was made a licensing condition. The appropriate form of rehabilitation should be planned in advance.

The restoration of peatlands to peat-accumulating ecosystems has been undertaken in, among others, Germany⁵³, Belarus⁵⁴, Finland⁵⁵, Canada⁵⁶ and the U.S.A⁵⁷. In Finland⁵⁸ and Ireland⁵⁹, large areas of peatlands from which peat has been extracted

⁵⁰ Elements of Life Cycle Analysis and chain analysis should be included in the Cost-benefit analysis and the Environmental Impact Assessment. This is in order to take into consideration indirect effects such as changes elsewhere in the market caused by the action, or the consequences of people changing the location of their jobs.

⁵¹ Net Present Value is a method of expressing future amounts in current terms. This is done by discounting an amount by a percentage for every year into the future.

For example, an annual cost of \$1,000 over 3 years, discounted at a compounding discount rate of 10% would appear at present as:

- 1st year = \$1,000 (no discounting)
- 2nd year = \$900 (\$1,000 less 10%)
- 3rd year = \$810 (\$1,000 less 10%, then less 10% again)

The actual Net Present Value is calculated by subtracting the present value of all costs from the present value of all benefits for an option. It can be difficult to put a monetary value on such benefits as biodiversity or naturalness (cf. § 4.8).

⁵² See discussion in § 4.8.

⁵³ Blankenburg 1996, Blankenburg & Hennings 1996, Kratz & Pfenhauer 1996.

⁵⁴ Bambalov et al. 1996.

⁵⁵ Vasander & Roderfeld 1996.

⁵⁶ Boudreau & Rochefort 2000, Le Quére & Samson 2000.

⁵⁷ Johnson et al. 2000.

⁵⁸ Vasander & Roderfeld 1996.

for energy use are suitable for agriculture and forestry. In Ireland⁶⁰ and Finland⁶¹ wetlands have been formed from cutaway peatland creating habitats for a variety of vegetation and wildlife. Areas of cutaway peatland have also been allowed to re-vegetate naturally⁶².

In rehabilitating degraded peatland attention should be paid to the whole scale of potential mire and peatland functions and values, including among others (i) restoring or re-creating habitats, (ii) the effects on the carbon balance and (iii) the effects on local hydrology of the chosen after-use.

(5) Education and Awareness: The responsibility to provide education and awareness programmes lies not only at the national level, but also at the level of the enterprise, in accordance with the scale of the enterprise.

(6) Technology Improvement: Enterprises extracting or using peat for energy generation can avail of technology improvements to reduce emissions of all kinds. Manufacturing and combustion technologies improve all the time, and the use of these technologies, for example, in briquette factories and power generation units, can greatly improve environmental performance. Similarly, agriculture and forestry can optimise the relationship between maximum productivity and minimum negative environmental side-effects by adapting land management, drainage and fertilisation intensities, frequencies, and techniques.

(7) Product diversification: Enterprises extracting peat for use as a soil improver or manufacturing peat-based growing media can also use their expertise to manufacture growing media containing alternative materials (see Table 3/6) such as green waste, coir and bark.

(8) Alternative energy: Peat extraction companies often have access to large areas of land, particularly cutaway, which could be used for alternative energies such as the growing of biomass or the establishment of wind farms.

(9) Codes of conduct: Codes of conduct are dealt with at 5.7 below. They can be used as instruments at the level of the enterprise to ensure compliance with the Framework.

Table 5/10. Analysis to be undertaken at enterprise level

Does the enterprise conduct all activities which exploit mires or peatlands on the basis of sound commercial strategy.	
Does the enterprise with responsibility for mires or peatlands operate on the basis of accepted principles of corporate governance.	
Are all decisions to exploit a mire or peatland taken on the basis of cost-benefit analysis.	
Does the enterprise operate an environmental management system.	

⁵⁹ O'Malley 1988.

⁶⁰ McNally 1996.

⁶¹ E.g. Vikberg 1996.

⁶² Rowlands & Feehan 2000.

Does the enterprise have an acceptable policy on the after- use of degraded peatlands.	
Does the enterprise promote knowledge and awareness of mires and peatlands.	
Does the enterprise, if involved in agriculture, horticulture or forestry on peatlands, have a policy to minimise negative environmental side effects by adapting land management, drainage and fertilisation intensities, frequencies, and techniques.	
If the enterprise extracts peat for energy generation does it have a policy of using the latest available technology with respect to impact reduction.	
If the enterprise extracts peat for energy generation, does it also promote the use of alternative energies.	
If the enterprise extracts peat for use as a soil improver or in growing media does it conduct research into, and/or use, alternative growing media.	
Does the enterprise take its decisions in relation to mires and peatlands in accordance with the criteria outlined in Tables 5/3 and 5/4.	
Does the enterprise play an active role in stimulating Wise Use policies on the regional, national and international level.	

5.6.6 Instruments at the level of the individual person

(1) Civic responsibility: It is in no single individual's immediate interest to moderate his or her consumption or behaviour. However where, through international agreement or national policies or legislation, norms of behaviour are established individuals should exercise civic responsibility in abiding by these norms. Even when such laws and agreements have not been established every individual has to take responsibility for the results of his or her actions⁶³.

(2) Education and Awareness: It is not enough for countries or enterprises to make information available, it is also necessary for individuals to inform themselves and to avail of the programmes which are put in place⁶⁴.

5.7 Codes of Conduct

Codes of conduct consist of lists of criteria to be applied to the circumstances of a particular case. Two examples are given in the appendices to this document:

- Appendix 3: Code of conduct which might be applied by a wholesale or retail company to its suppliers of peat-based horticultural products;
- Appendix 4: Code of conduct which might be applied by a regional or local government or administrative authority to a facility for the conversion of peat to energy.

⁶³ Cf. Joosten 1997.

⁶⁴ Persons who refuse to inform themselves and thus to modify their behaviour appropriately are said to suffer from "invincible ignorance."

These are examples only. Actual codes of conduct have to be drawn up by the principals in each case. There are many other circumstances in which codes of conduct might be drawn up – for example governing the afteruse of cutaway peatland. An example of an existing document which could be used as a code of conduct in particular circumstances would be the list of actions appended to the Penang Statement on Tropical Peatlands⁶⁵.

Codes of conduct can be drawn up to replace parts of this Framework. For example, in countries or provinces which do not have in place some or all of the “instruments at a national level” codes of conduct could be used in their stead.

5.8 Non-anthropocentric approaches⁶⁶

In §3.2 the question of attributing intrinsic value to entities other than human beings was raised. In § 4.10 a brief outline of non-anthropocentric approaches was given. The acknowledgement of a right to subsistence, freedom, and autonomy of non-human entities - independent of their contribution to the fulfilment of human needs and wants - leads to competing moral claims when the interests of human beings and non-human entities clash⁶⁷.

Conflicts between human and non-human interests cannot be resolved by simply giving greater weight to human claims⁶⁸ and thereby letting them override the competing claims of non-human entities. This does not imply that we may never harm other entities under any circumstances whatever⁶⁹. Any harm we inflict, however, must be justified by a valid moral reason⁷⁰.

⁶⁵ Ramsar 1999.

⁶⁶ Non-anthropocentric approaches are highly diverse with respect to what entities are considered to have intrinsic moral value and regarding the characteristics by which this value is judged (see Tables 3/1 and 3/2). In contrast to anthropocentrism (see the Universal Declaration on Human Rights and associated judgement systems in § 4.6), hardly any generalised rules / principles / guidelines have been formulated for the multitude of non-anthropocentric approaches. This section illustrates the kind of reflections that follow from a non-anthropocentric approach. It is inspired by the biocentric considerations of Taylor (1986) and departs from the presumption that all entities with intrinsic value have equal value.

⁶⁷ Not all types of conflicts identified in section 4.3 can occur between humans and nonhumans. Conflicts dealing with different understanding, different judgements, and different positions do not apply, because such conflicts require a high level of self-consciousness and abstraction, that is largely lacking outside the human realm. The most common conflict type is the conflict between different precedences, i.e. between “me” and “you”, “those here” and “them there”, and “some few” and “that many” in which the subjects now also include nonhuman entities.

⁶⁸ In anthropocentrism non-human entities do not belong to the same value category as human beings. Human beings are considered to have both intrinsic and instrumental value, whereas other entities only have instrumental value. In non-anthropocentric approaches non-human entities also have intrinsic value. It is a matter of much debate whether value differences exist within the category of intrinsic value, i.e. whether some entities are intrinsically more valuable than others, and what characteristics would inspire such differences. The acceptance of differences could imply that value graduations have also to be made between human beings, i.e. that some human beings have to be considered as intrinsically less valuable than others (Gorke 1999). See also § 4.10.

⁶⁹ Taylor 1986; cf. § 5.4.

⁷⁰ Cf. § 4.9.

Attributing intrinsic value to non-human entities (such as species and ecosystems) would impose additional boundaries⁷¹ to human behaviour⁷². Additional rules would also be required because non-human entities cannot defend their own position⁷³. Whereas information exchange, discussion, negotiation, and fair compromises may contribute substantially to resolving inter-human conflicts, in conflicts between human and non-human interests only human beings can decide to adjust their behaviour.

Parallel to the Universal Declaration of Human Rights, a non-anthropocentric approach would imply that no harm be done to any entity with intrinsic value⁷⁴ and that no constraints be placed on the freedom of such entities⁷⁵. These *veto duties*⁷⁶ would prohibit the doing of harm, but would not prescribe the counteracting of harm that is not caused by human beings⁷⁷.

Additional principles of a non-anthropocentric approach might include:

The principle of self-defence: *Interventions in the basic interests of non-human entities, including their killing or destruction, are allowed if no other possibility exists to save human lives from serious threats arising from these entities.*

This principle is based on the fact, that - in a situation of equal value of different entities - it can not be expected that one sacrifices oneself when another entity (e.g. an animal, a virus, a storm, a meteorite) behaves harmfully.

The principle of proportionality: *Where there is a conflict between human interests and those of non-human entities, basic interests (“needs”) prevail over non-basic interests (“wants”), no matter from which entities, human or other, the competing claims arise.*

This principle would reflect General Consideration 1 of the anthropocentric approach in §5.3. To assess the needs of non-human entities, human beings can seek to understand their standpoint and judge what is, from their point of view, important or not important for their overall well-being. With respect to animals, ethology (behavioural studies) may facilitate such assessment. This principle implies, for example, that – in case of pathocentrism or biocentrism - it is not permissible to kill animals “just for fun” as in recreational hunting and fishing.

⁷¹ See §§ 5.3 and 5.4. These additional boundaries, or rules, would involve the adaptation of the general anthropocentric considerations and principles to include non-human entities with intrinsic value in the objects/subjects of Tables 5/1 and 5/2, the general considerations 1 and 2 and of the guidance principles 4, 6, 8, 10 and 14.

⁷² E.g. limits on our population, habits of consumption, and technologies of food production as current practices in these areas are based on attributing only instrumental values to organisms.

⁷³ Cf. Stone 1988. In the anthropocentric realm this also applies to mentally disabled and unborn human beings.

⁷⁴ I.e. the “rule of nonmaleficence” of Taylor 1986.

⁷⁵ I.e. the “rule of non-interference” of Taylor 1986, implying a “hands off” policy. Depending on the type of non-anthropocentric approach, these entities may include individual organisms, species, or whole ecosystems. A constraint is any condition that hinders or prevents the normal activity and development of the entity in question.

⁷⁶ In contrast to active, prescriptive duties; cf. Table 4/3.

⁷⁷ That entities suffer and die does not itself call for corrective action when humans have had nothing to do with the cause of that suffering and death. Suffering and death are integral aspects of nature.

The principle of distributive justice: *When the basic interests (“needs”) of human beings compete with the basic interests (“needs”) of non-human entities, both interests should be fairly taken into account.*

The principle of distributive justice would require us to devise ways of transforming situations of confrontation between human beings and non-human entities into situations of mutual accommodation whenever possible⁷⁸. Sometimes, however, the clash between basic human interests and the basic interests of non-human entities could not be avoided. The most obvious case would arise from the need for human beings to consume non-human beings as food. The principle of distributive justice entails that it is morally permissible for human beings to kill other organisms for survival. For if human beings refrained from eating other organisms they would be sacrificing their lives for the sake of these other organisms. The other organisms are not of *greater* intrinsic value, so there is no obligation to further their interests at the cost of the basic interests of human beings.

The principle of restitutive justice: *When non-human rights have been infringed by human beings, the harm has to be compensated or repaired.*

This principle parallels the anthropocentric principle of compensation. It should apply whenever the application of the principle of distributive justice leads to an inevitable injustice to non-human entities. In order to restore the balance of justice between human beings and non-human entities, the compensation should provide an amount of good that equals (as far as can be reasonable estimated) the amount of harm to be compensated for.

This section reflects a premise of this document that it is essential to listen to and consider different points of view if conflicts are to be resolved. As mentioned in §3.2, participants in any given conflict may include both anthropocentrists and non-anthropocentrists. As stated in that section, convergence at the level of practical conclusions may be reached in spite of participants starting from different premises.

5.9 Dialogue

In the resolution of conflicts regarding mires and peatlands, the most important ***General Consideration*** is that parties may have different moral positions and that they have the right to have different preferences; the most important ***principles*** are those of clarity, information, motivation, and responsibility; the ***modifier*** takes into

⁷⁸ Methods to accomplish this would include (1) *permanent habitat allocation*: the permanent setting aside of wilderness areas where other entities may behave "according to their own will", independent of any human objectives and free from human interference; (2) *common conservation*: the sharing of resources while they are being used by both human beings and non-human entities; (3) *environmental integration*: the integration of human constructions and activities into natural surroundings in a way that avoids serious ecosystem disturbance and environmental degradation; (4) *rotation*: giving other entities their chance at deriving benefits from a particular area of the Earth, after human beings have also benefited from that area for a limited period of time. By occupying the area at different time periods, both human beings and non-human entities can meet basic needs. (Taylor 1986).

account that aspects of space and time may modify the principles (while recognizing that there is also responsibility for the larger scale and longer term); the most important *instrument* is dialogue.

One of the reasons why this document has gone to such lengths to discuss the characteristics of peatlands, different approaches to values, and the causes of conflicts is that understanding the other side's point of view is the first and essential step in dialogue. The decision framework which this document recommends is a rational procedure which, if followed, should resolve or minimise most conflicts. It can only do so, however, if it is informed by understanding and conducted through dialogue.

A Framework informed by knowledge and rationality will not remove emotion, vested interest or political manoeuvring from conflicts. It will, however, provide decision-makers with a basis for deciding between different options. If the parties to a conflict cannot be brought to agree, at least those deciding between them have a basis for wise decisions.

5.10 Conclusion

The four operative chapters of this document outlined

- what are mires and peatlands – their main characteristics – how widespread they are and where they are found
- why people attribute value to other beings and things – the types of human values – the values of mires and peatlands – their functions that give rise to these values
- why conflicts arise – the difference between needs and wants – rights – the types of conflicts – conflicts arising from different approaches to values – the bases for resolving conflicts
- a basis for conflict resolution to be found in a rational decision-making process based on an understanding of the different values of opposing parties – identifying in each case what is essential, whether resources are abundant, the potential negative effects of a decision, the potential benefits, and the circumstances and conditions which will apply in the case of implementation. The decision-making process is summarised again in Figure 5/3.

For this Wise Use Framework to be of value two steps need to be taken –

- it should be widely disseminated and communicated, and
- the bodies which participated in its preparation should continue their co-operation to establish a global data base of mires and peatlands, standardised terminology and classification systems, international criteria for peatland valuation, and a means of tracking changes in the peatland resource.

It is hoped that this document will contribute to a wider understanding of mires and peatlands and their many functions, and that it will in practice help in avoiding or

resolving future conflicts. For it to succeed it will need to form the basis of continuing co-operation between those who have helped to create it.

Figure 5/3 Framework for making decisions on interventions in peatlands

This summary Figure outlines the structure of the Framework but does not include all the elements at each stage of the process

