

Agenda item 8.2

A Ramsar conceptual framework for the wise use of wetlands and the maintenance of their ecological character

Action requested. The Standing Committee is invited to approve “A Ramsar Conceptual Framework for the wise use of wetlands and the maintenance of their ecological character” for consideration by COP9 as an Annex to COP9 DR1 (Additional scientific and technical guidance for implementing the Ramsar wise use concept).

Note by the Ramsar secretariat

1. As outlined in DOC. SC31-3 (Report of the Chair of the Scientific and Technical Review Panel, STRP’s Working Group 2 has responded to tasks established by the Standing Committee requesting the Panel to review, and as necessary update, the Convention’s definitions of “wise use” and “ecological character” in the light of other more recent developments and terminologies.
2. The Panel concluded that it is appropriate and necessary to update these definitions in the context of also establishing a conceptual framework to assist Parties in their achievement of wetland wise use under Article 3.1 of the Convention.
3. In undertaking this work, the Panel has recognized the value of the work of the Millennium Ecosystem Assessment (MA) and its development of a conceptual framework for ecosystems and human well-being, which the Panel considers provides a helpful basis for showing when to apply the range of different guidelines in the ‘toolkit’ of Ramsar Wise Use Handbooks (2nd edition).
4. The STRP has prepared its advice on these matters in the form of:
 - i. a “Ramsar conceptual framework for the wise use of wetlands and the maintenance of their ecological character”, which is proposed to be presented to COP9 for adoption as one of the set of framework guidances to be annexed to COP9 DR1 (“Additional scientific and technical guidance for implementing the Ramsar wise use concept”); and
 - ii. a COP9 Information Paper setting out the background, process and basis for the Panel’s recommendations concerning the wise use conceptual framework and updated definitions of “wise use” and “ecological character”.
5. The STRP considers that it will be helpful to Parties to have such an Information Paper in order to understand the Panel’s rationale and thinking behind its proposals for updating the definitions of the key concepts underlying the implementation of the Convention.

6. In Decision COP9 SG-4, the Standing Committee's Subgroup on COP9 approved of the approach presently being taken by the STRP in reviewing the wise use concept and requested the STRP and the Secretariat to finalize the documents for consideration by SC31.
7. These materials are provided here for consideration and approval by the 31st meeting of the Standing Committee, as Annex 1 ("Ramsar Conceptual Framework for the wise use of wetlands and the maintenance of their ecological character") and, for information, Annex 2 (Draft COP9 Information Paper).

COP9 DR 1 – Annex A

A Ramsar Conceptual Framework for the wise use of wetlands and the maintenance of their ecological character

[to form Annex A to COP9 DR1 “Additional scientific and technical guidance for implementing the Ramsar wise use concept”]

Introduction

1. Definitions of the key Ramsar Convention concepts of “wise use” and “ecological character” of wetlands were adopted by COP3 (1987) and COP7 (1999) respectively. Action 3.1.1 of the Ramsar Strategic Plan 2003-2008 requested the Convention’s Scientific and Technical Review Panel (STRP) to “review the wise use concept, its applicability, and its consistency with the objectives of sustainable development”.
2. In addition, COP8 Resolution VIII.7 requested the STRP to further review and, as appropriate, develop guidance and report to COP9 concerning identified gaps and disharmonies in defining and reporting the ecological character of wetlands, including, *inter alia*, harmonization of definitions and terms in the guidance on inventory, assessment, monitoring and management of the ecological character of wetlands.
3. The work of the STRP has been greatly assisted by the concurrent work of the Millennium Ecosystem Assessment (MA), in particular the MA’s Conceptual Framework for Ecosystems and Human Well-being (Millennium Ecosystem Assessment 2003. *Ecosystems and Human Well-being: A Framework for Assessment*. Island Press, Washington, D.C.), and its definition and description of the characteristics of ecosystems and ecosystem services.
4. The STRP determined that it is appropriate to update and harmonize the Convention’s “wise use” and “ecological character” definitions to take into account other now more-widely used terms and definitions relating to ecosystems and sustainable development, and that a conceptual framework for the delivery of “wise use” would be of assistance to Contracting Parties and others in determining when and where to make policy and management interventions to support this delivery.
5. This guidance covers harmonizing wetland ecosystem terminologies and provides both a conceptual framework for wetland wise use and updated and harmonized definitions of “ecological character”, “change in ecological character”, and the “wise use” of wetlands.

Wetland ecosystem terminology

6. Within the Millennium Ecosystem Assessment (MA), ecosystems are described as the complex of living communities (people are integral to these communities) and non-living environment (Ecosystem Components) interacting (through Ecological Processes) as a functional unit to provide a variety of benefits to people (Ecosystem Services).
7. Included in Ecosystem Services are provisioning, regulating, and cultural services that directly affect people, and supporting services which are needed to maintain these other

services. In the context of the Ramsar Convention, cultural services include both material and non-material values, benefits and functions as outlined in COP8 DOC.15 “Cultural aspects of wetlands”. Indicative lists of the benefits and products provided for wetlands by each of the types of ecosystem services are given in Figure 1. Further information on wetland ecosystem services and their values can be found in the Synthesis Report prepared by the MA for the Ramsar Convention (Finlayson, C.M., D’Cruz, R. & Davidson, N.C. (synthesis team co-chairs). 2005. *Wetlands and water: ecosystem services and human well-being*. Island Press (in press)).

8. The MA’s approach includes biodiversity itself as a structural component of ecosystems, whereby it is understood that the variability between ecosystems is one element of biodiversity.
9. The MA definitions and terms concerning ecosystems and their services provide a clear and consistent terminology which may be used to harmonize definitions and terms throughout the suite of Ramsar guidance on inventory, assessment, monitoring and management of the ecological character of wetlands, as requested by Resolution VIII.7. The following terms (left-hand column of Table 1) should be used in Ramsar guidelines and other usages:

MA Ecosystem terms to apply in Ramsar guidelines and other Convention usages	Relates to terms used in various previous Ramsar guidelines and other documents
Ecosystem Components: physical; chemical; biological (habitats, species, genes)	“components”, “features”, “attributes”, “properties”
Ecological Processes within and between ecosystems	“processes”, “interactions”, “properties”, “functions”
Ecosystem Services: provisioning; regulating; cultural; supporting	“services”, “benefits”, “values”, “functions”, “goods”, “products”

Table 1. Recommended terminology for describing wetland ecosystems.

10. Whilst these terms should be used wherever possible in Ramsar materials, there will be instances when usage of terms previously employed by Ramsar will continue to be appropriate and correct. Examples would include phrases such as “this wetland *functions* to deliver these ecosystem *services*”; “the *services* delivered by this wetland have major economic (and non-use) *value*”; and “the *services* delivered by this wetland are chiefly provisioning service *products* (largely rice and fibre)”.
11. Benefits, including unique cultural and heritage features (see the Annex to COP6 Resolution VI.1, 1996), provided by wetlands and formerly captured under the term “attribute(s)”, are more properly ascribed to one or another of the four categories of ecosystem services.

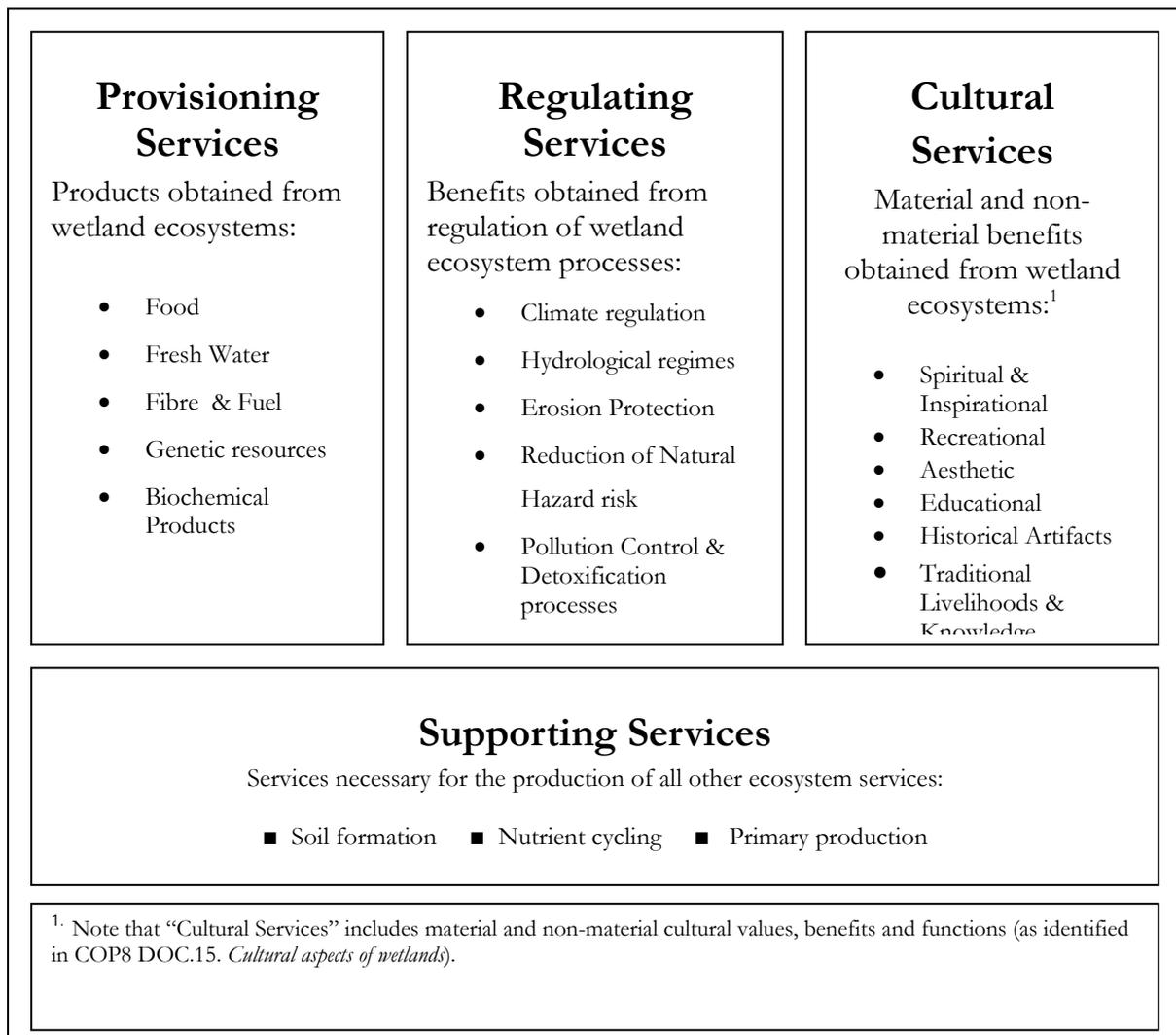


Figure 1. Indicative lists of benefits provided by the four categories of Ecosystem Services applied to wetland ecosystems. [Adapted from Figure 2.1 in Millennium Ecosystem Assessment. 2003. *Ecosystems and Human Well-Being: A framework for assessment*. Island Press, Washington D.C.; and Millennium Ecosystem Assessment. 2005. Synthesis Report - *Wetlands & Water: Ecosystem Services and Human Well-Being*. In press.]

A Conceptual Framework for wetland wise use

12. The Conceptual Framework developed by the Millennium Ecosystem Assessment (MA) for the maintenance of ecosystem services for human well-being and poverty reduction provides a multi-scalar approach which indicates how and where policy and management interventions and decision-making can be made (Figure 2). Under this framework, “wise use” equates to the maintenance of ecosystem services to ensure long term maintenance of biodiversity as well as human well-being and poverty alleviation.

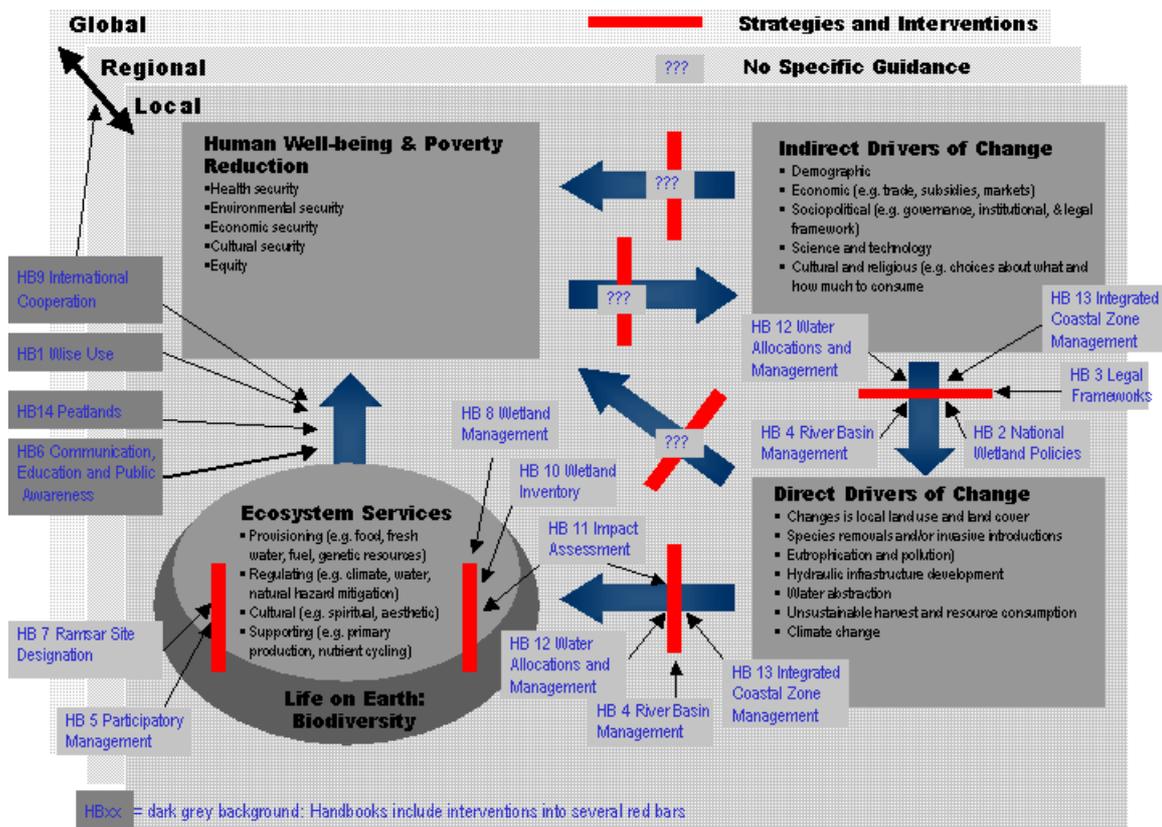


Figure 2. A Conceptual Framework for the Wise Use of Wetlands and the maintenance of their ecological character, and the application of the guidelines in the Ramsar ‘toolkit’ of Wise Use Handbooks 2nd edition (2004). [Adapted from Box 1.4 in Millennium Ecosystem Assessment. 2003. Ecosystems and Human Well-Being: A framework for assessment. Island Press, Washington, D.C.; and Millennium Ecosystem Assessment. 2005. Synthesis Report - *Wetlands & Water: Ecosystem Services and Human Well-Being*. In press.]

13. Figure 2 also indicates where in the Wise Use Conceptual Framework application can be made of the guidance contained in the ‘toolkit’ of Wise Use Handbooks adopted by the Ramsar Convention. Note that some of the Ramsar Wise Use guidelines include guidance for interventions to several different stages of the Conceptual Framework.
14. The strategies and intervention opportunities which are relevant for the application of each of the guidelines of the Ramsar toolkit are listed in Table 2.

Intervention opportunity(ies)	Relevant Ramsar Wise Use Handbooks
Indirect drivers → Direct drivers	2. National Wetland Policies 3. Laws and Institutions 4. River Basin Management (some parts) 12. Water Allocation and Management (some parts) 13. Coastal Management (some parts)

Direct drivers → Wetland Ecosystems	<ul style="list-style-type: none"> 4. River Basin Management 10. Wetland Inventory 11. Impact Assessment 12. Water Allocation and Management 13. Coastal Management [xx. Environmental flows] [xx. Groundwater] [xx. Economic valuation of wetlands] [xx. Vulnerability Assessment]
Within Wetland Ecosystems	<ul style="list-style-type: none"> 5. Participatory Management 7. Designating Ramsar Sites 8. Managing Wetlands 10. Wetland Inventory 11. Impact Assessment 12. Water Allocation and Management [xx. Groundwater] [xx. Vulnerability Assessment]
Covers several types of intervention opportunities (Indirect drivers → Direct drivers, Direct drivers → Wetland Ecosystems, and within Wetland Ecosystems)	<ul style="list-style-type: none"> 1. Wise Use of Wetlands 6. Wetland CEPA 9. International Cooperation 14. Peatlands

Table 2. The application of guidelines in the Ramsar “Toolkit” of Wise Use Handbooks to different intervention opportunities in the MA’s Conceptual Framework. [Guidelines being prepared by STRP in the 2003-2005 triennium for COP9 consideration are indicated by [...]]:

15. Mapping the Ramsar Wise Use toolkit contents onto this conceptual framework also permits an assessment of the toolkit’s coverage and gaps in coverage in relation to intervention opportunities and topics. It should be noted that many of the current Ramsar wise use guidelines concern strategies and interventions to ecosystems and their processes, or strategies and interventions addressing aspects of the direct drivers of change to ecosystems. Also, these concern interventions chiefly at local or national scales, since Ramsar guidance is for Contracting Parties acting within their territories, although some guidance also applies regionally and globally (e.g., aspects of the Guidelines for International Cooperation – Handbook 9).
16. Only two current Ramsar wise use guidelines - National Wetland Policies, and Reviewing Legislative and Institutional Frameworks - wholly concern interventions to indirect drivers of change, although some other guidelines include some policy aspects. However, it is clear that these ‘interventions’ onto the indirect drivers of change are important to have in place if efforts to manage wetland ecosystems sustainably through the application of the rest of the suite of Ramsar wise use guidelines are to be effective and efficient. Without such a policy and legislative framework in place, there is a risk that other interventions will take

place in a ‘political vacuum’ without a clear authorizing environment for their delivery, thus risking such efforts failing.

17. For some intervention opportunities indicated by the MA Conceptual Framework – for example, between indirect drivers of change and human well-being and *vice versa* - there are currently no Ramsar guidelines developed.
18. All aspects of the outline *Guidelines for the implementation of the wise use concept* adopted by COP4 (Recommendation 4.10) and most aspects of the *Additional guidance for the implementation of the wise use concept* adopted by COP5 (Resolution 5.6) have now been superseded by the suite of elaborated guidelines adopted by subsequent Conferences of Contracting Parties and compiled in the Ramsar toolkit of Wise Use Handbooks (see Table 1). However, three aspects of the COP5 guidance have not been further developed, concerning “Research”, “Training” and “Technical issues” of sustainable technologies.

Updated definitions of “ecological character” and “change in ecological character” of wetlands

19. Applying the MA’s terms and concepts, under which services form an integral part of ecosystems, an updated definition of Ramsar “ecological character” is:

*“**Ecological character** is the combination of the ecosystem components, processes and services that characterise the wetland at a given point in time.”*

20. Essential to wetland management is baseline data that establishes the range of natural variation in components, processes and services at each site within a given time frame, against which change can be assessed. Contracting Parties have already adopted a range of guidance relevant to the identification, assessment, monitoring and management of the ecological character of Wetlands of International Importance and other wetlands, including wetland risk assessment (Resolution VII.10), impact assessment (Resolutions VII.16 and VIII.9), monitoring (Resolution VI.1), inventory (Resolution VIII.6), and management planning (Resolution VIII.14). The STRP is currently working on the development of a hierarchical mechanism for describing the ecological character of wetlands, and it is making recommendations for this in a COP9 Information Paper [COP9 DOC. Xx].

21. Consistent with the updated definition of “ecological character”, an updated definition of “change in ecological character of wetlands” is:

*“For the purposes of implementation of Article 3.2, **change in ecological character** is the human-induced adverse alteration of any ecosystem component, process, and/or ecosystem service.”*

22. The inclusion of specific reference to Article 3.2 of the Convention text within the definition is designed to clarify the maintenance obligation for the ecological character of listed Wetlands of International Importance (Ramsar sites) under Article 3.2, and that such change concerns only adverse change caused by the actions of people. This is in line with the context of Article 3.2 and Recommendation 4.8 (1990), which established the Montreux Record, which was re-affirmed by COP8 Resolution VIII.8. This definition

therefore excludes the processes of natural evolutionary change occurring in wetlands and also excludes positive human-induced change.

23. However, it should be noted that other actions adopted by the Convention, such as those concerning assessing the overall status and trends of wetlands and Ramsar sites, require information on all types of change in ecological character – positive and negative, natural and human-induced (as is recognized in COP8 DOC. 20 and by Resolution VIII.8). Likewise, the Ramsar Convention has also recognized that wetland restoration and/or rehabilitation programmes can lead to favourable human-induced changes in ecological character (Annex to Resolution VI.1, 1996) and are a key aspect of wetland management interventions (see e.g., Annex to Resolution VIII.14).

An updated definition of the “wise use” of wetlands

24. An updated definition of “wise use”, taking into account the Convention’s mission statement, the MA’s terminology, the concepts of the ecosystem approach and sustainable use applied by the Convention on Biological Diversity, and the definition of sustainable development adopted by the 1987 Brundtland Commission, is:

“Wise use of wetlands is the maintenance of their ecological character within the context of sustainable development, achieved through the implementation of ecosystem approaches.”

25. The wise use provisions of the Convention apply, as far as possible, to all wetland ecosystems. However, the inclusion of the qualifier in the Wise Use definition of “*within the context of sustainable development, achieved through the implementation of ecosystem approaches*”, recognizes that some wetland development may be inevitable and that many developments have important benefits to society. While developments can be facilitated in sustainable ways by approaches elaborated under the Convention, it is not appropriate to imply that ‘development’ is an objective for every wetland.
26. Societal choice is inherent in advancing human well-being and poverty alleviation. Pressures to follow sustainable development precepts, and to maintain environmental, economic and social sustainability in land use decisions, encourage compromises (“trade-offs”) between individual and collective interests. Within the context of ecosystem approaches, planning processes should be formulated and implemented so as to promote the delivery of wetland ecosystem services in the context of the maintenance of wetland ecological character at appropriate spatial and temporal scales.

Annex 2

COP9 DOC. 16
Information Paper**Rationale for proposals for *A Ramsar Conceptual Framework for the Wise Use of Wetlands* and the updating of wise use and ecological character definitions (COP9 DR1 Annex A)****1. Mandate and process**

1. Action 3.1.1 of the Ramsar Strategic Plan 2003-2008 requested the STRP to “Review the Wise Use concept, its applicability, and its consistency with the objectives of sustainable development”.
2. A 2003-2005 global implementation target was set for STRP to spearhead the process of reviewing and updating guidance on the wise use concept, including the ecosystem approach, in particular in line with the outcomes of 2002 World Summit on Sustainable Development [WSSD].
3. The 2003-2005 Panel established an expert Working Group (Working Group 2), co-led by Randy Milton (Canada) and the IUCN – Commission on Ecosystem Management, to undertake this work.
4. In addition, Resolution VIII.7 (paragraph 15) requested the Scientific and Technical Review Panel (STRP) to further review and, as appropriate, develop guidance and report to COP9 concerning identified gaps and disharmonies in defining and reporting the ecological character of wetlands, including, *inter alia*, harmonization of definitions and terms in the guidance on inventory, assessment, monitoring and management of the ecological character of wetlands. This task formed part of the work of STRP’s Working Group 1 (inventory and assessment), co-led by Max Finlayson (Australia) and Lijuan Cui (China).
5. STRP Working Groups 1 and 2 have collaborated in the development of the analysis and recommendations in this paper, which have been prepared in particular by Randy Milton, David Pritchard, Max Finlayson, and the Ramsar Secretariat (Deputy Secretary General and the Secretary General). The work of the Working Group has been greatly assisted by the concurrent work of the Millennium Ecosystem Assessment (MA), in particular the MA’s Conceptual Framework for Ecosystems and Human Well-being (Millennium Ecosystem Assessment 2003. *Ecosystems and Human Well-being: A Framework for Assessment*. Island Press, Washington, D.C.), and its definition and description of the characteristics of ecosystems and ecosystem services.

2. Conclusions of the STRP’s review

6. The STRP’s review recognized that the wise use of wetlands is one of the three pillars of the Ramsar Convention’s Strategic Plan 2003-2008, and that wise use is firmly established in the commitments accepted by Parties under Article 3. The STRP has concluded that:

- i) the definition of “wise use” adopted by COP3 (1987) does need updating and re-defining, in particular to relate it to other now widely-used terms and definitions which have come into use – notably terms such as “sustainable development”, “sustainable use”, and “ecosystem approach”;
- ii) the definition of “wise use” also needs to be more clearly related to, and linked with, that of “ecological character”, which was subsequently developed by STRP and adopted by COP7 (1999) Resolution VII.10;
- iii) “ecological character” and “change in ecological character” also need redefining, in the context of Article 3.2, to reflect recent thinking and descriptions of the term “ecosystem”;
- iv) the original Wise Use Guidelines and Additional Guidance adopted by COP4 (Recommendation 4.10, 1990) & COP5 (Resolution 5.6, 1993) have now been largely superseded by the more detailed technical and scientific guidelines adopted by successive COPs and compiled as the “Ramsar toolkit of Wise Use Handbooks”. All aspects of the COP4 guidelines are now covered by subsequently adopted guidance, but some aspects of the COP5 additional guidance are not covered, or fully covered, in the Wise Use Handbooks. These concern Research (section II.3), Training (section II.4), and Technical Issues (section III.4) and are reproduced for information in Appendix I of this Information Paper. The STRP recommends that it be requested to further review these sections of guidance, and as appropriate, to update and elaborate them for future consideration by COP. Moreover, at that point the Panel should consider whether, with any update and elaboration for COP approval of these guidance elements, COP4 Recommendation 4.10 and COP5 Resolution 5.6 should then be recommended to COP for retirement;
- v) although the Convention’s guidance on wise use, compiled in Ramsar Wise Use Handbook¹ and amplified by the range of specific guidelines in the other Ramsar Handbooks, identifies a range of policy-level and on-the-ground implementation approaches, it lacks a clear overall conceptual framework to guide the delivery of these actions for wise use, and such a framework would clearly facilitate implementation of the Convention;
- vi) the terminology and approach developed by the Millennium Ecosystem Assessment (MA) for ecosystems and the MA’s Conceptual Framework provides valuable insights into the critical importance of maintaining ecosystem services for human well-being and poverty reduction, and can form the basis for a conceptual framework for Ramsar wise use; and
- vii) mapping the Ramsar toolkit contents onto the MA’s Conceptual Framework permits an assessment of the toolkit’s coverage and gaps in coverage in relation to intervention opportunities and topics, and indicates that for some intervention opportunities indicated by the MA Conceptual Framework (for example, between indirect drivers of change and human well-being) there are currently no Ramsar guidelines available, and for others the existing guidance may not be comprehensive:

the need for additional Ramsar guidelines for such matters should be the subject of further review by the STRP.

7. At its 12th meeting the STRP agreed with the approach and recommendations of the Working Group (Decision STRP12-2). The Panel also agreed (Decision STRP12-3) that it should take steps to identify gaps in Ramsar guidance and find a means of repackaging some of the older guidance into current documents and retiring or withdrawing appropriate older ones, for consideration by COP10. It was also agreed that an STRP task for the next triennium should be to revisit the case studies of *The Wise Use of Wetlands* (1993) and others, review their subsequent progress, and provide updated case studies.

3. Current Ramsar Convention guidance on “wise use” and “ecological character”

8. The Convention text (Article 3.1) make clear that the wise use provisions of the Convention apply, as far as possible, to all wetland ecosystems, both Wetlands of International Importance (Ramsar sites) and other wetlands, and that planning processes should be formulated and implemented so as to promote their conservation. “Wise use” is thus the overarching concept of the Convention and covers implementation responses both at the policy level as well as those directed towards specific wetlands and their support systems, such as river catchments.
9. The Convention text (Article 3.2) directs that each Contracting Party:

“shall arrange to be informed and report at the earliest possible time if the ecological character of any wetland in its territory and included in the List has changed, is changing or is likely to change. . . .”
10. Therefore, implicitly it is the maintenance of ecological character rather than change in the ecological character that is the desired objective for wetlands included in the List. This is explicitly stated in Recommendation V.2, Resolution VI.1, and the Ramsar Strategic Plan 2003-2008 (Operational Objective 11.1).
11. The 3rd Ramsar Conference of the Contracting Parties (COP3, 1987) defined the wise use of wetlands as:

“their sustainable utilisation for the benefit of humankind in a way compatible with the maintenance of the natural properties of the ecosystem.”
12. Although a definition of “ecological character” was not adopted until Ramsar COP7 (1999, Resolution VII.10), it can be inferred that the “maintenance of the ecological character” is analogous to the “maintenance of natural properties” in the wise use definition. Thus, wise use should be achieved through the “maintenance of the ecological character of wetlands”. It follows that the maintenance of their ecological character is the mechanism necessary for the wise use of any wetland, whether it is Listed as internationally important or not.
13. The link between wise use and the maintenance of ecological character as the mechanism for its delivery was established further by COP8 Resolution VIII.8. This Resolution

recognized that assessment of the status and trends of wetlands, and assessing and reporting on their ecological character and change in ecological character, provided the basis for improving understanding of the state of, and pressures on, wetland ecosystems at all scales. Such understanding will inform future policy development, decision-making and priority setting under the Convention, and for management action on Ramsar sites and other wetlands.

4. Ramsar's wise use definition in relation to sustainable use, sustainable development and ecosystem approaches

14. As part of its definition of the wise use of wetlands, the 3rd Ramsar Conference of the Contracting Parties (COP3, 1987) also defined "sustainable utilisation" as:

"human use of a wetland so that it may yield the greatest continuous benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations".

15. In the same year (1987) the Brundtland Commission defined "sustainable development" as:

"development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (UN World Commission on Environment and Development. 1987. Our common future)

16. Ramsar COP3 also recognized that both wise use policy and actions at site management levels are integral parts of sustainable development. Since the terms of the Brundtland definition and the Ramsar COP3 definition of "sustainable utilisation" are very similar, it follows that rather than equating wise use simply with sustainable utilisation (use), it is now more appropriate and relevant to define wise use in the context of sustainable development.

17. Furthermore, wise use as a sustainable development mechanism has been subsequently recognized by the Ramsar Convention in 1996 (COP6) through its adoption of the Convention's mission statement in the Convention's Strategic Plan 1997-2002, reaffirmed by the amended Mission statement in the Ramsar Strategic Plan 2003-2008 (COP8 Resolution VIII.25):

"the conservation and wise use of all wetlands through local, regional and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world."

18. The Convention on Biological Diversity (CBD) has described its "ecosystem approach" as that Convention's overarching approach for its implementation. CBD has defined (in Decision V/6; COP5, 2000) the "ecosystem approach" as:

"a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. Thus, the application of the ecosystem approach will help to reach a balance of the three objectives of the Convention: conservation; sustainable use; and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources."

An ecosystem approach is based on the application of appropriate scientific methodologies focused on levels of biological organization, which encompass the essential structure, processes, functions and interactions among organisms and their environment. It recognizes that humans, with their cultural diversity, are an integral component of many ecosystems.”

19. Thus the CBD overarching “ecosystem approach” can be regarded as congruent with Ramsar’s overarching concept of “wise use”. In addition, the “Addis Ababa Principles and Guidelines for the sustainable use of biodiversity”, adopted by the Convention on Biological Diversity in 2004 (CBD COP7 decision VI/12), focus attention on the sustainable use of components of biological diversity. These guidelines cover a similar range of implementation interventions at similar levels of detail as the original Ramsar Wise Use Guidance (COP4 and COP5). Hence the CBD sustainable use guidelines also equate to the Ramsar ‘toolkit’ of guidelines for delivering wise use through maintaining the ecological character of wetlands.

5. Harmonizing Ramsar’s wetland ecosystem terminology

20. Since its inception the Ramsar Convention has used a variety of descriptive terms concerning wetlands in its adopted definitions and wise use guidelines, including wetland “features”, “components”, “attributes”, “properties”, “interactions”, “processes”, “benefits”, “values”, “functions”, “goods”, “products” and “services”. As part of its work, the STRP was requested by COP8 (Resolution VIII.7) to review this usage and propose, if necessary, a more consistent and harmonized terminology to be used throughout the suite of Ramsar guidance on inventory, assessment, monitoring and management of the ecological character of wetlands.
21. The Millennium Ecosystem Assessment’s (MA) 2003 report on *Ecosystems and Human Well-being* sets out the MA’s Conceptual Framework and the approach and methodology adopted for the Assessment. The report was approved by the MA Board, whose membership includes the current Chairs of the Ramsar Convention’s Standing Committee and Scientific and Technical Review Panel and the Secretary General and Deputy Secretary General, and the MA’s agreed description and terminology for ecosystems has received wide end-user endorsement and recognition.
22. The MA’s conceptual framework is significant for Ramsar, since the Convention’s current definitions of wise use and sustainable utilization recognize peoples’ utilization of wetlands (i.e., using their ecosystem services *sensu MA*) yielding benefit to current and future generations: in other words, implicitly recognizing the critical linkage between ecosystem services and human well-being - a relationship that lies at the core of the MA’s process. The MA conceptual framework recognizes that the maintenance of ecological systems is intertwined with the provision of ecosystem services, which in turn support people’s livelihoods and their well-being (COP8 DOC. 16, para 19).
23. The MA describes ecosystems in terms of “ecosystem structure” supplying “ecosystem services” (see Figure 1). Ecosystem structure includes its physical, chemical and biological (habitats, species and genes) *components*, ecological *processes*, which include the interactions between the ecosystem components, and ecosystem *services*, a phrase which covers several terms in Ramsar usage such as “values”, “functions”, “goods”, “products” and “services”.

Under the MA, ecosystem services are described as either: Provisioning, Regulating, Cultural, or Supporting. Ecosystem services delivered by wetlands include: provisioning services such as freshwater and food; regulating services such as flood control and carbon sequestration; cultural services such as recreation and inspiration; and supporting services such as purification of water supplies and groundwater recharge.

24. The MA ecosystems terminology provides a consistent and simple set of descriptors for ecosystems and can be applied to wetlands as much as to any other ecosystem.
25. Adoption of the MA terminology for application by the Ramsar Convention means that there will be a subsequent need to review and, as appropriate, revise the existing suite of guidance in the Ramsar ‘toolkit’ of Wise Use Handbooks adopted up to and including COP8, in order to make consistent the use of ecosystem terms throughout the Convention’s body of adopted guidance. The Ramsar Secretariat, with the advice of the STRP, should undertake this during the process of preparing revisions to the Ramsar Wise Use Handbooks after COP9, incorporating the additional guidelines adopted by COP9.

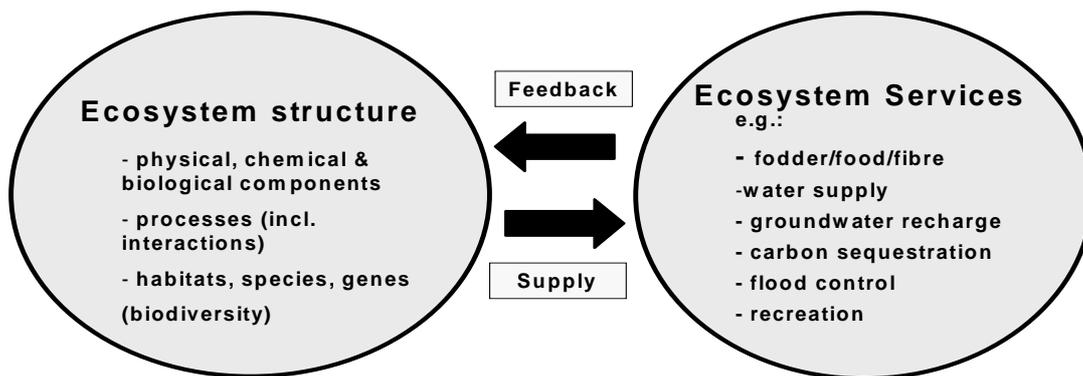


Figure 1. The Millennium Ecosystem Assessment’s description of “ecosystems”.

6. Updating the Ramsar definition of “ecological character” of wetlands

26. Subsequent to the Convention’s adoption of the definition of “wise use”, Ramsar COP7 (1999) adopted definitions of “ecological character” and “change in ecological character” of wetlands (Resolution VII.10). “Ecological character” was defined as:

“the sum of the biological, physical and chemical components of the wetland ecosystem, and their interactions, which maintain the wetland and its products, functions, and attributes”;

and “change in ecological character” (in relation specifically to Ramsar sites under Article 3.2 of the Convention text) was defined as:

“the impairment or imbalance in any biological, physical, or chemical components of the wetland ecosystem, or in their interactions, which maintain the wetland and its products, functions and attributes.”

27. Applying the MA's concepts (under which services form an integral part of ecosystems) and terms, an updated description of Ramsar "ecological character" would be:

"Ecological character is the combination of the ecosystem components, processes and services that characterise the wetland at a given point in time."

28. Essential to wetland management is baseline data that establishes the range of natural variation in components, processes and services at each site within a given time frame, against which change can be assessed. Contracting Parties have already adopted a range of guidance relevant to the identification, assessment, monitoring and management of the ecological character of Wetlands of International Importance and other wetlands, including wetland risk assessment (Resolution VII.10), impact assessment (Resolutions VII.16 and VIII.9), monitoring (Resolution VI.1), inventory (Resolution VIII.6), and management planning (Resolution VIII.14). The STRP is currently working on the development of a hierarchical mechanism for describing the ecological character of wetlands, and will be making recommendations for this in a COP9 Information Paper [COP9 DOC. xx].
29. Likewise, it follows that the description of "change in ecological character" would be updated as:

"For the purposes of implementation of Article 3.2, change in ecological character is the human-induced adverse alteration of any ecosystem component, process, and/or ecosystem service."

30. The inclusion of specific reference within the definition to Article 3.2 is intended to clarify the maintenance obligation under Article 3.2 of the Convention text, and that such change concerns only adverse change caused by the actions of people in line with Article 3.2 of the Convention, Recommendation 4.8 (1990) which established the Montreux Record, and as re-affirmed by COP8 Resolution VIII.8. This definition therefore excludes the processes of natural evolutionary change occurring in wetlands and also positive human-induced change.
31. Nevertheless, other actions adopted by the Convention, such as those concerning assessing the overall status and trends of wetlands and Ramsar sites, require information on all types of change in ecological character – positive and negative, natural and human-induced (as is recognized in COP8 DOC. 20 and Resolution VIII.8), and it may be appropriate to request the STRP to consider preparing further guidance on this matter. The Convention has also recognized that wetland restoration and/or rehabilitation programmes can lead to favourable human-induced changes in ecological character (Annex to Resolution VI.1, 1996), and are a key aspect of wetland management (e.g., Annex to Resolution VIII.14).

7. Updating the Ramsar definition of "wise use" of wetlands

32. Applying the MA's concepts and terminology, and taking into account the Convention's mission statement, the concepts of the ecosystem approach and sustainable use applied by the Convention on Biological Diversity, the definition of sustainable development adopted

by the 1987 Brundtland Commission, and the proposed updated definition of ecological character, an updated definition of “wise use of wetlands” would be:

“the maintenance of their ecological character within the context of sustainable development, achieved through the implementation of ecosystem approaches.”

33. As noted above, the wise use provisions of the Convention apply, as far as possible, to all wetland ecosystems. However, the inclusion of the qualifier in the wise use definition of “*within the context of sustainable development, achieved through the implementation of ecosystem approaches*”, recognizes that some wetland development may be inevitable and that many developments have important benefits to society. While developments can be facilitated in sustainable ways by approaches elaborated under the Convention, it is not appropriate to imply that ‘development’ is an objective for every wetland. Societal choice is inherent in advancing human well-being and poverty alleviation. Pressures to follow sustainable development precepts and to maintain environmental, economic and social sustainability in land use decisions encourage compromises between individual and collective interests. Within the context of ecosystem approaches, planning processes should be formulated and implemented so as to promote wetland ecosystem services and the maintenance of wetland ecological character at appropriate spatial and temporal scales.
34. Furthermore, Resolution VII.24 (1999) notes that effective wetland protection involves the conservation of wetlands as a first choice within a three-step mitigation sequence, and further requests that additional criteria and guidelines be developed for the compensation of wetland habitats in the case of unavoidable losses. As a matter of priority the STRP should be requested to develop criteria and guidelines on the appropriate mitigation sequence to support the decision planning process and the existing guidance, balancing wetland wise use and sustainable development in order to advance human well-being and poverty alleviation.

8. A conceptual framework for the “wise use of wetlands”

35. The Millennium Ecosystem Assessment (MA) Conceptual Framework describes the inter-relationships between ecosystems services and human well-being and poverty reduction, the ways in which direct and indirect drivers of change affect ecosystem services and their capacity to deliver human well-being. It shows where policy and management strategies and interventions may be made so as to secure the maintenance of ecosystem services and human well-being (Figure 2).
36. The Conceptual Framework provides a multi-scalar conceptual framework for the delivery of the wise use of wetlands under the Ramsar Convention. Under this framework, wise use equates to the delivery arrow from ecosystem services to human well-being and poverty reduction. The framework helps to show how, and when, to apply policy and management interventions using the different guidelines adopted by the Convention and included in the Ramsar ‘toolkit’, so as to deliver the wise use of wetlands.
37. It should be noted that most of the current Ramsar wise use guidelines concern interventions to ecosystems and their processes, or interventions addressing aspects of the direct drivers of change to ecosystems. Also, these interventions are made chiefly at local or national scales, since Ramsar guidance is for Contracting Parties acting within their

territories, although some applies regionally or globally (e.g., aspects of the Guidelines for International Cooperation).

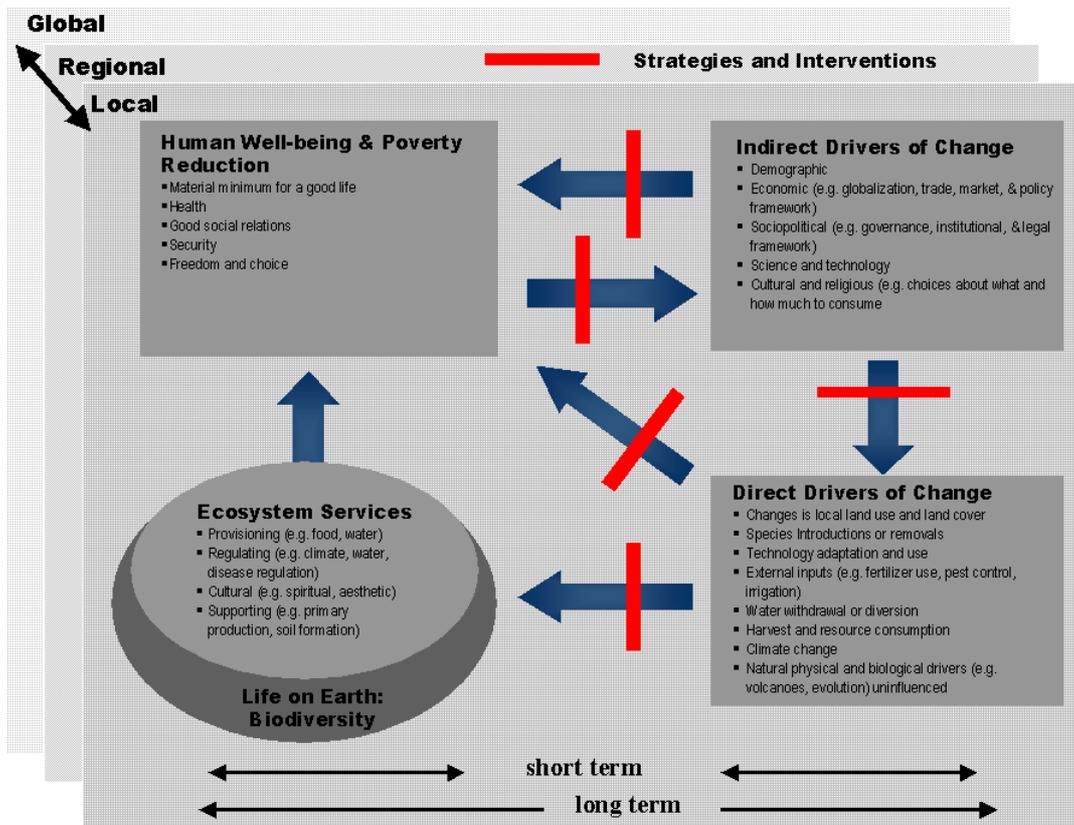


Figure 2. The Millennium Ecosystem Assessment's (MA) Conceptual Framework. [from: Millennium Ecosystem Assessment. 2003. *Ecosystems and Human Well-being. A Framework for Assessment.* Island Press, Washington, D.C..]

38. Only two Ramsar guidelines – National Wetland Policies and Reviewing Legislative and Institutional Frameworks – wholly concern interventions to indirect drivers of change, although some others include some policy aspects. However, it is clear that these ‘interventions’ onto the indirect drivers of change are important to have in place if efforts to manage wetland ecosystems sustainably are to be effective and efficient. Without such a policy and legislative framework in place, there is a risk that other interventions will take place in a vacuum, without a clear authorizing environment for their delivery, thus risking such efforts failing.
39. Furthermore, for some intervention opportunities indicated by the MA Conceptual Framework – for example, between indirect drivers of change and human well-being and *vice versa* – there are currently no Ramsar guidelines developed. The need for, and relevance of, further such guidance should be reviewed by the STRP in the 2005-2008 triennium.

Appendix 1

Aspects of Ramsar's COP5 "Additional guidance for the implementation of the wise use concept" (Resolution 5.6) not covered by subsequently adopted Ramsar guidelines

II.3 Research

Research can be anything that expands upon basic knowledge. Particular areas that may deserve attention are both identification and quantification of wetland values, sustainability of wetland use, and landscape functioning and modification. Contracting Parties should take positive steps to acquire and, when possible, share any knowledge developed on wetland values, functions and uses.

1) Priority research actions may include:

- The development of a vocabulary of terms, understandable world-wide;
- The development of means to emphasize landscape or catchment approaches in management;
- The development of techniques for monitoring ecological change and forecasting the evolution of wetland characteristics under the pressure of present uses;
- The improvement of the knowledge base of wetland functions and values, especially the socio-economic values of wetlands, in order to learn about the traditional management techniques of the local populations and their needs;
- The improvement of the knowledge of the scientific classification of wetlands micro-organisms, plants and animals, and the lodging of study specimens with museums or other appropriate institutions;
- The development of methodologies to evaluate sustainable practices;
- The provision of the data on which alternative/wise use technologies can be developed;
- The development of techniques for restoration of wetlands.

2) The above-mentioned research questions represent an indication of needs. In practice, it can be expected that the number of specific research questions to be addressed will increase as progress is made in natural resource programmes. Research priorities must be based on management needs.

II.4 Training

1) Attention should be devoted to four aspects of training:

- *The definition of training needs*
- *The differing needs between regions, countries and sites*
Expertise may not always be available and some key aspects of wise use may not be covered in the existing programme. These key aspects must be considered as priorities for further training activities. Therefore, the first step in establishing a training programme should be to carry out a training needs analysis.
- *The target audience*

There is a huge difference between educational and awareness programmes and professional training. Generally, it can be said that while the general public and senior policy makers should be made aware of ecological, cultural, social and economical values of wetland ecosystems, training should be provided for those who are directly involved in administering and practising wetland management. Training sessions should focus on the most up-to-date methods for implementing wise use. Such sessions need also to be organized for judicial authorities and other law enforcement officials.

- *The subject*

Training should furnish wetland managers and administrators with the professional knowledge needed for establishing, defending, and implementing the concept of wise use of wetlands.

2) Three broad types of training appear to be of particular relevance for wetland professionals:

- *Courses on integrated management*

Training should seek to bring together specialists from different fields to generate a common understanding and a common approach to wetland management and planning;

- *Courses on wetland management techniques*

Training should seek to provide the participants with the most up-to-date and effective techniques of inventory, planning, monitoring, environmental impact assessment (EIA) and restoration;

- *Courses for field staff*

Wardens and rangers need to have a very basic understanding of the concept of wise use and to be able to deal with day-to-day situations such as enforcement of legislation and public awareness.

The development of training manuals and other resource materials should be an important long-term goal for any training programme.

3) Training methods and resources

Training activities and transfer of appropriate knowledge should be an integrated component of all wise use projects. Those activities should be as catalytic as possible, and seek to train potential trainers at regional level who can then pass on their expertise to lower levels, and involve the cooperation of governmental and non-governmental organizations, using local resources and institutions whenever possible.

III.4 Technical issues

For many regions of the world, wise use is not a new concept. Humans have been building civilizations around wetlands for thousands of years, and have developed technologies of utilization.

Many of these technologies are sustainable, and should therefore be identified, studied and promoted as a matter of urgency. In the cases where these technologies are not sustainable, they should be refined and adapted to optimize their sustainability.