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**COMPARISON OF THE CONCEPTUAL BASIS OF THE ECOSYSTEM APPROACH IN
RELATION TO THE CONCEPT OF SUSTAINABLE FOREST MANAGEMENT***Note by the Executive Secretary***I. INTRODUCTION**

1. In its decision VI/12 on the Ecosystem Approach, the Conference of the Parties (COP) requested the Executive Secretary to convene a meeting of experts to compare the ecosystem approach with sustainable forest management, and to develop proposals for their integration. In its decision VI/22 paragraph 19(a), on Forest Biological Diversity, COP further requested the Executive Secretary to give adequate consideration to regional conditions while undertaking this comparison. The present note compares and contrasts the concept of Sustainable Forest Management (SFM) and the Ecosystem Approach of the Convention on Biological Diversity, and considers issues for their integration.

II. BACKGROUND

2. The first international agreement requiring the adoption of an 'ecosystem approach' was the 1980 Convention on the Conservation of Antarctic and Marine Living Resources. This approach recognised the importance of ecological interactions between and within fish populations, between fish and other species, and between the biota and their physical and chemical environments. The limitations of current scientific knowledge of these relationships was recognised, as were the constraints on reducing uncertainty imposed by limited financial and other resources. The initiative set out to avoid or minimise potential adverse effects of fishing on other fish species and on the marine ecosystem as a whole, so as to ensure overall sustainability of the fishery. This ecosystem approach was subsequently incorporated into other agreements, including the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean and the 1995 UN Fish Stock Assessment (Rayfuse and Wilder, 2001). In addition, the FAO held the Reykjavik Conference on Responsible Fisheries in the Marine Ecosystem (1-4 October 2001), which considered ecosystem-based management. The Conference resulted in the Reykjavik Declaration on Responsible Fisheries, which supports the vital role of the ecosystem approach in sustainable management of fisheries resources. This declaration, which was noted in the Plan of Implementation of the World

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Summit on Sustainable Development, could be considered as part of the Convention's approach towards sustainable fisheries, in addition to the FAO Code of Conduct for Responsible Fisheries.

3. The concept of an ecosystem approach has also been adopted and promoted by the Food and Agricultural Organisation of the United Nations in the areas of agriculture, forestry and fisheries. This followed a recommendation from the 7th Session of the Commission on Genetic Resources for Food and Agriculture that "countries were encouraged to develop strategies, programmes and plans for agrobiodiversity in conformity with an ecosystem approach" (FAO, 2003). More specific concepts being applied include: ecological relationships underpin food production; ecosystem services are a source of inputs to production; heterogeneity in both space and time, and the diversification of production activities across this, enable farmers to cope with change; the potential for certain agricultural practices to maintain or even restore biodiversity; marketing ecosystem products and services can raise the value of biodiversity; local knowledge systems are a repository of information on biodiversity; and local ownership and participation are important in maintaining biodiversity.

4. The adoption of an ecosystem approach by FAO complements a recent move by the Consultative Group on International Agricultural Research (CGIAR) to promote Integrated Natural Resource Management (INRM) in agricultural research and development. This approach stems from the increasing recognition that many agricultural developments in recent years, while increasing food production, have at the same time contributed to undermining the broader natural resources base on which people depend to meet a wider range of livelihood needs. Accordingly, INRM is described as *a conscious process of incorporating multiple aspects of natural resource use into a system of sustainable management to meet explicit production goals of farmers and other uses (e.g. profitability, risk reduction) as well as goals of the wider community* (CGIAR, 2000).

III. THE CONCEPT OF SUSTAINABLE FOREST MANAGEMENT

5. Sustainable Forest Management (SFM) represents one of the most developed approaches to the conservation and sustainable use of natural resources. The concept was developed in its current form in the early 1990s, initially by the International Tropical Timber Organisation (ITTO), largely in response to criticisms then about the apparent unsustainability of the tropical timber trade. It subsequently received support from the 1992 UN Conference on Environment and Development through its Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forest (United Nations, 1992). Although the statement did not explicitly define the term 'sustainable forest management' it set out 15 sets of principles in support of the objective "to contribute to the **management, conservation and sustainable development of forests** and to provide for their **multiple and complementary functions and uses**"

6. Since then, several international and regional initiatives have emerged on developing criteria and indicators for sustainable forest management. These include the Ministerial Conference on the Protection of Forests in Europe (MCPFE, more generally known as the 'Helsinki Process'), a Working Group on Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests (known more simply as the 'Montreal Process'), the Tarapoto Proposal for the Amazon, and regional initiatives for Dry-Zone Africa, the Near East and Central America (the 'Lepaterique Process'), facilitated by the ITTO among others. In February 1997, the UN Commission on Sustainable Development's Intergovernmental Panel on Forests endorsed the use of criteria and indicators to operationalise the concept of SFM and called on all countries to become involved in developing and implementing them. Overall, more than 100 countries are now involved in initiating SFM and an international programme of certification of forestry operations, under the auspices of the Forestry Stewardship Council, has been developed and is being applied.

Definitions

7. SFM has been variously defined as:

(i) *"the process of managing forest land to achieve one or more clearly specified objectives of management with regard to the production of a continuous flow of desired forest products and services without any socially unacceptable environmental or social impacts or reduction of its inherent values and potential future performance (ITTO 1990, 1991);*

(ii) *"the process of managing forest to achieve one or more clearly specified objectives of management with regard to the production of a continuous flow of desired forest products and services without undue reduction of its inherent values and future productivity and without undue undesirable effects on the physical and social environment" (ITTO, 1998);*

(iii) *"the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems" (MCPFE, 1993; FAO use the same definition).*

8. There is a subtle change in the nature and order of the words, and hence the emphasis, in the two ITTO definitions. The first ITTO definition, by requiring that the production of forest products and services should happen "...without any socially unacceptable environmental or social impacts...", clearly places unrealistic constrictions on forest-based industries. The revised ITTO definition introduces more flexibility, albeit one that requires negotiation and trade-offs among different interest groups as to what constitutes "undue" reductions in inherent values and "undue" undesirable environmental effects.

9. In contrast to these other initiatives, the Working Group of the Montreal Process does not provide an explicit definition of SFM but lists seven criteria and 67 associated indicators that, together, are intended to provide a common understanding of what is meant by sustainable forest management (Montreal Process, 2003). These criteria, or categories of values that people wish to retain, are:

- (a) Biological diversity (specifically ecosystem, species and genetic diversity);
- (b) The productive capacity of forest ecosystems;
- (c) Forest ecosystem health and vitality (focusing primarily on direct and indirect impacts of human activities on forest structure and functioning);
- (d) Forest soil and water resources;
- (e) The contribution of forests to the global carbon cycle;
- (f) Long-term multiple socio-economic benefits to meet the needs of societies (specifically in relation to production and consumption (of forest goods and services); recreation and tourism; investment in the forest sector; cultural, social and spiritual needs and values; employment and community needs); and
- (g) Appropriate legal, institutional and economic frameworks for forest conservation and sustainable management (including the capacity to undertake measurement, monitoring, research and development).

10. Based on all the above, and while there are differences in wording and emphasis, the various SFM definitions are founded on a largely implicit set of common principles. These are: the concept of stewardship; creating enabling conditions for sustainable forest management; ensuring the continued flow of benefits from forests in the form of forest products and broader environmental services; the maintenance of biodiversity and ecosystem functioning; and the maintenance of important economic, social and cultural functions of forests.

IV. INTEGRATION OF SUSTAINABLE FOREST MANAGEMENT AND THE ECOSYSTEM APPROACH: ELEMENTS FOR CONSIDERATION

11. Much of the effort in operationalizing SFM has been concentrated on developing comprehensive sets of criteria and indicators by which to assess whether sustainable forest management is being achieved. Criteria in this regard are components of the structure or functioning of a system (including social and economic components) that should be in place as a result of adherence to a principle. An indicator is a quantitative or qualitative parameter that can be assessed in relation to a criterion. Other than the detailed principles listed in the UNCED statement, the overriding principles of SFM, in the few cases where they are stated explicitly, are no more than broad expressions of ideals to be achieved. For example, the United States Forest Service, in developing criteria and indicators for sustainable forest management at a local (forest management unit) scale, defined three broad but simple principles – **social well-being**, **economic well-being** and **maintenance of ecological function** – with more specific criteria being developed within the framework of each principle (Wright *et al.*, 2002). One advantage of this approach is that, within the broader framework, it is possible to specify criteria and indicators that can take local circumstances and needs into account.

12. In this regard, SFM can be characterised as being an outcomes-based approach, with greater emphasis being placed on meeting certain outcomes in the form of standards (the criteria). This is in contrast to the ecosystem approach of the Convention on Biological Diversity, which currently seems to place greater emphasis on the content and comprehensiveness of the principles, rather than what precisely needs to be achieved and how that achievement can be demonstrated through management. Perhaps this reflects the greater maturity of SFM and the enormous amount of work and resources devoted to refining the approach over the past decade. Moreover, SFM deals largely with only one kind of production system—forestry—whereas the CBD Ecosystem Approach seeks to address managing biodiversity more broadly, as something that exists in all production systems, but in different and often unique ways. Although the Ecosystem Approach of the CBD contains aspects that can be taken into account in SFM, the integration of SFM with that of the ecosystem approach of the CBD would need to move the latter to an outcomes-based approach.
