Convention on Biological Diversity

Case Study for Australia

Ecosystem Approach to Sustainable Forest Management Practices – Regional Forest Agreements

Overview

Regional Forest Agreements (http://www.rfa.gov.au/) provide a mechanism under the National Forest Policy Statement for achieving an equitable balance between conservation and sustainable use of the natural, cultural, economic and social values of Australia's forests. The ecosystem approach to sustainable forest management is a fundamental component of the National Forest Policy Statement (1992)[1]. This sets out the principles, vision and goals for achieving ecologically sustainable development and use of Australia's forests. It seeks to achieve a balanced return to the community from all forest uses within a regionally based planning framework that integrates environmental, commercial, social, cultural and heritage objectives so that, as far as possible, provision is made for all forest values. The regionally based planning framework has been implemented through Comprehensive Regional Assessments and Regional Forest Agreements.

Comprehensive Regional Assessments provided the scientific information, analytical methods and consultation mechanisms necessary to develop durable and credible Agreements. They involved the collection of detailed scientific information on environmental, social and economic values of Australia's forests and the compilation of this information into comprehensive databases for integration and analysis. Conservation, resource use, and industry development options were developed by Governments and key stakeholders on the basis of this information using sophisticated resource analysis tools and modelling techniques. Collaboration and consultation with stakeholders and opportunities for public comment were an integral part of the process. The final allocation and arrangements for the sustainable use of forest resources through Regional Forest Agreements were negotiated between state and federal governments with stakeholder and community input.

Regional Forest Agreements

Regional Forest Agreements have been put in place in 10 forest regions around Australia for a duration of twenty years. They have achieved a world class conservation reserve system, secure access to forest resources for the forest industry, opportunities for the development of an internationally competitive forest industry, and a long term basis for ecologically sustainable management of Australia's forest resources and ecosystems.

Responsibility for land allocation and forest management rests with the States and Territories, while the National government is responsible for co-ordinating a national approach to both environmental and industry development issues. Regional Forest Agreements were initiated through invitation from State governments around Australia, including Victoria, Tasmania, Western Australia, New South Wales and Queensland. Scoping Agreements were jointly developed to undertake Comprehensive Regional Assessments and agree on interim arrangements for forests within a region so as not to foreclose options before a Regional Forest Agreement was signed. The scoping agreement process identified the size and nature of the task, information needs and requirements, legislative and policy obligations, possible forest uses, and determined the consultative and management arrangements necessary to reach agreement on the allocation of conservation reserves and sustainable use of regional forest resources and ecosystems.

[1] NFPS (1992) National Forest Policy Statement: A new focus for Australia' forests, 2nd edition. Commonwealth of Australia, Australian Government Publishing Service, Canberra.

Comprehensive Regional Assessments

Comprehensive Regional Assessments provided information on the full range of environmental, heritage, economic and social values related to the use of Australia's forests. This included information on timber production and other forest products, tourism and recreation, social values, biodiversity, world heritage, old-growth forests, wilderness, national estate and ecologically sustainable forest management. The information was compiled into comprehensive databases for analysis and integrated to provide a range of conservation, resource use and development options for each Regional Forest Agreement region. The integration phase involved extensive consultation with stakeholders and the use of sophisticated spatial analysis techniques and computer models to develop options for use in negotiations to arrive at a Regional Forest Agreement.

Information and Knowledge

Large amounts of existing and new information were compiled as part of the Comprehensive Regional Assessment process in all States. New information was collected for a range of environmental values and planning issues. Specialised workshops, expert groups or scientific advisory groups were convened to resolve scientific issues including: criteria for a Comprehensive Adequate Reserve system, definitions of old-growth, size and arrangement of components of the reserve system, and the development and application of prescriptions for wildlife conservation. The Comprehensive Regional Assessment process is a good example of the ecosystem approach in that it considered all forms of relevant information about the full range of forest values, including scientific, indigenous and local knowledge, innovations and practices. Cultural heritage workshops were the main vehicles for indigenous knowledge and values to be considered in the assessment process.

Integration – Social involvement

In alignment with the ecosystem approach the Comprehensive Regional Assessment process involved all relevant sectors of society and scientific disciplines. An objective of the Regional Forest Agreement process was to increase the net social benefit derived from the mixture of forest uses within ecological constraints in terms of management of land, water and biological resources in forest regions, whilst maintaining options for the future. Society was strongly involved through public participatory arrangements in the Comprehensive Regional Assessment and Regional Forest Agreement processes. Arrangements and mechanisms varied between regions and included regional forest stakeholder forums and workshops, representation on technical and steering committees, and involvement in integration and option development. Stakeholders and the general public commented on the information collated through the Comprehensive Regional Assessment process and options that were to be considered in arriving at a Regional Forest Agreement.

Social and Economic Assessments

An integral part of the development of Regional Forest Agreements was the evaluation of economic implications of, (a) the current situation, (b) increased ecosystem reservation in most forest regions, and (c) sustainable commercial forest harvesting levels of those regions. Social assessments of likely impacts within the regions, particularly in timber dependent communities, were also carried out. The tools and methods used in the analysis of economic and social impacts varied from State to State, however the overall approach for any State was broadly consistent.

There were two phases to economic and social analysis data gathering, the first aimed to establish baselines for resource and industry analyses, the second developed resource and industry scenarios or preferred outcomes. Part of the process was to explore the contribution of commercially valuable forest ecosystems to regional and State industry, and opportunities to enhance resource production and higher value use of the resource within environmental constraints.

The main approach for the economic analysis took the form of measuring forecast woodflows, associated employment levels, and economic value of processed wood for the range of scenarios. In order to measure the impact of different scenarios, agreed baselines for current wood flows and industry level were established, and where possible these were disaggregated down to the resource supply catchment scale. Undertaking analyses at this scale was important, since scenarios may focus on forest ecosystems, including growth stages, located in specific wood supply catchments. In most States stakeholders were given an opportunity to comment on the methodology, forecast and preferred outcomes scenarios, and in one particular case were given access to the methodology and tools to evaluate economic implications of the scenarios.

Environment and heritage assessments

A principle objective of a Regional Forest Agreement was to establish a world class reserve system based on nationally agreed principles and criteria (JANIS 1997)[2]. These included principles of comprehensiveness (covering the full range of forest communities across the landscape), adequacy (maintenance of ecological viability and integrity of populations, species and communities), and representativeness (biodiversity of forest communities reserved is reasonably reflected across the landscape). Components of the reserve system included dedicated reserves (protected by legislation), informal reserves within approved management plans, protection of areas outside dedicated or informal reserves by codes of practice or management plans, and protection of areas on private lands by a range of voluntary strategies including conservation covenants.

Criteria for reserving key forest values involved setting area-based conservation targets. A target of fifteen percent of the pre-1750 distribution of each forest ecosystem was set for reservation in dedicated reserves. This compares favourably with a minimum of ten percent of biomes identified by current world practice (Caracus Action Plan 1992)[3]. A target of sixty percent of forest ecosystems recognised as vulnerable, and all remaining occurrences of rare and endangered forest ecosystems were to be reserved or protected by other means (as above), as far as practical. All viable examples of rare or depleted old-growth forest within a forest ecosystem were to be completely protected with a target of sixty percent of old-growth of other forest ecosystems. Ninety percent or more, if practicable, of the area of high quality wilderness that met minimum area requirements was to be protected in reserves.

Data collected from biodiversity and heritage assessments provided the basis for designing the reserve system. Forest flora and fauna species and ecosystem attributes and distributions were mapped at regional, sub-regional, catchment and local scales. Independent scientific panels assessed species conservation requirements based on life histories, habitat requirements, forest-community attributes and their response to disturbance, including risk of extinction. Gaps in knowledge resulting from these assessments were also identified for purposes of research. The final reserve system design was determined on the basis of integrating outcomes of the above studies and assessments with those of social and economic assessments to achieve an appropriate balance and integration of the conservation and use of biological diversity.

The above criteria, whilst seen as a desirable objective, however, required flexibility in implementation, for instance where socio-economic impacts were not acceptable or where, for extensive ecosystems, a lower level of reservation was considered adequate. There were many possible configurations within any particular region and therefore considerable scope to satisfy reserve criteria while optimizing economic and social outcomes.

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[2] JANIS (1997) Nationally Agreed Criteria for the Establishment of a comprehensive, adequate and Representative Reserve System for Forests in Australia. A Joint ANZECC/MCFFA National Forest Policy Statement Implementation Subcommittee (JANIS) report, Commonwealth of Australia, Canberra.

[3] Caracas Action Plan (1992) In McNeely, JA *Parks for Life*. Report of the IVth World Congress on National Parks and Protected Areas, IUCN Gland, Switzerland.

Impacts of activities on ecosystems
Scientific assessments of species distributions and biology in relation to threatening processes and risk of species extinction were also used to evaluate the effects (actual and potential) of management activities on adjacent and other ecosystems in the reserve design process. Spatial and temporal factors affecting the conservation and management of species and their communities were also taken into account. These assessments also contributed to the development of strategies for the management of forest ecosystems within their functional limits and maintenance of ecosystem structure, function and ecosystem services. Regional Forest Agreements provided an opportunity to improve legislative and regulatory frameworks for the conservation and sustainable management of biodiversity and other forest values, such as wood supply, soil and water, forest health and vitality, and cultural heritage. This was achieved through the application of approved national park and forest management plans on public lands (including species recovery plans and plans for management of threatening processes), designated forest management zones, codes of practice, and regional and localised prescriptions for key forest values. These management arrangements are considered critical to protecting and maintaining ecosystem structure and function and ecosystem services. Individual property management plans and voluntary conservation agreements were suggested for private lands.

Ecologically Sustainable Forest Management - Managing dynamics and change
The Australian concept of ecologically sustainable forest management can be defined as the integration of commercial and non-commercial values of forests so that the welfare of society (both material and non-material) is improved, whilst ensuring that the values of forests, both as a resource for commercial use and for conservation are not lost or degraded for current and future generations. The concept formed a primary basis for all Regional Forest Agreements.

In each State, systems and processes for the management of all forest values were assessed to provide a basis for ecologically sustainable forest management over the long term. Seven criteria and two over-arching principles were used in the assessments. These included, protection and maintenance of biological diversity, maintenance of productive capacity of ecosystems, maintenance of forest ecosystem health and vitality, protection of soil and water resources, maintenance of forest contribution to global carbon cycles, maintenance of natural and cultural heritage values, and maintenance and enhancement of long-term socio-economic benefits to meet the needs of society. The Precautionary Principle for the prevention of environmental degradation and inter-generational equity were the two overarching principles.

On the basis of these assessments, a process for improvements to forest management systems and processes in each State covering legislation, planning, implementation, monitoring and evaluation, and review and improvement was put in place through Regional Forest Agreements, including improved cooperation between industry sectors and government agencies. A major step towards achieving ecologically sustainable forest management was agreement between Governments to establish environmental management systems on public lands capable of responding to varying temporal scales, lag effects and changes to forest ecosystem processes. To decentralise management to the lowest appropriate level, regional and local management plans and environmental regulations, as described above, were mandatory for public forests.

To ensure commitments to sustainable forest management under Regional Forest Agreements are met, milestone achievements are to be reported annually, and environmental, social and economic indicators will be used to monitor and review the outcomes of Regional Forest Agreements at five yearly intervals.

Conclusions
Regional Forest Agreements embraced "whole of forest" strategic planning for forests and their values for conservation and industry development on all land tenures. Adoption and

implementation of the principles and operational guidelines of the ecosystem approach contributed significantly to the success of environmental, social and economic outcomes.

Regional Forest Agreements achieved an increase of 2.51 million ha (39%) in Australia's native forest reserve system which now covers an area of 8.99 million ha in Regional Forest Agreement regions. Forty two percent of native forest ecosystems is now in conservation reserves. Regional Forest Agreements also achieved significant outcomes in old-growth forest conservation with 67% or 2.83 million ha of old-growth forest now protected in dedicated reserves out of a total of 4.22 million ha on both public and private land, representing an increase of 42%. Biodiversity assessments added significant new information through mapping of regional ecosystems, surveys of flora and fauna, analyses of threatening processes, and genetic diversity studies. Significant improvements to management, planning, monitoring, evaluation, review and reporting of forest sustainability have been made under Regional Forest Agreements.

Regional Forest Agreements have enhanced the security of access to wood resources and so have facilitated a positive environment for industry development, including value-adding and downstream processing. Australia's forest industries turn-over $11.5 billion to the economy, with the forest manufacturing industry producing more than $1 billion income annually. The national Forestry Industry Structural Adjustment Package associated with Regional Forest Agreement outcomes provides support for businesses and employees adversely affected as well as for business development and regional employment opportunities. The Regional Forest Agreement process highlighted the importance of forests on private lands to conservation and industry development, as a significant portion of Australia's forest estate is in private ownership.

While variable, community participation was a central component of the Regional Forest Agreement process and provided governments with valuable information on stakeholder concerns and aspirations for regional planning purposes. A lesson learnt from the Regional Forest Agreement process is the need to better engage the public and society as a whole in strategic planning techniques that apply the ecosystem approach.

The ecosystem approach to forest policy development under Regional Forest Agreements contrasted significantly to the political decision-making process used during the period 1970-90. Regional Forest Agreements now provide a benchmark for the equitable allocation and sustainable use of forest resources and are recommended as a model for use by other countries.