



## **Sectoral Integration of Biodiversity in Samoa**

### **Contents**

1. Introduction .....	3
2. Mainstreaming biodiversity conservation in national policies and plans.....	3
3. Links with the Millennium Development Goals .....	4
Biodiversity Conservation Integration in Key Sectors.....	4
4. Agriculture.....	4
5. Fisheries .....	5
6. Forestry .....	6
7. Water resources.....	7
8. Education sector .....	8
9. Tourism sector .....	8
Institutional Arrangements for Cross-sectoral Mainstreaming.....	9
10. Ministry of Natural Resources and Environment (MNRE) .....	9
11. Environmental Impact Assessment (EIA) .....	9
12. Coastal Infrastructure Management (CIM) Plans .....	9
13. National Adaptation Plan of Action (NAPA).....	10
14. Sustainable Management Plans.....	10
15. National Land Use Policy (200?) .....	10
16. Waste Management Policy (2002).....	10

17. Multi-stakeholder mechanisms .....	10
Overall assessment .....	11

## **1. Introduction**

Samoa reported<sup>1</sup> that Samoa made solid progress in sectoral and cross-sectoral integration of biodiversity concerns. It reviewed mainstreaming of biodiversity conservation concerns at both the formal level of policies and plans, and at the activities level of projects.

## **2. Mainstreaming biodiversity conservation in national policies and plans**

The overarching policy framework and strategy for national development is set out in the Samoa Development Strategy (SDS). The current one, SDS 2008-2012, outlines the Samoa Government's long term vision for the country and sets out priority areas and goals that guide developments in all sectors. The Samoa Government also works closely with her multilateral and bilateral development partners to ensure external funding and assistances are properly aligned to support these priorities. The priority areas and goals of the SDS 2008-2012 are –

### **Priority Area 1: Economic Policies**

1. Sustained macroeconomic stability
2. Private sector led economic growth and employment creation

### **Priority Area 2: Social Policies**

3. Improved education outcomes
4. Improved health outcomes
5. Community development: Improved economic and social well being and Improved village governance.

### **Priority Area 3: Public Sector Management and Environmental Sustainability**

6. Improved governance
7. Environmental sustainability and Disaster Risk Reduction

The addition of Goal 7 – Environmental sustainability and Disaster Risk Reduction – marks a significant step forward in environmental mainstreaming, and an important extension of the SDS framework to that set forth in the SDS 2005-2007. Environmental sustainability was not included in the previous SDS, which, as ADB (2006) noted, was a major policy constraint. SDS 2008-2012 thus signals the Samoa Governments' intention of giving prominence to environmental and disaster risk management-related

---

<sup>1</sup> Samoa (2009). Samoa's 4<sup>th</sup> National Report 2009, 107 pp.

concerns as cross-cutting considerations in all planning activities. It is a call for the revamping of sector level plans and planning at all levels, to integrate relevant environmental concerns.

An observation however regarding the nature and extent of environmental integration at the national level of the SDS itself is offered below. The rationalization for environmental sustainability and disaster reduction in the SDS 2008-2012, perhaps reflecting a backdrop of three severe tropical cyclones in Ofa (1990), Valerie (1991) and Heta (2004), reflects a heavy emphasis towards the protection of human populations, livelihoods, coastal infrastructure and natural resources. The main perceived threats are natural disasters and climate change. Partially buried under this emphasis is an important and integral part of the environment which is the living ecosystems, species and genetic diversity. There are implicit references to ecosystems and ecological services particularly in relations to poverty alleviation and disaster reduction. However the protection of priority species and genetic resources is not. It is an issue of perspective and definition that should be addressed in the next SDS.

### **3. Links with the Millennium Development Goals**

Samoa is committed to the achievement of the 8 Millennium Development Goals. They are explicitly stated and form part of the overall policy framework for the SDS with environmental sustainability the new addition in SDS 2008-2012. Integration of MDGs are also reflected in several sector and sub-sector plans including agriculture, where food security is the primary concern and main MDG link, and education where environmental education is an important part of the holistic educational approach promoted by the MESC.

Activities from the previous reporting period directly addressing the MDGs include the Samoa National MDG Programme launched in 2003. In partnership with UNDP, this programme aims to promote awareness of the MDGs, identify the status of their achievements in Samoa and to integrate the MDGs into the Samoa Development Strategy. In 2007, a solar powered scoreboard was launch in Apia to track the MDG achievements. Most recently, a UNDP statement regarding the status of achievements of the Goals reported the achievement of Goals 4 and 5 with others assessed as either 'on target' or 'potential'. The environmental sustainability goal was assessed as 'Potential'.

### **Biodiversity Conservation Integration in Key Sectors**

#### **4. Agriculture**

The agriculture sector strategy is currently being formulated with initial multi-sectoral consultations completed. The Ministry of Agriculture and Fisheries Corporate Plan 2005-2008 emphasise environmental sustainability generally and the sustainable use of terrestrial and marine resources. At the sub-sector level, a recently completed (July 2009) strategy for Fruits and Vegetables promotes environmental sustainability, mainly in the area of sustainable land management. There is emphasis on newly introduced fruit tree species which have significantly diversified Samoa's agrobiodiversity. But there is little reference to issues such as living modified organisms (LMOs), alien invasive species and conservation of species germplasm. A glimpse of the planning and consultative processes involved is

offered by the list of agencies consulted; neither the Ministry of Natural Resources and Environment (MNRE) nor any environmental NGOs was involved. The level of mainstreaming is limited.

The livestock sub sector plan – Animal Production and Health Division – envisages increased genetic diversity of farm animals through importation of introduced species (e.g. Fijian sheep) and through local breeding activities, mostly using previously introduced varieties.

Mainstreaming of biodiversity conservation is more evident at the projects and activities level wherein many biodiversity conservation related activities are in progress. For instance, there are on-going research activities aimed at expanding, improving and conserving plant genetic resources. Breeding programmes for taro (*Alocasia esculenta*), coconut (*Cocos nucifera*) and bananas (*Musa spp*) have been on-going for several years to improve yield, quality and disease resistance. The level of abundance and distribution of the new varieties is already wide with many new varieties already distributed for subsistence and commercial planting. MAF also collaborates in region-wide exchange of genetic material for the conservation of agro-biodiversity of species of national and regional importance. There are also on-going pesticides and fungicides screening programmes which, while more directly addressing Samoa's obligations under other international agreements, are also indirectly contributing to the conservation of beneficial soil micro organisms. In summary, biodiversity conservation mainstreaming at the sector level is not yet apparent, as the agriculture sector plan is incomplete. At the sub-sector levels, in crops and livestock, the emphasis on biodiversity conservation is in the expansion of genetic diversity using introduced species and varieties. But there is little recognition of other issues that are relevant, including living modified organism (LMOs), and alien invasive species which is a major threat to agrobiodiversity in Samoa. There is however good progress with biodiversity mainstreaming at the projects level. Project activities in plant genetics improvement and conservation reflect compliance with obligations under Article 9 (ex situ conservation), Article 10 (sustainable use), Article 12 (research and training), Article 15 (Access to genetic resources), Article 17 (exchange of information), Article 18 (technical and scientific cooperation) and Article 19 (handling of biotechnology and distribution of its benefits).

## **5. Fisheries**

There is no formal fisheries sector strategy or plan. The overall framework for fisheries sector planning is defined by the Fisheries Act 1988 where species conservation and sustainable use, and the protection and preservation of habitats and ecosystems are central objectives. The objectives of the Fisheries Act are

- (a) To promote the conservation, management and development of fisheries of Samoa;
- (b) To promote the exploitation of the living resources of fishery waters; and
- (c) To promote marine scientific research, and
- (d) To promote the protection and preservation of the marine environment.

The Act's objectives are reflected in the annual reports of the Fisheries Division which reported the sectors objectives and strategies, noting that the Government's mission in fisheries is "...to take actions that promote the optimum and ecological sustainable use of the country's fisheries resources, and to develop sustainable alternatives to substitute for harvesting depleted resources ...". In terms of the NR4, the more pertinent issue for mainstreaming in the fisheries sector is how far it has progressed.

Fisheries resources are managed under two main divisions - inshore and oceanic. In both areas, the conservation and use of fisheries resources, including marine ecosystems, are well advanced. In terms of oceanic fisheries, the Tuna Management Development Plan 2005-2009 promotes the sustainable management and use of the main species namely albacore (*Thunnus alalunga*), yellowfin tuna (*Thunnus albacores*) and bigeye tuna (*Thunnus obesus*). Other less important species are skipjack, wahoo and dolphinfish. A multi-stakeholder advisory committee – Commercial Fisheries Management Advisory Committee (CF-MAC) – plays an important role in the review and endorsement of tuna fishery management plans and in the issuing of fishing vessels licences. The limits on the number of fishing licences is the main strategy for regulating the level of exploitation and for achieving resource sustainability (FAO, *ibid*). The larger institutional framework within which oceanic fisheries resource is managed consists of the following regional arrangements, to which Samoa is a signatory. These arrangements are – Harmonized Minimum Terms and Conditions for Foreign Fishing Vessel Access; Treaty on Fisheries Between the Governments of Certain Pacific Island States and the Government of the United States of America; Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement in the South Pacific Region. Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean.

Regarding nearshore fisheries, MAF-Fisheries activities is centred on promoting sustainable management and use through a programme supporting the establishment of village based fisheries reserves. The approach engages local villages Councils of Chiefs to assume leadership and using village by-laws to enforce bans on the use of unsustainable fishing methods and closed 'no-fishing' zones for rebuilding stocks and marine ecosystem rehabilitation. Over seventy (70) village based fisheries reserves are functional according to latest reports. There is also an increasing use of a more integrated ecosystem approach to the management of community fisheries reserves project, with actions to reduce land based pollution enforced by many communities.

## **6. Forestry**

The Forest Act 1967 sets forth the principles of sustained yield management and conservation as the cornerstone for forest resource management. These principles are well embedded and central to the planning framework and are reflected in the following policies – National Forest Development Policy 1997 National Forest Policy 2005, (updating the 1997 policy) and The Ban on Commercial Logging Policy 2006.

All three policies promote the objectives of conservation and sustainable use of resources that are central to the Convention on Biological Diversity. Samoa's implementation of these policies is patchy at best. The Forestry Division is transferred and is now part of the larger Ministry of Natural Resources and

Environment (MNRE). Good progress is observed in the development of protected area plans for the Le Pupu Pue National park and Vailima reserve, but the policy banning commercial logging has not been enforced. The forestry agency's enforcement of the Sustainable Logging Code of Practice has discontinued in part due to lack of funding.

Healthy cross-sectoral links exist between forestry, environment and conservation, and water resources at the level of government agencies. Both agencies collaborate on watershed management, sharing information and expertise on watershed and protected area management, and recently collaborating in an ad hoc committee tasked with assessing potential land for taking for water resource management purposes. Similar arrangements exist with the Division for Environment and Conservation (DEC) regarding the management of nature reserves, as well as in the sharing of spatial data and GIS generated information for nature conservation planning.

## **7. Water resources**

Biological diversity conservation objectives of conservation and sustainable use are integrated in the following legislation and policies of the water resources sector – The Water Resources Act 2008 National Watershed Management Policy 1997 National Water Resources Policy (200?) Water Sector Plan and Framework for Action (2008/9-2011/12) National Water Resources Management Strategy 2007-2017

The Water Resources Act 2008 provides the overall policy framework for all sector strategies, plans and work programmes. The Act stipulates the formulation of a Samoa Water Resources Management Plan (WRMG) is the aggregation of several planning outputs of policies, strategies and plans. As a living document, the Plan is continually revised and updated to incorporate new information and to reflect lessons learned and emerging best practices.

Biodiversity conservation is integrated into the Water Resources Act, albeit implicitly, in several areas. Part VII (2) empowers the Minister to "...use water resources for any purposes associated with the protection or management of the environment." Part VII 18(g) requires the Water Resource Management Plan "...to conduct an assessment of environmental flows in specific sources". The precautionary principle provision (Part II (5) also empowers the Agency to make decisions irrespective of the lack of scientific certainty – a principle that may be used to justify decisions related to environmental flow determinations, and others in favour of conserving freshwater biodiversity values. Part VII (19) requires an EIA for proposed water development schemes.

A Water Sector Plan and Framework for Action (2008/9-2011/12) is in place promoting a sector wide integrated approach to water resources management that aims "...to produce tangible results in health improvement, environmental sustainability and reduced inequalities." Integration of environmental considerations is reflected in the Plan's guiding principles and in the specific strategies under Objective 3, 4 and 5. Objective 4 in particular – to maximize the benefits of other water uses (non-water supply) recognizes 'environmental/ecological water use'.

In the National Water Resources Management Strategy 2007-2017, biodiversity conservation integration is evident under Objective 2 – To improve knowledge and develop understanding of water resources issues. Here, the main biodiversity conservation related activity is – to conduct aquatic ecosystems assessments, as well as flora and soil water assessment. Objective 3 – to develop and strengthen existing measures and mechanisms to protect the quality and sources of water – indirectly contributes to the protection of aquatic biodiversity through the protection of freshwater bodies as species habitats. At the activities level, the determination of environmental flow for the Vaipu Stream is under preparation. This is of particular significance to biodiversity conservation because of the high conservation priority status of the Vaipu Swamp Forest, according to Samoa’s National Biodiversity Strategy and Action Plan (NBSAP). The aquatic ecosystems assessments targeted under Objective 2 of the National Water Resources Management Strategy 2007-2017 will also contribute to addressing a major information gap in biodiversity conservation in Samoa, that of freshwater fauna and flora.

## **8. Education sector**

The Ministry of Education, Sports and Culture (MESC)’s Strategic Policies and Plan July 2006 - June 2015 recognizes the importance of environmental sustainability as one of the goals of education in Samoa. Goal 2.4.6 is expressed in the following thus - “Poverty reduction, development of good governance, elimination of diseases and achievements of environmental sustainability”. This goal is primarily implemented through the Samoa education curriculum. Under Policies government the develop of Samoa’s education curriculum, Policy Statement 3.11.3 states – “The Samoan Curriculum emphasizes the need to develop environmentally, and socially sustainable practises. This applies not only to the physical environment but also in the way society structures itself socially, culturally and economically.” At the implementation level, one key activity advancing the integration of biodiversity conservation into the education curriculum was completion of the Coastal Marine Resource Education Kit for Year 7,8,9, and 10. (2008). This was a collaboration between MNRE, Ministry of Education, and MAF.

## **9. Tourism sector**

The Samoa Tourism Development Plan 2009-2014<sup>35</sup> explicitly recognizes that “... the conservation and enhancement of Samoa’s natural environment and biodiversity is fundamental to the sustainable development of all economic sectors, especially tourism” (p.78). It also recognizes unless threats to the environment from scuba, fishing and sand-mining and developments in protected areas and mangroves are addressed, “...general quality of life as well as quality of the tourism product will be seriously reduced” (ibid.). The Development Plan advocates for the greater protection of key protected and conservation areas, scenic and landscape sites, and better developed and managed community based nature tourism operations. There are also calls for proper and sustainable waste management practices, noting the threat to coastal ecosystems including reefs and coral health of land based pollution (ibid.).



## **Institutional Arrangements for Cross-sectoral Mainstreaming**

### **10. Ministry of Natural Resources and Environment (MNRE)**

The restructuring of the old Department of Lands, Surveys and Environment into one Ministry of Natural Resources and Environment (MNRE) now bring together the management of land, water, forestry, national parks and reserves, energy, meteorology, environmental protection and urban planning under one agency. The overriding rationale is to facilitate integration in the planning and management of resources and the efficient coordination in the implementation of programmes and delivery of services. Already there are clear evidences of significant improvements in integration and consultative planning in key areas including allocation of lands for development purposes, national parks and reserves, watersheds and in environmental impact assessments. The Ministry is empowered under the Taking of Lands Act 1964 to take land for public purposes and have used this authority judiciously in setting up a rapidly increasing network of botanical reserves and national parks. A similar application to protect critical watersheds will also contribute to the protection and conservation of freshwater fauna and flora, and of ecological corridors essential for the conservation of vulnerable species of birds and flying foxes.

### **11. Environmental Impact Assessment (EIA)**

An important achievement in biodiversity mainstreaming during this reporting period is the enactment of the Planning and Urban Management (Environmental Impact Assessment) Regulations 2007. This legislation deals proactively with the adverse impacts of development projects by subjecting qualified project proposals to stringent environmental screening (EIA and PEAR) as part of the development consent process. Section 5 (b) of the EIA regulation states that ‘an EIA may be required where the Agency considers that the development application and its associated activities could give rise to ....adverse impacts on a place, species or habitat of environmental importance...” and “...impacts on or in the coastal zone.” On receipt of an EIA report, PUMA is also required (Section 9) to circulate the reports for comments from all agencies with a statutory or functional interest in the application. This ensures that others with legitimate interests are consulted, and the broadest range of issues and impacts are considered. Moreover, by engaging the specialised technical expertise of those interested parties, the integrity of the EIA process is enhanced. The Water Resources Division is also required by its own Act to initiate EIA for proposed water development schemes.

### **12. Coastal Infrastructure Management (CIM) Plans**

Some 41 district CIM plans covering the whole of Samoa have been formulated. The process involved intensive consultations with villages and district-level meetings, as well as government agencies, corporations and NGOs. CIM Plans promote the better management of coastal infrastructure and the development of greater hazard resilience for local communities. Recognizing the importance of coastal reefs and mangrove ecosystems in the protection of coastal assets, CIM Plans strongly endorse and support reef and mangrove conservation and rehabilitation. In this sense, CIM Plans indirectly contribute to the mainstreaming of biodiversity conservation. CIM Plans are now used to support annual planning of government agencies dealing with infrastructure management. They also contribute to the frameworks for allocating funds under several small grants funding programmes including the CERP

Small Grants Programme, GEF-PEF Small Grants Programme, and the GEF-AusAID Community based Adaptation (CBA) Programme. In these programmes, project proposals for grant funding must be activities identified in CIM Plans.

### **13. National Adaptation Plan of Action (NAPA)**

While the focus is on the protection of coastal communities' livelihoods and the protection of coastal assets, NAPA also recognizes the importance of protecting and rehabilitating coastal ecosystems as part of coastal protection and community resilience. Protection and rehabilitation of coral reefs, wetlands and coastal areas are areas where climate change adaptation and biodiversity conservation objectives are complementary.

### **14. Sustainable Management Plans**

The PUMA Act 2004 stipulates the formulation of Sustainable Management Plans (SMP). To date, none has been completed nor has a framework been developed for assessment for this report. Consultations with the responsible Agency (PUMA) however confirm that the framework for SMPs will include a consideration of relevant biodiversity conservation issues.

### **15. National Land Use Policy (200?)**

This policy is implemented by MNRE and provides policy direction in the allocation of land resources pursuant to the 1989 Lands, Surveys and Environment Act, the Taking of Lands Act 1964 and others. The importance of this policy is with respect to land allocated for uses including national parks and reserves, watersheds and other special uses with direct implications for conservation sensitive areas.

### **16. Waste Management Policy (2002)**

This policy is implemented by the MNRE, which facilitates significantly its integration into other areas of responsibilities of this Ministry. The proper management of wastes is critical to the protection of coastal and marine ecosystems, where land based pollutants is a major cause of degradation.

### **17. Multi-stakeholder mechanisms**

Critical to the mainstreaming of environmental sustainability are the operations of a number of integrative multi-stakeholder mechanisms wherein the environmental agency (MNRE) is represented. Some are ad hoc committees convened to consider specific issues, and others are interagency task forces formed to coordinate project implementation. These mechanisms are critical to dealing with cross sectoral issues including environmental ones at both the planning and implementation level. The Cabinet Development Committee (CDC) which keeps track of the implementation of all (mostly externally funded) projects receives progress reports on biodiversity conservation projects and provides a high-level multi-sectoral setting wherein biodiversity issues are discussed. Other similar committees and task forces deal with specific issues and sectors, such as the National Biosafety Task Force which bring together representatives of various sectors including health, agriculture, education, natural resources, as well as representatives of academic institutions and NGO representatives.

## **Overall assessment**

The inclusion of environmental sustainability as one of seven objectives of Samoa's Development Strategy 2008-2012 addresses an important omission in the previous SDS that was a major policy constraint to the active involvement of external donors in biodiversity conservation funding. The emphasis of environmental sustainability implicit in the SDS point to sustainable land management and the use of natural resources.

Integration of biodiversity conservation in several sectors is limited by the lack of formalized sector strategies particularly in agriculture, fisheries and forestry. However, the legislation providing the overarching framework of objectives in each of these sectors clearly promotes sustainable use, management and conservation, which are fundamental principles of the Convention for Biological Diversity. Sectors wherein sector policies, plans and strategies clearly integrate biodiversity conservation are water and education sectors. Notwithstanding the varying level of integration at the sector planning level, the level of integration at the projects and activities level is very significant. Agriculture continues on the path of genetic diversification in crops and domestic animals with the introduction of new species and varieties to improve yields, disease resistance and export prospects. MAF-Fisheries leads a highly successful village based fisheries/marine reserves programme that supports communities to rehabilitate depleted inshore areas, and encourage sustainable fisheries management. An aquaculture development initiative uses introduced tilapia, giant clams and trochus. The Forestry Division now operates under the integrative umbrella of the MNRE with links to other MNRE divisions dealing with land, water resources and biodiversity conservation significantly facilitated.

Several other institutional arrangements are promoting mainstreaming of biodiversity concerns outside of these main economic sectors. The EIA regulation administered by PUMA ensures that impacts of proposed development activities on biodiversity are considered. The requirement for site specific Sustainable Management Plans (SMP) will also take into account biodiversity conservation concerns<sup>37</sup>. The existence and operation of several multi-agency and multi-stakeholder task forces and committees provide opportunities for the broader consideration and discussion of biodiversity concerns. The most prominent and significant of these is the Cabinet Development Committee (CDC) which monthly meetings receive progress reports from all donor funded activities including biodiversity conservation ones.