

THE SOUTH PACIFIC BIODIVERSITY CONSERVATION PROGRAMME

PROJECT PREPARATION DOCUMENT

March 1995

THE SAANAPU/SATAOA CONSERVATION AREA  
PROJECT

THE DIVISION OF ENVIRONMENT AND CONSERVATION  
DEPARTMENT OF LANDS SURVEYS AND ENVIRONMENT  
APIA  
WESTERN SAMOA

#### **EDITOR'S NOTE**

A first draft of this Project Preparation Document was submitted to the 2nd meeting of the TMAG in August 1994. That draft had been prepared with the assistance of SPBCP consultants as part of a trial process leading to the production of new User Guidelines for SPBCP. It was well received at the meeting with specific comments limited to the questions of inadequate community consultation and inadequate focus on conservation problems. These were to be addressed in this final draft.

In preparing a final draft addressing these concerns, I felt that we had a choice between editing our existing draft as formatted by the consultants or re-drafting to fit into the new Guidelines. We have compromised to the extent that the introductory and background sections Parts A and B (1.0 - 7.0) are in the first draft format, but the more critical project detail Part C (8.0 onwards) has been re-written in the new format. The process of re-writing has also helped local staff to increase 'ownership' of the PPD.

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Figure Acknowledgement: Several of the figures are modifications of those produced by James Atherton for his MSc Thesis (Atherton 1994) on the project. These in turn were produced from the DEC's SPBCP-funded Biodiversity Database. The permission to use and modify these figures is gratefully acknowledged.

## ABBREVIATIONS

ASL	Above sea level
CA	Conservation area
CACC	Conservation Area Coordinating Committee
CAP	Conservation area project
CASO	Conservation area project support officer
DAFF	Department of Agriculture, Forests and Fisheries
DEC	Division of Environment and Conservation
GOWS	Government of Western Samoa
LOU	Letter of Understanding
MWA	Ministry of Women Affairs
NGO	Non Government Organisation
OLSS	O Le Siosiomaga Society
PPD	Project Preparation Document
PWD	Public Works Department
SPBCP	South Pacific Biodiversity Conservation Programme
SPREP	South Pacific Regional Environment Programme
TMAG	Technical and Management Advisory Group

## **EXECUTIVE SUMMARY**

### **Background and Introduction:**

The proposed Conservation Area is centred on an area of mangrove forest (c75 hectares) in the customary ownership of Saanapu and Sataoa villages on the south coast of Upolu. This area is one of five Grade 1 sites identified by a 1991 survey of lowland ecosystems as the best remaining in Western Samoa (Park et al., 1992). It is given priority as the best mangrove ecosystem in the country, acknowledging that mangroves have a key role to play in sustaining lagoon fisheries on which many Samoans in coastal villages depend. The two villages involved have made a commitment to conservation of this area dating back to 1992 when the results of the survey were presented to them. The project also hopes to extend conservation and sustainable development principles to other lands owned by these villages, and in the long-term to the whole Safata District.

Three vegetation types have been identified in the mangrove area, *Bruguiera* mangrove forest, *Rhizophora* mangrove 'scrub' and *Acrostichum* coastal marsh and extra significance lies in the presence of all three in the one place in good condition. The coast beyond the mangroves consists of a wide lagoon, inland the land rises gradually through a zone primarily used for agriculture and then steeply to the central island ridge through montane forest.

The area shows trends common to much of Western Samoa. The original forest has been mostly cleared on all but the steepest land, and remaining patches are probably important refuges for indigenous flora and fauna, perhaps including endangered bird and fruit bat species. The human population of the area is increasing and there has been some shift of families from the coastal parts of the two villages to inland along the main road.

All the area is in the customary ownership of the villagers and thus they are the main target group and beneficiaries for the project. They make use of the mangroves as a source of several commodities, fish for food or cash, particularly mangrove crabs, firewood, and non-timber forest products, e.g. weaving materials. Activities that may threaten the mangroves include clearance for new house sites, dumping of rubbish and detergent pollution from the use of a spring within them for washing. The project aims to help the villagers maintain the long-term integrity of this forest by ensuring that commodities are used sustainably and that threats are averted. It also aims to develop other sustainable uses particularly ecotourism through canoe-based tours of the site.

Recognising that the mangrove forest does not exist in isolation, the project is similarly addressing the sustainable management of connected elements, the rivers and streams of the catchments flowing into the mangroves and the bay nearby which provide its freshwater inputs, and the lagoon from which its salt-water inputs flow. This will ensure a larger project area in line with the aims of the SPBCP.

## **Project Goal and Objectives:**

The project goal which emphasises the biodiversity basis of the programme is to:

'Conserve the biodiversity of the conservation area through the creation of sustainable management and development practices for the component ecosystems in partnership between customary landowners, government and non government agencies.'

The first project objectives are the conservation of the mangrove ecosystem and its associated catchments and lagoons and encouraging its sustainable use for the benefit of its customary owners. Other objectives include promoting sustainable development and ecologically-sound practices over all the customary lands of Saanapu and Sataoa villages, both for their own benefit and as an example for other sites; expanding the project to Safata District; and gradually transferring project ownership and management to the local communities themselves.

## **Project Components and Activities:**

### Component 1 - Project Management

Activities include: the provision of a Conservation Area Support Officer (CASO) who provides the main link between the programme, the lead agency (Division of Environment & Conservation(DEC)) and the local communities; the establishment of a Conservation Area Coordinating Committee; possible strengthening of the DEC; and various administrative procedures.

### Component 2 - Development of Sustainable Management Packages for Ecosystems

This component is divided into four different geographical/biological units and seeks to develop plans to sustainably manage each.

#### Sub-component 2.1 - The Mangrove Ecosystem

Key activities include mapping the area, developing a management plan to address threats and define uses, researching the mangrove crab fishery, and monitoring.

#### Sub-component 2.2 - The Lagoon & associated Reefs

Key activities include researching the lagoon fishery and developing a lagoon plan which includes fisheries management.

#### Sub-component 2.3 - The Lowlands

Key activities are the running of a Participatory Rural Appraisal (PRA), and the development of a plan including provisions to protect any important areas of lowland forest that remain.

#### Sub-component 2.4 - The Montane Forest



Key activities include biological surveys, as upland areas have not been well studied, and developing a plan to protect and sustainably use the forests that remain.

### Component 3 - Operation and Further Development of the Tourism Industry

Several parties of tourists have visited the site with the coordination of the Western Samoa Visitors Bureau, being paddled through the mangroves by village men in traditional canoes. This activity is being developed through producing a plan on procedures, training of guides, preparation of promotional and information pamphlets, and development of infrastructure. The potential of other tours of forest areas, reefs or caves and of 'village stays' will be investigated.

### Component 4 - Community Development

Most villagers derive most of their food and income from agriculture. The priority development activity is to increase agricultural diversification to make better, sustainable use of cleared land. The first step has been visits for farmers to Agriculture Department facilities to see alternative crops. The PRA will provide a better information base from which to plan what crops are appropriate and where they should go. The project would then support demonstration plots which would provide training and a source of planting material for village farmers. The sale of demonstration plot crops would provide seeding funds for farmers and training in financial management.

A second activity within this component will be the development of a handicraft industry. An introductory workshop was held to introduce possible options. Once villagers choose among these and produce some samples, further workshops will be held to train in production, marketing and financial management.

Other development activities may develop based on findings of the PRA.

### Component 5 - Community Awareness-raising and Education

Experience at other sites has shown the importance of all villagers understanding basic information about the project. Certain individuals, particularly those who decide on land management issues, will require more detailed information. An education programme will be set up targeted at the needs of different groups. Material will also be produced to show other villages how they can better care for their land and resources.

### Component 6 - Project Promotion

An official launch of the Conservation Area and the development of a project logo will help to promote the project bring prestige to the communities involved. Related material will be produced for merchandising.

### Component 7 - Extension of Project to Safata District

A travelling 'roadshow' is proposed to introduce the project to neighbouring villages once activities are going well at Saanapu and Sataoa. Physical links between different areas, e.g. through water flowing through the land of one village and ending up in the lagoon of the next, may be used to try to bring people together towards a common goal.

#### Component 8 - Transfer of Project to Local Community

Each activity is designed to maximise elements of training for the local community. Funding mechanisms will be established so that community development projects become self-supporting and funds are generated for managing and monitoring the conservation area after the SPBCP ends.

#### **Benefits and Risks:**

The villagers of Safata District should benefit from the project through increased incomes from tourism, from handicraft production and a sustained increase in the productivity of agricultural lands and fisheries. They will also have a broad understanding of environmental issues and benefits of conservation of biodiversity. The process of project management may further strengthen the roles of village councils and Women's Committees. Benefits will accrue to future generations of customary landowners through enhanced productivity of the marine and land resources and the adoption of sustainable management practices.

Major risks are that all land owners or those with property rights to the land and water-based resources will not agree with the overall concept of the CAP, and that the fono will influence the direction of implementation away from the original CAP objectives. There have been recent setbacks to the Western Samoan village economy due to cyclones, crop disease (taro leaf blight), increased cost of living through reduced input subsidies and VAGST. Thus land users may be against giving up immediate income earning opportunities which may be required to conserve biodiversity and the project will have to create financial incentives in other areas.

The project requires community based management and high levels of technical skills to undertake surveys, analyse data and undertake monitoring activities. The integration of these seemingly diverse inputs will be a challenge. The personnel capacity of Government agencies could be a limiting factor in the early stages of the project before the community takes more responsibility for it.

#### **Personnel Requirements:**

The project requires the following personnel throughout, a CASO, a project manager within the lead agency (DEC) and technical support staff, village liaison people, and representatives of other key Government agencies and NGO's. The village liaison people will initially participate as members of the Conservation Area Coordinating Committee, but before the end of Year 1 may be employed on a wages basis to have a continuous input to the

project not just during meetings. No specific consultancies have been identified, however trainers will be needed, e.g. in handicraft production, small business management. It is anticipated that consultants will work in the area through projects not directly funded by SPBCP, e.g. agricultural diversification. There is provision for the SPBCP to possibly part-fund a position within the lead agency for a period beginning towards the end of Year 1.

### **Financial Requirements:**

Financial requirements can only be identified approximately from the outset of the project because it is very much a process project. One activity will lead to another, guided particularly by the local community, but probably not in predictable ways.

The total budget requirement has been estimated as WST\$346,500 or approximately US\$146,100 over a period of four years 1995-1998. An additional WST\$17,890 has been required for the first two 'quarters' since a draft PPD was accepted, August-December 1994, January-March 1995. The budget is formulated for four years but if funds for a fifth year became available a further work plan could readily be developed because experience to date suggests that a community-based project like this invariably proceeds slower than designed.

### **Requirements by Year: (Figures in WS\$ta1a)**

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>TOTAL</b>
<b>Project Management</b>	32690	45370	55370	40370	173800
<b>Mangrove Management</b>	2870	11000	13200	8200	35270
<b>Lagoon Management</b>	1400	3810	2880	2880	10970
<b>Lowlands Management</b>	5000	-	-	-	5000
<b>Ecotourism Development</b>	4215	11700	10600	10000	36515
<b>Community Development</b>	-	16100	15000	5000	36100
<b>Education</b>	5000	6700	5000	-	16700
<b>Promotion</b>	500	7500	-	-	8000
<b>Extension</b>	-	-	7610	-	7610
<b>SUB-TOTAL</b>	51675	102180	109660	66450	329965
<b>Contingency (5%)</b>	2584	5109	5483	3322	16498
<b>TOTAL</b>	<b>54259</b>	<b>107289</b>	<b>115143</b>	<b>69772</b>	<b>346463</b>

**TOTAL: \$WS346,463 = \$US147,431 (WS\$2.35=US\$1)**

**PART A INTRODUCTION**

**1 BACKGROUND**

The South Pacific Regional Environmental Programme (SPREP) manages funds from the Global Environment Facility (GEF), through UNDP, and Australian International Development Assistance Bureau (AIDAB) to implement the South Pacific Biodiversity Conservation Project (SPBCP) (SPBCP, 1993).

A Project Concept was prepared by the Division of Environment and Conservation (DEC) and submitted to SPBCP in January 1994 for the Saanapu/Sataoa Conservation Area Project on the island of Upolu in Western Samoa. This was reviewed by the SPBCP Technical and Management Group (TMAG) meeting in February 1994 and approved for preparation suggesting further attention to some issues.

**2 INTRODUCTION**

This report is the Project Preparation Document (PPD) being the next step after the Project Concept paper. The object is to design a project that conserves the biodiversity of the project area. It will use the commitment and management skills of the traditional landowners in partnership with management and technical support enabled by SPBCP through DEC, other government and non government agencies and the private sector.

The report describes the area on the basis of known data, presents the rationale for biodiversity conservation and development and defines the components, work plan, organisation and management, inputs, outputs, benefits and risks.

The proposed Conservation Area is one of the five Grade 1 sites identified by a 1991 survey of lowland ecosystems as the best remaining in Western Samoa (Park et al., 1992). Protection of these 5 sites together with 9 Grade 2 sites was considered 'critical if the natural biological diversity of the Western Samoa lowlands was to be conserved'. Priority has been accorded to the Saanapu-Sataoa mangrove site for three main reasons: firstly, the site is the best remaining mangrove ecosystem remaining in the country; secondly, mangroves have a key role to play in sustaining lagoon fisheries on which many Samoans in coastal villages depend, providing a good opportunity to link ecosystem conservation with sustainable development; and thirdly, the villages involved have made a commitment to conservation which increases the likelihood of project success.

## **PART B THE EXISTING SITUATION**

### **3 NATURAL FEATURES AND RESOURCE BASE OF THE CAP**

#### **3.1 Location, Land Area and Access**

Figure 1 shows the location of the project area on the southern coast of Upolu. The Project Concept defined the CA as the area of mangroves within the customary ownership of Saanapu and Sataoa villages. It also made reference to expanding this to include all the land owned by these villages with the ultimate aim of defining the boundary according to the watershed of Safata Bay which would include much of Safata District (Figure 2)<sup>1</sup>. Whilst the latter is preferable from a land management viewpoint it is not immediately achievable<sup>2</sup>.

The primary focus of the CAP is 75 hectares of mangrove forest (Figure 3). This is the area to which the landowners of Saanapu and Sataoa have made a commitment for conservation. The area of Safata District comprises some 12000 hectares.

Access to the area is made from Apia via either of the cross island roads and along the main southern coast road. Access roads lead to both of the coastal villages, see Figure 2. The shortest distance from Apia to the mangroves is 45 km on the western cross island road, a 60 minute trip.

#### **3.2 Climate**

The southern windward side of the island receives about 1.5 times more rain than the northern side. It is also more evenly distributed. The average annual rainfall at the coast is 3500mm which increases to above 5000mm in the central highlands. Most falls in the summer wet season, November to March. An average of 1.5 months a year have less than 100mm.

There is little variation in seasonal temperatures, the mean annual average being 26°C at the coast, this falls with increasing altitude to about 21°C at the northern boundary where the daily range is also greater.

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<sup>1</sup> The eastern boundary of Saanapu land is defined as it is also the boundary of Safata District, however boundaries between Saanapu and Sataoa and between Sataoa and Lotofaga are not recorded on paper but are known to villagers themselves.

<sup>2</sup> The following features of the CAP are described in relation to one or more of:

- . the mangrove and remaining customary land areas of Saanapu and Sataoa villages,
- . the Safata District for which there is some statistical data available,
- . the Safata Bay watershed which is the preferred long term CAP boundary.

### 3.3 Topography and Soils

A topographical map of the CAP is shown as Figure 4.

The land area extends north from the edge of the reef across a 4 km wide coastal lowland area before rising steeply to dissected forested gorges up to the main ridge crest of the island at 790m (2600ft) asl.

Saanapu village land, which rises quite gently, is underlain by relatively young Lefaga volcanics (early Holocene). These are characterised by lack of surface-flowing streams and dissection (Wright 1963). One lava tube, the Seuao cave, is known to exist to the west of Saanapu.

Sataoa land rises more steeply and is dissected by the Leafe River and Sataoa stream. It is underlain by relatively old Salani volcanics of early Pleistocene origin. In some places the Leafe river has cut through the Salani volcanics exposing the underlying and older Fagaloa volcanics. Both formations are characterised by moderate to strong dissection by surface streams.

Like Western Samoa as a whole, most soils in the Sataoa-Saanapu area are Inceptisols (ANZDEC 1990), i.e. poorly defined with minimal soil development, and the predominant textures are clays and loams (Wright 1963).

The soils have low to medium fertility levels and more than 50% stones or boulders at the surface (ANZDEC 1990). They are in land capability class 2 which has moderate limitations to agriculture and few limitations to forestry. Perceived erosion risks impose severe limitations to agriculture in the steeply dissected Leafe River catchment and in the volcanic craters along the northern boundary of the District.

The best soils in land capability class 1 with few limitations to agriculture are the organic-rich soils of the mangrove forest.

### 3.4 Water Resources

#### 3.4.1 The Coast Line and Estuary (Figure 5).

The coast line bordering Safata Bay measures 12 km comprising beaches and estuarine mangrove communities. The frontage to the bay that includes customary land of Saanapu and Sataoa measures 4 km.

The Saanapu Lagoon is some 2km wide and 5m deep, the bottom being sand with patches of coral.

The Safata Lagoon lies within the Vaiee-Tafitoala peninsula, it

is shallow, very productive and moderately eutrophic dominated by filamentous algae and seagrasses. The latter have moved outside the peninsula in recent years probably in association with seepage of water through the peninsula.

Both lagoons suffered damage from Cyclone Ofa in 1990 (including formation of a tidal cyclone bank off Fusi) but were largely spared from Cyclone Val in 1991. Effects from the latter could show up at a later time. Crown of thorns starfish outbreaks occurred in both lagoons within the period 1979 to 1987.

#### **3.4.2 Fresh Water Resources.**

There are a number of springs in the catchment area whilst the major river systems are the Leafe River, the Sataoa stream, and the Nuusuatia River. Sediment deposition occurs in the lagoon at the mouth of the rivers.

### **3.5 Vegetation and Land Use**

Figure 6 shows the distribution of native and introduced vegetation in the CA as defined by the Safata Bay watershed.

#### **3.5.1 Native and Introduced Forest Resources**

##### **(a) Mangroves**

The 75 hectare Grade 1 mangrove area is located adjacent to the Saanapu Tai/Sataoa Tai villages, see Figure 3. It is the best and largest non polluted area of mangroves in Western Samoa, (Park et al, 1992). A further 30 hectares of mangroves (a Grade 2 site and the second most valuable mangrove ecosystem nationally) is located on the Vaiee-Tafitoala peninsula (see Figure 5).

Park et al. (1992) identified three vegetation types, the *Bruguiera* mangrove forest, the *Rhizophora* scrub and the *Acrostichum* coastal marsh. The significance is the presence of all three species in the one place in good condition.

##### **(b) Lowland Forest**

Lowland rainforest defined as forest below 350m ASL, is stratified with moderate ground cover, many epiphytes, vines and climbers. It occurs as two main patches in the watershed. Both areas have been significantly disturbed. One lies between the main southern road and the coast line, it includes 297 hectares of mahogany with some eucalyptus planted in 1988 by the DOF on land leased from Saanapu.

The main native species are *Dysoxylum maota*, *Dysoxylum samoense*, *Planchonella torricellensis* and *Callophyllum inophyllum*.

The littoral forest surrounding the mangrove is more important

as a source of wood and other plant material for villagers than the mangrove area itself.

### **(c) Montane Forest**

The montane rainforest is found from 250m to 790m ASL on the central island ridge. Dominant tree species include *Callophyllum neo-ebudicum*, *Dysoxylum huntii* and *Syzigium samoense*. The forest is non stratified and supports climbers and epiphytic plants including most of Western Samoa's fern and orchid species. Ground cover in the area is thick. Recent cyclones have caused considerable damage except in the river gorges, though the exact picture is unclear.

### **(d) Trends**

Forest cover in the Safata district has declined by an annual average of 2.2 percent in the period 1954 to 1990 (Figure 7). The rate of clearance exceeded population growth by 1.5 times over the 36 year period.

The annual rate increased to 13 percent for the four years 1987 to 1990. Much of the recent clearing has been associated with expansion of taro production onto more fertile virgin soils in response to development of export markets. A further motive relates to alienation of land by nuclear families who secure property rights if they are the first to develop and use the land. The recent cyclones have also considerably reduced forest cover.

### **3.5.2 Agricultural Land Use**

Farming activities have moved above the zone described as suitable for sustained agriculture and into the steeply dissected Leafe River catchment.

The dominant agricultural crop is coconut (63 percent of Saanapu land was coconuts in 1988) and is expanding into the mixed crop zone which now mostly comprises coconut or cocoa intercropped with coconut both under low levels of management and consequent low productivity (Figure 8).

Until an outbreak of leaf blight in mid 1993, taro was the major crop of economic importance providing both the staple food and source of income. The major concentration was an indistinct zone adjacent to the forest boundary at about 380m. The zone has been steadily moving north onto virgin land coinciding with land claims (clearing) and utilising soils with higher levels of fertility.

Land use patterns and the farming systems change in response to catastrophes (cyclones), economic circumstances (fall in commodity prices for copra and cocoa, increased value of forest



resources), social change (trend to independent nuclear families and changes in land tenure), population growth, disease (taro leaf blight) and technological change (new crops).

### **3.6 Wildlife**

#### **3.6.1 Birdlife**

A 1991 survey in the Saanapu/Sataoa region recorded 14 bird species (Park et al. 1992). They included the Samoan broadbill, crimson crowned fruit dove and the Samoan Whistler, species normally only common in large forest areas. Herons, waders and ducks were reported and the rare and elusive sooty and white-browed rails probably occur. There is apparently a white-rumped swiftlet population in at least one important lava tube cave and it is suspected that other caves have populations of the sheath tailed bat, a species whose status is of concern.

A survey of upland forests in early 1994 will supplement status data of the bird population and determine the need for conservation.

#### **3.6.2 Non-Fishery Marine Life**

The lagoons of Saanapu and Sataoa are frequented by the hawksbill turtle which is a threatened species in the Pacific region. Nesting at a beach near Nuuvavasa Island has not been recorded by local people since 1981 however a female turtle with eggs was caught in the lagoon in 1992.

Green turtles are common in the seagrass beds of the lagoon, four were tagged in 1993 as part of the country's turtle conservation programme.

### **3.7 The Fisheries**

#### **3.7.1 Mangrove/Estuary**

Surveys in late 1992 of the Saanapu/Sataoa and Vaiusu Bay mangrove areas respectively identified 20 fish species (including mullet, surgeonfish, trevally, goatfish, majorras and herrings) in each area of which only six were common to both (Thollot, 1993).

Saanapu/Sataoa had a high fish diversity and stable fish community. The three major species, traditionally important for food, were avaava (crescent perch - *Therapon jarbua*), aua or fuafua (mullet - *Valamugil engeli*) and moi or poi (mullet - *Liza melinoptera*). Another dominant species was tuuu (damselfish -

*Chrysiptera notialis*). Catches of paalimago (mangrove crabs - *Scylla serrata*) are consumed locally and sold in the Apia market for which the lagoon is the major source of supply.

Dynamiting, which occurs at least weekly, and poisoning are particularly destructive to both the estuary and reef fisheries.

### 3.7.2 Lagoon/Reef

A FAO survey of coastal resources showed Safata Bay to be an important inshore fishery with a wide variety of species (mullet, surgeonfish, trevally, parrotfish, goatfish, majorras and herrings in order of catch) (Zann, 1991). Safata lagoon is of particular importance to the villages of Vaiee, Fusi and Fausaga.

### 3.7.3 Ocean

Little is known about the ocean fishery other than for Western Samoa as a whole the DF considers it to be the only under exploited fishery. Some village people utilise the fishery having boats (alia) used beyond the reef, however the required capital outlay (WS\$30000 to WS\$50000) is a constraint to most local fishermen.

## 3.8 CAP Ecosystems and Threats

Table 2 summarises the ecosystem components and the various current and potential threats to their existence.

**Table 2 CAP Ecosystem Components and Threats to Continued Existence**

Natural Component	Current and Possible Major Threats
<b>Native forests</b>	
Mangroves	Agriculture/clearing leading to increased siltation, runoff carrying fertiliser and chemicals. Collection of wood and other materials at unsustainable rates. Ecotourism Housing sites Pollution
Lowland forest	Agriculture, clearing Land alienation Forestry/logging Introduction of exotic species Cyclones
Montane	Agriculture, clearing Land alienation Forestry/logging Introduction of exotic species Cyclones

<b>Fishery</b>	
Crab	Destruction of mangroves Overfishing Pollution
Estuary	Destruction of mangroves Overfishing Pollution
Reef	Dynamiting Poisoning Unsustainable catch Cyclones Pollution
<b>Other marine</b>	
Reefs	Dynamiting Crown of thorns Sediment deposits from fresh water streams
Turtles	Hunting, egg collecting Tourism
<b>Fresh water resources</b>	Land clearing leading to . increased sedimentation . reduced residual streamflows . reduced fresh water fish and shrimps Pollution
<b>Birds</b>	Hunting Reduced forest area/habitat
<b>Land</b>	Degradation due to: . excessive clearing on steep land leading to erosion . construction of poorly designed access roads . contamination from pollution . possible erosion of the coastline due to sand mining, winds/heavy sea/high tides

Figure 6 identifies the major terrestrial ecosystems and their distribution within the Safata Bay watershed area.

#### 4. COMMUNITY FEATURES

##### 4.1 Settlement Pattern

Based on the Safata District, the CA includes 11 villages, nine are located along the southern coast road over a distance of 12 km. Saanapu Tai and Sataoa Tai are located on the coast at the end of access roads. The associated customary land areas extend northwards to the top of the main island ridge.

Saanapu and Sataoa comprise coastal (tai) and inland (uta) settlements but the one village council applies to both tai and uta. Inland settlements have grown at the expense of the

coastal settlements over the 30 years to 1991, albeit slowly in the last decade. The inland villages, 1.5 to 2.9 km from the coast, developed in response to the construction of the main road in the 1950's.

The coastal villages follow the pattern of alignment along the coast with a central village green (malae) adjacent to the church and pastor's house. The inland settlements are less compact spreading out along the main coast road. Many people also live along the plantation access roads to the north providing easy access to plantation lands.

#### **4.2 The Population and its Features**

Total population of the Safata District in 1989 (Agricultural Census) was 5380 which had grown to an estimated 5500 by 1991 (just over one percent annually). This comprised 622 households with an average of 8.8 persons per household, the national average household size being 11.

The 1991 population of Saanapu tai and uta was 1196 and the 1993 population of Sataoa tai and uta was 1033, both villages being two to three times the size of the national average village population (Figure 9). The early migrations from Tai to Uta has slowed and may have reversed in Saanapu. Annual growth rates have slowed in both villages but remains high in Saanapu at 1.8 percent whilst the rate of 0.5 percent in Sataoa is the same as the national average.

#### **4.3 The Role of Women in the Community**

Consistent with the structured system of government and administration in Western Samoa villages women have traditionally belonged to groups. These serve to represent their rights to the village council as well as a means from which to initiate community based and commercial activities. Such groups or committees are a permanent part of the village institutional structure to which all women belong.

Two womens' committees exist in both Saanapu and Sataoa (tai and uta). As with other community sub groups they have responsibility for some activities related to the upkeep and welfare of the village and are involved in specific projects which may have commercial or social objectives.

Womens' community responsibilities generally include village hygiene, sanitation, beautification and they undertake village inspections. Either as group members or as individuals women are traditionally either exclusively involved or more involved than men in some activities. These include handcrafts and the production and processing of raw materials required for handcrafts. Food processing activities such as for cocoa (the importance of which has now declined since the 1991 and 1992 cyclones), the cultivation and management of annual crops,

weeding of other crops, feeding animals and marketing are mainly undertaken by women.

Such activities are in addition to raising children and preparation of household food. Many activities are undertaken by groups lessening the apparent workload on individuals through specialisation of labour such as young girls looking after younger children.

Some traditional activities by women in the village have concerned the environment. Women could be expected to play a major role in the enhanced management of customary resources and the component biodiversity.

#### **4.4 Community Sub Groups**

The structures of Saanapu and Sataoa villages include a number of subgroups. These include untitled men, young men and women, older women, unmarried women (girls and widows), church womens groups and womens committees. They may or may not be formally established.

One group which is often neglected both at the village level and by outside planners are those people with a physical or intellectual disability who invariably do not have either an economic or a social role.

#### **4.5 Other Community Based Institutions and NGO's**

The most important institution outside of the traditional committees and groups is the church. Outside of its religious significance it has a major impact on the organisation of the village. It possesses an effective means of communication with the broad base of the village and hence could potentially play an important part in increasing awareness about issues at this level if it was not seen to be contrary to their main function of religious teaching. To date the church has traditionally not played a role in environmental issues.

There are no NGO's operating in the villages as such. There are however members and representatives of national NGO's including the National Council of Women and the YWCA.

#### **4.6 Village Government and Linkages to Other Levels**

The village council (fono a matai) is the governing body of the village, and has the ultimate responsibility for the well being of all village members, decreeing and enforcing village laws. Local law and order is the prerogative of the fono.

The fono comprises all the titled people (matais) in the village and is presided over by the high chiefs (alii). In the case of

Saanapu tai and Saanapu uta there is one village council as there is for Sataoa tai and Sataoa uta.

The Pulenuu (mayor), a matai nominated by the fono from among its members, provides official link between the village and the national government relating to the promotion of government programmes and administration of national laws. The fono is the supreme decision making body in the village and their approval is needed for any activity to be introduced. Although it is also the role of the fono to disseminate information to the rest of the village this does not always happen without misunderstandings introduced. Further, commitment by the village council does not always reflect the majority or true feelings of the rest of the village.

The District Council comprises representatives from the councils of each village in the district. It's role includes issues affecting the whole of the district such as the administration of schools and health. The fact that this body administers some activities at a district level may have important implications for the eventual and effective expansion of the CAP which would involve cooperation between and joint activities by villages.

#### **4.7 Land Tenure and Land Areas**

The Safata Bay watershed comprises customary land areas of 11 villages. For those areas belonging to Saanapu and Sataoa about 65 percent has been allocated to aiga, the remaining 35 percent, in the main still forested, can potentially be claimed by clearing.

Customary land areas lie in a north south direction but distribution of land between villages and boundaries cannot be readily shown on a map. Each village knows the location of its own land however boundaries are not precisely determined unless pressure for land causes disputes which are taken to the Land and Titles Court. Some of the current land clearing is occurring along border areas in order to secure village claims to land (Paulson, 1992).

It is claimed that the western boundary of Safata District represents the agreed boundary between Saanapu and Salamumu customary lands. Saanapu has the largest customary land area in Upolu, some 6500 hectares, which is about three times that held by Sataoa.

For an accurate measure of village customary land it would be necessary to identify and measure, with land owners, the agreed and disputed areas. The need for this, however, should be weighed against the possibility that it may bring disputes to the surface when cooperation from all parties is required.

Similarly the marine resource areas, including the area of mangroves, are considered the property of individual villages,

though they are not generally for the exclusive use of those villages. According to legislation the areas below mean high water mark are owned by the Government though this is not the case in practice.

## **5. GOVERNMENT, NON GOVERNMENT AND PRIVATE SECTOR SUPPORT SERVICES**

### **5.1 Infrastructure and Social Services**

#### **5.1.1 Roads, Water Supply, Electricity and Communications**

The cross island and main southern road portions of the access to the area from Apia are sealed all weather roads maintained by the Public Works Department (PWD).

Gravel access roads off the main southern road include two alignments to Saanapu tai and Sataoa tai and several roads accessing the customary land areas of the two villages on the inland side. Responsibility for maintenance of these roads may generally be by PWD with labour input sometimes provided by the villagers. The access road to Saanapu-tai has recently been improved in this way.

Saanapu relies on piped water sourced from springs near the coast whilst Sataoa relies on runoff from the Leafe River and the Sataoa stream and their tributaries. The Saanapu supply is irregular and maintenance is required to the supply pipe. Provision of water supplies is the responsibility of the recently created Western Samoa Water Authority.

Both villages (the four settlements) are supplied with electricity supplied from the national grid which is fed by diesel generators and hydroelectricity schemes. The Electric Power Corporation is responsible for the electricity supply and maintenance.

The area is not yet served by a full phone line system and at present there is a single public phone at Sataoa Bay.

Public transport is provided by local bus services, who run approximately three return trips a day to Apia via Cross Island Road.

#### **5.1.2 Health and Health Care**

The health of village people is the responsibility of the Village Women's Committee. The Committees are trained in primary health care, child care and sanitation, they are supported by a public health programme. Village health centres are built and maintained by the Women's Committees and the Government provides trained specialist staff.

Information on the health status of the villages, highlighting any particular ongoing problems, will be collected during a planned socio-economic survey.

Information on health care facilities, programmes, nearest hospital, clinics in Saanapu on Saturday mornings etc, qualified staff in the area, sanitation, sewerage disposal, pollution, and waste management, will also be collected during the survey.

### **5.1.3 Education**

Each village has a primary school. The nearest secondary school is located at Malua, some 20 km from the mangrove area. School transport is provided by bus.

## **5.2 Land and Environmental Management Services**

### **5.2.1 The Department of Lands, Surveys and Environment (DLSE)**

DLSE has the mandate to regulate land use according to good management practices. In effect it has little direct impact relating to customary land (80 percent of the national land area). The Ministry of Agriculture, Forests and Fisheries and the Ministry of Health have environmental responsibilities for their sectors and the DLSE (Division of Environment and Conservation) has oversight responsibility.

#### **(a) Division of Environment and Conservation (DEC)**

DEC is part of the DLSE, headed by a Principle Environmental Officer. Its overall objectives and scope of operations are very broad taking in the full range of environmental management activities.

It comprises:

Three 'units' which draw on a workforce of four Environment Officers with broad-based training.

The Biodiversity Unit, responsible for work relating to biodiversity is headed by the Senior Biodiversity Officer assisted by one advisor. It is also covers Parks and Reserves management employing a chief ranger and one assistant ranger. The unit will undertake coordination of the Saanapu/Sataoa CAP and is also involved with a lowland forest conservation area in Savaii with funds from the Biodiversity Conservation Network and a marine-based conservation area in the Aleipata District in the south east of Upolu.

The Environment Planning Unit, responsible for developing EIA regulations and for waste management, currently comprises one environmental officer/planner.

The Education and Training Unit is involved in the preparation



of the National Environmental Management Strategy (NEMS), a project promoted by SPREP. It comprises one environmental officer with one position vacant.

### **5.2.2 Department of Agriculture, Forests and Fisheries (DAFF)**

DAFF's involvement will be required to the extent of development and transfer of technology relating to crops, livestock, fisheries and forestry and the overall development and dissemination of sustainable farming systems. DAFF have expressed an interest to participate in an advisory capacity.

#### **(a) Research and Extension activities**

These are generally limited by lack of trained personnel and budget. An AIDAB funded Farming Systems Project (ends May 1995) aims to strengthen these activities with the focus being on pilot regions in Upolu and Savaii.

Safata District is now included as a short term beneficiary area after the reorganization of the extension system in the department. Research and crop production activities are applicable on a national scale. Introduction and promotion of new crops, development of taro blight control production packages, food and cash crop diversification systems are current work with potential widespread benefits.

Agricultural extension services should be improved with more regular and relevant training for the extension worker based at Sataoa. His effectiveness is presently constrained by lack of mobility and relevant technology in terms of income earning initiatives.

An UNESCO project involving production of food crops by women is implemented by the Ministry of Women Affairs with technical support provided by DAFF.

#### **(b) Fisheries Division (DF)**

The FD has a total professional staff of 18 and a support staff of 10. The functions of the FD include the development and protection of marine and freshwater resources. It has a large workload in relation to its small staff numbers. An AIDAB-funded Fisheries Extension Project will shortly train extension officers for several districts on both Upolu and Savaii.

The mangrove crab, estuary, lagoon and ocean fisheries are all important components of the CAP ecosystems. There have been areas identified as being suitable for development of aquaculture. Given the need to better understand the fisheries

to design sustainable management packages for the marine and mangrove ecosystems and to further investigate the potential of aquaculture FD have an important role to play in the provision of technical advice. When the Fishery Extension project starts it may be possible for FD to prioritise Safata District as an early beneficiary area.

**(c) Department of Forestry (DOF)**

The DOF comprises a Reforestation and a Watershed Management Unit. It has a total of 35 professional staff and 50 support staff. The main function of the DOF is to ensure that timber resources are sufficient for future generations and to manage watershed areas for sustainable timber harvests.

DOF is the implementing agency for the FAO funded Watershed Management Project which started in 1988 and is due to finish in 1995. This project aims to design and implement environmentally sound land use practices within two watersheds where there is customary land, government land and freehold land. This has involved discussions with customary land owners but the degree of acceptance and participation by them is not clear at present.

One component of the Watershed Project involves an inventory of watersheds in Western Samoa and this could provide useful information relating to the CAP watershed boundary and the land use within it.

**5.2.3 Ministry of Women Affairs (MWA)**

MWA was recently reorganized and now comprises a Research and Administration Section and a Programs and Training Section. It comprises some eight permanent and six casual staff and one Peace Corp Volunteer.

The function of the MWA is to implement the Women's Affairs Act; to promote and co-ordinate activities concerning women including community work, handicrafts and primary health care.

Like other agencies the MWA has limited resources in relation to its present workload. It is the lead agency for a number of village programmes and cooperates with other lead agencies in the implementation of other projects.

Current village based projects promoted by MWA include vegetable and flower production and development of handcraft activities. It operates a small credit project, limited to WS\$500 per project, to fund womens' village projects. This is based on a WS\$5000 revolving fund.

MWA has already expressed it's interest to participate in an advisory role, relating to undertaking household surveys, liaison with women's institutions and development of income

earning enterprises. Under present circumstances it would only be able to make a small contribution unless it received incremental financial support.

#### **5.2.40 Le Siosiomaga Society (OLSS)**

This local environmental NGO, established in 1990, has five full time staff and is able to recruit additional voluntary and paid assistance from its membership of about 100. It has a large office space in Apia staffed by a director and secretary, it employs a full time village liaison officer whilst time from others is provided on a voluntary basis. It has a register of skills amongst its membership.

Apart from minimal membership fees the Society doesn't have any permanent source of funds, its activities are either low cost or donor driven and related directly to specific projects with funding attached.

The function of OLSS is seen as promoting and lobbying for causes relating to issues of environmental concern. A major area of concern for the society at present is waste management including recycling, composting and disposal of toxic waste. It has collaborated for two years with the Swedish Society for Nature Conservation (SSNC) and three villages in Savaii in relation to rainforest preserves on their land. This is a management/monitoring role of 50 year covenants between the SSNC and the villages which were paid in kind not to log forests on their customary land. A number of difficulties have arisen with these CA's and valuable lessons learnt.

In the CAP the OLSS have held three workshops with three villages in Safata District related to mangrove conservation.

The society has expressed interest in providing assistance to the CAP in an advisory role but will be limited if such assistance is not backed by some form of funding.

#### **5.2.5 Western Samoa Visitors Bureau (WSVB)**

The WSVB is the tourist department of the GOWS. It comprises some 13 staff which include eight managerial and marketing staff(?). The main objective is to promote tourism through marketing and support of tourism service industries at both national and international levels. Some specific functions include a visitors information service, liaison with the tourist service sector and development of new initiatives. It also supports the development of the handcraft industry.

One new initiative is the promotion of ecotourism. This is one recommended activity included in the Western Samoa Tourism Development Plan, 1992 to 2002, and is presently supported by a New Zealand funded Ecotourism Project. The Grade 1 mangrove

wetlands at Saanapu/Sataoa is one of six ecotour destinations being developed in association with the DEC and customary land owners.

The WSVB has already conducted a number of tours to the area and has expressed its ongoing interest in the future development of the CAP to the extent of participation on an advisory committee in the role of tourist potential and how it may be utilised.

### **5.2.6 Other Rural Support Services**

#### **(a) Marketing**

Most produce is for subsistence purposes with any surplus being sold in local markets or transported to the Apia fresh market. For larger quantities of produce such as taro in the past, middlemen who may have also been large growers made purchases at the village level.

#### **(b) Input Supplies**

In terms of agriculture inputs the Agricultural Store (AS) is the major supplier, however it does not have agents in the area and farmers have to go to or arrange for delivery from Apia to procure most items such as seeds, fertiliser and agricultural chemicals. Private traders do supply a range of items but fertilisers and chemicals are supplied from the AS.

#### **(c) Credit**

Credit sources for rural development and operating activities include the Western Samoa Development Bank (WSDB), two other trading banks and locally based private traders. Through the IFAD funded Rural Activation Project (RAP) a pilot credit project will soon be started involving all three banks and the Samoa Credit Union League. The WSDB has apparently been providing credit for investment purposes to formal credit group borrowers with some success. It is possible that additional money may be lent through this facility using RAP funds.

## **6. ECONOMIC DEVELOPMENT AND ACTIVITY**

### **6.1 Agriculture**

In 1991 85 percent of the population of Saanapu and Sataoa were engaged in agriculture, hunting, forestry and fishing. Of these 75 percent were involved solely on a subsistence basis, the remainder were subsistence and commercial farmers.

In the Safata district 55 percent of households earn most of their income from agriculture (1989) whilst overall, 94 percent

were agriculturally active. The most important crops were taro, coconut, cocoa, banana and taamu which were mainly grown for home consumption. However large quantities of taro, coconut, cocoa and kava were also grown for sale.

As from mid 1993 the taro leaf blight has reduced taro plantings to practically zero, dramatically changing the nature of the farming system in the area.

## **6.2 Forestry**

There are no longer commercial forestry activities in the area due to the lack of an economically harvestable resource. There have been no surveys to show other forest based activities but they are likely to include the collection of construction materials, firewood, food and medical products and hunting birds (pigeons) and flying foxes. Some recent research (1992) shows hunting to be an insignificant activity.

The present project's October 1993 survey (Appendix 6) identified that the mangrove forests are used as a source of shellfish, fish, crabs, firewood, snack foods, medicinal plants, construction materials and materials for handicrafts and decoration.

The 297 hectare reforestation area leased from Saanapu and developed by the DOF is both protective and productive.

## **6.3 Tourism**

Ecotourism activity started on a pilot basis in November 1993 with two tours. Until mid March some 40 to 50 tourists had visited the sites, tours alternating between the two villages.

The tours were organised by the WSVB in conjunction with the villages and DEC who together with WSVB also assisted with transport. Boats and guides (paddlers) were provided by the villages and in one instance food was provided to the visitors. For every visitor the village is paid WS\$20, paid to the village council and then distributed to the paddlers and others who have directly participated, WS\$10 is retained to cover transport and other costs.

In general the tours have been successful. Problems have arisen such as insufficient boats, cheeky paddlers and lack of local knowledge about the mangroves for the benefit of the tourists.

These identify areas for development through training of guides, provision of pamphlets, promotion of the area as one of environmental significance.

Beach fales are the other tourist venture which are rented out for US\$30 per night. Larger scale accommodation facilities are planned at Saanapu.

#### **6.4 Fishing**

Of the 622 households (1989 Agricultural Census) in the 11 villages of the CA, 70 percent regularly fished, annual consumption being 31 to 36 kg per capita. Specifically, of the 259 households (1989) in the villages of Saanapu and Sataoa 78 percent fished, mostly (141 households) for home consumption with only 15 households selling the bulk of their catch.

In addition to the activity in the mangrove, lagoon and reef finfish and crab based fisheries, the harvesting of beche de mer (Loli, Halodiema, atra) was an important economic activity for a few families in Saanapu and Sataoa. Sales were made to companies outside of the village but have now ceased in response to low prices.

The two villages had 117 canoes (paopao) and no catamarans (alia) for fishing beyond the reef in 1989. Two cyclones since have destroyed a number of the paopao whilst a few alia are now based in Saanapu.

#### **6.5 Sand Extraction**

Sand is currently taken from CAP beaches by local people for village beautification, access road surfacing and construction (e.g. for concreting) Under present methods of use this will not be a sustainable activity.

### **7. ENVIRONMENTAL, CONSERVATION AND LAND USE POLICIES AND PROGRAMMES**

#### **7.1 National Policies and Initiatives**

The most important initiative by GOWS showing commitment for sound environmental management is the enactment of the Lands and Environment Act (1989). This encompasses natural resource protection, environmental management and pollution control. The administration of the Act is the responsibility of the DEC.

Other legislation relates to water and watershed management. GOWS development plans increasingly emphasise environmental protection and management.

Western Samoa is a party to both the Apia and SPREP conventions and to the South Pacific Nuclear Free Zone Treaty. It is a signatory to the Convention on Biological Diversity at the 1992 Earth Summit.

National programmes and projects relating to conservation of the biodiversity of Western Samoa include:

- . Planning for the protection and sustainable use of the

- . forests of Aopo, Letui and Sasina
- . Conservation and sustainable management of the lagoons, reefs and islands of the Aleipata District
- . Bird surveys and management for species of conservation concern
- . Restoration of Vailima Botanic Garden
- . National turtle conservation project
- . Ecological survey of mid-slope and upland forests
- . Environmental education programme in schools in key sites for lowland biodiversity conservation
- . Vaisigano Pilot Watershed Management Project, a community based initiative.
- . Western Samoa Farming Systems Project, an aim of which is to develop sustainable farming systems.
- . Development of an ecotourism industry by WSVB and the private sector.

## 7.2 Local Policies and Initiatives

Western Samoan villages are relatively autonomous decision-making units. Law implemented by the village council applies to a wide range of issues including management of land and marine based resources. Although GOWS has appropriate national environmental legislation its application and enforcement to customary land areas is meaningless unless full understanding and subsequent cooperation is obtained by the village council.

Instances of village based mechanisms to protect productive ecosystems include:

- . Punishment of offenders who dynamite or poison the lagoon and mangrove areas to catch fish, this is also supported by national legislation. These regulations are common in many villages but not always enforced.
- . Sili village on Savaii banned the use of agricultural chemicals.
- . Commitment (agreements) by villagers to conserve certain areas in light of a full understanding of the relationship between the resource and productivity. Such a commitment has been given by Saanapu and Sataoa villages relating to the Grade 1 mangroves and presumably will be backed up and enforced by village authority. Other villages have accepted cash and kind to give up the rights to log rainforest resources.
- . Limits to night time fishing in the Aleipata area, as decreed by the local Member of Parliament.

Visible signs of degradation and pollution do much to raise the awareness and commitment of villages to implement conservation measures.

It is a challenge for this and other CAP's to develop education methods that raise awareness and to develop other effective mechanisms to ensure conservation at economic levels where land areas are under customary ownership.

## **PART C      RATIONALE AND PROJECT DESIGN**

### **8. DESIGN**

#### **8.1. SELECTION OF THE AREA**

The lowland forests were identified as a priority ecosystem for conservation management as a result of their diverse fauna and flora and rapid clearance of them over the past few decades. The area of indigenous forest has declined markedly. There is now no 'merchantable' forest (largely lowland forest) left on Upolu and the remaining stands on Savaii will be gone within 5-7 years at current logging rates (ibid). International demand for tropical hardwoods, new logging technology, easily accessible locations, development of cropping land and high returns to customary land owners made lowland forests particularly vulnerable to priority logging. Major cyclones in 1990 and 1991 laid waste additional areas.

A National Ecological Survey of lowland forest areas was carried out in 1991. This identified five Grade 1 lowland ecosystem sites where protection was critical to conserve the natural biodiversity of Western Samoa's lowlands. The Saanapu/Sataoa mangrove site was given priority for selection as a CA by DEC because:

- . Regional significance - Western Samoa is at the eastern limit of the Indo-Pacific mangrove distribution. Regional significance is also manifested in the area being one for sighting the regionally rare hawksbill turtle and the fact that the country is recorded as an Endemic Bird Area in need of urgent conservation attention<sup>3</sup>.
- . National significance - It is the best remaining mangrove ecosystem in Western Samoa.
- . Local significance - Mangroves are an important source of food and materials and play a key role in sustaining estuarine and lagoon fisheries.
- . Replicability - As Western Samoa people are to some degree dependant on a mangrove wetland ecosystem, developed management systems could be replicable and used for education purposes, both nationally and regionally.
- . Threats - The mangrove wetlands are under existing known

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<sup>3</sup> As classified by Birdlife International (ICBP) 1991.



and potential threats.

- . Expansion - The mangrove wetlands are one of several ecosystems within the overall Safata Bay watershed area, the hub of the CAP can potentially be expanded to include components of and the whole of a much larger physical land management unit.

The SPBCP Project Document defines essential and preferable criteria to be met by a proposed CA.

Consistency of the expanded CAP area with these criteria is shown in Table 3.

**Table 3 Consistency of the CAP Features with SPBCP Criteria**

CRITERIA	CA FEATURES
<b>Category 1 - Essential</b>	
(1) Presence of national/regional important ecosystems of global concern, large enough to maintain viability	75 ha of grade 1 mangroves, best example in country in terms of size and composition. Area of montane forest.
(2) Commitment from landowners and partners, achievable project	Commitment from landowners sort and obtained from four (Saanapu and Sataoa tai and uta) of 11 villages. These have control of the grade 1 mangrove area.
(3) CAP large and complex enough to be typical of a wide range of interactions between people and natural resources	Total area is potentially c12000 ha, district population is 5500, many distinct ecosystems exist, typical of peoples use of resources in country.
<b>Category 2 - Preferable (have one or more)</b>	
(4) High levels of biological diversity and ecological complexity	Contains five distinct ecosystems. Mangrove, lowland, montane forests, reef and ocean fisheries
(5) CA important for survival of endemic species, rare or endangered.	Traditional laying area for hawksbill turtles (regionally endangered), much reduced activity which could be reversed.
(6) CA threatened by destruction, degradation or conversion	Non selective fishing methods include dynamiting and poisoning, mid to upper catchment land use into areas of major constraints for agricultural use. Mangroves face threats from increased population, demand for cash and housing sites

Present knowledge of the CAP's resource base identifies significant features which together with confirmed commitment from two villages (four settlements) justifies selection as a CAP for SPBCP assistance.

The implementation phase will include further surveys which are expected to enhance compatibility with the criteria.

## **8.2 DESIGN CONSIDERATIONS**

The project design must address the ultimate dilemma of conservation and development which can be summarised as follows:

Even if a level of understanding of conservation benefits by land owning communities exists it often does not provide sufficient incentive to override more immediate income earning opportunities offered by exploitation of the resources they control. The availability of new technology and market demands have led to increased exploitation of resources that was not possible in the past.

Strategies used to minimise the dilemma normally rely on one or a combination of two or more of the following approaches:

- (a) Initiate or continue awareness/education programmes in the belief that saturation will have a positive impact. Targeting programmes to special groups such as youth (tomorrow's land managers) and women who are traditionally involved in activities relating to the environment will accelerate the creation of benefits.

Education material must aim at the village understanding of economics, not just biodiversity conservation as an end in itself but rather as a means to and an incentive for improvement in the life of rural households.

- (b) Identify income earning opportunities that directly or indirectly relate to conservation of biodiversity. Reducing the market failure by creating a convergence between the private and social optimal use of resources.
- (c) Lump sum payments to or asset purchases for customary land owners in exchange for a commitment to conservation.

The three approaches relate to the creation of incentives and an awareness that they exist.

In addition to choosing between these approaches the design also takes into account the following:

### **8.2.1 GEF and SPBCP Guidelines and TMAG Comments**

The Concept Paper defines the outline of the CAP, this has been accepted by SPBCP. The following comments were made at the TMAG meeting in February 1994:

- . "TMAG endorsed SPBCP involvement in the proposed project.
- . While recognising the value of initiating CAP consultation and development activities with an initial focus on the mangrove forest, TMAG stressed the importance for the CA project concept to encompass marine and shore areas and the coastal lands and uplands adjoining the mangrove site.
- . TMAG considered that the proposal deserves early support and attention in view of the sites proximity to the SPBCP base and its potential as an early and accessible pilot case for development of SPBCP staff and procedures.
- . Further attention is required towards tackling some immediate issues including damaging fishing methods, silt and agricultural runoff."

The second TMAG meeting in August 1994 reviewed a draft of this PPD. It commented that it reflected (too much of) a top-down approach and the DEC acknowledged that it had moved ahead of the community participation process. However the group felt that production of the document should not become too much of an objective in itself. The conclusion that the lead agency drew was that the PPD should include activities to bring community participation up to speed rather than hold up production of the PPD. There was also a criticism of insufficient focus on problems and issues. The TMAG at its second meeting did not wish to place itself in a position of approving PPD's but the lead agency concerned that the meeting was supportive of the project and that it encouraged a move to begin some implementation with SPBCP to provide further funding. This resulted in development of a second quarter work plan (see later) involving implementation activities.

### **8.2.2 Village Commitment and The Village Survey**

A survey comprising 55 interviews with households in Saanapu tai and Sataoa tai was undertaken by DEC in October 1993. The objective was:

- . To identify the importance of the mangrove forest and the lagoon fishery and turtles to the two villages.
- . To identify village perceptions of changes in the mangrove forests and fisheries over time.
- . To identify attitudes to conservation of the mangroves and to tourism.
- . To identify particular needs relating to development in the villages.

The results of the survey are given in Appendix 6. In general the mangroves and lagoon are important sources of food and other materials for most villagers, some 30 to 40 percent of people thought that stocks were declining. Turtles were occasionally caught by about 25 percent of people.

There was 100 percent support for conservation of the mangroves and for tourism activity on condition that it did not cause major disruption to the villages. Although subsequent village meetings showed there to be a considerable lack of knowledge about the existence of the proposed project.

The survey identified the following development needs expressed by the villages:

- . Breakwaters required to protect against shoreline erosion, a need expressed in both villages but particularly in Sataoa-tai where they said the option was to clear mangrove areas for housing sites.
- . Water supplies in both villages, particularly Saanapu Tai, are unreliable with stoppages and discolouration. Sections of existing supply pipes need replacing, it is not known if this is the extent of the problem.
- . Access roads from the main southern road to the coastal settlements require improvement, particularly to Sataoa tai.

The village councils of both villages have given their commitment to the conservation of the mangroves, in the case of Saanapu this has been relayed in a letter (see Appendix 7) whilst Sataoa has provided verbal agreement to participate.

### **8.2.3 Local constraints**

- . The lack of resources in terms of budget and sufficient trained personnel both within the government and non government sectors.
- . The customary land tenure applying to over eighty percent of land, which puts the management of that land solely within the control of villagers that have the property rights.

### **8.2.4 Lessons from other Projects**

A conservation area was established in 1990 at the Tafua Peninsula on Savaii incorporating customary land areas of Tafua, Faaala and Saleologa villages. Funds were provided by the Swedish Society for Nature Conservation (SSNC) to the villages as incentives to preserve c5000 hectares of rainforest which were threatened with logging in the short term. Subsequently the OLSS was contracted to monitor the conditions that the villages

had initially accepted.

Payments were made in kind addressing the most urgent items of schools and roads which were going to be built with funds from logging. There was no provision to cover future operating costs of infrastructure. More funds were requested, cyclones Ofa and Val enhanced the complications as did promises of funds from other parties. Distrust grew between the villages on the one hand and SSNC and OLSS on the other. The villages felt that OLSS, by receiving a management fee, was depriving them of money which was rightfully theirs. They began to bypass OLSS and tried to communicate directly with SSNC. The villages felt they had been let down as their understanding had been that they were to be "looked after for life".

It has become difficult for OLSS to effectively undertake their role and all communication has ceased with one village.

Lessons include:

- . The need to ensure objectives and expected inputs and outputs of all parties are well understood at the outset.
- . The need to ensure this understanding is broad-based amongst the community and its subgroups even though it is usual for immediate practical purposes that the commitment be only from the fono a matai. In some villages this would be done by the fono but in others the understanding may stop with the fono. Considerable time for preparation of this component is required to enable a sense of ownership by all the village is developed.
- . The need for training in village-level business management, to understand how money can be best utilised to generate a sustainable long-term income stream while also contributing to one off expenditure on infrastructure.
- . To need to investigate trust funds as a means of money management.

Another overseas NGO, the US-based Seacology Foundation, established a similar c5000ha rainforest preserve at Falealupo in the northwest corner of Savaii in 1991. This was also not without its problems. Part of the preserve was subsequently logged after a court ruled that it included customary land of a village not party to the agreement. Cyclone Val caused considerable devastation to the remaining area.

### **8.3 DESIGN SUMMARY**

The proposed design accommodates elements of all three of the strategies outlined in the preceding discussion, including

identification and assistance with the development of income-earning opportunities directly relating to conservation (mangrove-based ecotourism is the clearest example), awareness education programmes, and assisting with community development (e.g. agricultural diversification) in exchange for a commitment to conservation.

Acknowledging comments received, the design in this final PPD focuses more explicitly on ecological problems and issues than the first draft.

The design incorporates further work to gain the communities viewpoint on issues and needs by using a Participatory Rural Appraisal exercise to supplement the questionnaire survey already completed. The transfer of project management to the local communities is more explicitly stated but is difficult to plan. Milestones are identified to monitor progress towards this.

It is planned to unify the different elements of the project through a focus on land units, e.g. the mangrove forests and their catchment, the lagoon, etc. Plans will be developed for each unit to be brought together later into a complete plan for the two villages of Saanapu and Sataoa and later if possible, Safata District.

#### **8.4 PROJECT GOAL:**

The overall goal of the SPBCP is to *"develop strategies for the conservation of biodiversity by means of the sustainable use of biological resources by the people of the South Pacific"*.

In line with the SPBCP goal there is a need to reflect conservation of biodiversity, sustainable development and people in the CA objective.

Consistent with this the CAP goal is to:

**Conserve the biodiversity of the conservation area through the creation of sustainable management and development practices for the component ecosystems in partnership between customary landowners, government and non government agencies.**

In the first instance the goal is focused on the mangrove wetland ecosystem whilst the longer term aim, as peoples' commitment allows, is to include all ecosystems within the Safata Bay watershed area. A secondary goal is to shift all management of the CA to the local community.

#### **8.5 PROJECT OBJECTIVES**

**Objective 1/** To conserve the mangrove ecosystems and their associated catchments and lagoons for the contribution they make to the biodiversity of Western Samoa.

**Objective 2/** To encourage the sustainable use of these mangrove ecosystems for the benefit of their customary owners.

**Objective 3/** To promote sustainable development of the customary lands and resources of Saanapu and Sataoa villages, both for their own benefit and as an example for other sites.

**Objective 4/** To promote sound ecological management practices in Saanapu and Sataoa villages, both for their own benefit and as an example for other sites.

**Objective 5/** To extend above objectives to the full Safata District incorporating the mangroves of the Vaiee-Tafitoala Peninsula.

**Objective 6/** To use the project as an example for other communities in Western Samoa to better manage their local resources.

**Objective 7/** To transfer over the management of the project and the Conservation Area to the local communities themselves.

## 8.6 PROJECT COMPONENTS

The project components aimed at achieving the project objectives are listed below. They are partly based on a logical framework developed by P. Wood, consultant to SPBCP, for the first draft of this PPD (Appendix 1).

### 8.6.1 COMPONENT 1 - Project Management

An effective project management system is essential to the achievement of all objectives. This component aims to develop an effective community-based management framework over time (see section 11). However in the initial stages project management will largely be in the hands of the DEC.

Four entities can be identified with a role in project management, the local village communities, the lead agency (DEC), other participating agencies (e.g. Agriculture Division), and the SPBCP. The key elements in the project management framework that bring these entities together are:

- 1) The council of chiefs (fono) of each of Saanapu and Sataoa villages
- 2) The Conservation Area Support Officer (CASO)

- 3) The Conservation Area Co-ordinating Committee (CACC)
- 4) The Project Manager within the Biodiversity Unit of the lead agency (PMDEC).

**Output 1 Employment of a trained Conservation Area Support Officer (CASO), provision of technical and administrative support and effective working conditions.**

The role of the CASO has been largely defined by the SPBCP (see Project Document and report on CASO training workshop in Fiji, October 1994). He is the key individual linking all project participants together.

**Output 2 An effective Conservation Area Coordinating Committee (CACC) and a framework for operation.**

The CACC has been designed as the main body to bring project participants together to discuss project progress and facilitate implementation. It is an advisory rather than a decision-making body, for decisions about village matters are the prerogative of the village councils (fono) and decisions about funding allocations rest with the SPBCP. Three individuals attend from each village (a male member of the fono, a female of status in the Women's Committee, and a third one representing the Church), along with the CASO, and usually two from the DEC. The key Government Departments have identified their representatives.

The committee has discussed its role and the role of individuals within it. The key roles are those of the village representatives who should be able to bring ideas and views from villagers to the meetings and communicate matters discussed there back to the fono and Women's Committee.

**Output 3 A strengthened lead agency (DEC)**

The DEC will have a role throughout the life of the project though this should change gradually from one of management through one of co-ordination to one of providing advice. The key responsibility lies with the Biodiversity Unit which at present consists of the Senior Biodiversity Officer, the NZ-funded Biodiversity Adviser (to January 1996) assisted by a pool of Environment Officers (currently only two out of a normal establishment of four and planned establishment of 7, neither having particular expertise in biodiversity).

The capability of the DEC to fulfil its project roles will be kept under review. One proposal for discussion is the creation of a Community Liaison Officer position with joint funding from the SPBCP and other agencies supporting similar community-based conservation projects in Samoa. Outside consultants will be



brought in where DEC or other local agencies do not have the expertise to deal with technical issues.

**Output 4 A set of workplans and budgets for project implementation itemising activities and inputs.**

Quarterly work plans and reports are required for SPBCP financing of project.

**Output 5 A set of operating procedures documented in a CAP procedures manual.**

A task for the CASO and the CACC.

**Output 6 A Network of Regional and International Environmental Funding Sources, at individual and institutional levels.**

A list of relevant funding agencies will be assembled by the CASO and the DEC for possible future contact to involve them in the project as appropriate.

**8.6.2 COMPONENT 2 - Development of Sustainable Management Packages for Ecosystems**

Four biological systems are defined for the purpose of this section (though strictly speaking the second and third consists of several ecosystems), mangrove forests, lagoon and associated reefs, lowlands, and montane forests. These systems are of course not discrete but interact with each other, particularly through movement of water. In addition to including productive bases for tourism, fishing, cropping and livestock systems they have particular environmental values some of which are under threat. Each comprises a range of biodiversity which has value to the local community, the country and the South Pacific region.

The objective is to study the ecosystems and develop sustainable management packages for each to conserve their biodiversity and enhance the productivity base for agriculture and fishery activities for the benefit of existing and future generations.

Each ecosystem is treated as a subcomponent.

**Subcomponent 2.1 - The Mangrove Ecosystem**

This subcomponent addresses the first two objectives, the conservation of the mangrove ecosystems and the encouragement of their sustainable use.

The following issues have been identified based on the questionnaire survey conducted in 1993:

- a) Clearance of mangrove forest for house sites
- b) Use of wood of mangrove forests for firewood
- c) Use of wood and non-timber products of mangrove forests for handicrafts, medicines, food
- d) Use of freshwater spring in mangroves for washing, water supply
- e) Fishing, particularly for mangrove crabs
- f) Tourism development
- g) Water quality

Issues a) to d) will be addressed by the development of a plan with the villagers. Issue e) will be the subject of special study for mangrove crabs (Output 3 below) with fish considered along with lagoon fisheries, issue f) considered as part of the tourism package for the area (see 8.6.3), and issue g) by management of the catchment (sub-component 2.3) and the lagoon (sub-component 2.2).

There is also a need for a clear understanding of the mangrove ecosystem by the local communities and this will be developed as part of the education component.

#### **Output 1 Identification of issues.**

It is considered that most of the issues have been identified by the initial survey but others may appear during the course of the project.

#### **Output 2 A sustainable management plan for the mangrove ecosystem which can be implemented and enforced by the villages including monitoring systems for the extent and condition of the mangrove forests, and for the implementation of the plan.**

This will require definition of the mangrove area by survey, the development of a plan and its endorsement by villages.

#### **Output 3 Plan for the sustainable management of the mangrove crab fishery.**

Villagers have indicated that the crab fishery is important to them as a source of food and cash and a special dish for tourists. The project aims for sustainable management of the fishery in the face of some possible decline of stocks. This will involve a review of possible management measures, a survey of the existing fishery, a workshop for fisherpersons to discuss management options and the production of an agreed plan and monitoring of its implementation.

#### **Output 4 Study of the opportunities for other environmentally compatible income earning activities from the mangrove ecosystems.**

This study will involve discussion with villagers on options, e.g. use of mangrove wood for carving.

### **Subcomponent 2.2 - The Lagoon and associated reefs:**

The lagoons are an important economic resource for the people of Saanapu and Sataoa as well as Vaiee, Fusi, Fausaga and Tafitoala villages. The survey of Saanapu-tai and Sataoa-tai in 1993 indicated a general perception of reduced fish stocks given the same fishing effort.

Existing and potential threats to the ecosystem components and the lagoon as a whole could reduce productivity further. A sustainable management package is required to reverse the perceived trend. This would be based on a comprehensive biological knowledge of the ecosystem, traditional village customs and a joint approach by the two villages to the design and enforcement of regulations.

There will be a requirement for a high level of awareness raising in the communities, as although there is recognition of the economic value of the lagoon by the people they have not yet given commitment for its conservation through a sustainable management package.

Issues identified:

- a) Use of destructive fishing methods (dynamiting and fish poisoning)
- b) Use of indiscriminate fishing methods (e.g. small mesh nets)
- c) Possible overfishing
- d) Crown of Thorns starfish
- e) Water quality (siltation, pollution, sewage disposal, agricultural run-off)
- f) Tourism development

#### **Output 1 Identification of issues:**

Several issues have been identified (above) from surveys and discussions. However a workshop with fisherpersons is proposed to further define issues relating to the fishery and the PRA may show up others.

#### **Output 2 A research programme for the study of the lagoon fishery.**

Fishing is an increasingly important activity in these villages replacing income lost through the taro blight. Information needs are to be assessed through the initial step of a workshop with fisher-persons. This will discuss issues involved and explain proposed activities. These would include a questionnaire-based survey of fisherpersons and possibly some catch recording, and

reef fish surveys.

**Output 3 A sustainable management plan for the lagoon ecosystem, including the fishery which can be implemented and enforced by the villages.**

This plan will need to be developed after surveys through a process of workshops conducted by the CASO with villagers.

**Subcomponent 2.3 - The Lowlands**

The lowlands can be defined as the area between the upper level of plantation development and the mangroves and coast. This area is the most important to the local community as the one in which they live and which provides them with most of their resources. It also contains some areas of lowland forest with possible importance to biodiversity conservation.

Issues have not been well defined as yet and the first output should address this point. However discussions to date have indicated that the following are important:

- a) Agricultural diversification - villagers identified this as a key issue during surveys.
- b) Improvements to infrastructure (roads to '-tai' villages, water supply, coastal protection) - these issues were also identified and will require further discussion with relevant agencies in Apia as the first step.
- c) Catchment management - the water catchments are key elements to draw the whole project together linking uplands, lowlands, mangroves and lagoon.
- d) Lowland forest conservation - The area of lowland forest in the Safata Bay watershed has reduced by 2.2 percent per year as a result of clearing for agriculture, roads and land claims, timber production and cyclones. This may have led to increased runoff with sedimentation and chemical pollution of waterways and lower catchment areas.

**Output 1 Identification of issues**

A Participatory Rural Appraisal (PRA) exercise is proposed as the next step to identify all the issues relating to the lowlands with an emphasis on the villagers' viewpoints.

**Output 2 A sustainable management plan for the lowland ecosystems which can be implemented and enforced by the villages.**

It is anticipated that this plan will be built up in steps by subject area, e.g. discussion of agricultural diversification will identify new crop options, areas appropriate for them, and

management regimes to ensure sustainability, 'land care', catchment protection, etc. It will be incorporated in the overall CAP plan.

#### **Subcomponent 2.4 - The Montane Forest**

The montane rainforest is defined as that found from 250m to 790m asl. on the central island ridge. Cutting of this forest may cause instability of the soils and consequent increased runoff and erosion leading to lower catchment and lagoon sedimentation and chemical pollution, though there is considerable debate about this. Clearance can thus not only have a major impact on the productivity of the montane forest area itself but also may affect the lower catchment areas and the mangrove and lagoon fisheries.

It is anticipated that there is still some pressure to clear montane forest though this will be clarified in the PRA process.

The project will aim to retain as much intact forest as possible for sustainable use (e.g. firewood extraction, tourism, harvest of non-timber forest products).

#### **Output 1 Identification of issues**

The PRA will lead to clarification of issues in this area. A report on forest clearance in adjacent Lotofaga village soon to be produced by Martell & Associates should also be relevant. Further surveys are needed to identify issues from a biodiversity viewpoint and a bird survey and a wider vegetation-based ecological survey are planned as part of a national survey of higher altitude forests in 1995 (New Zealand funding).

#### **Output 2 Agreement over the management of montane forests**

The same approach will be followed as for other areas, identifying the issues from the villagers' viewpoint, adding a biodiversity conservation/sustainable management concept, and reaching some agreement over how an area should be managed. This agreement would form part of the overall plan. Water catchments will provide the link between these forests and the rest of the CA.

### **8.6.3 COMPONENT 3 - Operation and Further Development of the Tourism Industry**

This component could be a subcomponent of the sustainable mangrove management package. It is prepared here as a separate component with recognition that in the longer term tourism could expand beyond mangrove-based ecotours.

Ecotourism activities have been taking place on a small scale (canoe tours of the mangroves) and the villagers are

appreciative of the money it brings. The WSVB is supportive of these activities as part of a national promotion campaign for ecotourism, consistent with the Western Samoa Tourism Development Plan 1992 to 2001.

There are a number of improvements that can be made for both the villagers and the visitors, and a clear need to market the enterprise. These matters are best encompassed in an overall development plan that is consistent with the proposed sustainable management plan for the mangroves.

Consistent with the objective of expanding the CAP boundaries to the Safata Bay watershed there will be a need for continuing development of income generating activities. There are a number of attractions in the expanded area which could be developed individually or in association with each other in due course.

**Output 1 A plan for sustainable ecotourism activities related to the Saanapu and Sataoa mangrove wetland area.**

The mangrove tours have been discussed at several workshops and villagers are waiting for the DEC and Visitors Bureau to recommend to them how the operation should be managed in the future. This would then be discussed and a plan agreed upon.

**Output 2 Extension and promotion material for ecotourism**

A need for introductory pamphlets has been identified as a first step.

**Output 3 Improvements to mangrove tours.**

The training of guides and provision of facilities are the key issues to be discussed here.

**Output 4 Investigate potential to expand ecotourism beyond the mangrove tour.**

Studies of the potential to include cave and forest tours, snorkelling or diving on reefs, and village-stays are proposed.

#### **8.6.4 COMPONENT 4 - COMMUNITY DEVELOPMENT**

Western Samoa rural villages have had a number of setbacks in recent years due to falling international commodity prices (cocoa and copra), disease (taro leaf blight), cyclones, withdrawal of subsidies and reduction in remittances as Australian and NZ economies declined.

There are considerable areas of idle arable land belonging to most villages that have the potential to be utilised to increase

income from agricultural and agroforestry activities. Many farmers express a need to alter their traditional farming systems to increase incomes but lack new crops and management technology to intensify the use of land.

The DAFF are undertaking applied research and demonstration activities relating to the introduction of new crops and low disease risk taro production in selected areas under the Farming Systems Project and the FAO Fruit Trees Project.

The object of this component is to enhance existing agricultural operations and to investigate the possibility of developing new income generating projects directly related to the conservation of biodiversity.

Further research into new community development opportunities is planned, but one output currently identified by villagers is handicraft production.

**Output 1 Assessment of aspirations and needs of local community.**

This output is vital to determine what level of income generation is required from community development projects (and harvesting from mangroves and lagoons, and ecotourism) to make the project worthwhile to the local communities. Some information has been obtained from the questionnaire surveys but a more detailed socio-economic picture of the local communities is needed. This will largely be obtained through a Participatory Rural Appraisal exercise (PRA).

**Output 2 Planning for sustainable land use intensification of agricultural areas.**

The first step will be a PRA on current use of agricultural land and related issues. Plans would then be developed by the villagers and CASO to address the issues identified and begin a programme of training and pilot activities.

**Output 3 Development of handicraft production and marketing, specifically related to the environmental resources of the area.**

Ideas will be canvassed initially at a workshop co-ordinated by the CASO with input from handicraft experts. Development plans will then need to be produced for handicraft enterprises proposed at workshops, followed by training and possibly the provision of seeding funds.

**Output 4 Investigation of other income generating opportunities in the CAP related to conservation activities.**

These opportunities may be identified during the PRA exercise or raised in CACC meetings.

#### **8.6.5 COMPONENT 5 COMMUNITY AWARENESS RAISING AND EDUCATION**

This component will be largely driven by the lead agency rather than the local communities. For it was recognised in the discussion of project design that it is vital that all members of the communities involved have some level of understanding of the project to ensure its successful implementation. At first the DEC may be determining what 'education' it feels the villagers need, but as the latter become familiar with the project and start to take over its management it is expected that they will be deciding what education they want.

The DEC and SPBCP will always have a separate secondary education objective that may not be shared by the communities involved, the need to use the project as an educational example to encourage other villages into sustainable land use practices.

**Output 1 Identify target groups within villages and assess their knowledge, information wishes and 'needs'.**

Different groups in the community will require different detailed knowledge of the project. All will need an understanding of project principles, however CACC members and village decision makers would require a different level of awareness than village schoolchildren for example.

**Output 2 Prepare material for different target groups, using a participatory process whenever possible.**

Some material is already available in Samoan, other material needs translation and further elements need to be developed.

**Output 3 Prepare material to convey project achievements and techniques to other communities.**

This output is partly required to achieve the next component, but also to influence other villages outside Safata Bay.

#### **8.6.6 COMPONENT 6 PROJECT PROMOTION**

Project and conservation area promotion activities could be developed once an area has been agreed. These could include the printing (and possibly) sale of tee-shirts, the supply of badges, development of a CA logo, the use of this logo to market products of sustainable enterprises based on the CA, etc. One would also anticipate SPBCP carrying out its own promotion as a means of promoting the programme as a whole. One key activity might be a launch with full traditional ceremony of the CA aimed at involving the villagers, Government at the highest level



alongside SPREP, UNDP and the other agencies involved, and the national and regional media. This would serve to give the project and the villages considerable local status which would both improve its chances of success and make it a better example for other villages.

#### **8.6.7 COMPONENT 7 EXTENSION OF PROGRAMME TO SAFATA DISTRICT**

The project's fifth objective is to extend conservation and sustainable management practices to the other villages in Safata Bay. This is primarily to ensure the conservation of the key mangrove site by managing the water bodies to which it is linked, i.e. the fresh-water catchments and inshore marine environments of the Bay. As part of this extension it is hoped to secure the protection of the Grade 2 mangrove site of the Vaiee-Tafitoala peninsula.

##### **Output 1: A planned extension programme.**

This output will have to be largely DEC-driven at first, for it may be hard to convince the villagers of Saanapu and Sataoa that the resources of the project should be spread more widely. This idea has been canvassed in discussions, but its acceptance will require further development of the linked water bodies concept.

A programme has not yet been developed in detail for project staff were unanimous in their conclusion that it was necessary to work initially with just the two villages. The fact that Saanapu and Sataoa are working together is a very positive start (not the case in another of the proposed conservation areas). However the project needs to be achieving clearer benefits on the ground before its extension can be contemplated. Options for extension may include working through the District Council, a body which to date has a rather limited function.

##### **Output 2: Implementation of extension programme and monitoring its success.**

#### **8.6.8 COMPONENT 8 TRANSFER OF PROJECT TO LOCAL COMMUNITY**

This component is listed last, though it is one of the most important, because the transfer process has to relate to all other components. Its outputs are listed here with reference to those other components. The process is explained in terms of the present work with Saanapu and Sataoa villages but the same approach would be taken for other villages in the District as they are drawn into the project.

##### **Output 1: Transfer Project Management to communities**

The key project management elements outside the communities are the CASO, CACC and outside agencies (Government & NGO's). The

former will be replaced at the end of SPBCP by a system based around the Project Liaison Officers (initially the CACC representatives but villages may decide to appoint others). The CACC would continue as a village-based body which would seek advice from the other agencies. This advisory role would be formalised in the case of DEC who would expect to continue to assist with reserve management. A mechanism will need to be found for Project Liaison Officers to continue to receive some funding support, through the establishment of an ongoing Project Fund.

**Output 2: Transfer management of mangrove area to community**

It is a contradiction to talk about transfer management of areas (mangroves, lagoon, etc.) to the community because of course they own and manage these at present. The mangroves present a special case at present, for in making a commitment to their conservation villagers probably feel that to some extent they have passed control of the area over to the DEC. This needs to be reversed and the aim is for this to occur once there is an agreed plan for management of the area that makes provision for biodiversity conservation and sustainable use. Once this plan is approved the project would fund villages to monitor its implementation for the period of SPBCP support. After this it is hoped that the monitoring would continue, with DEC in an advisory and 'encouraging' role (though it might monitor some aspects, e.g. birdlife, as part of its nationwide programmes), with villagers carrying out this task on behalf of the fono just as they would other tasks such as village clean-ups.

**Output 3: Transfer conservation management of other areas to the community**

In the case of the lagoon, lowlands and montane forests the local community has not made the same commitment to a conservation area and control and management clearly rests with them. The project aims to instill biodiversity conservation and sustainable management principles into local control of these areas through a combination of management planning, demonstration (e.g. of sustainable crop diversification) and education. Agencies such as DEC and DAFF would continue to be available to advise and may undertake their own monitoring.

**Output 4: Transfer management of tourism to the community**

Again this management already rests with the community. The intention of the project is to help the community to develop the product as required by tourists and set up a reliable organisational structure. The degree to which the village manage tourism remains to be determined. One scenario would see the village taking over everything once tourists arrive on site with tour operators and the WSVB responsible for bringing them there (including promotional work). The operators would then pay the village. Another scenario would see the village or an

individual within it setting up a tour company. The DEC and WSVB should very soon step into purely an advisory role for the canoe tours, once training is complete, and would continue to assist with infrastructure development until that is finished. At that point the villages would need to make provision for maintenance. This provision would involve retaining some of the earnings in a project fund.

#### **Output 5: Complete community development process**

The present project's community development component seeks specifically to support agriculture diversification and handicraft development. However encouraging sustainable management of fisheries and planning ecotourism also contribute to this. It is intended to make agricultural diversification an activity continued by villagers after the end of SPBCP support through the demonstration plot system. Once each demonstration plot is harvested it will supply planting material, seeding funds from sale of crop (e.g. for farmers to buy their first set of chemicals), and advice to farmers to set up their own plots.

Handicraft development will be supported initially by the provision of training and the purchase of the first sets of tools. Villagers would then provide for maintenance and replacement by retaining some of their proceeds. For the different elements making funds, tourism, agriculture demonstration plots, handicrafts, villagers could either pool money taken off each as a Project Fund, to put money back into the maintenance of each or other village projects, or manage each with a separate fund.

#### **Output 6: Continuing educational programmes.**

They key to maintaining a good level of community awareness of conservation issues will be training the teachers and providing good resources (e.g. library support). As a result generations of schoolchildren will keep others in the village informed. The DEC would continue as an advisor and draw villagers in to any national campaigns it was running.

### **9 PHASING AND WORKPLAN**

The work plan presented here has been in operation for two quarters (see Appendices 8 and 10) and records activities undertaken to date.

#### **COMPONENT 1 - PROJECT MANAGEMENT:**

##### **Output 1: Conservation Area Support Officer (CASO).**

*1.1.1 Appoint CASO.*

Details/Timing: Complete. The CASO, Moana Galovale, began work in October 1994. His appointment is to be reviewed after six-months of employment (April 1995) with a view to confirming him in the position for a 2-year term. Consideration will be given to the establishment of village counterparts as one means of improving liaison if appropriate, to be done by paying CACC members a monthly salary. (Funding for these would be sought in the 4th quarter budget).

#### *1.1.2 Train CASO.*

Details/Timing: (See training section below). The CASO attended an SPBCP training course in Fiji in October 1995 and a workshop on Participatory Rural Appraisal with O le Siosiomaga Society in January 1995. DEC will conduct training in environmental management and sustainable development and word processing. The need for additional outside training will be continually assessed and it is likely that the SPBCP will initiate further courses.

### **Output 2: Conservation Area Coordinating Committee (CACC).**

#### *1.2.1 Form committee and secure operating funds.*

Details/Timing: The CACC has been formed and funds secured. Two meetings were held in the first quarter and two in the second, each involving the three representatives of each village and the DEC, the last two chaired by the CASO. The meeting frequency will be kept under review but is likely to be 2-3 per quarter for the first year or so. Representatives of other agencies are expected to become involved in the committee from the third quarter onwards as more specific issues are discussed. Placing village CACC members on a salary from the fourth quarter on will be discussed in the third. For at the point that project implementation is in full swing there would be considerable work outside the meetings, e.g. co-ordinating on-the-ground activities, receiving tours, arranging workshops and meetings, etc.

#### *1.2.2 Define working arrangements for committee.*

Details/timing: Initially the CASO (or prior to his appointment a DEC officer) has chaired the CACC and the same individual has prepared the report. It is intended to give village representatives an increasing role in CACC management and this will be discussed in subsequent meetings. Sharing the chairing of the meeting will be a first step followed by sharing of minute taking.

#### *1.2.3 Train committee members.*

Details/timing: Training will be required in environmental management, sustainable development which will be undertaken by DEC. Training in meeting management, financial management etc. may require outside consultants. Needs and timing will be determined during initial meetings and subsequent evaluation of the committee's effectiveness. However DEC will be able to supply two specific items in early 1995, a bound compilation of newspaper Environment Columns in English and Samoan and an Environment Book - a teaching resource on sustainable development in Samoan. Committee members would be supplied with Box folders or similar to retain such material.

### **Output 3: Strengthen DEC.**

#### Activities:

*1.3.1 Appoint manager for project within DEC.*

*1.3.2 Assign DEC support staff to project.*

Details/Timing: Both complete. Overall responsibility for the DEC component of project rests with the Principal Environment Officer. Project Manager is the Senior Biodiversity Officer. Other DEC staff who will be involved in the project include Environment Officers (currently only one with several vacancies), the Education and Training Officer and the Chief Parks Officer.

However the DEC has a large work-load including two community-based conservation area development projects like this one. It also seeks to expand its community work. Discussion will be initiated in the third quarter about the possible creation of a Community Development Officer position to be funded initially through these projects.

### **Output 4: Work Plans and Budgeting**

*1.4.1 DEC and CASO to prepare quarterly work plans and budgets for submission to SPBCP.*

Details/timing: Plans and budgets would be drafted by DEC and CASO, approved by the Director, Lands, Surveys and Environment, then submitted to the Ministry of Foreign Affairs for consideration and submission to SPBCP. The second quarterly plan and budget run through to 31 March 1995.

### **Output 5: Operating Procedures Manual**

*1.5.1 CASO to develop a manual assisted by DEC.*

Details/timing: One of the priority tasks for the CASO after appointment and familiarisation. The manual would include the

work procedures for the CASO and the CACC in addition to financial and other project management procedures. Discussions were held in the second quarter but manual development will not take place until the third once a new Treasury financial system is in place.

## **Output 6: Funding Network**

*1.6.1 CASO to develop and maintain a list of relevant funding agencies and their application details and contact them as appropriate.*

Details/timing: CASO will be able to obtain most of the information needed from DEC and will also consult with other Government agencies and NGO's and SPREP. The development and updating of this list will be an ongoing task once other priority tasks are completed. Funding agencies will be contacted as the project develops to expand the funding base beyond Western Samoan Government and SPBCP.

## **COMPONENT 2 - SUSTAINABLE MANAGEMENT -**

### **2.1 MANGROVES**

#### **Output 1 Identification of issues**

*2.1.1.1 Establish a programme to identify issues concerned with mangrove management*

Details/Timing: This activity has been completed through the original survey of '-tai' villages and a workshop run by the CASO and a Fisheries Officer on mangrove management in the second quarter.

**Output 2 A sustainable management plan for the mangrove ecosystem which can be implemented and enforced by the villages including monitoring systems for the extent and condition of the mangrove forests, and for the implementation of the plan.**

*2.1.2.1 Reach agreement with villagers on the extent of the mangrove area to be conserved and map it.*

Details/Timing: This process will be initiated by the CASO together with the CACC as soon as possible but probably in the third quarter. Recommendations from the CASO and CACC would need to be put formally to the village fono (councils). The agreed area will need to be defined in some way, preferably one

that makes the most sense to the villages rather than surveyed. The likely process will be one of walking around the area and agreeing a boundary in discussion with adjoining land-owners and the fono based on visual features.

2.1.2.2 *Reach agreement with villagers on the activities to be allowed and prohibited in the mangrove area.*

Details/Timing: This process began with the mangrove workshop in the second quarter. It introduced the concept of a management plan and the issues that might be covered in it. The next step is for village councils to discuss the concept (last week of March) and report back to the project via the CACC. It will then be up to the CASO, CACC and DEC to draft up issues and options considering those specifically identified under this component, those identified in Output 4 below, and others relating to ecologically-sound management practices, eg. of waste disposal.

2.1.2.3 *Incorporate necessary provisions in a management plan to be approved by villages.*

Details/Timing: After issues and management options are drafted through activity 2.2.2.2. above (by 4th quarter - July '95) they would be presented to villages using a 'display week' (fourth quarter - September '95). A display would be erected in a fale in each village for a few days, people encouraged to visit it and discuss issues with CASO and DEC staff present and specific meetings held to discuss it with village groups (eg. fono, Womens' Committee). This should ensure that all villagers are familiar with the possible elements of the plan. A final version, probably still containing options for some issues would then be submitted for formal consideration and approval by the fono. This will be a lengthy process but the aim will be to complete it in 1995.

2.1.2.4 *Consider incorporation of plan into legislation through an amended Lands, Surveys and Environment Act.*

Details/Timing: Amendments to the Lands, Surveys and Environment Act are currently before Parliament. If adopted they will allow village-initiated management plans to become binding on Government and other parties under law just as management plans for Government Reserves are. This option could be offered to village councils as a means of strengthening their control over a mangrove conservation area once a plan is approved.

2.1.2.5 *Develop a monitoring programme that can be largely carried out by villagers themselves.*

Details/Timing: A monitoring programme will be developed initially by the CACC and CASO for later adoption by the fono. Monitoring is likely to be one task given to Conservation Area rangers who are proposed for late 1995 or 1996. This concept will need development but will involve village chiefs being paid in rotation to look after the conservation area and carry out monitoring and other studies.

**Output 3 Plan for the sustainable management of the mangrove crab fishery.**

*2.1.3.1 Review possible management measures.*

Details/Timing: A literature review has been carried out by the DEC in the second quarter using the Infoterra network. (Contact will also be established with an individual working on the species in Fiji).

*2.1.3.2 Discuss management options with villagers at a workshop.*

Details/Timing: An initial workshop was held in the second quarter with the assistance of Fisheries Division (FD). The results of this now need to be reviewed by DEC and FD and be discussed within the village fono and reported back through the CACC in the third quarter.

*2.1.3.3 Develop and agree a management plan for the fishery including monitoring provisions.*

Details/Timing: A plan would be developed by the CASO and DEC with advice from Fisheries Division. In order to establish monitoring a baseline survey of the current fishery may be required.

*2.1.3.4 Carry out baseline survey of fishery (stock and harvest) if needed.*

Details/timing: This will be considered in the third quarter following villagers' responses to the workshop. It will be based on villagers themselves collecting the data after training, to also facilitate their monitoring of stocks in the future.

**Output 4 Study of the opportunities for environmentally compatible income earning activities from the mangrove ecosystems (in addition to mangrove crab fishery).**

*2.1.4.1 Discussion of options with villagers.*

Details/Timing: The use of mangrove wood for carving or



decorative work provides one option. This and others would be developed in a possible programme of handicraft development under Component 4.

*2.1.4.2 Incorporation of agreed options into a plan and its implementation.*

Details/Timing: This would need to be included as a provision in the mangrove management plan.

## **2.2 LAGOON**

### **Output 1 Identify issues.**

*2.2.1.1 Carry out Participatory Rural Appraisal (PRA).*

Timing/Details: A PRA is planned for third or fourth quarters primarily to identify issues in the lowlands, but questions will also be asked to clarify any further issues in the lagoon beyond those identified earlier (p31).

### **Output 2 A research programme for the study of the lagoon fishery.**

*2.2.2.1 Hold workshop with fisher-persons*

Timing/Details: A workshop is proposed in the third quarter to discuss the fishery and plans for the surveys. It is apparent that fish stocks are declining and the workshop will confirm whether fishermen agree with this and wish for the project to help them do something about it.

*2.2.2.2 Collect information on fishery through questionnaire and possibly catch recording.*

Timing/Details: The DEC and Fisheries Division have been engaged in a very similar exercise in the Aleipata District in early 1994. Lessons learnt from this can be applied in Safata Bay. This research would be undertaken in Year 1 and follow on from the workshop, either in third or fourth quarters..

*2.2.2.3 Carry out reef and lagoon fish surveys*

Timing/Details: Fisheries scientists from the Department of Marine and Wildlife Resources, American Samoa are planning to undertake censuses of reef fish using visual methods in Western Samoa in 1995 as part of a regional study. They will survey reef edges off Saanapu/Sataoa as part of this in either May or August. The project will provide a small amount of extra funds for them to carry out extra surveys (1-2 days) of the lagoon including training of GOWS personnel. These surveys will

provide a baseline against which to measure the success of the management plan proposed.

**Output 3 A sustainable management plan for the lagoon ecosystem, including management of the fishery, which can be implemented and enforced by the villages.**

2.2.3.1 *Reach agreement with villagers on the activities to be allowed and prohibited in the lagoon area.*

Details/Timing: The first forum for discussing issues will be the CACC with recommendations to be taken to the fono. Issues to be discussed would include fisheries management, aquaculture, and related concerns such as catchment management, sand-mining and shoreline protection. A workshop for fisherpersons is planned (3rd or 4th quarters) to discuss options for fishery management.

2.2.3.2 *Incorporate necessary provisions in a management plan to be approved by villages.*

Details/Timing: The next step in the process after 2.2.3.1. A draft plan would be produced by the CASO and CACC assisted by DEC, with the fono again providing final approval. It is desirable that all villagers are familiar with the elements of the plan before it is adopted and this would be achieved by workshops and the circulation of leaflets summarising it (part of Output 4 below).

2.2.3.3 *Consider incorporation of plan into legislation through an amended Lands, Surveys and Environment Act.*

Details/Timing: This option was discussed under 2.1.2.4 above. Formalising a lagoon management plan under the Act would prevent neighbouring villages or Government breaching its provisions.

## **2.3 THE LOWLANDS**

### **Output 1 Identification of issues.**

2.3.1.1 *Undertake PRA*

Details/timing: A PRA exercise to be undertaken in the 3rd quarter (dependent on a team being available) is the main activity to identify further issues. The development of options for agricultural diversification under Component 4 will also raise specific issues.

**Output 2 A sustainable management plan for the lowland forest ecosystem which can be implemented and enforced by the villages.**

2.3.2.1 *Activities are equivalent to those relating to mangroves and lagoon above.*

Timing/Details: Discussion of the management of the lowlands may depend on the successful establishment of a mangrove conservation area and thus is likely to be a Year 2 activity. However issues will be canvassed and resolved as they develop in relation to other project components. For example as opportunities for agricultural diversification become clear, so there will be discussion about which areas are appropriate for which crop, how chemical sprays and fertilisers are managed, how catchments are protected and so forth.

## **2.4 MONTANE FOREST**

**Output 1 Identify issues.**

[Community-related issues will be covered within the PRA. Biological issue require evaluation through survey].

2.4.1.1 *Assess significance of montane forests to villagers.*

Timing/Details: Investigation of the use villagers make of the upland forests will be incorporated in the planned PRA in 3rd or 4th quarters.

2.4.1.2 *Carry out a bird survey.*

Timing/Details: A survey is planned for the area in mid to late-1994 as part of an upland bird survey within a SPBCP-funded programme.

2.4.1.3 *Carry out an ecological survey.*

Timing/Details: A nationwide vegetation-based ecological survey of mid-slope and upland forests is planned within the period May-August 1995 with funding from New Zealand Overseas Development Assistance. The uplands above the CAP area will be one site surveyed.

**Output 2 Agreement over the management of the montane forest ecosystem.**

2.4.2.1 *Activities are identical to those relating to other ecosystems.*

Timing/Details: The montane forests are currently under relatively little threat particularly on the steep land of the Leafe River catchment. Thus these activities will not proceed until Year 2 by which time more resource information will be available.

### **COMPONENT 3 - DEVELOPMENT OF TOURISM INDUSTRY**

#### **Output 1 A plan for sustainable ecotourism activities related to the Saanapu and Sataoa mangrove wetland area.**

*3.1.1 DEC and Visitors Bureau to prepare draft plan on how ecotourism might work.*

Timing/Details: This activity should be carried out in the second quarter. Several tours have taken place since the Project Concept was approved and these have raised several issues.

*3.1.2 Draft plan to be discussed with CACC and presented for approval by village fono.*

Timing/Details: A workshop will be held at the start of the 3rd quarter to present a plan to villages. Discussions in the CACC will follow.

#### **Output 2 Extension and promotion material for ecotourism.**

*3.2.1 Produce a pamphlet for visitors to the site.*

Timing/Details: This pamphlet was proposed to provide interpretation for people joining tours through the mangroves, detailing what may be seen there and how the area is part of a conservation area project. It was to complement two being produced by the WSVB, one of 'Areas of Environmental Interest' that incorporates the Saanapu-Sataoa mangroves and one that is intended to market the range of ecotours available in Western Samoa. However it seems that the WSVB may be having difficulties with their productions, so project needs will be re-assessed with them. It is possible that we will need to produce a pamphlet promoting the mangrove tours in addition to the one planned. Pamphlet development is proposed in the third quarter and production as soon as possible after that.

#### **Output 3 Improvements to mangrove tours.**

*3.3.1 Train villagers to act as guides.*

Timing/Details: A workshop was held in the first quarter taking advantage of the presence in Samoa of an ecotourism consultant,

Mike Parsons, who was working with the WSVB. This discussed the basics of tour guiding, particularly how to respond to visitors.

The next step is to train those taking the paopaos so that they can talk about the mangroves, stopping at fixed sites determined in the plan. It is intended to train five individuals from each village as guides. This will take place in the fourth quarter.

### *3.3.2 Construct public toilets in each village.*

Timing/Details: A request has been made through the Sataoa CACC members for the provision of public toilets for visitors to the mangroves. Such toilets are also needed at Saanapu village. It is anticipated that these can be provided at no cost to the present project through a scheme run by the Visitors Bureau. Proposals are to be completed during the third quarter.

### *3.3.3 Review other possible improvements.*

Timing/Details: This review would assess the demand for the mangrove tours and consider whether further developments, e.g. the provision of a boardwalk, a jetty, were justified. Construction of specific canoes for tourists might be required. It would occur in Year 2 once the initial tours were well established, probably asking visitors to fill in a questionnaire suggesting necessary improvements and developments they would like to see.

## **Output 4 Investigate potential to expand ecotourism beyond the mangrove tour.**

### *3.4.1 Research the potential for a cave tour.*

Details/Timing: The Visitors Bureau is investigating cave tours and may bring out a speleological group from overseas to map and give safety ratings to caves. There is at least one large cave on Saanapu land whose potential needs looking at in this way. This may occur during Year 1.

### *3.4.2 Research the potential for a forest tour.*

Details/Timing: The planned montane forest surveys (mid-1995) will provide an opportunity to assess whether there is vegetation and wildlife of interest in this area that could be easily accessed by tourists.

### *3.4.3 Research the potential for diving and snorkelling tours.*

Details/Timing: The planned coral reef fish surveys in May or August 1995 will provide the opportunity to assess reef condition and identify any areas worth considering.

### *3.4.4 Research potential for offering village stays for tourists.*

Details/Timing: This question will be discussed in the second year once mangrove tours are well organised. Villagers will then be able to decide how much tourism they are happy with. Tour operators may be keen to use these villages for village stays if the mangrove tours go well.

**Output 5 Implement any agreed extensions to ecotourism programme.**

Implementation of any of the above could take place from year 2 onwards.

#### **COMPONENT 4 - COMMUNITY DEVELOPMENT**

**Output 1 Assessment of aspirations and needs of local communities**

*4.1.1 Participatory rural appraisal survey conducted by DEC and Agriculture Division.*

Timing/Details: Agriculture Division has recently carried out such surveys in other areas on Upolu. The SPBCP's Programme Officer, Andrew Tilling, is also an expert in this field and he conducted a workshop in the second quarter attended by the CASO and DEC staff. It is intended to draw on this expertise to conduct a survey at Saanapu and Sataoa in the third quarter. This survey would include a form of household survey of Saanapu-uta and Sataoa-uta along the lines of that conducted in the -tai villages for the production of the Project Concept.

**Output 2 Planning for sustainable land use intensification of the agricultural areas.**

*4.2.1 PRA (as above)*

*4.2.2 Workshops convened by Agriculture Division and DEC.*

Timing/Details: A workshop and series of field days were conducted by the Agriculture Department and the CASO in the second quarter. These have presented crop diversification options. The next step is the development of one new crop as an example (see below). Other crops can be introduced as planting material comes available. The end product may be a land-use plan showing which crops are best grown in which areas with a system for obtaining training and planting materials. This process will develop gradually based on the response to the first demonstration. Further discussion is proposed for the fourth quarter, perhaps through a second workshop and displays.

*4.2.3 Plan for development of income-generating projects.*

Timing/Details: An output from the workshops would be possible programmes to be developed. A plan would be produced by the CASO for project development including provision for assistance from SPBCP where appropriate, e.g. possible seeding funds.

The first plan will focus on cultivation of ginger for which there is both a clear demand and planting materials available (see 4.2.4).

#### *4.2.4 Training and funding for implementation including pilot activities.*

Timing/Details: Once plans were agreed, training and funding would be sought, the former through DAFF and the latter either through SPBCP or other appropriate funding agencies. Demonstration plots of the first pilot, ginger cultivation, are proposed for establishment in the third quarter, one in each village. These will not only demonstrate the growing of ginger but be used as a trial to see if this is an effective way of starting other crops. The management of these plots will be agreed with the villagers so as to include training on managing funds (to buy materials for the next crop), retaining planting materials, use of chemicals and care of soil. The CASO would assist villagers in applications for funds from outside agencies.

### **Output 3 Development of handicraft production and marketing, specifically related to the environmental resources of the area.**

#### *4.3.1 Workshop convened by the DEC with the assistance of handicraft experts.*

Timing/Details: This workshop was held in the second quarter with the CASO assisted by Harry Paul, proprietor of the Apia handicraft shop, Kava and Kavings. He discussed handicraft options based on skills and materials available locally and market requirements. Handicrafts linking into the conservation of plants in the mangrove forests might be an initial emphasis. He has invited interested villagers to visit his shop to discuss issues further. This will be used to gauge interest and skills currently available in the village. Once these have been assessed specific workshops are planned in the fourth quarter to provide training in production and marketing for crafts that hold most promise for a sustainable industry.

#### *4.3.2 Development plans produced for handicraft enterprises proposed at workshops.*

Timing/Details: Plans would be developed following the workshop by the villagers with help from Apia-based agencies. These plans may include provision for investigations of marketing, for

seeding funds and so forth which might be submitted to SPBCP for support.

**Output 4 Investigation of other income-generating opportunities in the CAP related to conservation activities.**

*4.4.1 Discussion of opportunities by CACC.*

Timing/Details: It is anticipated that ideas may be generated by villagers as the project proceeds. Such ideas would be discussed with the CASO and the CACC before being developed further.

**COMPONENT 5 COMMUNITY AWARENESS RAISING AND EDUCATION**

**Output 1 Identify target groups within villages and assess their knowledge, information wishes and 'needs'.**

*5.1.1 Identification of target groups and their wishes and needs*

Details/timing: An activity to be carried out in the third quarter beginning with an assessment by the DEC and then discussion within the CACC.

*5.1.2 Review of educational needs.*

Details/timing: School children are a clear target group as they will be the project's future stakeholders. The CASO will meet with teachers of local primary and secondary schools to assess needs and options, assisted by DEC Education Unit staff, in the fourth quarter.

**Output 2 Prepare material for different target groups, using a participatory process whenever possible.**

*5.2.1 Production of introductory information pamphlet.*

Details/timing: DEC has prepared 2000 pamphlets for villagers using funds from Canada. These introduce the proposed conservation area, its significance and the role of villagers in its care and will be distributed in the third quarter.

*5.2.2 Collation and review of existing material and development of new material if needed.*

Details/Timing: There is a considerable amount of information written about mangrove management with good graphical examples.

This will need to be translated into Samoan. Material on the lagoon, reefs and fisheries will include the results of the local fishery study, a 'Save Our Coast' poster produced by DEC and displays and a two videos, one on the management of the



Aleipata coast, and one on turtle conservation. Material covering other aspects may need development.

**Output 3 Prepare material to convey project achievements and techniques to other communities.**

*5.3.1 Develop a project video.*

Timing/Details: The production of a video documenting the project may be the most effective method of circulating its results both within Western Samoa and (for SPBCP purposes) internationally. DEC has a camera to allow it to collect some film footage of events, however professional operators will need to be brought in at times, e.g. to obtain good scenic/habitat footage. This aspect will be discussed further with SPBCP in the third quarter based on the programme's interest in this activity.

*5.3.2 Develop written material.*

Timing/Details: Written material, posters, etc would be specifically developed in later years of the programme (2nd or 3rd) dependent on progress.

**8.6.6 COMPONENT 6 PROJECT PROMOTION**

**Output 1: Promote the project through events.**

*6.1.1 Conservation Area Launch.*

Timing/Details: Once agreement has been reached on a CA and a management plan agreed, a high profile CA launch is proposed. This would bring national and possibly regional attention to the site increasing village pride in it. The two villages would be assisted to set up traditional welcomes for visiting dignitaries and prepare displays about the project. This event should happen in year 2.

**Output 2: Promote the identity of the project among villagers and others.**

*6.2.1 Establish project logo and slogan.*

Timing/Details: It is proposed to organise a competition in the villages to design a project logo and come up with a slogan that gives the project a local identity. This would occur early in Year 2 and prizes would be offered by the project.

*6.2.2 Use logo and slogan for project promotion and marketing.*

Timing/Details: Signs incorporating the logo/slogan will be prepared by the DEC using its National Park router. Signs might include road signs identifying the villages and the roads to the

coast (for tourists), information signs at the start of the mangrove tours, etc. The logo would be printed on stickers used to mark handicrafts from the area for sale in local and overseas markets.

### *6.3.3 Use logo for merchandising.*

Timing/Details: It is proposed to incorporate the logo in items like tee-shirts and hats which are inexpensive to produce in Samoa. These would be provided to village rangers and sold locally and to tourists with funds returned to future project development. This is proposed as a year 2 activity.

## **8.6.7 COMPONENT 7 EXTENSION OF PROGRAMME TO SAFATA DISTRICT**

### **Output 1: A planned extension programme.**

#### *7.1.1 Development of a plan for an extension programme.*

Timing/Details: Material should be produced under Component 5 in a way that allows its use beyond Saanapu and Sataoa villages.

An extension programme using this material and the results of other components of the CAP would be developed, probably in the second year. Timing would depend on when the project is able to demonstrate clear benefits flowing from the Conservation Area.

## **8.6.8 COMPONENT 8 TRANSFER OF PROJECT TO COMMUNITIES**

Most of the activities for this component are incorporated within all the other components. The key additional one is to monitor progress which is covered in the section 13.

## **10 PROJECT FINANCING AND ADMINISTRATION**

### **10.1 Administration:**

Costs will be estimated and distributed according to component and funding source. This indicates how much each party is contributing, the estimated funding requirement for SPBCP over the project period and also estimates the ongoing funding requirements at the end of the project.

The total costs are estimated at WS\$346,500 (US\$138,600 approx.) which includes a contingency of 5 percent covering both physical and price variations. The costs are valued in constant 1995 prices.

Sources of funds are the SPBCP, the GOWS (through DEC and other agencies), and the villagers (primarily in terms of time). Project funding is designed to be provided by SPBCP over a period of five years from the start of implementation of the CAP. Initially funds are transferred to the project on a

quarterly basis in response to a request from the project. The request takes the form of an acquittal of the previous quarters expenditure together with a budget for the following quarter. A move to six-monthly budgeting should be possible once the PPD is approved.

Every six months a more detailed report is submitted to SPBCP, including an assessment of CAP's goals and objectives in the light of progress to date.

An annual plan including the following year's budget should also be submitted to SPBCP by the middle of September each year with an expected approval by November. This would be based on a physical work plan for the year including project milestones for each quarter. An annual report will include a reconciliation of all funds received and expended and discuss the years activities highlighting both the achievements and the problems encountered.

The GOWS through DEC and other agencies will also contribute to the funding of the project. Application for and reporting of funds and expenditure will follow the normal procedures required by GOWS. DEC submits its application to the Treasury by the end of April each year and notification of the approved amount is generally to hand by July.

It is unlikely that the CAP will be included as a specific cost centre in the submission and in reality it may not cause any incremental allocation to the DEC from the Treasury, at least within the next two years. Expenditure will be taken up from within the general operating budget of DEC.

## 10.2 BUDGET

The budget is presented in Western Samoan tala (except where otherwise stated) with figures provided for costs that may fall to SPBCP. Costs are divided into those that will recur annually (e.g. salary of CASO) expressed as \$/year, those that will occur once early in project which can thus be estimated accurately, (expressed as \$(year 1)), and those that are anticipated (based on work to occur early in project) but can presently only be guessed at. The last are presented as c.\$(yr?).

### COMPONENT 1 - PROJECT MANAGEMENT:

#### Output 1: Conservation Area Support Officer (CASO).

	Annual Budget
<u>Salary</u> - \$14310.40 a year (a base salary of \$13500 plus levies).*	14310.40
<u>Allowances</u> - (\$25/day for each 24hrs. spent on project work away from base - i.e. away from villages)	1,500.00
<u>Office accommodation</u> (incl. phone, computer,	

access to fax) - GWS (DEC/Agriculture Department)	00.00
<u>Travel</u> - Hire of CASO's vehicle.	9240.00
<u>Materials</u> - Stationery, etc.	1000.00
<u>Training</u> - None initially, provision for later.	00.00

**Summary/notes:**

Annual budget: \$26050/year

\* The CASO's salary will be included in his six-monthly review (April 1995) and may be raised to \$15,000 based on the range agreed in the Terms of Reference. This would increase the annual budget by \$1500 a year

Revised Annual Budget \$27550/year

Additional costs: Provision may be needed after CASO's initial 6-12mths for training, e.g. Reserve Management Courses overseas. c.\$15,000.00(yr.?)

**Output 2: Conservation Area Coordinating Committee (CACC).**1/ Present Meeting Costs:

Allowances to committee members (to cover travel and accommodation costs when required - i.e. for Apia-based members if meeting held in village, village-based members if meeting held in Apia)  
- \$20/meeting day

Provision of morning and afternoon teas and lunches - \$200/meeting

Hire of meeting venue - \$50/meeting.

Total Cost/Meeting = \$370

Incidental costs (e.g. provision of stationery) 200/year

Annual Cost: (Twelve meetings/year) 4640.00/year

Training materials for committee members

Compilation of Environment Columns and Environment Book - supplied by WS (DEC) 00.00

Other training (e.g. meeting management, small business management - using consultants

e.g. Small Business Centre 5000.00(yr1-5)

2/ Costs from fourth quarter on if village CACC members paid a salary

CACC village reps. salaries as Village Liaison Officers (\$50/month x 6 individuals = \$3600/year) 3600.00/year

CACC village reps. travel (if meetings in Apia) (\$10/meeting x 6 x 12 meetings = \$720/year) 720.00/year

Provision of morning and afternoon teas and lunches - \$200/meeting x 12 meetings 2400.00/year

<u>Hire of meeting venue</u> - \$50/meeting x 12 meetings.	600.00/year
<u>Total Annual Cost</u>	\$7320/year

**Output 3: Strengthen DEC.**

<u>Salary/allowances/office expenses</u> (met by Government of Western Samoa (GWS))	00.00
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**Summary/Notes:** This may have to be kept under review. If the local budget proves unable to accommodate the requirements of DEC personnel to manage the project, there may be an argument for the SPBCP to consider part-supporting a staff position in the short term, e.g. Community Development Officer (CDO).

1/3 salary of CDO = \$5500/year	5500.00/year
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**Output 4: Work Plans and Budgeting****Output 5: Operating Procedures Manual**

Materials (paper, printer/photocopier inks, etc)	500.00 (year 1)
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**Output 6: Funding Network**

<u>Staff time and materials</u> - met by GWS (DEC) <u>CASO component</u> - covered above.	00.00
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**COMPONENT 2 - SUSTAINABLE MANAGEMENT -****2.1 MANGROVES**

<b>Output 1 Identification of Issues</b>	<b>00.00</b>
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**Output 2 A sustainable management plan for the mangroves**

<u>Survey:</u> (Survey team for 1 week)	1000.00(year 1)
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<u>Materials:</u> (To produce display, draft and final plans in Samoan and English)	1000.00(year 1)
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<u>Display Week:</u> Village accommodation/food for Apia-based team of two for one-week @ \$40/night.	400.00(year 1)
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<u>Village fono meeting:</u> (Catering @ \$200/meeting, orator fee \$10/meeting, inu \$100, travel allowances for Apia-based team 8 x \$20/meeting)	470.00(year 1)
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**Summary/Notes:**

These figures assume that 1 formal village meeting will be sufficient to process a plan. It also assumes that by the time this activity starts, the project will be well enough established in the villages that full customary fees will not need to be paid at this

meeting. (This may not be the case however).

**Monitoring:**

<u>Villager rangers to monitor or police area:</u>	
Wages \$10/day , 1 from each village for year	c.\$7300.00/year
Training for rangers - by GWS through DEC	00.00
Resources (e.g. uniform, boots)	c.\$700.00/year
<u>Population monitoring studies</u> (fish, birds, vegetation) (GWS -DEC and CASO to co-ordinate)	00.00
Villagers to assist ( 1 from each, \$10/day for 2 weeks/year)	200.00/year
	(All from year 2 on)

**Summary/Notes:**

It is assumed that at the point that a mangrove conservation area is declared, local rangers would be needed for this. Whether one from each village would be best or whether this role would be rotated within a larger group remains to be determined. The level of resources that SPBCP should provide would be a further question. (E.g. an argument might be developed for the hire of a boat and outboard, particularly when there was a lagoon component in the area to be managed.)

**Output 3 Plan for the sustainable management of the mangrove crab fishery.**

<u>Research and monitoring by villagers of fishery</u> (\$20/day - 6 people for 2 days/month for a year)	\$2880.00(year 1 or 2)
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**Output 4 A report on the opportunities for environmentally compatible income earning activities from the mangrove ecosystems (in addition to mangrove crab fishery).**

<u>Report production</u> (SPBCP through CASO and GWS through DEC)	00.00
<u>Implementation</u> (e.g. provision of seeding funds for approved activities)	c.\$5,000.00(?yr)

**Summary/Notes:** The question of SPBCP support for enterprises making sustainable use of natural resources of Conservation Area comes here and in several subsequent outputs. Costing is virtually impossible at this stage and the principle may require more discussion. (As an example, the project might seek funds to provide each village with a set of carving tools to produce handicrafts from mangrove wood and provide some assistance with marketing. Villagers would then be expected to replace tools from funds from sale of crafts so that there was only one initial cost against the project).

## 2.2 LAGOON

### Output 1 Identification of issues

Workshop (15 fisherpersons from each village to attend + CACC members) 900.00(year 1)  
 Costs of PRA incorporated below 00.00

### Output 2 A research programme for the study of the lagoon fishery.

Expert input (research design, analysis) 2 weeks - either to be met by GWS through Fisheries Division + DEC 00.00  
Village assistants @\$20/day to assist with survey for 3 weeks 300.00(year 1)  
Materials (for questionnaire, etc.) 200.00(year 1)

### Output 3 A sustainable management plan for the lagoon ecosystem.

Materials: (To produce display, draft and final plans in Samoan and English) 1000.00(year 2)  
Display Week: Village accommodation/food for Apia-based team of two for one-week @ \$40/night. 400.00(year 2)  
Village fono meeting:  
 (Catering @ \$200/meeting, orator fee \$10/meeting, inu \$100, travel allowances for Apia-based team 8 x \$20/meeting) 470.00(year 2)  
Monitoring by villagers of fishery (\$20/day - 6 people for 2 days/month for a year) c.\$2880.00/year  
Materials (pegs, tapes, posts, etc) c\$500.00(year 2)  
 (2nd half of year 2 on)

**Summary/Notes:** Development of the plan follows a similar programme to that for the mangroves. The two can possibly be run together to save costs.

## 2.3 LOWLANDS

### Output 1 Identify Issues

Participatory Rural Appraisal c\$5000(year 1)

### Output 2 A sustainable management plan for the lowland ecosystems.

Ideally to be accommodated within activities for plan development for lagoon if timing appropriate. 00.00

## 2.4 MONTANE FOREST

**Output 1 Identify Issues**

Surveys: GOWS through DEC funded out of SPBCP bird programme  
and NZODA upland survey. 00.00  
Village assistants with surveys: GOWS as above. 00.00

**Output 2 A sustainable management plan for the montane forest ecosystem.**

Should be accommodated within activities for previous sub-  
components as a 'forest plan'. 00.00

**COMPONENT 3 - DEVELOPMENT OF TOURISM INDUSTRY****Output 1 A plan for sustainable ecotourism activities related to the Saanapu and Sataoa mangrove wetland area.**

Plan production: GOWS through WSVB and DEC. 00.00  
Workshop: 715.00(year 1)

**Output 2 Relevant extension and promotion material for ecotourism.**

Pamphlet production: 'Areas of Environmental  
Interest' incorporating Saanapu-Sataoa mangroves.  
GOWS through WSVB. 00.00

Pamphlet production: Ecotours of Samoa  
incorporating Saanapu-Sataoa mangroves.  
GOWS through WSVB. 00.00

or:  
Pamphlet production: Ecotours of Saanapu  
and Sataoa (promotional) 2000.00(year 1)

Pamphlet production: Mangroves of Saanapu  
and Sataoa for tourists who visit the area. 1500.00(year 1)

**Output 3 Improvements to mangrove tours.**

Train guides: DEC and WSVB to train 10 individuals  
over five days - travel allowances \$20/day, lunch  
\$10/day 1500.00(year 2)

Refresher Course (2 days) after 1 year 600.00(year 3)

Toilets: Public toilets to be provided under  
WSVB funding (provisionally). 00.00

Other improvements - infrastructure: jetty or  
boardwalk. SPBCP to provide funds for purchase  
of materials, village to supply labour.  
Building of specific canoes. c.\$20,000.00(year 3,4?)



**Summary/Notes:**

Details can only be determined once a plan is completed and agreed. If it is not possible to fund the toilets under the WSVB programme a case may need to be put to SPBCP to fund this.

**Output 4 Investigate potential to expand ecotourism beyond the mangrove tour.**

Survey of potential areas: GOWS through DEC and WSVB.  
 Villagers to assist and guide - 2 for 2 weeks at \$10/day each. 200.00(Year 2)  
Implementation of new tours: e.g. villagers paid to cut forest trails, provision of signs and pamphlets. c\$5000(Year 2)  
 Villages paid to cut trail to cave and supply torches, hard hats, lanterns and pamphlet. c\$5000(Year 2)

**COMPONENT 4 - COMMUNITY DEVELOPMENT****Output 1 Identification of local needs**

Rapid Rural Appraisal: Agriculture Dept. (AD) & DEC, villagers to assist (included under 'Lowlands' above). 00.00

**Output 2 Planning for sustainable land use intensification of the agricultural areas.**

Workshop to discuss options (venue hire \$50, allowances 30 people \$10/day, catering \$150) 500.00(Year 2)

Seeding funds for suitable agricultural developments, through provision of one multi-crop demonstration plot/village @ c\$10,000 each c\$20,000.00(Year2 on)

**Summary/Notes:** The demonstration plot figure can be refined once the ginger trial is established. The idea is that an extended plot will provide training and planting materials for several crops. Funds generated by sale of product from these plots would be provided to farmers as seeding funds to help them start their own.

**Output 3 Development of handicraft production and marketing, specifically related to the environmental resources of the area.**

Workshop (training) x 2: (venue hire \$50, catering \$150, trainers' expenses \$100) 600.00(Year 2)

Seeding funds:  
 Market research - sending of 1 from each village to an overseas craft fair c\$5000.00(Year 3?)

Purchase of initial sets of tools/equipment c\$10,000.00(Year 2)

**Summary/Notes:** As the workshops are to provide training it is anticipated that people would not be paid an allowance to attend. Costs for two local people as trainers are provided. However overseas experts have been involved in training in Samoa and their presence may be needed. In this event a significantly greater cost would be incurred either by SPBCP or another funding agency. Costs of tools are based on full set of carving chisels, chain-saw for cutting logs and heavy duty sewing machine for woven crafts.

**Output 4 Investigation of other income generating opportunities in the CAP related to conservation activities.**

Seeding funds: Seeding funds might need to be allocated here though there may have been sufficient funds identified elsewhere for this.

#### COMPONENT 5 - COMMUNITY AWARENESS RAISING AND EDUCATION

**Output 1 Identify target groups within villages and assess their knowledge, information wishes and 'needs'.** 00.00

**Output 2 Prepare material for different target groups, using a participatory process whenever possible.**

Materials (displays, pamphlets, posters) c\$10,000.00(Year 1on)

Display week/workshops:

(hire of venue \$50/day, accommodation for Apia-based staff 6 @ \$20/day, for 5 days in each village). 1700.00(Year 2)

**Summary/Notes:**

Display weeks are proposed in this case. These involve preparing and erecting a display for a week in a suitable venue in each village with staff on hand to explain and discuss. This can get messages across without having to pay for a meeting. These weeks may be timed to include presentations on other sub-components (see below). The material cost identified here is intended to also cover the other sub-components below.

**Output 3 Prepare material to convey project achievements and techniques to other communities.**

Video production (using USP production company and file footage obtained by DEC) c\$5000.00(Year 3?)

#### COMPONENT 6 - PROJECT PROMOTION

**Output 1: Promote the project through events.**

CA launch c\$5000(Year 2)

**Output 2: Promote the identity of the project among villagers and others.**

Logo/slogan competition (prizes ? \$100, \$50 1st and 2nd for each - or age group prizes) c\$500.00(Year 1)  
Signs (purchase of wood) c\$1000.00(Year 2)  
Marketing stickers (production) c\$500.00(Year 2)  
Merchandise production (tee-shirts, hats) c\$1000.00(Year 2)

**COMPONENT 7 - EXTENSION OF PROGRAMME TO SAFATA DISTRICT****Output 1: A planned extension programme.**

District 'Road Show': Venue hire \$50/day, catering \$50/day for 9 villages 900.00  
 4 assistants from Saanapu & Sataoa (\$20/day, 9 days) 270.00  
Village meetings: (Customary fee \$250/meeting, catering @ \$200/meeting, orator fee \$10/meeting, travel allowances for Apia-based team 8 x \$20/meeting, orator fees for orators from Saanapu and Sataoa \$20/meeting) - max. 9 meetings @ \$660/meeting. 5940.00  
Materials: (Display costs, paper, colour printing, laminating) 500.00  
 Total: c.\$7610.00(Year 3)

**Summary/Notes:** It is proposed to produce a display based on the results at Saanapu and Sataoa and have matai from these villages introduce it to other villages in the Bay on display days. These would then need to be followed up with formal village meetings with fono of interested villages (ideally all 9) with the assistance of orators from Saanapu and Sataoa.

**COMPONENT 8 TRANSFER OF PROJECT TO COMMUNITY**

No specific budget is required for this as it is incorporated in other components.

TOTAL BUDGET (Maximum)	\$330,045
CONTINGENCY (5% of total)	15,600
<b><u>GRAND TOTAL</u></b>	<b><u>\$346,500</u></b>

Appendix 10 gives budget breakdown tables.

## 11 ORGANISATION AND MANAGEMENT

### 11.1 PROJECT MANAGEMENT

The objective is for the CAP to be managed by the communities that own the resources.

Management requires preparing and following a work plan that relates to the implementation of the project components, ensuring that the various objectives, outputs and activities/inputs continue to be relevant in relation to the overall project goal. Decisions are made that result in the application of inputs to achieve the desired outputs. In terms of the more practical activities involved in the management of a protected area, resulting in the conservation of biodiversity, it means the development and enforcement of regulations that control land use and any income generating activities such as the ecotourism.

A large number of administrative tasks are involved that support these processes including employment, financial control, procurement, reporting, monitoring and evaluation and communications. These include normal administrative tasks and a few others required as conditions of SPBCP funding.

The preferred situation is for such activities to be undertaken by the communities but existing skills do not match the requirements. There could be variations to the following possibility:

DEC to take the lead role in initially managing the CAP, particularly in the areas of coordination and administration whilst the areas of development and enforcement of regulations relating to the use of the protected areas is in the hands of the village supported by national legislation.

During the course of implementation discussions with villages about their expectations of performing a management role are held and an agreed position and time frame is defined. Working towards this target will involve in situ and Apia based training for selected people and it may involve the support from an NGO as well as support from the involved government agencies of DLSE, WSVB, MWA, and DAFF.

The DEC has recruited a Conservation Area Support Officer, Moana Galovale to be the main means of liaison between DEC and the villages and between the villages. The CASO will be responsible for the day to day operations of the project backed up by the management and administrative support of the DEC and technical advice from the DEC and the other "involved agencies" and OLSS.

Galovale has close links to both project villages though his

home village is further west along the same coast. He is working from the Apia office of DEC at present but may later share office space in Saanapu with Agriculture Department. About 25 percent of time may be spent in Apia working with DEC on managerial and administrative aspects of the project and the remainder in the villages.

At a later stage in the project the CASO may select and work with at least one counterpart from each village (perhaps three - the CACC members) who would be remunerated on a part-time basis and receive relevant training. They would begin to introduce management skills to the villages.

A Conservation Area Coordinating Committee (CACC) has been formed comprising representatives of the villages (two men and one woman from each), DEC, WSVB, MWA, DAFF, OLSS and other agencies as required from time to time, (see Appendix 3). The initial role of this institution is likely to be an advisory one to landowners and DEC, it will also provide a forum for participatory planning. In the longer term it is possible that it will evolve into a registered management entity through which all management and administration is done.

Various activities of the CACC will include:

- . Hold meetings according to a predetermined schedule to review progress, identify and resolve constraints and plan future activities according to revised workplans.
- . Coordinate and advise the village councils, SPREP CA support staff, cooperating government agencies, NGO's and the private sector relating to project inputs, monitoring of physical progress and financial control (reporting), recruiting short term technical staff, policy, attending regional environmental seminars and training.
- . For each defined activity or task ensure there is an accountable person and time frame.

## **11.2 THE LEGAL FRAMEWORK**

In the initial stages the legal aspects are embodied in the letter of understanding between the GOWS and SPREP. DEC will be responsible for most of the daily management and administrative activities through the CASO and direct inputs from the Biodiversity Unit.

Villages traditionally tend to operate on the basis of good faith, once a commitment is made by the fono it is generally secure as long as other parties are seen to be keeping their side of the agreement. This is a very adequate foundation for the early stages of the project. As progress is made with the development of village level capacity to take on management role of the CAP, this may mean a requirement for the CACC to be

registered as a business that can employ people, have bank accounts, a constitution etc. The need for this will become apparent later in the project.

An issue that will need to be addressed in due course is defining the time when the Conservation Area comes into being as a legally protected area.

When an approved management plan for one of the ecosystems is in place an agreement between the DEC on behalf of GOWS and the villagers is signed and it becomes a protected area. Legislation should soon be available which can make the management plan conditions binding in law. This will be an important event for SPBCP and DEC. At the outset it should be explained to the land owners that this is the eventual aim and that is a status symbol rather than any attempt by government agencies to control customary land. It will be one achievement that would assist in attracting other funding agencies to support the area at the end of the SPBCP five year period.

### **11.3 RATE OF DEVELOPMENT**

A feature of the workplan is that project implementation will occur over a long period of time, beyond the five year planning period of the CAP. Reasons for this include:

- . It is a community-based project that involves village participation in design and implementation. It involves seeking approval from the fono and the creation of an awareness of project objectives and plans amongst the rest of the village community, ie the creation of a broad based understanding. It is only from this basis that the people of the area are able to effectively participate in design and implementation activities.

This is a drawn out process supported by experience with other projects.

- . The CASO is one person only who will also require time off for training
- . The DEC which will support the CASO is an active and well staffed institution, however the Biodiversity unit also has a heavy workload with the development of two other CA's in the initial stages.
- . SPBCP will have three support officers available which will be able to give some priority assistance to the CAP but eventually will be spread around the Pacific with other CAPs.

In some projects where there is an urgent need to implement and enact conservation covenants due to immediate logging or other major threats the slow participatory design processes can be a

real constraint to conservation of biodiversity. However in this instance where there is no major urgent threats the project is able to accept the drawn out process to ensure that it is fully accepted at the broad base village level.

Although the general approach for the rate of development is that it will be slow there is a need to ensure that progress is seen to be happening. Once there is an introduction of the project there will be an expectation on the part of the villagers that things will happen quite quickly. This justifies a very careful and accurate explanation of the project emphasising that it is not compatible with large sums of money to be invested in the village but rather many of the benefits are long term and dependent on the response and capacity of the people to manage it themselves.

## **12 PROJECT COORDINATION**

Coordination of the project in the initial stages will be done by DEC as the lead agency. Coordination implies the direction of the CASO in setting a work plan and monitoring progress on a regular basis. Agencies involved in an advisory capacity and a possible management role include the WSVB, DAFF (DOF, FD, Extension and Research), MWA and the OLSS and consultants. Inputs will need to be centrally coordinated to ensure there is no duplication and more importantly so that the villagers know exactly what the timing and purpose of various inputs is going to be. One mechanism for coordination will be the CACC meetings whereas at other times agencies should discuss any proposed input with the DEC's biodiversity unit before proceeding.

In the longer term it is planned that the coordination of the project will all be done within the community.

Coordination will be required to establish linkages with other biodiversity activities within the South Pacific region, the purpose being to share experiences for mutual benefit. This would be done by the SPBCP support officers and regional conferences.

## **13 MONITORING AND EVALUATION**

There are two levels of monitoring activities:

- (a) In relation to those outputs and activities identified in the work plan for each component and related to overall project implementation.

For project management the major indicators would include the employment of the CASO and the effective operation of the CACC, project procedures manual, effective reporting of financial and physical progress, a framework for effective

participatory planning.

For the ecosystem sustainable management packages indicators will include the achievement of the major inputs and the resultant agreed plan reports. The same applies for the income enhancement, ecotourism and CAP expansion components

For the key objective of transferring project ownership to the community, monitoring will need to look at the following:

- . progress on devolving running of CACC to village members
- . progress of Village Liaison Officers taking over CASO role
- . progress of mangrove plan and villagers taking over its implementation and monitoring
- . progress of tourism development and fund management by villagers
- . progress of agriculture demonstration plots in passing out expertise and resources to farmers
- . progress of handicraft enterprises
- . development of a village fund(s) and financial management system

- (b) Whereas the above are more the subject of quarterly project progress reporting the impact of the project is monitored by measuring the following indicators:

Impact on community management:

- . achievement of management and administration activities at community level: operating bank accounts, employing staff, CACC management role, effectively enforcing regulations for land and marine use, active participation in ecotourism etc
- . effective participatory planning and implementation: community decisions reflected in project work plans
- . widespread level of understanding and ownership amongst the community
- . minimal number of complaints from village community relating to GOWS activities, distribution of funds etc

Impact on biodiversity conservation and land management,

- . increased sustained catches of crabs, estuary and reef fish, turtles laying eggs
- . no further reduction of natural forest areas
- . frequent sightings of a range of natural wildlife
- . reduced sediment and chemical loads in streamflows.



Impact on short term welfare of community

- . higher household incomes
- . diversified cropping and livestock activities
- . increased numbers of eco tourists
- . development of other income generating activities

Impact on the involvement of women, youth and disabled

- . number of women involved in activities
- . number of women trained as part of the project
- . increased number of activities being undertaken by women
- . number of youth trained and undertaking pilot environmentally orientated projects.

Evaluation is to be carried out annually by SPBCP staff and TMAG.

Having adopted a process system of project implementation it is important to have good systems of monitoring and internal and external evaluation. There is a need to make sure original objectives are maintained and any design modification is done with respect to them. This does not mean that objectives cannot change but there needs to be strong justification such as original objectives becoming irrelevant in light of new information or a major external factor such as a cyclone that alters the nature of the area.

#### **14 TRAINING**

Training needs have been identified under components.

#### **PART D PROJECT IMPACT**

#### **15 PROJECT BENEFITS**

Benefits from implementation of the CAP will accrue at the community and national levels.

##### **(a) Community**

For the people of Saanapu and Sataoa villages, and in the longer term for those of other villages in the Safata Bay watershed, benefits will arise from a sustained increase in the productivity of the crab and estuary fisheries, the lagoon fisheries and possible development of the offshore fishery as a source of income.

Increased income on a sustained basis to the village will arise from a professionally operated ecotourism enterprise and the associated development of a local environmentally based handcraft industry.

Through the participatory analysis of constraints to agriculture activities new crops and farm system management packages will be introduced to increase productivity, production and income.

The villages as a whole will have a broad understanding of environmental issues and benefits of conservation of biodiversity. In the process of building their capacity to manage the CAP within their own resource limits they will have been trained in basic business and management principles the benefits of which should flow into other activities. The women of the community will benefit from playing a direct role in the CAP.

Benefits will accrue to future generations of customary landowners through enhanced productivity of the marine and land resources and the adoption of sustainable management practices.

#### **(b) National**

One criteria for selection of the CAP was its representativeness of major ecosystems in Western Samoa. Lessons learnt in implementation and measures taken in monitoring various ecosystems during implementation can be used as relevant environmental indicators for the whole country. It builds up a substantial rationale for conservation activities to promote to policy makers, bureaucrats, administrators, land use managers and children (the next generation).

The project will be seen as a successful model for the development of other CAP's with diverse ecosystems on customary land in Western Samoa and the region. Of particular importance will be the attempts to bring landowners together within the one catchment to coordinate to conserve biodiversity and adopt sound land management practices for their mutual benefit.

#### **16 RISKS**

That all land owners or those with property rights to the land and water based resources do not agree with the overall concept of the CAP.

That the fono, as the ultimate decision making body in the village, will influence the direction of implementation away from the original CAP objectives.

There have been recent setbacks to the Western Samoan village economy due to cyclones, crop disease (taro leaf blight), increased cost of living through reduced input subsidies and VAGST. These may harden land users against giving up immediate income earning opportunities which may be required to conserve biodiversity.

Past rural development initiatives in Western Samoa have usually been associated with subsidised inputs, an aspect to which many farmers have been accustomed. The very nature of CAP's which often imply forgoing short term cash returns to sustain the productivity of the resource base may not be seen as a great incentive for many farmers.

Participatory projects have small budgets in light of the inability to specify required inputs throughout the development phase. They tend to concentrate their resources on community mobilisation, group organisation and animation which act as a catalyst to improve the access for target groups to existing inputs, supporting services and markets.

When supporting services are inadequate or lacking, larger scale investment is needed to improve the efficiency of extension services or to remove bottlenecks upstream or downstream from group activities.

A large number of surveys comprise major activities of the project. The objectives and results of these surveys and their place in the overall project context must be carefully explained to villagers. Such surveys often require local inputs which can be tedious. Villagers may rapidly lose interest with the absence of noticeable short term material benefit.

The project requires community based management and high levels of technical skills to undertake surveys, analyse data and undertake monitoring activities. The integration of these seemingly diverse inputs will be enhanced with the employment of a skilled CASO to be the operational arm of the CACC. Local consultants (and international consultants if required) will be used as needed to provide inputs as will government services but the capacity of these is limited in the case of DAFF and MWA.

There is always the possibility of some future development potential which although not environmentally friendly may provide good cash returns, villagers may be prepared to compromise the environmental ideals in favour of following a desire to maximise short term cash returns.

## **APPENDICES:**

### **APPENDIX 1 LOGICAL FRAMEWORK**

Note: This logical framework was prepared by P. Wood, consultant to SPBCP. It has been included in full in an appendix as a guide to project managers. The actual project outputs defined in the Work Plan were roughly based on this framework but do not correspond exactly. The framework includes considerably more detail on activities than was thought

appropriate in the work plan.

## **COMPONENT 1 PROJECT MANAGEMENT**

### **OUTPUTS**

**Output 1 A strengthened Biodiversity Unit within the DEC and identification of processes to transfer management responsibilities to community level.**

#### **Activities/inputs**

- 1.1 An internal assessment of DEC's (Biodiversity Unit) resources and workload for the next one to two years and identification of resources to satisfactorily undertake that workload.
- 1.2 Identify the expected time required to devote to the CAP development in association with defining the overall CAP work plan.
- 1.3 Examine ways to fill the gaps, such as the possibility of support from OLSS funded by SPBCP.
- 1.4 Discuss with villages the meaning of management responsibilities and identify what their preferred management position is at certain points throughout the project.
- 1.5 Derive a plan with training inputs etc that would lead to the achievement of these targets (1.4)

**Output 2 Employment of a trained Conservation Area Support Officer (CASO), provision of technical and administrative support and effective working conditions.**

#### **Activities/inputs**

- 2.1 Preparation and agreement to terms of reference and employment conditions for the CASO.
- 2.2 Organise a line of funding for recruitment costs, salary and on costs of the CASO.
- 2.3 Advertise locally/regionally for the CASO.
- 2.4 Formation of staff selection panel comprising representatives of villages, DEC, SPBCP and one other agency (WSVB or OLSS).
- 2.5 Recruitment of CASO.
- 2.6 Provision of initial short term training in a vocation(s) as required.
- 2.7 Preparation of a long term training programme specifically relating to the needs of the appointee but ensuring topics of project/process planning, community participation, financial control are covered.
- 2.8 Procurement of accommodation/office facilities in or near project area, house and office furnishings, equipment. This may include a computer and printer, phone/fax, photocopying

- or printing services, access to map production, desk, chairs, filing cabinet, bookshelf, files, stationary etc, located in the CAP and/or the Apia office.
- 2.9 Provision of office space and administrative support facilities in Apia. OLSS have indicated they would be willing to lease space with secretarial services, at present DEC space is at a premium but would be preferable from atmosphere point of view.
  - 2.10 Arrangements relating to transportation needs of CASO.
  - 2.11 Development of a technical and administrative network on a regional and local basis, access to consultant registry held by DEC, SPREP.
  - 2.12 Prepare TOR, select and employ part-time counterpart CASO's one from each village and set up one on one and external training programmes.

**Output 3 An effective Conservation Area Coordinating Committee (CACC) and a framework, procedures and constitution for operation, schedule of CACC meetings.**

**Activities/inputs**

- 3.1 Invitation to MWA, DAFF, WSVB, OLSS to participate with village representatives and DEC as members of the CACC.
- 3.2 Initial meeting of agencies with the villages for explanation and introduction and outlining next steps in formation of the CACC.
- 3.3 Preparation of draft constitution and operating procedures for discussion at next meeting and subsequent finalisation, see Appendix 4 for functions, composition and procedures for CACC.
- 3.4 Registrations with government authorities as required, to enable the CACC to employ staff, have a bank account and handle funds (long term).
- 3.5 Appointment of chairperson and secretary, see Appendix 4.
- 3.6 Meeting schedule and subsequent meetings.
- 3.7 Training programme for CACC members relating to areas such as environment and conservation, business principles and management, meeting procedures, responsibility of committee members etc.

**Output 4 A set of operating procedures documented in a CAP procedures manual.**

**Activities/inputs**

- 4.1 Preparation of the CAP Procedures Manual by CASO with assistance from DEC and SPBCP. Such a manual will cover:
  - . function and composition of the CACC,
  - . role of individual agencies on the CACC, meeting schedules, conditions of membership of the CACC
  - . terms of reference of the CASO and counterpart CASO's,
  - . procurement procedures including recruiting conditions

- . for consultants,
- . other, including hours of work, reporting procedures, the use of vehicles, office procedures, etc
- . a set of authority levels relating to expenditure and responsibilities for nominated CAP staff and committee members.
- . physical and financial and reporting procedures management procedures and monitoring and evaluation procedures.

4.2 Update the manual as required.

**Output 5 A set of work plans for project implementation itemising physical activities and inputs which can be monitored according to progress. Timing of and responsibilities for activities should be defined.**

**Activities/inputs**

- 5.1 CASO to work with DEC and a subcommittee of CACC to firstly agree to the overall phasing of the project and prepare work plans for each phase. The level of detail will decrease for Phase 2 and subsequent phases. The level of detail will be high for Phase 1 which should itself be split into planning periods (two to three month periods) which will contain more detail.
- 5.2 At regular intervals and coinciding with CACC meetings report on progress according to the planning period activities, modify next work period plan accordingly and present to the CACC.
- 5.3 At nominated project/process 'milestones' review the longer term work plan in relation to past achievements, project objectives, and reset priorities. Prepare modified work plans following procedures in 5.1.
- 5.4 CACC to resolve constraints identified by progress reports

**Output 6 A source of operating funds and approved method of financial control.**

**Activities/inputs**

- 6.1 Explanation of the project funding by SPBCP to the CACC.
- 6.2 Based on the physical work plans (Output 5) prepare detailed short term and indicative long term budgets consistent with the requirements of SPREP, UNDP, DEC (GOWS) and other potential funding agencies. Approval by CACC and above institutions.
- 6.3 Along with the physical progress reporting, present financial reports to CACC meetings and to funding agencies according to their required format. Explanation of

important deviations, and impact on budget.

## **Output 7 A system of project monitoring and evaluation**

### **Activities/inputs**

- 7.1 Identify a number of critical variables to be measured over time that relate to project implementation and the success of management.
- 7.2 Process method of management of implementation involves regular reporting and redesign or modification according to the state of the project at the particular time.
- 7.3 Design and carry out a socio economic household survey with the objective to establish a baseline survey of the population. Other objectives relating to different components of the project may include how people use the mangroves (enhance on the first survey) and other ecosystems in the CAP, what their perceptions of conservation versus development are, build farm models to assist in deriving higher income farm household models. (Is a participatory rural appraisal required to determine constraints, could use the DAFF core team as a model and for training)
- 7.4 Analysis of household survey
- 7.5 Reporting to the CACC by the CASO on project implementation, by the CACC to SPBCP, by SPBCP to UN and other CAP's, (by DEC to SPBCP).
- 7.6 Mid term review (evaluation) by TMAG, and or other outside organisation or multi disciplinary team of consultants.

## **Output 8 A Network of Regional and International Environmental Funding Sources, at individual and institutional levels.**

### **Activities/inputs**

- 8.1 Compile a data base of relevant agencies.
- 8.2 Contact relevant agencies and make them aware of the CAP and its aim of conservation of biodiversity pointing out its attempts to resolve the dilemma of conservation and development in the case of customary owned resources.
- 8.3 Send them CAP material and request feed back about experiences elsewhere. Send a regular report on progress and major achievements, problems faced etc, back up with material prepared specifically by SPBCP.
- 8.4 Inform agencies about the existing funding arrangements for the CAP and how long this is likely to last for, request criteria for possible funding of the CAP in due course.
- 8.5 Invite international agencies to visit the project.
- 8.6 Retain contact with important agencies that have expressed interest.

**COMPONENT 2      DEVELOPMENT OF SUSTAINABLE MANAGEMENT PACKAGES  
FOR ECOSYSTEMS**

**SUBCOMPONENT 2.1 - THE MANGROVE ECOSYSTEM**

**OUTPUTS**

**Output 1    An outline of the scope of the component, associated work plan and budget.**

**Activities/inputs**

- 1.1 Define the scope of the component. Prepare a detailed work plan for the component itemising organisation and management, activities/tasks that need to be done, who will do them, when they will be done. Approval by CACC.
- 1.2 Prepare an indicative budget for approval by the CACC and submission to DEC.
- 1.3 For technical inputs define the scope, prepare terms of reference and whether they can be sourced from DEC, other government agencies, SPREP or consultants. Schedule inputs logically according to the needs of the component.
- 1.4 Appoint village liaison officers for the mangroves, to provide guidance to the DEC and CASO in relation to how village traditional uses of the mangroves should fit into the overall management package. This role may also be filled by the counterpart CASO's and the CACC.

**Output 2    A broad based level of awareness amongst villagers about the implications of the sustainable management plan for the mangrove wetlands.**

**Activities/inputs**

- 2.1 A village(s) workshop to be held when the broad scope of the component is known but in the early days of detailed planning. This will be to outline the component, likely activities, what the short term and long term benefits will be, what costs the villagers have to bear in terms of giving up present activities in the short term, paid and unpaid labour inputs. The nature of the workshop should be participatory.
- 2.2 Preparation of appropriate extension material and use of audio visual tools for the above and subsequent workshops, meetings.
- 2.3 Follow up workshops relating to progress and design modification of the component.
- 2.4 Test level of awareness from time to time.
- 2.5 Design an environmental extension programme for this and other sub-components.
- 2.6 Procure extension equipment.



**Output 3 A comprehensive understanding of the mangrove wetland ecosystem both as a natural biological entity and as an important source of food, materials and protection for the village people who have property rights to the area.**

**Activities/inputs**

- 3.1 Appoint technical assistance from DEC, SPREP or outside consultants to undertake surveys relating to the mangrove forest, the birdlife, the mangrove crab and estuary fisheries.
- 3.2 Prepare an inventory of the diversity of species of trees, birds, fish and other wildlife related to the ecosystem.
- 3.3 Undertake a household survey of the village people to ascertain the full importance of the mangrove ecosystem, how they perceive its value and threats. Use to help develop an awareness programme for the conservation of the mangroves.
- 3.4 Attempt to estimate a value of production from the mangrove ecosystem.
- 3.5 For ongoing data collection train and employ local villagers to collect and record data as required.

**Output 4 A sustainable management plan for the mangrove ecosystem which can be implemented and enforced by the villages.**

**Activities/inputs**

- 4.1 Technical assistance provided by DEC, SPBCP and/or consultants.
- 4.2 Using existing data, technical and socio economic information collected from surveys, feedback from eco-tourists and direct input from the villagers prepare a management plan for the mangrove wetlands. Key activities, work plans and people involved, benefits and costs should be defined. The plan should include guidelines for each ecosystem component and appropriate mechanisms to ensure that guidelines are enforced. Such mechanisms need to be designed by and enforceable by the fono's, the necessary commitment from the fono is thereby implicit. The plan could be prepared with the above parties with assistance from DEC and SPBCP.
- 4.3 Implementation of the plan.

**Output 5 Monitoring and evaluation systems for the status of the mangroves including its productivity, and for the implementation of the management plan.**

**Activities/Inputs**

- 5.1 For each component of the ecosystem identify significant indicators that reflect the quantity and quality of the physical resource.
- 5.2 From surveys establish bench mark values.
- 5.3 Define equipment required to provide ongoing measurements of critical criteria.
- 5.4 Organise with villages to provide paid labour to undertake measurements after relevant training.
- 5.5 Prepare regular reports to present to management.

**Output 6 An awareness programme for the conservation of mangroves targeting the village populations and increasingly a wider audience.**

**Activities/Inputs**

- 6.1 Liaise with the churches, Department of Education and the DEC Education and Training Unit to be aware of existing environmental educational programmes that may be utilised.
- 6.2 Obtain existing extension material and assess it's relevance.
- 6.3 Design more appropriate extension material for the mangroves, for dissemination to schools, the local villages, to eco-tourists. Liaise with the SPREP Information Officer.
- 6.4 Liaise with the teachers at the local primary schools and nearest secondary schools related to incorporating relevant material into syllabuses.
- 6.5 Liaise with local church leaders with a view to enhancing environmental extension activities.
- 6.6 Liaise with the village councils and encourage the Village Council to appoint one of its members as an environmental liaison officer, who may be also one representative on the CACC.

**Output 7 A report on the opportunities for environmentally compatible income earning activities from the mangrove ecosystems.**

This would be one part of a study for the whole of the expanded CAP but in the first instance it would be focused on the mangrove area, (component number 4).

**Activities/inputs**

- 7.1 A review of literature relating to income earning opportunities from mangrove wetlands.
- 7.2 Short term technical assistance to identify, on a participatory basis, income earning opportunities, if the previous literature review is positive.
- 7.3 Preparation and review of report, extension of recommendations to villages.

**SUBCOMPONENT 2.2 - THE LAGOON****OUTPUTS**

**Output 1 A plan for the study of the lagoon fishery**

**Activities/inputs**

- 1.1 Coordination of skills from the Fisheries Department, DEC and SPREP, a subcommittee.
- 1.2 Preparation of a work plan for the lagoon ecosystem, itemising the required inputs, the schedule of activities and the people responsible for the activities.
- 1.3 Initiate and promote the awareness of the plan to the people of the area.
- 1.4 Treat as a high priority the joint design of a system to eradicate the practices of dynamiting and fish poisoning.

**Output 2 Various outputs relating to the defined work plan which represent implementation**

**SUBCOMPONENT 2.3 - THE LOWLAND FOREST****OUTPUTS**

**Output 1 A work plan**

**SUBCOMPONENT 2.4 - THE MONTANE FOREST**

(v) **Outputs**

**Output 1 A comprehensive data base relating to the land area, the vegetation and wildlife species of the area, its conservation and scientific value.**

Review of literature

Trees

Birds

Medicines

**Output 2 A comprehensive knowledge of the value of the area to the customary land owners**

**COMPONENT 3 OPERATION AND FURTHER DEVELOPMENT OF THE TOURISM INDUSTRY****OUTPUTS**

**Output 1 A plan for sustainable ecotourism activities related to the Saanapu and Sataoa mangrove wetland area.**

**Activities/inputs**

- 1.1 DEC, WSVB and village representatives to form a subcommittee to develop and report on progress of an ecotourism plan for the area. General guidelines for development probably to come from the NZ funded ecotourism project report due shortly.
- 1.2 Reconfirm that there is a broad base of support for ecotourist activities in the village, with a survey which also ascertains perceived existing and potential problems
- 1.2 Preparation of a work plan itemising activities, timing and persons responsible for the preparation of the components
- 1.3 A workshop comprising DEC, WSVB, DEC, villagers and other interested agencies and private sector providers of tourist services and other interested parties, as both resource people and participants. Possibility of inviting an ecotourism specialist from outside. Emphasise self help activities as being important in implementing the plan.
- 1.4 Hold discussions with other existing and potential operators in local tourist activities to explore possibilities of cooperation.
- 1.5 Having due respect to traditional methods of distribution of money in the villages hold discussions with villagers relating to the need for using income to provide and maintain improved facilities for tourists, they will need to compete with five other ecotourist sites for a finite market. Discuss the possibility of setting up a trust fund.
- 1.6 Follow up village meeting to the workshop to present findings and draft plan and accept reasonable modifications as required.
- 1.7 Monitor feedback from tourists who visit the site for their suggestions and address in the plan.
- 1.8 Scope of the plan to include assessment of such options as inclusion of providing food, relating cultural tales, provision of culturally based entertainment, options for development of other sites.

**Output 2 Relevant extension and promotion material for ecotourism**

- 2.1 Activities are under way to prepare:
  - (a) Pamphlet for handout to tourists, information about the individual site
  - (b) More general pamphlet on areas of environmental interest in Western Samoa.
  - (c) Series of pamphlets directed to the marketing of ecotourism, including one on the Saanapu/Sataoa mangrove area.

- 2.2 In light of the plan (1.1) consider the need and timing for further promotional material, including the possibility of promoting the region as a general tourist destination.

**Output 3 Short term improvements addressing existing constraints**

- 3.1 In conjunction with the village councils select and undertake training for three or four guides from each village, both on site and at least one day in Apia.
- 3.2 Letter of request to PWD with a letter of support from WSVB for upgrading the access roads, particularly to Saanapu tai.
- 3.3 Set up donation boxes for visitors contribution for specific purposes related to the conservation of the mangroves, such as upgrading of roads.
- 3.4 Construction of toilets and washroom facilities if required.
- 3.5 Construction of more boats.

**Output 4 Development of handicraft production and marketing, specifically related to the environmental resources of the area.**

- 4.1 MWA and WSVB in conjunction with womens' committee representatives of the two villages prepare a plan for handicraft production. This will cover such issues as gauging the level of interest, the availability and/or the production of raw materials, availability of skills, training, marketing, product design. Include activities, inputs and budget required, timetable and who has responsibility for the task. Sources of funds, from the MWA or the WSVB. Emphasis on self help.
- 4.2 Hold a joint village workshop that discusses the plan and identify people prepared to participate after full explanation of the benefits and costs.
- 4.3 Recruitment of technical assistance maybe required to help prepare the plan (depending on MWA and WSVB resources at the time) and to provide training to interested participants.

**COMPONENT 4 INCOME ENHANCEMENT AND OTHER INCOME GENERATING ACTIVITIES**

**OUTPUTS**

**Output 1 An overall report on the income generating opportunities in the CAP specifically related to those related to conservation activities.**

**Activities/inputs**

- 1.1 Define the scope of the study including the possibility of any overlap with the ecotourism and development of handcraft activities (component 3) and the potential of enhancement of income from agriculture. Prepare the terms of reference, but to include aspects of raw materials, traditions, skills, interest, marketing, credit, other experiences etc.
- 1.2 Review literature on conservation dependant income earning possibilities.
- 1.3 Use time from DEC, OLSS or employ consultant to undertake the study.
- 1.4 Hold workshops with villagers to identify any old activities that might have died out and what for ascertaining level of skills in the area, gauge level of interest from the village.
- 1.5 Review of report and presentation.

**Output 2 For positive activities preparation of work plans for pilot projects.**

**Activities/inputs**

- 2.1 Identify an interest group and jointly develop a business plan
- 2.2 Implementation of business plan.

**Output 3 Report on the potential for sustainable land use intensification of the agricultural areas.**

**Activities/inputs**

- 3.1 Develop a work plan for the identification of appropriate technology that could be introduced to the farming systems of the area.
- 3.2 From national data sources and key informants develop a profile of the farming household systems of the area and the support services available.
- 3.3 Using a multi disciplinary/agency core team undertake a rapid rural appraisal of the villages with the aim to identify constraints on a participatory basis.
- 3.4 Undertake a verification survey of households to more precisely define parameters of the farming systems and provide bench mark data for M&E.
- 3.5 Preparation of a report and discussion with villagers relating to constraints and optional solutions, including adoption of off the shelf technology, design and

implementation of applied research in conjunction with local landowners.

- 3.6 Discussions with suppliers of other support services (credit, marketing, input supply, extension) to minimise any constraints that they may impose.

#### **Output 4 Implementation of agreed plan from Output 3**

##### **Activities/inputs**

- 4.1 Design applied research/demonstration to introduce new crop management technologies and new crops into the farming system.
- 4.2 Ongoing monitoring of trials, development of extension material for the area, training of agricultural extension officer.
- 4.3 Inform PWD and other agencies about the village perceived needs of coastal protection, water supplies and roads.

#### **APPENDIX 2 PROJECT DEVELOPMENT TO DATE**

1991

Oct Survey of Lowland Ecosystems, the National Ecological Survey, field work in the project area

1991 FAO Survey of Coastal Resources

1992

25 June Formal Meeting at Saanapu, village assured the government of commitment and continuous support and cooperation to achieve the objectives of the conservation project.

Preparation of project by the DEC and submitted to the preparatory assistance phase of the SPREP aimed at analysing villagers perceptions and attitudes to their mangrove forests.

Dialogue with the Saanapu villagers to reaffirm their commitment.

Sept '92 to

Aug '93 Held workshops in Saanapu, Sataoa and Fausaga to discuss mangrove conservation issues.

August Started preparation of the Project Concept Paper (small funding by SPBCP)

13 Oct Formal meeting held between WSVB and the fono of Saanapu and attended by some matai from Sataoa. Saanapu reaffirmed their support for a mangrove conservation area and approved for the WSVB to run a pilot ecotour in November 1993. Not an effective forum

for the village of Sataoa.

18-27

Oct Survey in villages to identify uses of the mangroves management issues and development opportunities.

Week

later Matai from Sataoa visit the DEC to ensure that they will participate in the benefits for the ecotours as they have rights to part of the mangroves and this was not made clear at the previous meeting.

6 Nov Pilot ecotour held for 13 Swedish tourist with Saanapu village.

9 Nov Pilot ecotour held for 10 tourists with Sataoa

Dec to

Jan '94 Various ecotours to the mangrove area

1994

March DEC in separate meetings with Visitors Bureau, OLSS, Ministry of Women Affairs, FD Watershed Management Division, Fisheries Division to discuss agencies involvement in project.

One combined meeting of above agencies to prepare for village meetings.

28 March Formal meeting at Saanapu with representatives of above agencies. Presented results of survey, how project would respond, roles of different agency, need for a CACC. Village in support of project and nominated 3 CACC members.

21 March Formal meeting at Sataoa with same objectives and result. Both villages committed to working together on the one project.

April Sataoa CACC member visited DEC to put forward idea of provision of toilets for tourists.

17 June DEC submitted Progress Report (Appendix 9) and proposal for 1st quarter Work Plan and Budget to Ministry of Foreign Affairs for consideration and forwarding to SPBCP.

12 July SPBCP wrote in response to first quarter proposal.

15 August Cheque received for WST \$8068.



2 September Advertised for CASO

11 October CASO started work

15-30 Nov Workplan, CASO salary arrangements and PPD  
revision

5 December Second quarter progress report

8 December Ecotourism workshop

Continued [See work plan reports below]

### **APPENDIX 3 THE CONSERVATION AREA COORDINATING COMMITTEE**

#### **A3.1 Objective and Function**

The object of the Conservation Area Coordinating Committee (CACC) is to manage the implementation and ongoing design of the CAP.

The major functions include the coordination required to enable project implementation activities to occur. It will prepare planning and progress reports relating to physical and financial aspects and monitor progress of individual components and the overall project. On the basis of progress it will modify design and seek approval for funding of the next phase of implementation. The CACC with its village and multi agency membership will facilitate implementation by resolving problems and providing full support to the CASO.

It will submit progress reports to the major funding agencies as they require.

Members of the CACC should be seen as 'doers' as well as advisors.

#### **A3.2 Composition and Structure**

Representatives of SPBCP (1), DEC (1+), WSVB (1), the villages of Saanapu (3) and Sataoa (3), DAFF (1 representing Farming Systems, Extension, Research, Livestock, Fisheries and Forests), MWA, O Le Siosiomaga Society (1), a committee of 12 to 14.

It is not expected that the CASO would be a member of the CACC in the first instance. Rather he/she would more of a general manager reporting to the CACC and be the secretary at meetings.

##### **(a) SPBCP**

SPBCP is the prime funding agency, it has two technical CAP Program Officers (biodiversity and socio/economics) and is involved in other CAPS in the region. It is in a strong position to provide advice to the CACC across a broad range of technical and administrative matters.

**(b) DEC**

DEC being the government environment department and prime agency behind development of the project to date will provide inputs in terms of technical support, administrative support and channel funds and in kind inputs to the CAP. It will be the main government contact for the CASO and CACC.

**(c) The villages**

The CP recommended three representatives from each of the villages of Saanapu and Sataoa being the pulenuu and a representative from the Womens Committee and the Church. This should be approached with considerable prior knowledge of the village situation. The ultimate decision will be that of the village council (fono) and they may take some guidance relating to the practical needs of the project, so this first needs to be carefully explained.

It should be noted that in many villages the pulenuu would certainly not be the right person. He is the government's representative (not always seen as a desirable post) in the village and is nominated and manipulated by the fono. Sometimes the pulenuu also has considerable power on the fono in which case he would be appropriate. In other cases the pulenuu would not be able to make a decision without reverting back to the fono.

Selecting a representative from the church is desirable but may be difficult to achieve depending on the distribution of the strength (congregation size) of the various churches within the two villages. After agreement by the fono it may be possible for the different denominations to agree on a single nomination.

A womens committee member is desirable but again will depend on the will of the fono.

**(d) Western Samoa Visitors Bureau**

WSVB have had ongoing contact with the villages since 1993 in developing ecotourism activities. The WSVB has organised pilot groups of tourists to visit the mangroves. The WSVB have further ideas relating to income generating projects (handicrafts) and expanding the ecotourism base. The nominated WSVB CACC member is committed to conservation of the mangrove area. An ecotourism workshop to train guides is planned for December 1994.

**(e) Ministry of Women Affairs**

Have not yet been active in either village. Their national programmes of liaising with village women committees and their network with national and regional womens NGO's gives them potential to provide advice relating the role women can play in conservation. They also operate a small credit programme to support village based income generating activities for women.

**(f) Ministry of Agriculture, Forests and Fisheries**

DAFF have not yet operated in the villages in the context of the CAP. Extension, Forests and Fisheries all have an eventual direct role to play. Rather than having three DAFF CACC members it is preferable to either rotate between the three or nominate the Farming Systems Officer (multi disciplinary position) as the first nomination and to be accompanied by another DAFF member as required.

**(g) O Le Siosiomaga Society**

The OLSS will be able to provide experience in community development in respect of the environment. Discussions are underway to involve the OLSS in a waste management program in the villages.

**(h) The Chairman and the CASO**

Ideally the chairman should be a representative of the landowners however with two villages this may be difficult unless joint or rotating chairmen are accepted. Another option would be to appoint a well and broadly respected person with an understanding of environmental issues from outside the area. Rather than take up too much time resolving the problem it would be prudent for DEC to appoint (with agreement from the fonos) an interim chairman to activate the CACC, one of its jobs being to seek a chairman suitable to all parties (if the DEC is not acceptable in the long term).

**(i) Requirements of CACC Members**

The success of the committee will depend very much on the nature and authority of the individuals involved. Where possible individuals should be seen as respected and wise, able to easily communicate with rural communities and senior government staff and have technical and/or administrative skills that they can contribute to the CACC. They should have an overall empathy with the environment.

Although it is desirable to keep the same individuals as representing their agencies on the committee and attending meetings, it is a recognised fact that consistent meeting attendance is difficult to achieve. Agencies should select an

alternate representative in addition to that first nominated. Both nominees should receive CACC documentation and keep agency Directors/Secretaries informed of developments.

**(j) Other Issues**

Observers would be permitted to attend some meetings. In due course representatives from other villages with customary land in the Safata Bay catchment area should be encouraged in order to promote the CAP and eventual participation.

It is recognised that with the involvement of two villages it is possible there should be two committees. Experience where issues were discussed by both villages at the one meeting was disappointing. This would greatly increase costs, time and work load of the CASO and others. Acceptance of such a format would also work against the aim of the eventual inclusion of all land within the Safata Bay catchment area, the problem increasing with every village to be included.

Every effort should be made to encourage village cooperation to devise a system on which both parties can agree.

**A3.3 Operating Framework and Procedures**

Prior to the first meeting a draft constitution or mandate would be prepared by legal representatives of DEC and SPBCP in association with those of the landowners. This would be the basis for discussion, modification and final approval by the whole committee when it meets.

Monthly meetings would be initially required then the frequency could be modified according to requirements. The date of each meeting to be set and agreed on at the previous meeting.

Agendas and notices will need to be sent out well in advance of meetings and telephone follow up will be required to ensure satisfactory attendances are made. Consistent lack of attendances (non performing CACC members should be substituted).

Normally all meetings would be held in alternating villages. Travelling costs and meeting attendance fees will be paid.

The language to be adopted for the meetings would be agreed on at the first meeting but management reports would need to be prepared in English whilst summaries could be prepared in Samoan as required.

The CASO and relevant CACC members would present progress and planning reports covering physical and financial issues at each meeting.

The CACC will need to be registered as a body enabling it to employ staff and administer funds, take out insurances etc.

**APPENDIX 4 LETTER OF UNDERSTANDING**

## APPENDIX 5 - SUMMARY OF RESULTS OF 1993 HOUSEHOLD SURVEY

Questions A to E are as on a questionnaire produced for the survey in Samoan, F to H were covered in interviews.

### 1/ Saanapu-tai:

18 questionnaires were handed out covering all but one of the 19 **aiga** identified by the village matai who assisted with distribution (cf. Agriculture Census 1989 recorded 29 households there). 14 were returned and interviews conducted with these **aiga** together with the Pastor and Women's Committee.

#### A. Uses of Mangrove Forest

c85% of aiga surveyed caught fish and crabs in the mangroves  
 - women and children generally catch crabs (**paalimago** and **ua**) using traps  
 - men catch fish (methods: **kili** [throw net] **upega** [set net]) (species: **malauli, anae, lupu, mutu, sapatu, ia sina**)  
 - most crabs are sold in Apia, most fish are for home consumption.

c20% collected shellfish in the mangroves  
 - **sisi, pipi, tugane, tupa, uga** (fish bait) - dug up by hand  
 - (most shellfish however collected in lagoon)

c60% collected firewood (dead wood) from mangroves

none hunted (with guns) in mangroves (though claimed that Apia people shot fish from causeway)

c85% used a spring in the mangroves for washing (clothes and themselves) and 100% did so when village water supply disrupted.

Other uses of mangroves identified (some relate to plants in littoral forest adjacent to mangroves):

- food plants - **lopa** (Samoan peanut), **ifi** (Tahitian chestnut)
- medicinal plants - **laugasese, pualulu, lauauta, fueselela, nonu, mati, fuesina.**
- weaving - *Pandanus* (3 spp.) (eg. **lautotolo** for **ie toga** [fine mats]).
- construction - **talie** (house posts), **togo** - *Bruguiera* (kitchen fale posts), **fau** and **togo** - *Rhizophora* (fale slats), **mosooi, fau** and **tamanu** and **tamaligi** (canoes).
- **siapo** dye from **togo** - *Bruguiera* bark.
- handicrafts - **ifilele** for **tanoa** (not currently used)
- kirikiti bats (**fau**)
- soil - mud from the mangroves is mixed with sand as a soil medium for growing plants
- decoration - **saato, laugasese, fueselela**
- shore protection

#### B Use of lagoon

90% of aiga had at least one member who regularly fished in the lagoon though all members could be involved from time to time. It was generally considered that the fish catch had reduced in recent years and this was a result of a reduction of stocks rather than reduction of effort. Fishing expeditions are now generally longer and fewer big fish are caught.

#### C Changes in mangrove forests over time

50% said the fisheries had decreased in recent years  
 45% said that there were fewer crabs

20% said crab and fish stocks were stable  
 10% said that the crab catch had increased (due to greater fishing effort)

45% said that there were fewer mature trees  
 15% said that new regeneration was substantial

10% said that some of the organic mud had been eroded

#### D Attitudes to conservation of the mangroves

100% gave general support to conservation of the mangroves

Reasons given:

60% important for fish and crabs  
 50% important as a source of income  
 15% important for food supply  
 10% important for erosion protection  
 10% important for firewood collection

Additional comments:

15% said that dumping of rubbish in the mangroves must be stopped  
 15% said that dynamiting for fish must be stopped

#### E Sea Turtles

45% said that they occasionally caught turtles in the sea  
 10% had collected turtle eggs in the past (last occasion c1981)

#### F Attitudes towards tourism

100% favoured some form of tourism but 10% said not on Sundays and many were concerned that tourism should be controlled so as not to damage the culture. Most supported overnight or short stays but not long stays. Many identified that tourists might want to buy handicrafts and this was seen as a potential money earner.

#### G Development issues identified

20% said that the road needed improving  
 20% said the water supply should be made more reliable  
 20% said there should be training in handicrafts (what to make, how to make - hats, bags, shell jewelry, **ie toga**, etc) (currently mats are weaved for village use)  
 15% said that there should be assistance to set up vegetable gardens (eg fencing)  
 10% said that a new breakwater was needed to control beach erosion

## **2. Sataoa-tai**

37 questionnaires were handed out to different houses and 14 interviews were conducted with households as well as with the Pastor and Womens' Committee. (Note in Saanapu the Puluenu distributed questionnaires one to each **aiga** whereas at Sataoa they were handed out to each household).

#### A Uses of mangrove forests

c42% of aiga surveyed caught fish in the mangroves  
 - methods: **kili** (& **puni** [net of woven leaves] in past), **upega** and spears  
 - species: **sapata**, **malauli**, **anae**, **lupo**, **mutu**, **ia sina**  
 - location: 40% used Saanapu and Sataoa, 40% used only 'Sataoa West', 10% used only 'Sataoa East and West', 10% used only 'Sataoa East' (see Figure 3 - Sataoa East is the narrow area on the right of the photo, Sataoa West is the right-hand half (approximate) of the main area in

the centre of the photo.)

28% of households caught crabs in the mangroves

- most crabs are for home consumption though excess is sold.
- methods - digging up and picked off trees at high tide
- location (as fish above)

c20% collected shellfish in the mangroves

- **pipi, tugane** - dug up by hand

c30% collected firewood from mangroves

- most as dead wood (**fau, futu**, etc) but some live (eg **togo** - *Bruguiera*) then dried
- most of village's firewood collected as driftwood on beach

3% (1 household) reported shooting birds in the mangroves (honeyeaters, fantails, pacific black duck and reef herons for food/sport - by children)

None used the mangroves for washing (used village water)

Other uses of mangroves identified (some may relate to plants in littoral forest adjacent to mangroves):

- medicinal plants - **lauauta, fueselela, matalafi, togotogo**
- weaving - *Pandanus* (3 spp.)
- construction - **togo** - *Bruguiera* (sleeping **fale** and kitchen **fale** posts), **fau** (fale rafters and slats, cricket bats and paddles), **togo** - *Rhizophora* (fale slats), **mosooi** and **tamaligi** (canoes)
- **siapo** dye from *Bruguiera* bark - rarely. There is a shortage of **ua** (mulberry) for the paper
- handicrafts - not currently sold
- house thatch - sago palm, **saato**
- decoration - **saato**
- **umu** covering - **saato**
- recreation
- shore protection

#### B Use of lagoon

90% of aiga had at least one member who fished in the sea. c65% considered that the fish catch was stable and the rest said that catches had declined in recent years.

#### C Changes in mangrove forests over time

30% said the fish and crab catches had decreased, 10% said that these stocks had increased

30% said that there were fewer mature trees

20% said that there was good regeneration of mangroves

5% said bird numbers had decreased

3% said water was cleaner now

6% said that erosion had increased

3% identified no change

#### D Attitudes to conservation of the mangroves

100% gave general support to conservation of the mangroves

Reasons given:

50% would improve supply of fish and crabs

25% would improve source of income

30% would improve food supply



5% would protect fish breeding sites  
 c3% increase bird stocks, protect the shore, clean the environment and increase tourism.

Additional comments:

10% said that dumping of rubbish in the mangroves must be stopped  
 20% said that dynamiting and poisoning of fish must be stopped

E Sea Turtles

10% said that they occasionally caught turtles in the sea. Some had collected turtle eggs in the past (last occasion 1970s). Turtles are considered food for the **alii**. If caught at night, catcher can have them, if caught during the day the **fono** divides up the meat and distributes it to **aiga**.

F Attitudes towards tourism

100% favoured some form of tourism but some said that tourists must be informed about Samoan cultural values so as to behave appropriately. Pastor expressed concern about disruption of church services on Sundays. Most supported overnight stays. Many identified that tourists might want to buy handicrafts and this was seen as a potential money earner.

G Development issues identified

30% said that a new breakwater was needed to control beach erosion. One indicated that if shoreline was not protected he would be tempted to reclaim land in the mangroves for his expanding family.

30% identified that agricultural development and diversification was needed because of loss of income due to taro blight. Vegetable gardens was one solution (cabbage, tomato, cucumbers, etc.) Problems are lack of seed and fencing to protect crops from pig damage.

3% (1 respondent) said that improved roads were needed to plantations  
 Some people said there should be advice on handicrafts (what was saleable to tourists)

**APPENDIX 6:                   LETTERS       BETWEEN       SAANAPU       AND       DEC  
                                   CONFIRMING   COMMITMENT   TO   CONSERVATION   OF  
                                   THE MANGROVES**

1.     Letters exchanged in Samoan follow on next pages.
2.     Summary translation is as follows:

Government letter:

*The Department of Lands, Surveys and Environment wishes to thank the village of Saanapu for hosting the meeting on 25 June 1992 regarding the conservation of mangroves. We believe that this is a significant contribution on Saanapu's part to the development of the country as well as the future of the village.*

*Since the programme has not started, the Department needs confirmation from the village of their support for the mangrove conservation project. As decided at the meeting, the Pulenuu was to be the person responsible for liaison between the village and Government regarding this project.*

*You will be informed of any new development for village understanding.*

*Should you agree to confirm the village's support please sign your name below.*

Pulenuu of Saanapu's response:

*I am pleased to inform the Director of the Government Department that as the village liaison person, I am relaying the Saanapu village support to the Government programme on the conservation of the mangroves.*

*We believe that the conservation of mangroves project will benefit this village. In addition the improvement of protection of the mangroves and the fisheries found in these areas will benefit the future of the village and the country as a whole.*

**APPENDIX 7 FIRST QUARTER PROPOSED WORK PLAN AND BUDGET**

**Quarter 1: 1 July 1994 - 30 September 1994**

**INTRODUCTION:**

This work plan is submitted for funding and implementation for the quarter beginning 1 July 1994, as invited by letters of 9 March and 10 May from the Programme Director. During this quarter further work will be undertaken aiming to complete, by August, the Project Preparation Document for which a draft has been prepared by the programme's consultants and the Division of Environment and Conservation (DEC).

The project components included in this first quarter work plan are taken from that draft plan with an emphasis on activities necessary to complete production of the plan and maintain project momentum and community support.

**PROJECT WORK PLAN COMPONENTS:****1. Project Management.**1.1 Conservation Area Project Co-ordinating Committee.

During the meetings held in March 1994 the two villages of Saanapu and Sataoa each nominated 3 representative to sit on this committee as follows:

<u>Saanapu:</u>	<u>Sataoa:</u>
Lesai Vai (Pulenuu)	Alo Faimoa (Pulenuu)
Vele Isaako (Church)	Puipui (Church)
Anopene Ola (Women's Cttee.)	Sagogo Sauiluma (W.C.)

In addition to these village representatives, the following agencies have indicated their intention to participate on the committee:

Ministry of Women Affairs	Western Samoa Visitors Bureau
Forestry Division (DAFF)	Agriculture Division (DAFF)
Fisheries Division (DAFF)	O Le Siosiomaga Society

It is intended that two or three staff of the Division of Environment and Conservation would be on the committee, one to act as chairperson initially and another as secretary. The Conservation Area Support Officer, when appointed, will also participate in all committee meetings and might take the secretarial role.

It is proposed that the committee meet three times in the quarter. The first meeting is likely to be held in Apia and will involve DEC and the village representatives only. This meeting will be aimed at determining how the committee should operate and what were the priority matters for discussion - one of these being completion of the Project Preparation Plan. The two subsequent meetings will involve the representatives from other Apia-based agencies, depending on the topics under discussion.

The budget to cover the working of the committee includes room hire (until the Department of Lands, Surveys and Environment conference room is completed), morning and afternoon teas and lunch, allowances for village representatives and travel expenses.

### 1.2 Conservation Area Support Officer (CASO).

The CASO is a key individual in the project and should be appointed as soon as possible. After discussion with the SPBCP, it is suggested that the CASO should work under the administration of the Department of Lands, Surveys and Environment initially, but his salary and expenses would be paid direct by the SPBCP through the South Pacific Regional Environment Programme. The position has been budgeted to be advertised within a fairly broad band beginning at the level of an Environment Officer. The ideal person would be able to work effectively both in the village setting, liaising with all elements in the village community, and in an 'office' setting organising project management. Such an individual may be hard to find and the broad salary range will be needed to attract the widest possible range of candidates. The work plan would initially be determined by the DEC, but the Coordinating Committee would have a significant and ideally increasing role in this. The CASO would ideally be based in Safata Bay.

The budget for the CASO includes advertising costs for the position, salary, allowances when travelling away from his or her village base, provision for vehicle hire, office rental and materials. Discussions will be held with the Department of Agriculture, Forests and Fisheries to seek office space for the CASO at the Agriculture Division extension office in Sataoa, and temporary space will also be provided at DEC when the CASO is working in Apia.

### 1.3 Environmental Awareness Raising.

The DEC is preparing a folded A4 pamphlet in Samoan and English on the area and its significance as part of a Canada-funded programme to raise public awareness about all 14 key sites identified by the 1991 National Ecological Survey of the lowlands. This will become available within the first quarter.

The main educational emphasis initially will be on increasing the understanding of committee members and CASO on biodiversity conservation and environmental management. It is proposed to provide each with an information pack in Samoan. This pack will be based on a series of newspaper Environment Columns produced by DEC over the past year, together with more specific information about the proposed conservation area, e.g. results of the survey.

Workshops planned in the first quarter on specific topics (see below) will

also provide some opportunity to increase environmental awareness among other villagers. More specific activities will be identified in the second quarter once key subject areas and target groups are identified and the CASO is established.

## **2. Sustainable Management - Mangroves.**

### 2.1 Mangrove Crab Fishery

This issue needs to be addressed in the initial work plan. The first step will be for DEC to discuss it with Fisheries Division to assess the best way to approach it. Someone will need to research the international literature to find out what information there is on managing these populations, then there would be discussions with the villagers on options. The research activity is budgeted as a task for a consultant in case Fisheries Division is unable to assign a staff person to it in the short term. A workshop is budgeted for fisherpersons to discuss the results of the review when these are available. This may not occur until the second quarter.

### 2.2 Waste Management

DEC is developing a Waste Management Public Awareness programme that will involve the production of TV commercials, radio programmes and pamphlets. Once the last are produced, specific activities (meetings with Womens' Committee or workshop) will take place to introduce them to the two villages. It is anticipated that the Co-ordinating Committee may discuss this issue before then and DEC and Siosiomaga Society will endeavour to respond to any specific issues raised.

### 2.3 Resource Extraction

The issue of ensuring that resources of mangrove forests are extracted in a sustainable way needs addressing. This task can probably be undertaken initially by the CASO. He or she would need in particular to discuss with the villagers present and future options for the supply of firewood.

## **3. Sustainable Management - Lagoon.**

### 3.1 Lagoon Fishery

As with 2.1 the first step will be for DEC and Fisheries Division to discuss the issue. There is a reasonable information base to work from so the second step would be a workshop for fisherpersons and village leaders. This workshop would discuss options for management in light of the new Fisheries Regulations which will be put in front of Parliament this year. Following questions raised in the village meetings an emphasis will be placed on how to control dynamiting and fish poisoning, working out ways for village or district councils to enforce existing regulations.

## **4. Sustainable Management - Agricultural land and forests.**

### 4.1 Agricultural Diversification

Two activities are identified:

#### 1/ Questionnaire survey of -uta villages

Surveys to date have concentrated on Saanapu-tai and Sataoa-tai. However before the issue of the sustainable management of agricultural land and forests can be addressed, information is needed from the two -uta villages as well. A survey based on the questionnaire used for -tai villages, with some additional questions, should be conducted of all households in -uta villages. This activity should be carried out by the CASO, either in the

first quarter if he is appointed soon or in the second quarter. The information would be useful for the {Project Preparation Plan but not essential.

2/ Workshop or Field Day

A workshop would be held for farmers under the co-ordination of Agriculture Division to discuss opportunities for maximising the use of cleared land using existing or new crops.

**5. Ecotourism.**

Four initial activities have been identified.

1/ Visitors Bureau and DEC to complete a plan of how they would like to see ecotourism proceed in the area and then to meet to discuss this with the villages.

2/ Produce a pamphlet for visitors to the site.

This pamphlet would provide interpretation for people joining tours through the mangroves, detailing what may be seen there and how the area is part of a conservation area project. It would complement two being produced by the Visitors Bureau, one of 'Areas of Environmental Interest' that incorporates the Saanapu-Sataoa mangroves and one that is intended to market the range of ecotours available in Western Samoa. Production of the pamphlet is budgeted as a first quarter activity but it would not be expected to be completed until the second quarter.

3/ Train villagers to act as guides.

Initially it is intended to train two individuals from each village as guides. One of these people would then be on hand to greet each ecotour, give a brief talk about the mangroves and their significance, and see everyone safely into the canoes. They would go with the tour into the mangroves and see them safely back out again. Later in the project it would be intended to train all those paddling the paopaos so they could point out aspects of interest to tourists and answer their questions. The initial four guides would work with DEC for two days for which they would be provided an allowance covering travel costs of \$20/day and lunches @\$10/day.

4/ Construct public toilets in each village.

A need has been identified to provide public toilets for visitors to the mangroves both at Sataoa and Saanapu villages. It is anticipated that these can be provided at no cost to the present project through a scheme run by the Visitors Bureau.

**6. Other income-generating projects.**

6.1 Handicraft Production:

Two steps have been identified to develop this activity. The first would be a meeting in the villages co-ordinated by the Ministry of Women Affairs assisted by the Visitors Bureau. This meeting would discuss options for handicrafts based on materials and skills available, ideas for traditional and new products based on the markets available, and training opportunities. The second step would be a workshop(s) to provide training in production and marketing of those handicrafts identified at the meeting.

**APPENDIX 8: REPORT ON 1ST QUARTER WORK PLAN**

Report prepared by: Moana Galovale (Conservation Area Support Officer) and David Butler (Biodiversity Adviser), Division of Environment and Conservation.

**INTRODUCTION:**

This report covers activities from the DRAFT WORK PLAN AND BUDGET (Quarter 1: 1 July 1994 - 30 September 1994) submitted to SPBCP in June. The DEC did discuss with the programme the need to formally re-schedule this work plan after delays in its initiation (e.g. funds not received until early August), but the advice was that this was not necessary. The recommendation was that this plan should be reported on at the point that further funds were needed from the programme for further activity. In practice then, this report covers a period from September (when first expenditure occurred) to the end of December 1994, i.e. 4 months. Attached is a further work plan for the second project 'quarter' January-March 1994.

This report follows the format of the draft work plan.

A number of the proposed activities did not proceed as they were not approved for funding by the programme, falling into the category of work which could only be supported once a Project Preparation Document was approved. The programme was also severely disrupted by the absence of the DEC individual managing the project for over six weeks due to ill health, at a critical time in terms of project planning and completion of the Project Preparation Document.

**ACTIVITIES UNDERTAKEN AND FUNDS UTILISED FOR COMPONENTS:****1. Project Management:**1.1 Conservation Area Project Co-ordinating Committee (CACC)

Two meetings of the CACC have been held, each of them involving only village representatives and the DEC and minutes for each are attached.

The first meeting was held on 2nd September (see attached report prepared by Schuster). The main issue on which agreement was obtained regarded the CASO and the DEC was pleased with the flexibility shown by the village representatives in allowing the Division to short-list candidates including those not from either village. The meeting was also encouraging in the way that all village members contributed to discussions (not always the case in an equivalent committee in one of our other projects).

The second meeting was held on the 9th November and it had one major objective, to introduce the CASO, Moana Galovale to all village committee members and to discuss a letter to the media from a non-resident matai of Saanapu complaining about the appointment made.

Budget provided:

Allowances:	\$420.00
Venue Hire:	\$50.00
Logistical Support:	\$150.00

Note: This work plan requested funds for three meetings including \$200 for venue hire and logistic support for EACH, i.e. \$600. Whether the provision of only \$200 was a mistake by SPBCP or reflected a feeling that these figures were too high has not been clarified, for in the event only two meetings were held, the Department's conference was completed and available as a venue and only village representatives attended, so the funds received

were sufficient.

Funds spent:

Allowances: \$70 (meeting 1), \$120 (meeting 2)

Logistical support (meals): \$62.60 (1), \$0 (2)

[The second meeting was morning only so lunch was not provided - morning tea was prepared at Departmental expense).

Balance remaining:

\$620.00 - 252.60 = \$367.40

1.2 Conservation Area Support Officer (CASO).

The appointment of a CASO has been a major activity this quarter. 22 applications were received for the position and the interviewing panel of Sailimalo Pati Liu, Iosefatu Reti, Vele Isaako, Alo Faimoa and David Butler, were in unanimous agreement on the preferred candidate. Moana Galovale accepted the position and began work on 11 October. One of his first tasks was to attend the CASO workshop convened by the programme in Fiji (17-22 October) which provided an opportunity to start with a good idea of the aims of the position. Galovale is resident of Lefaga District, west of the project area, but has close links to both villages.

Budget provided:

Salary:

Paid direct from SPREP to CASO (6 weeks salary): \$1557.69

Paid to Treasury: \$1807.54

Transport costs: \$3360.00

Office expenses: \$125.00

Total: \$6850.23

Funds spent:

\$1557.69 (from SPREP) + 1650.68 (via Treasury) = \$3208.37

Balance remaining: \$3641.86

1.3 Environmental Awareness Raising.

The A4 pamphlet in Samoan and English on the area and its significance referred to in the plan has been completed. However it has not yet been given to villagers and the most effective way of utilising it remains to be determined.

There were delays in the production by the Education Unit of the material proposed for the information pack in Samoan for CACC members. This is now available and should be presented at the next CACC meeting.

No budget was sought for this item.

**2. Sustainable Management - Mangroves.**

2.1 Mangrove Crab Fishery

A research contract and a workshop were planned on this topic but funds were only received for the former. In the event, partly due to the absence of a suitable local person with time to undertake the contract, staff adopted a different approach. Information was sought through the Infoterra network and other contacts and these will be compiled by Departmental staff. This information had not been received by the time this report was prepared.

Budget provided:

Research: \$2500  
Workshop: \$0

Funds spent: nil.

Balance remaining: \$2500.00

## 2.2 Waste Management

The DEC has run a Waste Management Public Awareness programme using TV commercials, radio programmes and newspapers. Planned pamphlets have not yet been produced so these have not been introduced to villages.

## 2.3 Resource Extraction

No specific activity was planned or undertaken in the first quarter.

## **3. Sustainable Management - Lagoon.**

### 3.1 Lagoon Fishery

A workshop was planned for December but delayed following problems securing funds in time.

Budget provided: None.

## **4. Sustainable Management - Agricultural land and forests.**

### 4.1 Agricultural Diversification

Two activities were identified:

1/ Questionnaire survey of -uta villages

It was indicated that this activity would only occur in the first quarter if the CASO was appointed early. No funds were received for it and it has now been put back and expanded to take the form of a Participatory Rural Appraisal exercise.

2/ Workshop or Field Day

Not funded.

Budget provided: none.

## **5. Ecotourism.**

Four initial activities were identified, completion of an ecotourism plan, production of a pamphlet for visitors to the site, training villagers to act as guides and the construction of public toilets in each village.

The programme was modified to take advantage of the return to the country of an ecotourism consultant and a workshop was held at Sataoa on 8th December to make progress on the first and third of these activities (report attached). None of the planned Visitors Bureau (WSVB) pamphlets have yet appeared and ours needs to dovetail in with theirs. There was further discussion regarding the provision of toilets under a WSVB fund and villagers were investigating sites, but further work is needed to achieve agreement.

Budget Provided: \$1500 (pamphlet production)



Funds spent: \$00.00

(the workshop was funded, with approval from SPBCP, from the first quarter contingency allocation of \$593.00)

Balance remaining: \$1500.00

## **6. Other income-generating projects.**

### 6.1 Handicraft Production:

A meeting and workshop were proposed but no funding received.

## **7. Other activities:**

### 7.1 Participation in TMAG and Tripartite Review of programme:

David Butler, project manager within DEC, participated in the second meeting of the Technical, Management and Advisory Group and the tripartite review of the programme which provided a useful opportunity to discuss issues raised in the early stages of our project. The TMAG gave its general support to the draft Project Preparation Plan prepared by DEC though both parties agreed that further community consultation is needed before it is complete.

### 7.2 Development of Project Preparation Plan:

Time has been spent on refining this document during this quarter following the earlier input of consultants employed by SPREP. One key step remains to complete the process, the discussion of details of the proposed work plan with the local communities. Its delay was largely the result of the six-week absence of the project manager.

## **8. Contingency:**

The ecotourism workshop was funded out of the contingency allocation.

Budget provided: \$593.00

Funds spent: \$590.00

Balance remaining: \$3.00

## **CONCLUDING COMMENTS:**

There was discussion at the last TMAG meeting of possible difficulties with quarterly work planning and budgeting and our experience to date bears that out. A three-month work plan submitted in June to begin in July was funded in August but only began in September (and even then funds were not released from Treasury in time for the first activity and personal funds were used for this and later re-imbursed). The process will be speeded up through the assistance of the Ministry of Foreign Affairs in agreeing that requests for funds need not go through them as is the usual practice. The project's Letter of Understanding places the project on a rolling fund basis, so the Ministry is content to receive copies of all correspondence. Some of the initial uncertainties of how the CASO would be funded have also been resolved. However the financial systems of all involved seem likely to continue to move too slowly for a three-month system to work effectively. The SPBCP is encouraged to further discuss with UNDP the possibility of 6-monthly planning.

The DEC has experienced problems in this period through shortages of staff and vehicles. However the situation has improved with the appointment of the CASO who will take an increasing role in project co-ordination. In addition the DEC has approval to recruit a Senior Biodiversity Officer who

is likely to manage this project within the Division, and this appointment will also secure the services of the Biodiversity Adviser for a further period.

Through the involvement of village representatives in the appointment process, we have been able to secure a CASO who enjoys good support from both Saanapu and Sataoa. This should be a critical step forward in ensuring successful implementation of the project.

A considerable proportion of the budget is available to carry forward (see below). This largely reflects the non-requirement of a travel allowance for the CASO in the first quarter, a different approach being taken to the mangrove crab issue and delays in work on an eco-tour pamphlet.

**BUDGET SUMMARY:**

Funds received:

Project Concept: \$2179.00

First Quarter Work Plan: \$12063.23

Funds spent:

Project Concept: \$2120.00

First Quarter: \$4050.97

Total available to carry forward to next quarter:

From Project Concept: \$59

From First Quarter: \$8012.26

TOTAL: \$8071.26

**APPENDIX 9: SECOND QUARTER DRAFT WORK PLAN AND BUDGET****Quarter 2: 9 January 1995 - 31 March 1995****INTRODUCTION:**

This work plan is submitted for funding and implementation for the quarter beginning 9 January 1995. It follows the first work plan carried out between August and December 1994 for which a report has been submitted. Completion of the Project Preparation Document remains a priority and it is anticipated that some activities described here may not occur until its approval.

**PROJECT WORK PLAN COMPONENTS:****1. Project Management.**1.1 Conservation Area Project Co-ordinating Committee.

Three meetings are planned for this quarter following the two held previously. Each is expected to involve the full committee, including representatives of Government Departments and NGO's. Villagers gave the committee good support during the first quarter.

The budget to cover the working of the committee includes room hire (not required when the committee meets in Apia as the Department of Lands, Surveys and Environment conference room is now completed), morning and afternoon teas and lunch, and travel allowances for committee members. It also includes a small sum for stationery as it is proposed to provide each member with a folder in which to keep project-related material.

During this quarter it is proposed to assess how much work committee members begin to do for the project outside the CACC meetings themselves, to determine if payment of a small retainer is appropriate in future.

1.2 Conservation Area Support Officer (CASO).

The CASO was appointed in the first quarter and began work on 11 October. He lives at Lefaga on the south coast of Upolu to the west of the project area and commutes daily to Apia with his current work base at DEC.

The budget for the CASO includes salary, allowances when travelling away from his or her village base, provision for vehicle hire, office rental and materials. Vehicle hire was not required in the first quarter as Moana spent almost the whole time working at his Apia base. More travel to villages is expected this quarter. Nor were any stationery costs met by the materials allocation, but this will occur in the second quarter as DEC rotates such costs between projects.

Discussions will be finalised with the Department of Agriculture, Forests and Fisheries to seek office space for the CASO at the Agriculture Division extension office in Sataoa, but during the first quarter he worked effectively from DEC's Apia office.

Computer training has been identified as an urgent need for Moana and attendance at a certificated word processing course 'Introduction to Word for Windows' run by a local computer company Computer Services Limited is proposed.

1.3 Completion of Project Preparation Document.

The draft Project Preparation Document requires further refinement by DEC

staff and incorporation of comments from SPBCP personnel before it is completed. It will also be discussed by the CACC. It is considered that the villages are sufficiently aware of the contents of the plan for further consultation not to be needed at this time. Consultation over the details of implementation will be an ongoing process and village input will be sought specifically in quarterly and annual planning of priority activities. This will be much easier once activities commence on a wider front. The CASO should also facilitate community input on a continuous basis.

#### 1.4 Operating Manual.

The CASO and DEC staff will begin to assemble an operating manual for the project, detailing matters such as the running of the CACC, the access of Treasury funds, etc.

#### 1.5 Environmental Awareness Raising.

The main educational emphasis initially will be on increasing the understanding of committee members and CASO on biodiversity conservation and environmental management. The information pack in Samoan mentioned in the first quarter can now be provided.

Workshops planned will also provide some opportunity to increase environmental awareness among other villagers. More specific activities will be identified during this quarter as key subject areas and target groups are identified.

## **2. Sustainable Management - Mangroves.**

### 2.1 Mangrove Crab Fishery

DEC is awaiting information sought from several sources. Once this is available it will be assimilated, translated and a workshop will be run by the DEC and Fisheries Division for fisherpersons to discuss the results of the review and options for managing the fishery. Following this there will need to be a management plan developed and a baseline survey carried out in the third quarter.

It is proposed to hold a one-day workshop in March in one of the villages (probably Saanapu as the last workshop (ecotourism) was held in Sataoa) and invite fifteen persons from each village to attend. These would be primarily those involved with catching the mangrove crabs together with CACC members or other matai who would be influential in subsequent village fono discussions on managing the fishery.

The workshop will not consider mangrove crabs entirely in isolation, but also address other issues affecting the health of the mangrove ecosystem as a whole, moving towards part of a management plan.

### 2.2 Waste Management

DEC's Waste Management Public Awareness Campaign has run for three months involving the production of TV commercials, radio programmes and newspaper adverts. It will probably have had little impact outside the Apia area but pamphlets are being produced which will be introduced to Saanapu and Sataoa by the CASO. He will seek feedback on particular waste management issues facing villagers.

### 2.3 Resource Extraction

The issue of ensuring that resources of mangrove forests are extracted in a sustainable way needs addressing. This task can probably be undertaken initially by the CASO. He or she would need in particular to discuss with

the villagers present and future options for the supply of firewood.

### **3. Sustainable Management - Lagoon.**

#### 3.1 Lagoon Fishery

As with 2.1 the first step will be for DEC and Fisheries Division to discuss the issue. This activity is proposed for the third quarter while initially we concentrate on the mangrove area.

### **4. Community Development.**

#### 4.1 Agricultural Diversification

The need for a questionnaire survey of -uta villages was identified in the first quarter plan. However it is now felt that a Participatory Rural Appraisal (PRA) covering the whole area of the two villages is now appropriate. Planning for this will occur during the quarter as it is a significant exercise. In the meantime, the CASO will also organise a workshop to be run by Agriculture Division which will have a day of discussion of diversification options and a day visiting two agricultural field stations for practical demonstrations. This will take place in a 'workshop week' in February with other events. This workshop will probably be held at Saanapu, followed by handicraft and ecotourism workshops at Sataoa.

#### 4.2 Handicraft Production:

The first step would be a workshop in the villages to be co-ordinated by the Ministry of Women Affairs assisted by Harry Paul, the proprietor of a local handicraft retail and export business. The purpose of this workshop will be to discuss options for handicrafts based on materials and skills available in the villages, and the requirements of the domestic and international markets. Following this it is likely that specific workshops will be planned to provide training in production and marketing of those handicrafts identified at the meeting. The initial workshop will take place during the 'workshop week'.

### **5. Ecotourism.**

#### 1/ Planning.

The workshop held in December further discussed this issue and initiated guide training. Visitors Bureau and DEC still need to complete a plan of how they would like to see ecotourism proceed in the area and then to meet to discuss this with the villages. The latter is planned as part of a 'workshop week' and would be held at Sataoa. Only one inu would be required for two days of workshops there, ecotourism and handicraft.

#### 2/ Produce a pamphlet for visitors to the site. Provide first aid kits.

The pamphlet production is an activity is carried forward with funding from the first quarter. The pamphlet will provide interpretation for people joining tours through the mangroves, detailing what may be seen there and how the area is part of a conservation area project. It would complement two being produced by the Visitors Bureau, one of 'Areas of Environmental Interest' that incorporates the Saanapu-Sataoa mangroves and one that is intended to market the range of ecotours available in Western Samoa. The pamphlet will be completed following the workshop (above) and be based on discussions held there.

Guides requested provision of first aid kits during the recent workshop.

3/ Train villagers to act as guides.

The first phase of this has occurred with the December workshop. The next step is to add cultural and scientific content to the canoe rides which will be facilitated by the WSVB.

4/ Trial tours.

A further step of running fully evaluated tours is planned for the third quarter.

5/ Construct public toilets in each village.

This will be pursued this quarter following identification of sites by villagers. It is still hoped that these can be provided at no cost to the present project through a scheme run by the Visitors Bureau.

#### **CONCLUDING COMMENTS:**

This 3-month 'quarter' is a short one as holidays for Government employees were extended to 9 January and it includes the short month of February. A relatively ambitious programme of activity is planned with the provision that some events may end up being carried over to the third quarter. The Project Preparation Document will be completed as early in the quarter, however the DEC has a further immediate priority to put an implementation proposal through for its other main community-based conservation area project on Savaii through another donor.

#### **BUDGET:**

##### **Component 1: Project Management**

##### **1.1 Conservation Area Project Co-ordinating Committee.**

Meetings costs: Three meetings to be held.

Allowances to village committee members - \$20/meeting day x 6 = \$120.00

Provision of morning and afternoon teas and lunches - \$200/meeting.

Hire of meeting venue - \$50 (DLSE Conference Room will be too small for meeting of full committee)

Stationery (box folders for each member @ \$10 each) - \$120

Budget: 1230.00

Note: This budget incorporates an increase to \$20 of the allowance to cover costs in attending meetings as sought by CACC members at their last meeting (see 1st Quarterly Report). This would bring the figure into line with that paid by the DEC for an equivalent committee for its Savaii conservation area project.

##### **1.2 Conservation Area Support Officer (CASO).**

-	Salary - \$550.40/fortnight for 13 weeks.	3577.60
-	Allowances - Travel (\$25/day for each 24hrs. spent on project work away from base - i.e. away from villages) - estimated 5 days/month	225.00
-	- Clothing (\$250/year as standard Public Service Commission entitlement)	250.00
-	Office accommodation (incl. phone, computer,	

access to fax) - To be provided by DEC in Apia.  
It is hoped to organise accomodation with the  
Agriculture Department in Sataoa during this  
quarter. A charge of \$250 is allowed for a  
part-quarter depending on negotiations. 250.00

- Travel - Hire of CASO's own vehicle for work in project area as  
required. Rate: \$77/day  
(cf. \$14/hr. driving, \$7 sitting rate currently  
paid by DEC for a vehicle used in National Park)  
Estimated 30 days/quarter 2310.00

- Materials - Paper, stationery, etc 250.00

- Computer training course ('Introduction to Word  
for Windows') 140.00

Total budget: 7002.60

**1.3 Completion of PPD****1.4 Operating Manual**

**1.5 Environmental Awareness Raising** 00.00

Costs of materials, computing etc. to be met by DEC and out of Contingency figure.

**2.1 Mangrove Crab Fishery**

Workshop for fisherpersons - 30 villagers plus resource people from DEC and Fisheries Division.

Inu (\$100) and meals (morning/afternoon tea/lunch @ \$7/person)	345.00
Venue Hire - \$50	50.00
Allowances (30 people @ \$10/day)	300.00
Allowance to CACC members as co-ordinators 6 @ \$20/day	120.00
<b>Total:</b>	<b>815.00</b>

**2.2 Waste Management** 00.00

**2.3 Resource Extraction** 00.00

**4.1 Agricultural Diversification**

2-day Workshop	1880.00
(As mangrove crab workshop plus \$250 for hire of bus for 1 day to transport participants to Dept. of Agriculture field stations.)	

**4.2 Handicraft Production**

Workshop (as mangrove crab, plus \$150 consultancy fee for local handicraft expert)	965.00
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**5. Ecotourism**

Plan production	00.00
Workshop (Inu covered in cost of handicraft workshop as combined in week)	715.00
Pamphlet	1500.00
2 First Aid Kits (Minimum kit @ \$132 ea. plus additional material @ c\$50 - Multipharm Ltd.)	360.00
Toilets (To be met by WSVB)	00.00

**6.0 Contingency** 5% of budget

This contingency is to cover overheads and non-predictable costs of DEC. 661.88

**In Kind Support:**

DEC will provide salaries for staff involved in the project including members of the Biodiversity Unit, Training Unit and the Principal Environment Officer. It will provide office and computing facilities, allowances for staff overnighting in the project area, make DEC vehicles available to Apia-based project



agencies, as the budget allows. Other Government agencies will provide staff, vehicles, etc. to assist the project as their budget allows.

**TOTAL BUDGET:**

**\$13899.48**

**APPENDIX 10: TABULAR PRESENTATION OF PROJECT BUDGET**

The following table shows funds sought from SPBCP on an annual basis in Western Samoan tala with a total figure in US Dollars based on the conversion rate at the end of March 1995. The project has been costed for four calendar years, Year 1 running from 1 January to 31 December 1995. Appreciating that the hand-over of project management to the local community will be a slow process, it is very likely that a fifth year of funding would be well utilised if the SPBCP continue. The process of annual planning should clarify this as the project proceeds. Many of the figures for the later years of the project are very rough estimates. As a general rule they probably underestimate the full cost of some items in the hope that other donors will be drawn into the project. For example cWST\$10,000 is earmarked for infrastructure improvements associated with ecotourism, but a boardwalk alone would be likely to cost more than that.

Activity	Year 1	Year 2	Year 3	Year 4	Total
<b>Project Management:</b>					
CASO - Salary	27,550	27,550	27,550	27,550	110,200
CASO - Training			(15,000)		15,000
CACC - Running Costs	4,640	7,320	7,320	7,320	26,600
CACC - Training		(5,000)			5,000
DEC strengthening		5,500	5,500	5,500	16,500
Procedures manual production	500				500
<b>Management of Mangroves:</b>					
Management Plan	2,870				2,870
Monitoring by villagers		8,200	8,200	8,200	24,600
Mangrove crab research		2,800			2,800
Other activities			(5,000)		5,000
<b>Management of Lagoon:</b>					
Identification of issues	900				900
Fishery Research	500				500
Management Plan		1,870			1,870
Monitoring		1,940	2,880	2,880	7,700
<b>Management of Lowlands:</b>					
Participatory Rural Appraisal	c.5,000				5,000
<b>Ecotourism Development:</b>					
Planning Workshop	715				715
Pamphlet Production	3,500				3,500
Guide Training		1,500	600		2,100
Improvements			c10,000	c10,000	c20,000
Expansion		c10,200			c10,200

<b>Community Development:</b> Plan production		500			500
Agriculture Seeding Funds		c5000	c10000	c5000	c20,000
Handicraft Development: Workshop		600			600
Training			(c5000)		c5,000
Tool Purchase		c\$10000			c10,000
<b>Education:</b> Materials	c\$5000	c\$5000			c10,000
Display Week		\$1700			1,700
Video			(c5000)		5,000
<b>Promotion:</b> CA Launch		c\$5000			5,000
Logo Development	c\$500				c500
Signs		\$1000			1,000
Marketing/Merchandise		\$1500			1,500
<b>Extension to District</b>			c\$7610		7,610
<b>TOTAL</b>	51,675	102,180	109,660	66,4500	329,965
Contingency (5%)	2,584	5,109	5,483	3,322	16,500
<b>GRAND TOTAL (WS\$stala)</b>	<b>54,259</b>	<b>107,289</b>	<b>115,143</b>	<b>69,772</b>	<b>346,465</b>
<b>GRAND TOTAL (\$US Dollars)(approx)</b>					<b>146,100</b>

Items in brackets are those for which the year they will occur in is uncertain.

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