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WESTERN SAMOA

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SOUTH PACIFIC REGIONAL ENVIRONMENT PROGRAMME

Noumea, New Caledonia

WESTERN SAMOA

COUNTRY REPORT

SOUTH PACIFIC REGIONAL ENVIRONMENT PROGRAMMECOUNTRY REPORT - WESTERN SAMOA1. POLICY AND IMPLEMENTATIONA. POLICY

1. The Western Samoan Government (WSG) has approved and now awaits printing of the Fourth Five Year Plan 1980-84. The Plan, for the first time, contains a chapter (14) specifically on the environment, "Environmental Planning for Development", which tends to be more descriptive of problems than prescriptive of action to be taken on environmental issues. The WSG is possibly the sole island signatory to the draft "Convention for the Conservation of Nature in the South Pacific 1976" for which Western Samoa is the depository. The WSG is also in receipt (c.1978) of an inter-departmental recommendation on environmental policy.
2. Cabinet has an approved economic plan before it in the form of the Fourth Five Year Plan 1980-84. This is not yet publicly available. The emphasis with this economic plan lies mainly in its collation of development projects. Social planning can be identified within the Fourth Five Year Plan but more in terms of problem identification than on problem-solving.
3. There is no spatial regional plan for the two readily identifiable island regions, Upolu and Savai'i, and thus there is no physical planning co-ordination between projects and development policies. Individual development projects are adequately designed but there is an absence of economic and environmental assessment, even on occasion cost-benefit analysis, for most projects. Progress is being made on establishing a Plan Project Monitoring and Evaluation Scheme within Government, which will provide improved co-ordination between projects and development policies.
4. The WSG has policies on agriculture, forestry and National Parks. Fisheries (which used to be part of agriculture) has policies of a limited kind. There is a recently established energy policy committee.
5. Rural development policy is relatively well developed for both the Savai'i and Upolu regions, but there are linkage problems and some imbalance in the apportionment of attention for Savai'i relative to Upolu. Urban development policy is served by an urban plan for Apia but there is no planning officer at post and urban development is piecemeal and unco-ordinated.

6. Government priorities in development mainly concern greater local participation (on which current opinion holds that there are difficulties) and a striving towards economic independence on which there is also a considerable shortfall (witness the massive balance of payments problem). Out of the five objectives stressed in the Fourth Five Year Plan, the fifth component (referred to for the first time in a development plan) is protection for and conservation of the environment.

B. LEGISLATION

7. Environmental legislation exists in the form of the Health Ordinance 1959; Fish Protection Act, 1972; Forestry Act, 1967; Land for Water Supply Ordinance, 1955; National Parks and Reserves Act, 1974; Water Act, 1965; and the Land Ordinance, 1959. There is no endangered species enactment.
8. There is a considerable amount of regulative, cultural tradition and oral law containing environmentally related provisions pertaining to traditional life in Samoa.
9. Further legislation would appear to be required for the management of in-shore and near-shore areas, land use planning, protection of catchments, the control of pollution and the protection of wildlife, particularly birds.
10. The only convention is that which the WSG adopted in draft for the conservation of nature - see paragraph 1 above.
11. The WSG would welcome information of other conventions relevant to Samoa were it so advised by SPREP. The Government would welcome the provision of clearly phrased descriptions of conventions from the IUCN through the SPC.

C. PLANNING

12. Environmental factors are recognised in Chapter 14 "Environmental Planning for Development" within the Fourth Five Year Plan but environmental considerations are not integral to the economic planning effort. Soil surveys, water catchment assessments and aerial photographic coverage is available from former studies, but all need to be updated. The latter is expected to be undertaken shortly.
13. There is no physical planning outside Apia and there is very limited environmental data available for physical regional planning.
14. Environmental assessments have not been made in the past for major development activities.

15. The WSG could use help in evaluating the environmental implications of development proposals, would welcome the provision of guidelines and would like to be able to consider the engagement of expertise in environmental assessment. (It is understood that this could be an integral part of UNDP aided proposals were the WSG to make its needs known).
16. The WSG considers that environmental planning would be improved were it given access to guidelines, resource assessments and environment impact assessments from the SPC.

C. ADMINISTRATION

17. At the present time no single environment policy has been adopted and thus no single agency is responsible for its implementation. However, the Fourth Five Year Plan envisages the creation of a small environmental management unit as part of the spatial co-ordination being sought.
18. Environmental assessments are not possible at present as there is no expertise locally available for this service. The concept of environmental management assessment is rarely practiced.
19. Comprehensive physical planning (regional spatial planning) has not been carried out and there is no expertise at post either on Upolu or Savai'i for this service.
20. The WSG is not characterised by excess departmentalisation but it can be noted that the separation of agriculture and fisheries interests for operational convenience has served to isolate monitoring of these ecologically dependent activities.

2. ASSESSMENT (Findings)

A. MAJOR ENVIRONMENTAL PROBLEMS

21. Environmental problems of a currently contained order arise in connection with various activities including : dredging for reef sand on Upolu, the disposal of effluent from the feed mill, the clearing and settlement of land within water catchment areas, land reclamation from the sea, and, potentially, the proposed sewerage disposal system for Apia.
22. Environmental problems for the Apia urban area arise in connection with garbage disposal, septic tanks and, for the future, the proposed sewerage outfall and construction of the Royal Samoa Hotel. On the outskirts of Apia piggery and chicken disposal is becoming a problem, whilst poor drainage of low lying areas in the city have created a health problem.

23. In rural areas, environmental problems arise in connection with the degradation of soil quality and quantity (the first case of soil erosion from a land slip was recently recorded), the pollution of water catchment areas for Apia, the pollution of village water supplies and the suspected indiscriminate use of insecticides and herbicides.
24. Coastal waters are affected by silting from dredging and reclamation activities, and agriculture and roading activities, which result in smothering of coral. There is still some poisoning of and dynamiting for fish, not to mention the extensive blasting of passages through reef for small fishing vessels.
25. There is no pressure from outside for destructive resource exploitation but the use of aid, without question (see reef passage blasting in previous paragraph) results in unforeseen and unintended damage.

B. RESEARCH AND MONITORING

26. The Observatory undertakes measurements of water flow for public use and hydro power design purposes, meteorological observations, geological and seismic observations. The Public Health service takes regular water samples for purity surveillance.
27. Suspected problems that require further study include assessment of coral reef life and productivity, the importance of mangroves to fisheries, assessment of the effects of dredging, and atmospheric pollution.
28. Very limited (water and weather) measurements are made by the Observatory of environmental conditions.
29. The resources available for research and monitoring studies are limited by the size of the small Observatory unit - primarily meteorology, hydrology, geology, bathymetry and geophysics.

3. MANAGEMENT (Findings)

A. STATUS OF RESOURCES

30. a) Soils. Measurements are not available, but it is suspected that soil quality is in decline, particularly on Upolu.
- b) Water. Water quality in catchment areas is deteriorating as a result of erosion and the occupation of catchments. Ground water supplies are generally bacteriologically pure, but in some areas water with very high salinity (more than twice the WHO recommended levels) is being used. Water quantity available for

hydro, water supply and agriculture (livestock and crops) use is diminishing as a result of catchment development. Land clearing results in rapid runoff which reduces the water available for stream base flows in the dry season as well as the water available to replenish ground water reservoirs.

c) Crops. Copra production is still dominant. Successful intercropping within copra plantations and the running of cattle in coconut groves is increasing. Cocoa production is expanding from an ever-increasing acreage for this crop, and small scale vegetable gardening is increasing.

d) Animal Husbandry. Pigs and chickens are free-ranging with undesirable effects upon water purity. Cattle numbers are increasing. The emphasis is being laid on better animal husbandry through aid projects.

e) Forests. Timber is being obtained from virgin forests and these areas are being reforested (a difficult process not yet assessed). Other new lands are being brought into forestry use for the first time.

f) Mangroves. There are very limited areas of mangroves and these are being reduced as a consequence of reclamation. Degradation is suspected, and studies are required to indicate the importance of mangrove forest as fish spawning and breeding areas.

g) Reefs and Lagoons. Relative to the size of the two main islands these are relatively limited. Considerable areas are devoid of significant coral life and other areas are excessively fished. Dynamiting and poisoning still continue (although illegally).

h) Fisheries. (See above reference). There is no overall fall in the total catch but the composition of the catch is changing from reef species to deep water species acquired at significant costs in capital and fossil fuel.

i) Conservation, Parks and Reserves. The Ole Pupu Pu'e National Park and five reserves have been established.

j) Endangered Species. No listings and no legislation (an Animals Bill is now in preparation). There is a need for information, especially on birds.

k) Local Energy Sources. Energy planning has sought to generate most of the current electricity demand from nine new hydro-powered schemes. Wood waste is to be used in a steam generator on Savai'i. Solar, wave and oceano-thermal energy possibilities are being contemplated.

l) Human Resources. Tapwater is untreated and of low quality. Food can be locally grown but there is a heavy reliance upon imported foodstuffs. Human health is generally satisfactory for teenagers and young adults, but infant malnutrition and obesity for the middle-aged is common. Housing in rural areas is satisfactory. For urban areas, traditional housing is acceptable at low densities, but there are now some squalid shanty housing in Apia. Employment opportunities are limited but unemployment is alleviated by outmigration to New Zealand and American Samoa.

m) Infrastructure. Transport facilities are adequate. Utilities such as water supply, are generally inadequate and the reticulation is outdated : electricity is available in Apia and in a few scattered semi-rural areas.

B. MAJOR DEVELOPMENT TRENDS

31. Apia, the major urban centre, is growing fast in terms of urban accretion, industrialisation and environmental degradation. Human settlement elsewhere is characterised by a necklace of villages along coastal roads.

32. Industrial development is mainly agro-based, including timber milling. In agriculture, the trend is toward commercial farming with copra still dominant; beef and cocoa production is rapidly increasing.

33. Forestry is expanding rapidly but must peak as a consequence of land constraints. Local requirements, and production for export, are twin objectives in the forestry sector.

34. There is currently no aquaculture, although proposals are being considered. Fisheries activities are limited, the most recent innovation being the testing of pilot aggregators.

C. MANAGEMENT APPROACHES

35. The coastal zone is not planned or managed in an integrated way at present.

36. Other than the usual police, ambulance and fire services there is no contingency plan to reduce the effects of disaster.

37. The WSG is interested in regional contingency planning for oil spill control and other disasters. The WSG has no specific population policy relating to island carrying capacity but recognises that this is urgently required.

38. Apart from a town plan for Apia there are no land use regional plans (for Savai'i and Upolu) or regulative controls in use.

39. Apart from general degradation of the coastal reefs and catchment areas (see paragraph 30 above) there are few specific areas of serious resource degradation. Rehabilitation is being undertaken under the forestry reforestation and the National Park Programme.

4. REQUIREMENTS FOR NATIONAL ACTION (Recommendations)

A. NEW ACTIONS

40. The only new Government structures required are (a) a project feasibility assessment unit and (b) an environmental co-ordination unit. Both are concerns referred to in the forthcoming Development Plan.
41. New projects to correct existing problems are required for the dehabitation, and replanting of water catchments, for sand and gravel crushing to replace the winning of coastal sand and for a well-designed sewerage disposal facility at Apia.
42. Action is required to avoid new problems in connection with effluent treatment, the disposal of industrial waste, and for the more effective enforcement of environmental controls.

B. REQUIREMENTS

43. Education. New curricula are being developed at primary and secondary school levels, but there is a lack of appropriately trained teachers. There is also a need for more effective information programmes as well as display equipment. A major need in public education is for population limitation information and environmental and nutrition education. An extensive network already exists in the Public Health Department's Maternal and Child Health and Family Planning Programme for channeling this kind of information. Some environmental public information is already available through the Department of Agriculture and Forests through the National Parks and Reserves and the annual Conservation Week. The means by which water catchment conservation may be effected must be carefully developed, taking into account and marrying traditional land tenure and use with a real understanding, at the village level, of the magnitude and extent of damage to the environment and its resources (such as water) which can be caused by unrestricted land clearing in the upper catchment areas. Action is required to promote and improve the nutritional status of the community to reduce and avoid problems of malnutrition. Western Samoa could, in addition, benefit from an exchange of programmes from other territories, the supply of teaching equipment, and in-service training on environmental matters for science teachers.

45. Facilities and Equipment. Laboratory extensions are required for the Observatory Unit and the Health Department. The Observatory will exchange its findings, on a reciprocal basis, with other South Pacific countries.
46. Outside Expertise. The WSG has a particular difficulty with the overall economic, social and environmental assessment of the worthiness of projects, and requires expertise for this purpose.
47. Information. The range of existing surveys, reports and research have been catalogued in PARTS 1, 2 and 3 of this Country Report. These findings are not always freely available and they are dispersed. A case arises for central collation and storage. The need for research, resource surveys, land capability analyses and environmental monitoring have been identified in Part 3 - MANAGEMENT.
48. Environmental Information Service would be useful to Western Samoa.
49. The WSG would like to have a record compiled of traditional knowledge on Samoan land tenure, culture and resource use practices.
50. It is suggested that SPREP considers the following requirements or priorities for inclusion in the Regional Environmental Programme, viz the monitoring over time of reef ecology, the effects over time of the use of fertilisers, pesticides and herbicides, the compilation of lists from which a designation of endangered species could be prepared, the surveillance of migratory fish and turtle populations and information about the transportation of toxins. Provision should also be made with assistance with any follow-up action suggested, or identified as necessary.

Our programme in Western Samoa was under the responsibility of the Director of Agriculture. We are particularly grateful to Mr. Peter Berg (Head of Forestry Section) for releasing Rex Mossman and Kalati Poai to work with us. The Forestry Section, through its Parks and Reserves unit went out of its way to make our stay enjoyable and our task efficiently executed.

Our local members were :-

Mr. Rex Mossman	Superintendent, National Parks and Reserves
Mr. Kalati Poai	Assistant to Superintendent, National Parks and Reserves

(i)

We held interviews with the following :

Dr. Viopapa Annandale	Family Welfare Section, Health Department
Mr. Peter Berg	Forestry Section, Agriculture Department
Mr. Drenth	Chief Civil Engineer, Public Works Department
Mr. Deighton Emmons	Science Officer, Education Department
Dr. Ian Fairburn	Senior Economic Officer, Department of Economic Planning
Mr. Ata Maia'i	Prime Minister's office
Mr. Vensel R. Margraff	Chief Tourism Officer, Department of Economic Planning
Mr. Arthur McIntosh	Engineer, Water and Sewerage Section, Public Works Department
Mr. Tauiliili U. Meredith	Director, Agriculture Department
Mr. Phillip Muller	Observatory
Ms. Lachiko Natsume	UNDP Office
Mr. Tony Pereira	Attorney General's Office
Mr. Alfonso Phillip	Fisheries Office, Department of Economic Planning
Ms. Brenda Sio	Nutritionist, Health Department
Dr. Vermuland	Chief Public Health Officer, Health Department

We were taken on the following field trips :

Aleisa to Fasitoo'Uta; New road from Falelatai to Lefaga beach;
 Hideaway Hotel; Tiavi Falls; Vailima Botanical Gardens and Mount
 Vaea Scenic Reserve; Ole Pupu Pu'e National Park and Visitor Centre.
 We spent two days on Savai'i.