

**FIJI NATIONAL REPORT ON THE
IMPLEMENTATION OF THE UNITED NATIONS
CONVENTION TO COMBAT
DESERTIFICATION**

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**REPORT PREPARED FOR CONSIDERATION BY THE  
FOURTH SESSION OF THE CONFERENCE OF THE  
PARTIES (COP4) TO THE UNITED NATIONS  
CONVENTION TO COMBAT DESERTIFICATION  
(UNCCD) IN THOSE COUNTRIES EXPERIENCING  
SERIOUS DROUGHT AND/OR DESERTIFICATION  
PARTICULARLY IN ASIA**

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## **EXECUTIVE SUMMARY**

Fiji lies in the heart of the Pacific Ocean midway between the equator and the south pole. It is an enormous archipelago with diverse landscapes and climate. The archipelago comprises of over 340 islands and lies between 12° and 22° south and between longitude 175° east and 175° west. The area within these limits exceeds 650,000 km<sup>2</sup> but this 18,300 km<sup>2</sup> or less than 3% is dry land.

Although Fiji's climate is described as tropical, it is not uniform across the islands due to the relief of high islands and the impact of easterly maritime airstream – known as the South East Trades which predominates throughout 8 months of the year. Seasonally, climate ranges from hot and dry to warm and wet.

Fiji's main natural resources are the land, natural forests and minerals as gold. Land is most important natural resources as agriculture currently contributes 25% of the GDP. Fiji has a total land area of 1,838,522 ha with only 594,179 ha or 29.9% of the total land area which could be used for sustainable agricultural use as no modification is needed before they can be developed fully for some form of agriculture.

The Fiji economy has a very narrow base and performance is heavily dependent on the success of the tourism and sugar industries. The sugar industry remains the largest contributor to total domestic export earnings with sugar representing 36.7% in 1996. Exports on traditional commodities such as dalo, kava and coconut oil are also growing due to increasing demand in niche markets. Forestry is also expected to grow and export earnings from this sector are expected to

rise to F\$100 million by the year 2000. However, agriculture remains the mainstay and the largest sector of Fiji's economy, accounting for almost 43% of foreign exchange earnings. It provides nearly 50% of total employment and contributes 19% of Fiji's GDP.

In Fiji, the Government has put in place a number of strategies that are geared towards sustainable development. These include the National Code of Logging, the National Environment Strategy.

From the outset, it must be clearly spelt out that Desertification and Drought are not perceived to be a priority issue, for the Government. However, land degradation has become an environmental problem due to the increase in deforestation, logging, intensive sloping kind cultivation, commercial livestock farming. The consequences of these practices result in a reduction in farm income that in turn lead to increased poverty. As increased land degradation may result in desertification, the reporting done for the national report is done in the context of soil degradation.

In ratifying, the UNCCD in 1998, the Fiji Government recognises that desertification and drought are impending problems that would inevitably occur in the future if no action is taken to address the continuing problem of land degradation in rural areas.

The Ministry of Agriculture, Fisheries & Forests through its Permanent Secretary is the focal point for UNCCD activities while the Land Conservation Board(LCB) has overall responsibility in implementing soil conservation and sustainable land management activities. The

Permanent Secretary for Agriculture, Fisheries & Forests is the Chairman of the Land Conservation Board.

The Land Conservation Board (LCB) works closely with the Land Use Section of the Ministry of Agriculture, Fisheries & Forests. The LCB was established under the Land Conservation and Improvement Act of 1953 to exercise general supervision over land and water resources.

Presently, the National Action Plan on Desertification has not been formulated and thus will require technical assistance from the UNCCD secretariat. However, the Ministry of Agriculture, Fisheries and Forests and the Land Conservation Board have put in place mechanisms to implement soil conservation and sustainable land management programmes. These programmes are mostly at the national level and at the sub-regional level where donor assistance from IBSRAM has been received.

To ensure that all stakeholders are involved in the formulation of soil conservation and sustainable land management programmes, participating rural appraisal technique was used to collate the views of stakeholders and agencies involved in sustainable land management. Brochures and pamphlets were also distributed to farmers group and schools.

As part of its on-going programmes, the Land Conservation Board (LCB) and the Minister of Agriculture, Fisheries & Forests consults widely with other stakeholders as the Fiji Sugar Corporation and Native Land Trust Board in formulating collaborative activities on land degradation and sustainable land management. Due to lack of financial

resources, these efforts did not materialised. There is a critical need for international partners to participate and fund these activities.

Past experiences have revealed that the lack of political resolve to confront land degradation and sustainable land management issues remains a major problem. There is a general lack of inter-departmental coordination and Government was too focussed on rapid development. In addition, there was a poor awareness in Fiji of the independence of conservation and development and that institutions concerned with conservation and environmental management are weak and insufficient for Fiji's needs.

There are on-going projects that are undertaken to combat the problem of land degradation. These include the programme on sloping land agriculture, lowland farming system project, vetiver grass hedge row planting and the agroforestry project. It is envisaged that these projects will be adopted into the National Action Plan to combat desertification.

Funding for these projects are provided by the Fiji Government with some support from donor agencies as AUSAID, ISRAM and GTZ. At the same Government has identified two new projects that would be implemented to combat soil degradation. However, these projects are depending on donor supports for their implementation.

Reliable information on land resources including soils, climate, vegetation and topography is needed if land conservation policies are to be developed. Some of these data are widely available in Fiji. There are also established monitoring and observation capacities as the Fiji Land Information Council and the Forest Management Information System.

However, there is a critical need for an information system on land degradation and desertification at natural level.



## 1.0 **BACKGROUND**

### 1.1 *Location and Topography*

Fiji lies in the heart of the Pacific Ocean midway between the Equator and the South Pole. The republic of Fiji is an enormous archipelago with diverse landscapes and climate. Contrasts between the wet and dry sides of the large islands, and between landscapes that reflect different rock types and different erosion and depositional histories are best appreciated from the air. The archipelago, comprising over 340 islands, lies between 12° and 22° south and between longitude 175° east and 178° west. The area included within these limits exceeds 650,000 km<sup>2</sup>, but of this, 18,300 km<sup>2</sup> or less than 3% is dry land. Islands vary in size from Viti Levu, the largest, which occupies 10,388 km<sup>2</sup> to small, unnamed islets, some little more than rocks and sandy cays. Vanua Levu, the second largest island, has an area of 5,535 km<sup>2</sup>; thus the area of two main islands represents 87% of the total land area. About 105 islands are inhabited.

The larger volcanic islands are dominated by steep deeply incised mountainous terrain. The highest summit, Tomaniivi (Mt. Victoria), is 1,323m and there are 30 peaks over 1,000m. There is a sharp contrast in Viti Levu between the steep mountainous terrain (67%) and the flat land (16%) of the coastal plains and river deltas. The latter are the main areas of settlement and production. A great many of these plains, but not all, are subject to inundation during periods of prolonged rain in the interior. Undulating to rolling land (4-15°) makes up 17% of the Viti Levu land area. A similar terrain distribution pattern occurs in Vanua Levu but with a larger area of stepland.

## 1.2 *Climate*

Fiji lies within tropical belt but towards the southern margin, at distances ranging from 1,800 to 2,500 km from the equator. Although Fiji's climate is described as tropical, it is not uniform across the islands due to the relief of high islands and the impact of the easterly maritime airstream – known as the 'South East Trades'. The airstream predominates throughout 8 months of the year. Seasonally, climate ranges from hot and dry to warm and wet. From April to November – the period of the SE trades – the windward lowland regions of the main islands experience cloudy conditions, frequent rain, a moderate amount of sunshine and even temperatures. The leeward lowland regions are dry, with clear skies, a limited temperature range and abundant sunshine. The smaller and low relief islands generally have a climate that approximates that of the leeward or dry regions. Mean monthly temperature ranges from 23°C in July and August to 27°C in January, humidity from 75% during winter to 88% in summer.

At one time Fiji was virtually covered with forest (Twyford and Wright, 1965). The present plant cover forms a complex mosaic comprising fernland, open grassland, reed grass, shrubland, a savannah-like transitional vegetation and tall forest. The areas open grassland, fernland and reed grass and savannah are largely man-induced and, when given complete protection from fire and other interference (particularly by humans), the ecological succession shows a slow but steady return towards a forest cover. However, the extensive areas of the introduced mission grass seen in the dry zones are considered to be a fire climax association and

will therefore not return to forest unless there is some intervention such as re-forestation.

### 1.3 *Natural Resources*

Fiji's main natural resources are its land. Approximately 19% of the total land area are described as first class land where 'First Class' returns could be attained if farmed property. Category II or second class land is good land if some minor improvements are made. Approximately 10% of total area are in this class. Class three lands, which are 31.9% of total land area, need a great deal of attention before they can be adequately developed and fully utilized. Many of these kinds may be fully described as problem soils. Finally the largest class of all is Class IV lands which is 38.2% total land area. These lands are considered unsuitable for agricultural development on present knowledge, though they may be of limited use for productive forestry.

### 1.4 *The Economy*

The Fiji economy has a very narrow base and performance is heavily dependent on the success of the tourism and sugar industries. The sugar industry remains the largest contribution to total domestic export earnings with sugar representing 36.7% in 1999. Exports of traditional commodities such as dalo, kava and coconut oil are also growing due to increasing demand in niche markets. Forestry is also expected to grow and export earnings from this sector are expected to rise to F\$100 million by the Year 2000. However, agriculture remains the mainstay and the largest sector of Fiji's economy, accounting for almost 43% of foreign

exchange earnings. It provides nearly 50% of total employment and contributes 19% of Fiji's GDP. The forestry sector contributes 2.5% of GDP and some F\$50 million foreign exchange annually. Forest products are now the fifth most important export commodity.

There is a significant degree of uncertainty surrounding the issue of land that has some extent-affected investment in the farm sector. There is also concern at the likely erosion of preferential access for sugar into the European market. This will mean productive, higher cost farms are unlikely to be viable. This is also affecting the investment climate.

Political and external factors have significant impact on the rural economy and indirectly on land utilisation and land-use change. Current impacts of importance to the rural sector include:-

- Cyclones – the recent one-in-100-year drought and industrial disputes have seen a serious decline in sugar production.
- Similarly, a decrease in rural investment due to the uncertainty about renewal of leases for land use for sugar cane production had adversely affected the agriculture sector.
- The Government of Fiji (GOF) devalued the currency by 20% in January 1998 in an attempt to increase the competitiveness of Fiji's export products.
- The new constitution and readmission of Fiji to the Commonwealth will most likely see an improvement in the domestic and foreign direct investment and to a decline in the rate of emigration.

- While an increase in exports is forecast with economic activity growing by 2-3%, global trade liberalisation policies could have adverse effects on the sugar industry because of the preferential trade arrangements provided by the sugar protocol under the Lome Convention of the EU.
- Land tenure issues related to expiration of ALTA leases; some 5,345 leases are due to expire by 2005.

A 12-point strategy for growth in the agricultural sector was identified by an ADB funded Agricultural Sector Study in 1995 and endorsed by Cabinet in 1996. This have been incorporated into the sector's overall policies and strategies. These essential components are :-

- ❖ Promoting export development through market oriented expansion, intensification and diversification of agricultural production.
- ❖ Encouraging the transformation of subsistence to commercial farming.
- ❖ Emphasising on farm demonstration.
- ❖ Revitalizing agriculture research and improving access to technology.
- ❖ Infrastructure development.
- ❖ Industry organisation, industry self-management.
- ❖ Encouraging environmental sustainability through education programmes on the negative consequences of burning, enforcement of existing laws and regulations relating to environment protection and creating awareness of the adverse consequences of the excessive use of chemicals.

## 2.0 **STRATEGIES AND PRIORITIES WITHIN THE FRAMEWORK ON SUSTAINABLE DEVELOPMENT POLICIES**

Sustainable development is a strategic choice that must be made by both developing and developed countries. For a developing country like Fiji, perhaps a precondition for sustainable development is development itself ie. the path of economic growth must be taken first in order to satisfy citizens desires for higher living standards before the conditions of supporting sustainable development can be fully provided. While Fiji's economy undergoes development it will be necessary to ensure rational utilisation of natural resources with the protection of the environment.

Demands on land resources are increasing if the on-going expansion of commercial cropping onto marginal lands, cropping on fragile soils without land conservation practices in place, deforestation and burning of grass lands continue then Fiji will experience further land degradation, lower yields and an increase in poverty.

Given this background, the Government of Fiji has put into place policies and programmes that would promote sustainable development.

### 2.1 **National Plans and Strategies Available in other Social and Economic Areas**

The Government of Fiji in consultation with other stakeholders has developed a number of key programmes

that outlined strategies for sustainable development. These include:

#### *2.1.1 National Code of Logging (NCLOP)*

The NCLOP first implemented in 1990 was developed to ensure logging contractors and saw-milling operations were safe and complemented environmental priorities for Fiji's forests.

#### *2.1.2 The National Environment Strategy, Fiji*

The National Environment Strategy (NES) provides a flexible framework that would allow the Government to manage the various environmental issues from a strengthened presented in the 'State of the Environment Report' and includes a number of findings and recommendations pertinent to the review. The NES identifies six environmental issues of major significance. These include :

- The inability of Government to manage national resources on a sustainable basis because of inadequate policies, legislation, forward planning and administration;
- Pollution is effectively uncontrolled and emerging as a serious issue;
- Municipal waste management is a conspicuous national dilemma;

- Serious soils degradation is becoming prevalent in the marginal hill lands which are Fiji's agricultural resource base of the future;
- Deficiencies in physical planning are being compounded by significant urban drift resulting in widespread informal development in semi-urban areas which host environmental and social problems;
- Heritage and biodiversity values are inadequately appreciated while losses are increasing through ill-directed development activities and lack of management and knowledge.

### 2.1.3 *Fiji Forest Sector Study (FAO, 1988)*

This large report represents the most comprehensive review of the forestry sector in Fiji. The objective of the sector review was to formulate a strategy for the development of forestry over the next 25 years (from 1990). This strategy to maximise the sustainable contribution of the sector to the development and diversification of the economy and at the same time protecting and enhancing the effectiveness of the country's forests in environmental conservation.

The Forest Sector Review made two significant concluding observations related to land use. Firstly, that soil erosion is an important national issue. Soil erosion through improper



land use and forestry harvesting practices which are at variance with the guidelines prescribed in the forestry legislation and other regulations have reached alarming proportions. The negative environmental impact of uncontrolled land use was also cause of concern. The problem should be tackled through concerted efforts by Ministries and agencies.

Secondly, that a national land use policy is urgently required both for planning purposes for technical planners and for formulating an institutional mechanism for involving landowners in planning and appropriate use of their own land. This will also require an extensive and intensive awareness education programme for extension officers of the Agriculture and Forestry Departments, and for the officials of the Native Land Trust Board, Ministry of Rural Development and Ministry for Fijian Affairs.

## **2.2 National Plans or Strategies in the Field of Combating Desertification Developed Prior to the Convention**

### *2.2.1 Agenda 21*

Fiji is a signatory to Agenda 21 (UNICED, 1992). With respect to environmental development, a Pacific Island perspective for UNCED noted that "... successful implementation of environmental strategies will depend on full integration of environmental and natural resource management issues into national economic development

programmes in each sector...”. The document also describes the changes needed to transform agricultural extension services into environmental extension services and emphasises the importance of land use planning in improving efficiency of resource use.

### *2.2.2 Opportunities for Growth Strategy (1993)*

This strategic document stresses that “conserving the environment and promoting development are mutually dependent”. It makes special reference to natural resource management and sustainable development issues. It stated that environmental management is an integral part of the planning and development process and that monitoring and management measures will be applied through all agencies dealing with land and agricultural development and that the policy for sustainable development will require ensuring that renewable resources are used in a sustainable manner.

### *2.2.3 The National Environmental Strategy*

This was endorsed by Cabinet of the Government of Fiji in 1994. It identified the need for increased research and extension effort on issues relating to land degradation and specifically adoption of sustainable methods of sloping land agriculture. Recommendations were made for specific projects that included a national Land Use Plan, Soil Conservation practices for ginger farming, resource management legislation and a terrestrial resource survey.

#### 2.2.4 *Agriculture*

##### 2.2.4.1 *IBSRAM Project on Sloping Lands in Agriculture*

This project which is funded by the Fiji Government and technically supported by the International Board for Soil research and management (IBSRAM). The research project is aimed at determining the relationship between runoff, soil loss, and rainfall under typical farmers' conditions and determining how these relationships are influenced by conservation measures. The major activities are data collection and technology transfer to farmers.

In promoting this sustainable land management technologies in each major geographical divisions (Northern, Western and Central), nurseries have been built to cater for planting materials required by the farmers. A total of five demonstration plots have been established, with two in the Northern Division, one in the Western and two in the Central Division. In addition, a total of ninety-five contour farms have been established throughout the country with the objective of translating contour cultivation to farmers.

#### 2.2.5 *Forestry*

The Forestry Department, MAFF land developed guidelines to minimise damage to the forest environment and had

incorporated these into license conditions and concession agreements in the past. They proved to be vague, lacking in definition and generally of limited value. To address these shortcomings it was decided to produce a Code of Logging. Clearly the growth and expansion of the forest industry will involve continued harvesting of nature forests, much of which is located in difficult terrain.

The Code prescribes desirable practices aimed at protecting the forest environment, its assets and forest users, while allowing the execution of economically viable logging operations. It applies to all harvesting operation in conjunction with any woodsales agreement between owner(s) of timber resources, and buyer(s) and the Licensing Authority. The provisions are building on all parties involved in marking, felling, extracting, loading and hauling timber from all forests in the Republic. One weakness of the code is that it does not yet cover sustainable yield harvesting. Only the consideration of silvicultural mechanisms in combination with environmentally friendly logging operation (NCOLP) will sustain the forest for the future.

### **3.0 INSTITUTIONAL MEASURES TAKEN TO IMPLEMENT THE CONVENTION**

#### **3.1 Established and Functional National Coordination Body**

When Fiji ratified the United Nation Convention to Combat Drought and Desertification, in 1998, the Ministry of

Agriculture, Fisheries & Forests was identified as the National Focal Point. The Ministry of Agriculture, Fisheries & Forests has a Land Use Unit which acts as a secretariat to the Land Conservation Board. The overall responsibility of implementing the National Action Plan lives solely with the Land Conservation Board (LCB) which is the National Coordinating Body.

### 3.1.1 *Land Conservation Board*

The Land Conservation and Improvement Act of 1953 establishes the Land Conservation Board “ to exercise general supervision over land and water resources”, disseminate information; recommend appropriate legislation; and make general or particular conservation orders or closing orders, or require landowners to execute works, for the conservation of land or water resources.

The primary concern of the LCB since the early 1970’s has been drainage. This comes about, not by virtue of the Land Conservation and Improvement Act, but because the LCB is nominated as the controlling authority of Drainage Boards established under the Drainage Act. Accordingly, it is the body that formally institutes boards and drainage areas; authorizes drainage works; approves and helps to arrange loans to execute drainage works; and approves the levying of drainage rates by Drainage Boards.

The Land Conservation Board (LCB) has no staff of its own nor the finance resources to implement its own activities. The secretariat is based at the Land Use Section of MAFF. Under the Drainage Act, it is advised by the Land and Water Resources Management Division of MAFF, which also executes its decisions on these matters. Although the Drainage Act requires “land conservation officers” to act as secretary to Drainage Boards and implies that these officers are employees of the LCB. It is clear that those functions conferred on the Board by the Land Conservation and Improvement Act itself – in particular the making of conservation or closure orders, and directing landowners to undertake particular works – are never enacted.

### *3.1.2 Legal Status of the LCB*

The formal powers conferred on the Board by the Land Conservation and Improvement Act are sufficient to allow the Board to make a substantial contribution to land conservation and the implementation of a National Action Programme.

## **3.2 Institutional Framework for Coherent and Functional Desertification Control**

As part of the facilitation for participation of a wide spectra of stakeholders, the Land Conservation Board has moved towards the establishment of conservation committees. Recently, one conservation committee was appointed in the Western Division in

1998, one is currently being established in the Northern Division and a third is proposed for Central/Eastern Division. Under the Act, the function of the Conservation Committee is to advise the LCB on matters related to the conservation of land and water resources within its area. The ability of LCB to undertake the functions envisaged for it under the Land Conservation and Improvement Act is obviously hampered by the fact that it has not staff and meets infrequently. The lack of field staff to enforce general or particular conservation orders seems to be the primary reason for not pressing the Board to exercise its powers, although there may also be political reasons for not invoking the powers vigorously.

### **3.3 NAP as Part of the National Economic and Social Development Plan**

Presently, the NAP is still to be formulated and thus there has been no attempt to making the NAP coherent with other environmental strategic and planning framework. However, the Land Use Section of MAFF through its normal programs and donor support has existing plans and strategies that are aimed at combating land degradation at local and national levels. These soil conservation activities are fully incorporated into the National Social and Economic Development particularly in the area of environmental protection. The National Environment Strategy of 1993 recommended the following strategies in relation to land degradation and soil conservation:

- The issues of soil degradation in the marginal hill lands receive Government attention appropriate to its significance as a major threat to the agricultural resource base of the future and to the requirements of future generations of landowners
- A nationwide education initiative on soil conservation amongst landowners is urgently required
- MAFF significantly increase its research into agricultural practices suitable for the marginal hill lands and more importantly, the adoption of sustainable alternatives which are attractive to farmers
- MAFF revitalise its soil conservation management based on strengthening of the Land Conservation Board
- The Fiji Sugar Corporation examines its contractual arrangements and administrative procedures with farmers to determine whether changes could reduce land degradation
- The Native Land Trust Board and Government examine the various types of leases currently being used to determine whether changes to lease conditions could increase commitment to soil conservation and good husbandry.
- Environmental issues pertaining to sustainable agricultural practices and the maintenance of the capacity of leased land to be productive in the long term, should be prominent in the review of the forthcoming ALTA leases, as well as in the



- development of Government's overall national environmental policies.

In addition, the national policy objectives for the environment as stated in **'A Strategic Plan for the New Century'** (National Planning Office 1999) are to :

- Develop and include environmental policies into national economic planning through :
  - adoption of environmental impact assessments
  - creation of a National Council of Sustainable Development, and
  - adoption of natural resources accounting into the national accounts
- Strengthen the institutional capacity for sound environmental management
- Consolidate and update environmental and resource management legislation under a single enabling and enforceable legal framework (The Sustainable Development Bill)
- Encourage traditional resource and environmental management methods.

At the Regional Level, the national program on land degradation is strongly linked to similar programs in other Pacific Island countries through the Pacificland Network developed by IBSRAM.

Government has committed itself to this program with budgetary support in the medium term through the Agriculture Diversification Project.

### **3.4 Coherent and Functional Legal and Regulatory Framework**

The Land Conservation and Improvement Act remains the principal legislation governing the use of land resources and it will be complemented by the Sustainable Development Bill.

The proposed Sustainable Development Bill which is currently before Parliament was a result of a recent review of all environmental legislation enforced by different Government Departments and statutory authorities and to ensure that there is a co-ordinated mechanisms towards the environmental sustainable development. The proposed Bill in effect, binds the Government including Government Departments and statutory authorities to an Act “to establish a national sustainable development council, to require environmental impact assessments in respect of development proposals, to provide for codes of environmental practice and a national resource management plan, and to prohibit pollution of the environment.”

The legislation establishes a National Council for Sustainable Development. The Council’s function is to “provide effective and co-ordinated decision making on sustainable development – planning, policies and implementation programmes, and where

necessary to provide for environmentally sound and sustainable resource use and allocation.

#### 4. **THE PARTICIPATION PROCESS IN SUPPORT OF THE PREPARATION AND IMPLEMENTATION OF ACTION PROGRAMMES**

##### 4.1 **Effective participation of actors involved in defining national priorities**

As part of the ‘issues’ analysis process, series of stakeholders meetings were held by Land Use Section and MAFF staff using questionnaires, semi-structured interview (SSA) techniques and Participatory Rural Appraisal (PRA) methods. Agencies with rural sector and land use related responsibilities were also asked to complete the questionnaires.

###### 4.1.1 *Quality and Availability of Export Advice*

In general there is a lack of information about land-use legislation amongst target groups surveyed. Where Government departments or NGOs are working with the community on projects, people have become aware of some aspects of the law and they abide by their provisions, for example, in Nabukelevu Village (National Forest Logging Code Practice), and at Tilivalevu Village (soil conservation practices). Clearly there is a need for better mechanisms of information exchange. The fora are in place. Indian communities have their advisory councils that are

represented by district councillors. Fijian villages have the tikina councils and Turaga ni Koro meetings. However, these fora are not utilised by Government Departments other than the Fijian Affairs Board and the Ministry of Regional Development. Given an integrated and multi-sectoral approach, linkages between departments and communication channels should become better utilised and co-ordinated. MAFF Extension Division staff need to be trained in those methodologies and technologies for sound land husbandry practice so that they can more effectively encourage sustainable land development goals. Also, Land Use Section, MAFF needs the resources to expand its areas of expertise so that more target groups are informed about land husbandry practices. As the Church, Health and Education Departments feature prominently in villages and settlements, it would be opportune to develop a strategy whereby these organisations and government departments can play a more effective, active role in information dissemination.

With the benefit of hindsight, the survey exposes the true level of commitment and rapport that exists between MAFF officers and their clientele. Where there is good rapport between the officer and the farmers, the latter are willing to host meetings and gatherings at their own expense. Much depends on the skills and experience of MAFF extension officers and their attitude in forging an improved working relationship with MAFF's clientele, the people.

The survey demonstrated that a common complaint by farmers was that MAFF officers rarely visited. Some farmers due to lack of knowledge, do not appreciate they have a land use practice problem. MAFF Extension clearly needs to clarify its performance and methods of interaction with farmers and make these known to the people by way of various organised meetings.

Generally, there needs to be a better exchange of information from government departments to clientele. Perhaps the lack of interaction explains, in part, the distance between MAFF Extension and the Communities they serve.

#### *4.1.2 Methods of Participation of Various Actors (Regular Consultations or Meetings and Regular Exchange of Information – mail or e-mail networks)*

Because of the predominantly poor adoption and application of land husbandry practices and the resultant degradation of land and water resources, the impacts from natural disasters are becoming increasingly more acute, in particular vulnerability to droughts and flooding.

There is serious under-resourcing by Government for line ministries having responsibility for agriculture, forestry and land use in general and the public sector commonly lacks effective funding, resources and trained technical staff to undertake environmental planning, management and enforcement.

The Land Conservation Board is not acting on the powers vested in it and, while the Board has 'ownership' of the problems and solutions, there is minimal government support and intervention for the Board to fully implement "powers to exercise general supervision over land and water resources". Expenditure has been on coastal zone/floodplain drainage schemes not toward solving the casual factors responsible for the downstream problems.

Expertise in the areas of agricultural extension, soil conservation, land use planning and environmental planning, management and enforcement is below critical mass in the responsible line ministries.

The resources devoted to soil conservation are inadequate for the implementation of significant measures, either in terms of providing information or incentives and there is a reluctance by NLTB to exercise its legal rights with respect to bad land husbandry practices.

There is poor awareness of the independence of conservation and development. There are widely held views in some influential ministries that conservation and environmental management are obstacles to development or at best, irrelevant to it.

There is a very poor public understanding in the rural sector about the various legislation pertaining to land, land use practice and soil conservation. This situation results in part

from the fact that the majority of government and cooperate (NLTB, FSC etc) field officers responsible are themselves not conversant with the laws. Also, there have been no public awareness programmes to inform about the land husbandry provisions in these laws and how they can be written into rural leases. For 30 years there has been in essence no enforcement or policing of this provisions; thus a whole generation has been lost since land conservation laws were seriously regarded and enforced.

There is a general lack of information at the farm level on an appropriate 'package' of best practices and 'officials' responsible for disseminating information rarely visit new technologies and commodities.

There is a lack of clear guidelines on what constitutes 'bad' land husbandry practices, and poor institutional understanding about the magnitude of the soil erosion problem and very little literature about land use farming practices available in Hindustani and Fijian.

The level and standards of technology transfer from officials to farmers is poor on matters and land use desertification and intensification; farming systems and their development needs; for new systems – costs of inputs and gross margins, post-harvest support and marketing.

#### *4.1.3 Representatives of various actors in the National Priorities Identification Process (Local Forums, Natural Forums)*

Consultation and awareness has been undertaken by the Land Use Section of MAFF and the Land Conservation Board on soil degradation but the response has been poor. These organisations include Government and Non-Government organisations as Provincial Councils, Local Churches, farmers group and commercial enterprise as the Fiji Sugar Corporation. There has been increased awareness on the need to implement proper husbandry practices as a result of this extensive consultation.

#### *4.1.4 Nature and Scope of Information, Education and Communication Actions.*

Posters showing the effect of poor agricultural practices such as cultivation of excessively steep slopes, careless road construction and logging have been produced. It also shows the impact poor agricultural practices such as loss of agricultural productivity, frequent coastal flooding and damage to coral reefs. A video has also been produced which shows how soil conservation practices such as agroforestry could be adopted to prevent soil degradation and enhancing the fertility of the soil.



## **5.0 THE CONSULTATIVE PROCESS IN SUPPORT OF THE PREPARATION AND IMPLEMENTATION OF THE NAP AND THE PARTNERSHIP AGREEMENT WITH DEVELOPED COUNTRY PARTIES AND OTHER INTERESTED ENTITIES**

### *5.1 Effective Support from International Partners for Cooperation*

The major thrust of the activities to prevent soil degradation and desertification is borne by the Fiji Government through the annual budgeting provision of MAFF. In addition, other organisations such as Department of Forests and Fiji Sugar Corporation also provide adequate resources towards soil conservation and proper land use management. However, there is a critical need for international support to assess the extent of desertification in Fiji and to recommend appropriate strategies towards the prevention of soil degradation.

## **6.0 MEASURES TAKEN OR PLANNED WITHIN THE FRAMEWORK OF THE NATIONAL ACTION PROGRAMMES, INCLUDING MEASURES TO IMPROVE THE ECONOMIC ENVIRONMENT, CONSERVE NATURAL RESOURCES, IMPROVE INSTITUTIONAL ORGANISATION, IMPROVE KNOWLEDGE OF DESERTIFICATION AND TO MONITOR AND ASSESS THE EFFECTS OF DROUGHT**

### *6.1 Adequate Diagnosis of Past Experiences*

There has been numerous reports written and studies conducted since the 1960's on environment, natural

resources and conservation in Fiji. From these reports it is difficult to find a rationale, recommendation or judgement about the land conservation in Fiji that one of the foregoing reports has not been made. The reports show that almost all the basic questions have been addressed and in most cases have been answered. The biophysical resource base has been well characterised (and mapped). The literature covers the 'what, how, why and where' of soil conservation and land use.

The lack of political resolve to confront the issues becomes more apparent in view of the volume and quality of the previous work (most performed at the request of government) that has been ignored.

A number of previous studies identified that all those government organisations involved in land administration and conservation responsibilities and the Land Conservation Board had the least role based on current legislation. However, it was commonly acknowledged that the NLTB and the LCB were not discharging their responsibilities. A new approach to conservation based on a combination of statutory control, extension and Land Use Planning was recommended in number of reports. This last element – planning was based on the observation that the worst problems were related to land use unsuited to particular land or soil type and not too bad management.

### *6.1.1 Synthesis and Evaluation of Activities Undertaken*

In these reports coordination and standardisation of land use plans practices were recommended. Conservation could become increasingly important as more of the 'poorer' classes of land are brought into use and that Fiji could need to develop different land use (for the 1990's). Conservation of natural resources would only be effective if there is a strong executive authority, close integration between Government Departments and other 'players' and strong political will.

More recently a small number of studies considered needs in the environmental sector and agreed that the general lack of inter-departmental coordination was a major obstacle to conservation as the Government was too focussed on rapid development. There was a poor awareness in Fiji of the independence of conservation and development and that institutions concerned with conservation and environmental management are weak and insufficient for Fiji's needs.

## *6.2 Established Technical Programmes and Functional Integrated Projects to Combat Desertification*

### *6.2.1 Inventing, Adoption and Integration Underway Within the NAP Process*

On-going projects involving natural resource management implemented by MAFF include IBSRAM Project on sloping lands agriculture, PRAP lowland farming systems project,

vetiver grass hedge row planting and the GTZ Agroforestry Project. While there has no review of these projects to assess how the integration of UNCCD Principles, it is envisaged that these on-going projects will be adopted into the National Action Plan to Combat desertification. The Land Conservation Board when it is fully operationalised is expected to provide funding to sustain the activities of the above projects.

#### *6.2.2 Identification of New Actions and Planned Measures*

Some new actions have been formulated by Government include the following :-

- (i) *Adaptive Research and Extension in Land Husbandry Technologies.*

The objective of this project is to develop a well resourced and integrated research and extension programme comprising suitably qualified MAFF Staff conducting adaptive sustainable land management and 'best practice' research and effectively disseminating ecologically sound and socially acceptable land husbandry technologies to land users through targeted and innovative techniques.

The almost complete utilisation of first class arable land means that the current expansion of agriculture into marginal hill areas and steplands will continue.

Some agricultural practices as sugar and ginger production on slopes are not sustainable; they increase natural erosion rates which are already high and are responsible for sufficient areas of land going out of production annually. Unsustainable land use in such lands has seen unacceptable soil losses and sedimentation of key water ways for example, in the Ba valley, some 12,000 ha of sugar cane land and 35,000 ha of grassland are badly eroded.

#### *Project Activities*

1. Conduct, extensive rural participating meetings with farmers/landowners to understand needs, problem and constraints,
2. Evaluate and recommend appropriate institutional model for sustainable land management research and extension within MAFF,
3. Assess training needs and development of training needs,
4. Design targeted research and extension programme with implementation schedule and forward budgets,
5. Further the consultative process with farmers and land users, and
6. Implement programme in concert with a Media awareness programme.

(ii) *National Sustainable Land Management Awareness Programmes*

The objective of this project is to create a high level of public understanding about land use policy, desertification and conservation in particular specified land husbandry and 'best practice' classes in land leases with the purpose of reducing land degradation and increasing productivity from the land through sustainable land management (SML).

Future economic activity will lead to increasing competition for the use of land resources and increases in population can be expected to dramatically accelerate land degradation. There is a very poor understanding about legislation, policy and 'best practice' pertaining to land use and management. NLTB and MAFF research and extension advice to land users, landowners and farmers is seriously wanting.

The following activities will be undertaken through this project: -

1. Consult with the 'market' as to needs then design a programme to meet these,
2. Prepare printed materials, brochures, information sheets, manuals, guidelines, handbooks and education programmes.

3. Develop radio and video material to promote sustainable land management practices,
4. Implement structured education courses for farmers, women, NGO's, student of Community Groups,
5. Provide support for organisations with interest in sustainable land management.

### 6.3 *Linkage Achieved with Sub-Regional and Regional Action Programme (SRAP and RAP)*

At the Sub-Regional level, the Land Use Section is a member of the Pacific Land Network. The network which covers 5 Pacific Island Countries implement Land Conservation Projects to create awareness on the impact of soil degradation. The network also exchange ideas on methodologies and approaches to reduce land degradation and sustainable land management.

## 7.0 **FINANCIAL ALLOCATION FROM NATIONAL BUDGETS IN SUPPORT OF THE IMPLEMENTATION AS WELL AS FINANCIAL ASSISTANCE AND TECHNICAL COOPERATION RECEIVED AND NEEDED, IDENTIFYING AND PRIORITISING REQUIREMENTS**

### 7.1 *Adopted Financial Mechanisms*

There is no direct financial allocation provided by the Fiji Government in support of the United Nations Convention to Combat Desertification and Drought. However, Government

provides funds indirectly towards implementation of soil conservation and sustainable land management programmes. The government departments involved in these programmes are the Land Use Unit of MAFF, Forestry Department and the Environment Department. Their total annual allocation is approximately F\$250,000.

## 7.2 *NAP Financing*

As already mentioned above, there is no available mechanism to finance the NAP. However, the Ministry of Agriculture, Fisheries & Forests (MAFF) is strongly considering a proposal to institutionalise the NAP process under MAFF. Once this is operationalised, MAFF will then provide budgetary assistance to the NAP.

## 8.0 **A REVIEW OF THE BENCHMARKS AND INDICATORS UTILISED TO MEASURE PROGRESS AND AN ASSESSMENT THEREOF**

### 8.1 *Operational Mechanisms For Monitoring And Evaluation*

Reliable information on land resources – including soils, climate vegetation and topography is needed if land conservation policies are to be developed. Some of these data are widely available in Fiji than is generally realised. However, the data is of different scales and reliability, and are stored in different ministries. In planning and monitoring sustainable land management, the first major task is to find out what data are available and where they are located.



The second is to gather existing data together, arrange their utility and decide what additional data still need to be gathered.

#### 8.1.1 *Establishment and/or Strengthening of National Environmental Monitoring and Observation Capacities*

Fiji is fortunate to have the Fiji Land Information Council (FLIC) and its technical support unit – the Fiji Land Information System Support Centre (FLISSC) is an integrated land information infrastructure that embraces the majority of agencies dealing with land – related information in Fiji. The Fiji Land Information Centre/Fiji Land Information System model is one of the most effective approaches to natural management of land – related information.

#### *Forest Management Information System (FMIS)*

The FMIS provides natural forest cover data divided into forest types plus hardwood and softwood plantations and mangrove areas. It also holds further spatial information such as digital terrain models, soils, slope, rainfall, declared reserved areas, forest functions and logged out areas. Non-spatial information about woody plants, biomass, species, regeneration potential, medicinal plants is also stored in the system – much of the mapping was from satellite imagery and is available in digital and hardcopy (1:50,000 scale) formats.

### *Integrated Rural Resources Database Development and Application Project*

The Ministry of Agriculture, Fisheries & Forests (MAFF) is currently planning to develop a computerised Land Resources Information System (LRIS) comprising of thematic databases covering agroclimatic factors, soils, topography, vegetation and present land use, linked to a GIS to display combination of these, and other data in support of National Land Use Policy, Planning and Utilisation. The system when in place should dramatically improve the capacity to collect, analyse and process vital environmental information relating to desertification.

#### *8.1.2 Information System on Desertification at National Level*

The Land Conservation Board (LCB) which is the National Coordinating Body for UNCCD activities presently lacks the resources to adequately produce an information system at national land. However, it is envisaged that this aspect will be developed once funding is made available.

#### *8.1.3 Mechanisms for Consultation Concerning Analysis of the Results*

Local capacity is available to analyse information relating to sustainable land management and particularly the impact of NAPs. But at present there is no mechanisms available to collect an analyse information at level.

#### 8.1.4 *Feedback on Evaluation for Programme Management*

Current information system in place as the Fiji Land Information System Support Center and the Forest Management Information System have mechanisms to evaluate impact of certain programmes.