TUVALU

Capital:	Funafuti
Land Area (km2)	26
Sea Area/EEZ (km2)	757,000
Islands (No.)	9
Population (No.)	9,900 (2000)
Annual Growth (%)	0.9
Density (inhabitants/km2)	381
Rural Population (% of total population)	58
GDP (US$ million)	11.9 (1995)
Agricultural GDP (% of total GDP)	24 (1995)
GDP per caput (US$)	1,259 (1995)
Currency:	Australian Dollar

A. General

The island group consists of nine very low-lying and narrow coral atolls totalling 26 km area. Population has been estimated in 2002 at 11,146 and growing at the annual rate of 1.4%.

In 1974, ethnic differences within the British colony of the Gilbert and Ellice Islands caused the Polynesians of the Ellice Islands to vote for separation form the Micronesians of the Gilbert Islands. The following year, the Ellice Islands became the separate British colony of Tuvalu. Independence was granted in 1978.

The country has no known mineral resources and few exports. Government revenues largely come from the sale of stamps and coins and worker remittances. On average, fewer than 1,000 tourists visit Tuvalu annually. About 1,000 Tuvaluans work in Nauru in the phosphate mining industry although Nauru has begun repatriating these workers as phosphate resources decline. Substantial income is received annually from an international trust fund established in 1987 by Australia, New Zealand and UK and supported also by Japan and South Korea. This Fund has grown from an initial US$17 million to over US$35 million in 1999.

The US government is also a major revenue source for Tuvalu, with 1999 payments from a 1988 treaty on fisheries at about US$9 million, a total, which is expected to rise annually. The government is pursuing public sector reforms including privatisation of some government functions and personnel cuts of up to 7%.

Beachhead erosion because of the use of sand for building materials; excessive clearance of forest undergrowth for use as fuel; damage to coral reefs from the spread of the Crown of Thorns starfish are major causes for concern for sustainability of the Tuvalu environment. Tuvalu is also very concerned about global increases in greenhouse gas emissions and their effect on rising sea levels, which threaten the country's underground water table. In 2000, the government appealed to Australia and New Zealand to take in Tuvaluans if rising sea levels should make evacuation necessary.

B. The Agricultural Sector: Constraints and Strategic Options

Agriculture in the Economy. Tuvalu consists of densely populated and scattered group of nine atolls with very poor coralline soils. Subsistence farming and fishing are the primary economic activities. Since there are no streams or rivers and ground water is not potable, most water needs are met by rain catchments systems with storage facilities.

Land Use, Farming Systems and Institutions. Agriculture or agro-forestry occupies an important part of the daily activity of the Tuvalu people and involves the cultivation of a number of crops and raising a limited number of pigs and chickens. Crop production is primarily subsistent, crops comprising coconut, babai (swamp taro), breadfruit, pandanus, banana, pumpkin, sweet potatoes and papaw. Vegetable home gardening had been introduced and well supported by previous externally projects, notably the Atoll Farming Systems component of the European Union funded Pacific Regional Agricultural Programme (PRAP).

As in Kiribati, the traditional farming system is characterized by groves of coconut trees with various layers of crops inter-planted between the trees. Family owned pits in which swamp taro and giant taro are cultivated, are found all over the islands and atolls. The use of the pits facilitates the plants' ability to access the thin water lens. The coconut tree dominates agricultural production. It provides a daily component of the diet (food and drink) as well as household cash.

Subsistence and small-scale artisanal fishing are conducted from traditional canoes driven by sail or paddle, from plywood canoes powered by outboard motor and from larger outboard-powered skiffs. Most inshore and coastal fishing activity is for subsistence purposes.

The country has no forest resources as such but only a few vegetation types. These (mostly in scattered patches) although restricted in area and density play important roles such as: preventing coastal erosion, maintaining soil fertility and the nutrient cycle, providing food, fuel-wood and building material for the local people.

Major Challenges and Constraints. Tuvalu has a limited natural resource base, especially land and fresh water for development. Tuvalu's atoll soils are generally thin, coralline and lacking in plant nutrients - particularly Nitrogen, Phosphorus, Potassium and Calcium - and micronutrients. The narrow islands and islets are over-exposed to wind and salt sprays. There is no running water and the fresh water-lens is thin and highly susceptible to pollution by inorganic farming practices and intensive livestock production.

The atolls and islands are widely scattered and sparsely populated. The domestic market is thus small with little potential for economies of scale. Sea and air transport between atolls/islands, is inadequate both in suitability and regularity. Access to major international markets is expensive and hard to arrange. The local and overseas telecommunication services are unreliable and expensive. There are no established fresh produce markets at the urban centres.

The local people generally have limited understanding and experience with business concepts and practices. The labour force lack job skills needed to support economic development. In terms of improving nutrition, it has been difficult to persuade the local population to consume introduced vegetables, particularly the leafy types. On the other hand,

consumption of introduced starchy foods like rice and flour has overtaken that of their locally produced counterparts.

Strategic Options. Tuvalu's traditional farming system is still widely adopted across the atolls and there exists a wealth of indigenous knowledge on viable atoll agricultural production technologies. Added to this are information that have been generated through externally funded projects including the UNICEF home gardening project, EU PRAP Atoll Farming Systems project as well as the now completed SPC/FAO agro-forestry project.

Experience gained and information gathered from these projects have led DOA to concentrate at the present time on opportunities for increased production of tomatoes, bananas, cabbage, cucumbers, papaya and eggplant. Emphasis is being put on encouraging wider adoption of improved techniques, applying effective environmentally friendly pest control methods and improved marketing organization and skills.

C. Project Interventions: Income Generation Activities

I. Development of Home Gardening for Food Security

The project will upgrade the central nursery at Funafuti and construct crop nurseries at each of the seven outer islands to support food gardens for the households of Tuvalu. The project will assist to establish and support selected home gardens (4 in each outer island and 12 in Funafuti) to promote home gardening and act as demonstration sites for the training courses.

The Department of Agriculture will upgrade the central nursery and construct the outer island nurseries and will be responsible for all nursery operations. The Department of Agriculture will also be responsible for establishment of the demonstration home gardens.

Households will own the demonstration home gardens. The Ministry of Home Affairs will give the Kaupule the authority to conduct, monitor and evaluate the project and report to the Ministry on progress. Government will act as the financier and provide technical advice to home garden owners through the Department of Agriculture.

The local contribution includes: Local staff supervising the project, storage and training facilities, land and labour for nurseries and office for project staff.

Success Indicators

- Increased supply of planting materials for distribution to farmers;
- Increased domestic food production;
- Savings in foreign exchange from reduction in imports;
- Family income generation through marketing of surplus farm produce;

- Easy access to fruits and vegetables will in turn results in consumption of nutritious foods thus contribute to improved nutrition;

- Farmers trained and gain knowledge in alternative farming techniques;

- Expanded employment opportunities in the farming sector as a result of the enhanced income generating capacity of the project participants; and

- Enhanced Income source for the local farmers.