II. Situation Analysis and Agriculture Sector Overview

- 2.1 The Kingdom of Tonga comprises 170 islands of volcanic and coral origin spread over a sea area of 360,000 sqaure km. There are four main islands groups: Tongatapu and 'Eua, Vava'u, Ha'apai and the remote Niuas. Tonga has a population of 101,134 persons living on 36 islands. Land resources are limited, and only 24% of the country's 747 km² is arable. Tonga is experiencing a number of socio-economic and environmental challenges. The growth in urbanization, being the result of rural migration from both the outer islands and Tongatapu itself, has put high pressure on the land, in particular around the capital Nuku'alofa where almost 40% of the country's total population is concentrated. The country runs a deep trade deficit which has been increasing in recent years. At present, the total value of merchandise imports is almost 20 times higher than the total exports; approximately 14 % of these imports are food products. Commercial production and exports are dominated by a few primary products (squash, fish and vanilla), making the economy vulnerable to changes in export markets. Increasing agricultural production for domestic consumption and for export is accorded high priority by the government.
- **2.2** Tonga's structural composition of the economy has not changed significantly in the last decade. The economy is heavily based on the remittances from Tongans living abroad, mainly in Australia, New Zealand and the United States (around 40 percent of GDP). Fishing and agriculture is the second largest income source, followed by Tourism. The manufacturing sector contributes only about 3 percent and consists of handicrafts and a few small scale cottage industries.
- **2.3** Agricultural production is still the predominant economic activity, accounting for 23 percent of GDP, 70 percent of total merchandise export, and 40 percent of employment. Over 64 percent of Tongan households (10,102) are involved in agriculture, out of which 59 percent are subsistence, 38 percent are involved in subsistence agriculture with cash

crops and only about 2 percent are fully commercial crop producers (Agriculture Census 2001). The agriculture sector therefore is important for employment, as a source of domestic food supply, for cash income, foreign exchange earnings, and for raw materials in processing and handicrafts. However the sector is under performing and the output has been in decline for a number of years. Considerable potential exists for improved performance. Tonga has a good growing climate and fertile soils, and is well placed to serve markets in both southern and northern hemispheres.

- 2.4 Of an estimated 42,000 ha of arable land, around 42 percent is currently farmed. Traditional agriculture is based on small holding of 3.3 hectares and is largely rain-fed. Root crops (yam, taro, sweet potatoes, *Alocasia-kape* and cassava) dominate the cropping system and these crops occupy an estimated 28 percent of the farmed land. Root crops are principally for domestic consumption, but export is gaining significant importance in recent years, with an increasing volume of export (particularly yam, taro, cassava and kape). Cassava followed by *Xanthosoma* taro and sweet potatoes are the most widely consumed edible root crops in the country. These crops have gained great importance over the years, mainly because of their short growing period and because they are tolerant to drought. Irish potato which is cultivated during the cool months, has been shown to have a good potential to meet the growing local market demand and also export potentials to Fiji and Samoa during the winter months of New Zealand.
- **2.5** Common fruit tree crops in Tonga are: coconuts, different kinds of banana and plantains, breadfruits which is a major staple for Tongans, mango of which the country holds *over* 20 different varieties. Papaya, pineapples, watermelons, Pacific Litchi, Pacific Plum, Avocado, canarium nut-Ai, Citrus. including pomelo, sweet orange and mandarins/ tangerines, Malay apple, nonu, passionfruits, soursop, custard apples, guava and rambutan are also grown. Currently, there are no "commercial" fruit orchards and domestic production of fruits is mostly for local consumption. However, due to rising domestic demand tropical fruits do have the potential to increase household earnings.
- 2.6 The most important tree is coconut and is considered as the *tree of life* because of its multifunctional uses. After the decline of the copra industry the importance of the tree as a major eonomic crop has declined, despite that senile coconuts still provide a valuable timber. Coconut exports have, however, been increasing in recent years with increasing demand for brown and green coconuts from overseas markets making coconut currently one of the major agricultural exports. The Rhinoceros beetle (Oryctus rhinoceros) which is a well-known pest in palm groves worldwide is also present in Tonga, thus threatening the coconuts sub sector. Rat is becoming a major pest of coconuts in the outer islands. Breadfruit, papaya, soursop, custard apple and avocado grow naturally and are widespread throughout the country. The most important local fruits are pineapple, banana, plantain and especially watermelon, which is significant cash crop for the local market and has a long-standing export reputation.
- 2.7 Tonga produces a wide variety of vegetables, including: lu and pele, field corn, tomato, cabbage, capsicum, carrot, cauliflower, cucumber, eggplant, lettuce, okra, onion, radish, sweet corn, various types of beans and beetroot. Other new types and varieties of fruits and vegetables have been introduced by Chinese farmers in Tonga such as asparagus, gourds, soya beans, and sweet peas. Although for the European-type of vegetables the growing conditions are not optimal, there is potential to supply reasonably well the local markets mainly to reduce the import dependency of these goods; and if properly managed, some potential as off-season crops in foreign markets. Coffee is

- currently cultivated on relatively small scale in Tonga, but is a potential cash crop for local market as well as for export. Kava is a traditional crop and the basis for a national drink in Polynesia. Nowadays, it has developed to a very important export product, mainly to the Tongans and other Polynesians living abroad.
- 2.8 A major impetus to economic growth was provided by the export of squash, vanilla, kava and root crops. However, recently the declining volume/value of squash has threatened the agricultural-led growth of the Tongan economy (annual export of squash has recently declined from more than 15,000 tons to approximately 2,500 tons). Japan is the main export destination of squash, followed by Korea. The economy's heavy dependency on squash is evident. The low prices and low volume of squash export considerably affected the performance of the export sector during the past few years. A combination of declining squash export earnings, increasing trade deficits and external debt servicing have reduced the foreign exchange purchasing power for imported food-stuffs. The ban of kava to Europe and export limits set by Australia caused a major decline in the kava exports and price fluctuations of vanilla did not help the situation at all. Strict biosecurity requirements of New Zealand have restricted the exports of food crops and fruits. Therefore a key sectoral issue is to reduce economic vulnerability resulting from a narrow agricultural export base.
- **2.9** For many years Tonga followed an inward-looking approach to economic management, with heavy reliance on trade taxes and import duties. The move to an outward-looking approach initially focused on trade reform, especially on the WTO requirements. Extensive work has been done on multilateral rules, including issues of tax reform, tariffs, business licensing, intellectual property, sanitary and phytosanitary regulations and technical barriers to trade. Tonga is member to various regional, multilateral and bilateral trade agreements. In July 1980, Tonga signed the South Pacific Regional Trade and Economic Co-operation Agreement (SPARTECA) The SPARTECA Agreement is a preferential non-reciprocal trade agreement whereby Australia and New Zealand extended duty free and unrestricted or concessional access for virtually all products originating in Cook Islands, the Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Vanuatu and Western Samoa. In 2001, Tonga became a member of the Pacific Island Countries Trade Agreement (PICTA), as part of the establishment of the Pacific regional free trade area in goods, through progressive phasing out of tariffs. Tonga is a Member of the World Trade Organization since July 2007. Currently Tonga is negotiating the economic partnership agreement (EPA) with EU. On the bilateral front Tonga has signed bilateral trade agreement with Fiji aimed at facilitating the free flow of agricultural products. Overall, there is increase awareness that agricultural trade is an important engine of economic growth and the government is committed to reversing the declining trend in agricultural exports. Being members to various regional and multilateral trade agreements does not necessarily imply trade will increase, as enabling trade polices and trade facilitation are also needed to harness the economic benefit of the trade agreements.
- **2.10** Tonga has a large exclusive economic zone for exploitation of marine resources of around 700,000 km². As in other neighboring countries, the oceanic fisheries of Tonga has for some time been facing low outturns in the industry, attributed mainly to the low catch from tuna. Seaweed, a promising export commodity in 2004 did not reach even half its former level in 2005, due to poor weather and harvesting techniques used in 2004 that affected stocks. There are substantial pelagic sea resources that have scarcely been exploited. On the other hand, coastal fishery resources, which have provided the bulk of

protein sources for the population, are close to being fully exploited and there is a concern about their degradation from over fishing. This could have deleterious consequences for diets over the next couple of decades unless action is taken. Sustainable development in the fisheries sector and in particular aquaculture fisheries will require strengthened policy, strategic and regularity frameworks.

- **2.11** Tonga has limited forestry resources, with only about 4000 hectares of natural forests which are located chiefly on uninhabited islands and on slopes that are too steep for cultivation. Pine plantation forests have been established on approximately 700 hectares and there is a plan to expand these plantations by 80 hectares each year. There is considerable potential for agro-forestry development, with 48, 000 hectares of potential agro-forestry land which at present is mainly planted to coconuts. The forests and forest industries are making a small (<1 percent of GDP), but important contribution to sustainable development and though forestry is only a small sector, trees are still an important part of the agricultural and environment developmental nexus. Careful planning and management of the use of the forests is important to ensure that the values supplied by forests are not jeopardized by unsustainable development. FAO has provided technical support to the formulation of the recently completed National forest policy.
- 2.12 Achieving equitable development in the different islands groups is a government priority. Currently, much of the agricultural development is in the main island of Tongatapu and to a lesser extent in Vava'u and Ha'apai. The rural population in the outer islands is in a comparatively disadvantaged economic situation, primarily because of their distance to the main market of Tongatapu and poor infrastructure development. The agricultural sector of the outer islands faces several constraints including lack of scale, poor transport links and its associated high cost, as well as limited agricultural development programmes resulting in low level of adoption of improved technologies. There is also very limited machinery for land cultivation and preparation (e.g. tractors and farm implements) in the outer islands that contributes to low agricultural production. Marketing networks are virtually absent or weak, and physical access to markets is constrained and costly. There are currently substantial disparities in income distribution among the different islands. Empowering the population of the outer islands, through institutional capacity building and strengthened infrastructure, is critical to ensure food security and improved livelihoods.
- 2.13 Livestock production is an important element in income earning for rural households, and hence offers good development potential through improved husbandry and stock breeds. In the past attempts to introduce a commercial and intensified livestock sector has not met with much success, due largely to the high cost of production, reflecting the high price for imported feed. However, improving household and commercial livestock productivity remains a priority as four out of five households in Tonga keep livestock (cattle, pigs, horses, goats, chickens and ducks) for home consumption, gift giving, or sale.
- **2.15** As in other Pacific islands countries Tonga is burdened by increasing levels of food and nutrition related diseases (including diabetes, hypertension, obesity, coronary heart disease) which has negative impact on the health system, families income and the national economy. The current world economic crisis and high food prices may worsen the situation, as many cash-poor urban households may respond by switching to cheaper imports of lower nutritional value, thereby worsening health problems. Therefore, serious

attention needs to be given to the opportunities and requirements of urban and peri-urban gardening and food production?

2.16 Tonga's renewable natural resources have been under growing pressure from urbanization and intensive commercial cropping. The limited forest resource is fragmented and subject to incursions of invasive weeds and pests. Increasing damage is also being caused by bush clearing for root crops and firewood collection. Tonga ratified the Convention on Biological Diversity (CBD) in 1998, and pledged their support to halt the continuing decline in global biodiversity. However, Tonga has yet to prepare a National Biodiversity Strategy and Action Plan in line with the requirements of Article 6 of the CBD. Only about a dozen endemic plant species and two endemic bird species remain in country. There has also been a loss of inshore biodiversity due to open access by coastal populations, which has led to substantial overexploitation of inshore fisheries resources. The country is also vulnerable to natural disasters and potential impacts of climate change and sea level rise which could adversely affect agriculture, forestry and fisheries. Environmental conservation and management and disaster management are major policy challenges to be addressed under SDP-8's 7th goal.

III. Key issues shaping priorities for FAO assistance

Lack of an agriculture sector strategy that provides a coherent policy framework for promoting agricultural (including fisheries and livestock) development.
Lack of an agriculture sector plan including sub-sectoral strategies for implementation.
Weak policy analysis, formulation and coordination capacity.
Weak agriculture data and statistics collection and management system.
Lack of interest among the younger generation in farming (graying farmer situation)
Poor nutrition and dietary practices
Limited financial and human resource capacity for sector development.
Weak research and extension services.
Inefficient delivery of technology and support services to the farming, forestry and fishery sectors.
Lack of knowledge in water harvesting.
Low productivity and returns in subsistence and commercial agriculture and fisheries.
Narrow range of agricultural export products and limited exports destinations, increases
the risk for export-led agricultural development.
Difficulty in sustainably developing and diversifying the aquaculture and fisheries commodities in Tonga for local and export markets.
Supply side constraints in all sub-sectors (agriculture, livestock, forestry & fisheries).
Lack of appropriate market facilities.
Poor market information and dissemination systems.
Lack of appropriate post harvest facilities (e.g. packaging and cold storage, blast freezers,
fumigation chambers)
Difficulties in meeting technical requirements for market access, especially for fresh
agricultural produce (BQA)
Limited capacity to meeting quality and safety standards for domestic and
overseas marketing.
Lack of organic agriculture standards in Tonga
Lack of competitiveness of agricultural products.
Vulnerability to adverse impacts of natural disasters and climate change.

IV. Country Programme Framework

- **4.1** The Eighth Strategic Development Plan 2006/07-2008/09(SDP-8) sets the framework for social and economic development of Tonga. The goals are: (1) A better governance environment; (2) Macroeconomic stability; (3) Sustained private sector-led economic growth; (4) Equitable distribution of the benefits of growth; (5) Improved education standards; (6) Improved health standards; (7) Environmental sustainability and disaster risk reduction; (8) Maintenance of social cohesion and cultural identity.
- 4.2 The Tongan Government has approved the draft National Strategic Planning Framework (NSPF) to precede the SDP 8. The final NSPF document will be further developed for Cabinet endorsement. Strategic Development Plan for the next 5 -10 years commencing FY 2009-10. The proposed primary outcomes for the draft NSPF are Facilitate Community Development by involving district/village communities in meeting their service needs; Support private sector growth through better engagement with government, appropriate incentives and streamlining of rules and regulations; Facilitate continuation of Constitutional Reform; maintain and develop infrastructure to improve the everyday lives of the people; increase performance of Technical Training Vocational Education & Training to meet the challenges of maintaining and developing services and infrastructure; improve the health of the people by minimizing the impact of Non-Communicable Diseases; integrate environmental sustainability and climate change into all planning and executing of programs.
- 4.3 The Ministry of Agriculture and Food, Forests and Fisheries (MAFFF) has developed its medium term development strategy of the agricultural sector around Goals 3 and 4. MAFF Corporate Plan 2007/08- 2011/12 (revised February2008) sets out in detail the development priorities and initiatives for agricultural sector development. These include: strengthening policy and legal frameworks; improving agricultural production and productivity to facilitate expansion of exports and ensure food security; import substitution through introduction of new livestock breeds and production of cheaper alternative feeds, improve infrastructure and competitiveness of produce for export markets; develop high value and niche market crops; improve market intelligence, marketing and market access; facilitate agro-processing to create greater value added for import substitution and exports; and sustainable development, management, utilization and conservation of aquatic resources to improve livelihoods..
- 4.4 The Ministry of Foreign Affairs is the official contact point of Government while the Ministry of Finance and National Planning is mandated with the overall aid coordination and management of bilateral, multilateral and aid assistance from international financial institutions such as the Asia Development Bank (ADB), World Bank and International Monetary Fund (IMF). Tonga's main development partners are: Australia, European Union, Japan, New Zealand and China. Among the UN agencies, beside FAO, ICOA, IFAD, IMO, ITU, UNCTAD, UNESCO, UNIDO, UPU, WHO, WMO, WTO, UNEP, ITC, UNFPA, UNICEF and UNDP have various activities.
- **4.5** Australia has supported a fisheries management project (2002-2008). The focus is on remote and disadvantaged communities to help them conserve fish stocks and increase incomes. It also provides strengthening for the Fisheries Department and works with the export fishing industry. The Australia Centre for International Agriculture Research

(ACIAR) also provides assistance in the agriculture, forestry and fisheries sector. Projects ongoing in 2008 include: improving culture of winged oyster pearl, integrated control of weed and disease and insect pests of squash, local feeds for pig and poultry production. EU through STABEX resources supports projects to strengthen vanilla and kava exports, as well as projects in fisheries and forestry, and programmes to diversify exports, including measures to meet quarantine and phyto-sanitary standards. China is y providing assistance to agriculture through training and direct assistance for livestock development.

Overview of FAO on-going and recent assistance

- 4.6 Since 1995, FAO has provided assistance through nineteen TCPs (15 are completed and 4 are still on-going). In 2001 FAO provided support to the agricultural census, so as to improve data availability for policy and planning. Other technical assistance has recently been provided to review forest and fisheries policy/legislation and develop land use policy. Capacity building has also been provided in Codex, Food Regulation and International Food Standards and harmonization and strengthening food analytical capabilities including food safety and food quality control systems. Currently, FAO is conducting a review of organizational structure for the new "Food Division" under the Minister of Agriculture and Forestry.
- **4.7** Under the RPFS sheep farming was introduced to Tongan. The main activities included: selecting and preparing facilities for the stock; inspection of the breeding stock in Fiji; procurement and shipment of sheep to Tonga; securing breeding lines and maintaining breeding records; conducting training on sheep husbandry; and developing criteria for distributing of the stock. A honey bee project is also recently been completed. The project provided equipment and training for the development of small private apiaries. Tonga has further benefited from the Telefood Programme of FAO. Since its inception in 1997, there have been 26 Telefood projects approved and implemented. Emergency assistance has also been provided to Tonga following Cyclones Cora (1999) and Heta (2004).

V. Proposed Programme Framework

- **5.1** Based on the situation analysis and existing medium-term priorities of the Government and the UN System, and taking into account past and on-going FAO and partner's programmes, the following four priority outcomes will be pursued in the next four years:
 - 5) Strengthened policy, legal, regulatory and strategic frameworks for sustainable agriculture, forestry and fisheries development.
 - 6) Increased production, productivity and resilience of crop, food and livestock systems.
 - 7) Improved marketing systems and market access for traditional food crops and high value specialty commodities
 - 8) Sustainably managed terrestrial, freshwater and marine resources.

Strengthened policy, legal, regulatory and strategic frameworks for sustainable agriculture, forestry and fisheries development

5.2 To meet its development objectives, there is need to strengthened capacity in policy formulation and planning. For policy formation and planning purposes, collection and publication of agricultural data, particularly output statistics need to be improved. In the past policies have been adopted without being subjected to detailed economic analysis

and without a good understanding of what can be expected from the farming sector. Improved performance by the ministry and by the sector as a whole will only result from a strengthened policy, legal, and regulatory framework. FAO will provide technical assistance to support policy formulation, legislation and regulation reviews and strategic planning. Capacity building support may also be provided to improve sector data collection and management systems. Policy work and strategic planning will also be a focus area for the fisheries and forestry sub-sectors.

Increased production, productivity and resilience of crop and livestock systems

5.3 Enhanced agricultural production for export, food security and rural livelihoods is a key priority for Tonga. Increasing agricultural production and productivity is the highest overarching priority for MAFF to meet domestic demand and supply potential export markets. There is a need for improved supply of inputs – planting materials, fertilizer and livestock breeds and feeds; for improve infrastructure – agricultural roads, market and post-harvest facilities, and for better technology and husbandry practices supported by appropriate research and information/extension services and enabling policy environment. Primarily through the FSSLP, but also through TCP programmes, FAO support will focus in the areas of need to improve agricultural productivity and production.

Improved marketing systems and market access for livestock, traditional food crops, process product and high value specialty commodities

5.4 Options identified are: market access and trade facilitation; and processing and adding value. The objective is to create increased income earning and employment opportunities, through market diversification and development of potential and new crops for export. Support through the FSSLP will strengthen market and post-harvest infrastructure as well as improve capacity for product processing and value adding, and also strengthen capacity in food safety and standards to improve market access.

Sustainably managed terrestrial, freshwater and marine resources

5.5 Tonga fully recognizes the need to protect its valuable and unique biodiversity and the importance of community involvement in this process. Biodiversity promotes ecosystem services important amongst which are: food production, provision of raw materials, recreational opportunities and cultural values. Tonga has ratified the Convention on Biological Diversity (CBD) in 1998, and pledged their support to halt the continuing decline in global biodiversity. FAO is in the process of completing Land use policy. FAO assistance could support strengthening of disaster preparedness and adaptation/mitigation of the impact of climate change.

Priority NMPTF Outcomes and their Relationship to the Government and UN Medium-term Priorities

	n-Term Development Agenda	UNDAF Results Areas: 1. Equitable economic growth and poverty reduction; & 4.		
	(2006/07-2008/09)	Sustainable environmental management		
Strategic Goals	Key Issues/constraints	NMTPF Outcomes	NMTPF Outputs	Potential areas for FAO assistance
Goal 3. Promote sustained private sector- led growth Goal 4: Ensure equitable distribution of the	 □ Lack of an agriculture sector strategy that provides a coherent policy framework for promoting agricultural (including fisheries and livestock) development. □ Lack of an agriculture sector plan and sub-sectoral strategy for 	Strengthened policy, legal, regulatory and strategic frameworks for sustainable agriculture, food,	 □ Agriculture sector policy/strategy and financing plan in place □ Review of forest sector policy and strategic plan in place □ Land use policy in place 	TA support for policy and strategic planning and data collection/management (TCP/TCPF)
benefits of growth	implementation. ☐ Weak policy analysis, formulation and coordination capacity. ☐ Weak agriculture data and statistics	forestry and fisheries development.	☐ Fruit and vegetable strategy in place	Fruits and Vegetable strategy support (FAO-AAACP)
Promote agriculture to enhance food security	collection and management system. Lack of interest among the younger generation in farming (graying farmer situation) Limited financial and human resource capacity for sector		☐ Integration of agriculture curriculum into the educational system to include lower levels.	Support for streamlining of agriculture into the curriculum development
	development Weak research and extension		☐ Infrastructure and facilities and training provided.	Institutional strengthening of MAFFF Ha'apai & Vava'u (FSSLP)
Accelerate diversification and	services Inefficient delivery of technology and support services to the farming, forestry and fishery sectors. Lack of knowledge in water harvesting Low productivity of smallholder.	Increased production, productivity and resilience of crop and livestock and fisheries systems	☐ Inputs and skills training provided	Support for women floriculture, handicrafts and home gardening (FSSLP
development of agriculture			☐ Improved infrastructure, training and capacity building provided.	Improved technology for vegetables and spices in Vavau (FSSLP)
forest and fisheries			☐ Irrigation systems in place and training provided	Hydroponics for off-season vegetable production. (FSSLP) Rainwater harvesting &
			☐ Demonstration plots established and training provided	irrigation (FSSLP) Agroforestry development -
			☐ Infrastructure, breeding stock and training provided	fruit trees and timber (FSSLP) Sheep farming development Local livestock breed upgrading

	n-Term Development Agenda (2006/07-2008/09)	UNDAF Results Areas: 1. Equitable economic growt Sustainable environmental management		
Strategic Goals	Key Issues/constraints	NMTPF Outcomes	NMTPF Outputs	
Promote and encourage potential crops for export to increase foreign earnings	 Difficulty in sustainably developing and diversifying the aquaculture and fisheries commodities in Tonga for local and export markets Lack of food and safety standards Lack of organic agriculture standards in Tonga Lack of appropriate market facilities and market information systems. Poor market information dissemination. Narrow range of agricultural export products and limited exports destinations Difficulties in meeting technical requirements for market access (BQA) Limited capacity to meeting quality and safety standards for domestic and overseas marketing. Lack of competitiveness of agricultural products. 	Improved marketing systems and market access for, traditional food crops, processed products and high value specialty commodities	□ Infrastructure and training provided □ Infrastructure and management system place. □ Aquaculture and fisheries developme training provided □ Equipment and training provided □ Fish market infrastructure and training provided. □ Infrastructure and training provided Infrastructure and training provided. □ Training provided	
Goal 7: Ensure environmental sustainability and disaster risk reduction	 Soil erosion and depletion of forest resource and Potential loss of valuable biodiversity Vulnerability to adverse impacts of natural disasters and climate change. 	Sustainably managed terrestrial, freshwater and marine resources.		

The FAO activities have been determined through dialogue with the government and other sector stakeholders, and in accordance with the priorities set out in the Eighth Strategic Development