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STRENGTHENING CAPACITY IN INTEGRATED AGRO-FORESTRY AND LIVESTOCK PRODUCTION SYSTEM

June 2022

SDGs:



Country:

Tuvalu

Project Code:

TCP/TUV/3703

FAO Contribution:

USD 200 000

Duration:

1 March 2019 – 31 December 2021

Contact Info:

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Implementing Partners

Department of Agriculture (DoA); Ministry of Natural Resources; Ministry of Health, Social Welfare and Gender Affairs; Council of Elders (Kaupule).

Beneficiaries

Department of Agriculture (DoA) staff; local councils; households in Funafuti and Vaitupu.

Country Programming Framework (CPF) Outputs

CPF (2018-2022) Outcome (Tuvalu): Increase in sustainable production, trade and marketing of domestic agriculture products and healthy consumption of safe and nutritious food; Output 2: Sustainable and climate-smart practices promoted to help build resilient agriculture, fisheries and forestry production systems.



BACKGROUND

Agriculture is the mainstay of sustainable livelihoods in Tuvalu. Seventy-five percent of the population is involved in agricultural production, which serves as both a source of food and income. Food production is, however, confronted with multiple challenges on the islands. Low soil fertility, water scarcity and climate change limit the prospect of increased production, making Tuvalu one of the more food insecure countries of the South Pacific region. Under these circumstances, small-scale household agroforestry is well-suited to guarantee the livelihoods of the population. Diversification of crops would ensure the resilience and capacity to adapt to climate change, as well as decrease Tuvalu's dependency on imported food goods. Furthermore, mainstreaming pig waste management techniques would help protect the lagoon's water quality, which is often contaminated with discharged pig manure.

In line with the Tuvalu National Agriculture Sector Plan of Action for 2014-2023, the Government of Tuvalu requested FAO's technical assistance in strengthening agroforestry and small livestock production systems in the country. This project set out to strengthen the capacity of the Department of Agriculture's (DoA) staff, island councils, and selected households of Funafuti and Vaitupu to grow vegetables, fruits and food crops and raise pigs to supply their household consumption needs and provide an additional income stream for families. In particular, the project aimed to introduce appropriate climate-smart technologies on integrated agroforestry and small livestock systems, to improve the availability and diversity of local crops, while maintaining soil fertility. The link between nutrition and human health was also stressed in the project, with community training on food security, nutrition and the promotion of healthy diets at the household level with local food consumption.

IMPACT

The project contributed to improving the food and nutrition security of the population of Tuvalu's islands of Funafuti and Vaitupu. The households on the islands are particularly dependent on expensive imported goods, putting them at risk of food scarcity. Planting materials, diversified seeds and biogas units were delivered to build the self-sustaining capacity of DoA staff and communities, with regard to agroforestry and small livestock farming practices. The project further strengthened the awareness of the interlinkage between healthy diets and local, garden-grown crops.

ACHIEVEMENT OF RESULTS

The majority of planned activities were implemented within the budget originally allocated, and contributed to increasing household production and utilization of fruits, vegetable, food crops and pigs in Tuvalu. In this regard, results exceeded the originally expected objectives.

Eleven DoA staff members, three more than anticipated, and three island council members were trained on integrated home gardening; agriculture technologies and improved crop production; compost making and soil improvement practices; and pigs management and husbandry. Two more demonstration sites than the four initially projected were set up, which, in total, provided 1 800 kg in assorted seeds and biogas units to support soil improvement for crop production. Following an exploratory survey, 2 600 planting materials were distributed to 80 households in Funafuti and Vaitupu's project sites.

Good results were also achieved in skill development exercises, fieldwork and awareness activities, to improve soil management and fertility, notably through training sessions on composting for DoA staff. Community-level workshops on the food security and health nexus were also carried out, to highlight the positive impact of local food choices on human and environmental well-being.

IMPLEMENTATION OF WORK PLAN AND BUDGET

All three outputs were delivered as planned. Setbacks were experienced, however, in the implementation of certain activities in the face of public health restrictions related to the COVID-19 pandemic. In addition, the project was subject to reprogramming due to the challenges resulting from this situation. International procurement procedures were delayed and the international consultant could not carry out certain technical support training activities due to travel limitations and changes to the boat schedule for the Vaitupu outer island. Where possible, these training activities were conducted by virtual means and with the national consultant's support. Given these delays, the project was extended to 31 December 2021.

SUSTAINABILITY

1. Capacity development

The project significantly contributed to the capacity development of DoA staff, local council members and selected smallholder families in Tuvalu. In particular, training on integrated home gardening, agriculture technologies and improved crop production, compost making and soil improvement practices, pig management and husbandry were conducted. The DoA is interested in ensuring that follow-up actions and training be carried out.

2. Gender equality

The project involved women's groups to underpin community-level expertise and strengthen partnerships with the DoA to ensure the mid-term sustainability of skill development and awareness-raising workshops. Both men and women on Funafuti and Vaitupu islands stand to benefit from the project's outcome.

3. Environmental sustainability

Project activities addressed pig waste management concerns, which constitute a significant environmental challenge on the islands, contaminating water sources. The emphasis on local consumption for healthy diets also aimed to counteract the environmental costs of international food import.

4. Human Rights-based Approach (HRBA) – in particular Right to Food and Decent Work

The Human Rights-based Approach was taken into account in the implementation of activities for selected household members. All members of households participated and equally empowered with knowledge shared and contributions from the project.

5. Technological sustainability

Climate-smart technologies introduced and mainstreamed through the project, such as for compost making, aimed to strengthen the uptake of agroforestry practices and small and sustainable livestock farming. Technological sustainability was ensured through training of trainers (ToT), community-level workshops and hands-on exercises for DoA staff and island council members.

6. Economic sustainability

Agroforestry products and services developed during the project are considered to be highly affordable by beneficiaries, contributing to strengthening their food security and income generation in the future. The DoA has demonstrated willingness to carry out the remaining activities beyond the end of the project and ensure their continued support to the project beneficiaries. In addition, the Global Environment Facility is currently funding programmes in the same domain, further contributing to the technical knowledge on agroforestry and small livestock farming in the country.



DOCUMENTS AND OUTREACH PRODUCTS

- ❑ **FAO.** 2019. *Tuvalu Inception report*. 30 pp.
- ❑ **FAO.** 2019. *Integrated pest and disease management module*. 100 pp.
- ❑ **Department of Agriculture (DoA).** 2021. *Brochure on composting*. 2 pp.
- ❑ **Department of Agriculture (DoA).** 2021. *Brochure on crop production*. 2 pp.
- ❑ **Department of Agriculture (DoA).** 2021. *Brochure on Fertilizers and Nutrients on plants*. 2 pp.

ACHIEVEMENT OF RESULTS - LOGICAL FRAMEWORK

Expected Impact	Improved food security for the people of Tuvalu		
Outcome	Increased household production and utilisation of fruits, vegetables, food crops and pigs		
	Indicator	Number of trained DoA staff on the integrated system; Number of households with home-gardens and piggery biogas system; Number of fruit trees, root crops, and vegetables crops planted by households over the course of the project; Number of households with skills and knowledge on nutrition and promotion of local food choices.	
	Baseline	0 DoA; 0 demonstration sites; 0 trees planted; 0 households.	
	End Target	8 DoA; 4 demonstration sites; minimum 1 000 trees planted; 80 households.	
	Comments and follow-up action to be taken	<ul style="list-style-type: none"> Eleven DoA staff members, three more than targeted, and three island council members were trained on integrated home gardening; agriculture technologies and improved crop production; compost making and soil improvement practices; and pigs management and husbandry. Six demonstration sites (three in each of the project sites) were set up, and provided with 1 800 kg of seeds and a biogas unit each, to support soil improvement for crop production. Two government nurseries were upgraded and propagated 2 600 planting materials, which were distributed to 80 households. 	
Output 1	Capacity of DoA staff and farm households in Funafuti and Vaitupu strengthened on food crops, fruit trees and small livestock integrated production		
	Indicators	Target	Achieved
	N/A	N/A	Yes
Baseline	N/A		
Comments	The project was successful in strengthening the capacity of DoA extension service and selected households in the two project sites to promote and support food crops, fruit-trees and small livestock integrated production. This was achieved through increased production of propagated planting materials and the development of six demonstration sites to showcase the integrated agroforestry and small livestock production system.		
Activity 1.1	Undertake baseline studies and PRA surveys		
	Achieved	Yes	
Activity 1.2	Comments	A baseline survey was conducted to collect information on the status of existing agriculture production trends in home gardening and livestock. A Participatory Rural Appraisal (PRA) survey, which was conducted simultaneously, provided key information on farming practices to support action plans proposed by the project, targeting 80 households in the two project sites.	
	Achieved	Yes	
Activity 1.3	Comments	Two agroforestry nursery facilities on the atolls of Funafuti and Vaitupu were upgraded, and equipped with water tanks, shredders, compost sheds, seedling tables, tools and seeds for the propagation of planting materials.	
	Achieved	Partially	
Activity 1.4	Comments	Training of trainers (ToT) was completed for 11 DoA staff members and three island council members on integrated home gardening, agriculture technologies and improved crop production, compost making and soil improvement practices, pigs management and husbandry in Funafuti project site. The ToT training was not extended to the outer island of Vaitupu, due to COVID-19 travel restrictions and difficulties encountered with the unreliable boat schedule.	
	Achieved	Yes	
Activity 1.4	Comments	Establish integrated demonstration plots system	
	Achieved	Yes	
Activity 1.4	Comments	Six demonstration sites (three on each site) were established for pilot demonstrations of integrated agriculture (forestry) and piggery systems. Equipment, tools, 1 800 kg of assorted seeds (cabbages, cucumbers, tomatoes, pumpkins, capsicums, papaya) and six biogas systems were provided for the demonstration sites.	
	Achieved	Yes	

Activity 1.5	Train communities on integrated food gardening & small piggery system		
	Achieved	Partially	
	Comments	<p>Three training workshops were conducted, one in virtual mode due to COVID-19 restrictions and two face-to-face, on key aspects of integrated food gardening (in particular, on basic practices for crop production, seedling production, fertilizer and plant nutrition management, soil management, water management, integrated pest management), piggery biogas and application of liquid fertilizers for gardens.</p> <p>The two face-to-face training sessions were conducted on the main island, Funafuti, and on the outer island. The second planned training session in the outer island was not realized due to COVID-19 travel restrictions and the unreliable schedule of boats travelling to the outer islands. The DoA will organize the training at a more convenient time.</p>	
Activity 1.6	Develop brochures and extension materials		
	Achieved	Partially	
	Comments	<p>Brochures and extension materials were developed and translated into the local language. Printing of the brochures and extension materials was not realized by the end of the project due to delays in the submission of these materials from the country to the regional FAO office.</p>	
Output 2	Knowledge and technical skills on improved soil management and fertility practices enhanced		
	Indicators	Target	Achieved
	N/A	N/A	Yes
Baseline	N/A		
Comments	Training and awareness activities carried out strengthened the technical skills and application of the knowledge learned on actual fieldwork to improve soil management and fertility.		
Activity 2.1	Educate stakeholders/farmers on composting		
	Achieved	Yes	
	Comments	<p>Information was disseminated, shared and discussed with farmers on composting. Sessions were organized for selected households.</p>	
Activity 2.2	Construct and demonstrate compost-making		
	Achieved	Yes	
	Comments	<p>Training was provided on portable compost, including compost preparation, different methodologies for composting, and developing a simple and workable composting application.</p>	
Activity 2.3	Application to garden plots		
	Achieved	Yes	
	Comments	<p>Training was provided on the application of composts in established plots, and understanding fertilizers and plant nutrition, as well as soil management for selected households and DoA staff.</p>	
Output 3	Nutrition and food security awareness and local food choices promoted at household level		
	Indicators	Target	Achieved
	N/A	N/A	Yes
Baseline	N/A		
Comments	The awareness programme delivered by the public health nutrition service complemented and supported the training put in place by the DoA on nutrition and food security awareness.		
Activity 3.1	Conduct nutrition awareness workshop		
	Achieved	Yes	
	Comments	<p>A nutrition awareness workshop was delivered on the importance of foods (comparing fresh nutritious foods from the garden and imported foods on the shelves), human nutrition and health, reducing high fats/sugar/salt food in diets.</p>	
Activity 3.2	Train communities on food security, nutrition and promotion of healthy food choices		
	Achieved	Yes	
	Comments	<p>Training to promote and provide knowledge on food security, growing local food crops, developing a healthy food plate and "lets go local" promotion was completed.</p>	

Partnerships and Outreach

For more information, please contact: Reporting@fao.org

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