

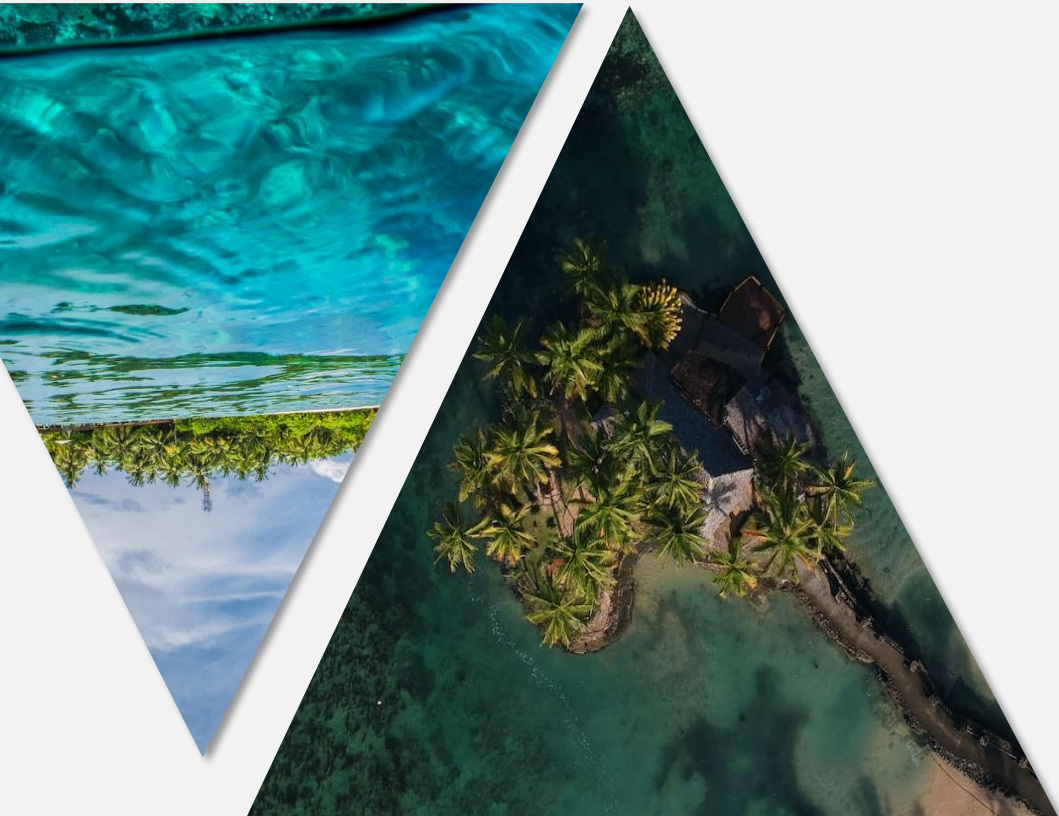


# CLIMATE RESILIENT FOOD SYSTEMS

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CRFS ALLIANCE CASE STUDY ON FIJI

24 OCT 2022



# FIJI: FOOD SYSTEMS SNAPSHOT



- Crops, livestock, fisheries and forestry are important sources of income, livelihoods and employment
- 93% of agriculture farmers are subsistence farmers whilst 5% are semi commercial farmers with at least 1 ha or land for cultivation.
- since covid-19, Agriculture is recognized as a high potential sector with keen interest shown from all stakeholders.
- Inconsistency and low production and supply during off season for some commodities is a challenge. However, Fiji has a lot of export potential in the Australia, New Zealand, US markets for, Taro, Tumeric, Ginger, Cassava, Egg Plant & Mixture of Spices.

Source: Fiji National Food Systems Pathway, 2020 Key Statistics on Fiji Agriculture, Commerce, Fisheries and Forestry (GAFF)



- Despite conditions being favorable for its production locally, Fiji imports 80% of its rice from Vietnam and Thailand.
- Overall Agriculture production is increasing at an average growth rate of 3% p.a (2015-2019).
- 80% from Crop production and 20% from Livestock production (Central (40%), Eastern (13%), Northern (30%), Western (17%) – 2019. *Production Growth through Public Private Partnership Investment Opportunities.*
- Urban centers are greatly dependent on imports from Australia, New Zealand and China.
- Value chain is driven by key players in the Agri Food Systems wholesalers, retailers, food companies, farmers, consumers and



- Traditional diets comprise of locally fished sea food served with root vegetables like cassava and taro (GAFF)
- Less healthier diets: sharp rise in cheap, processed foods, mainly in urban centres.
- Highly processed and less nutritious food imported and in many cases cheaper and non perishable.
- Accessibility of fresh local foods like fruits, vegetables, fish limited to urban dwellers due to price, seasonality and lifestyle choices.

# FIJI: AGRICULTURE & FOOD SYSTEMS POLICIES

- At the centre of Fiji’s food and nutrition security lies the need to ensure that every Fijian has access to adequate food of acceptable quality and nutritional value.
- The Fiji Government is further focused on import substitution – reducing imports of rice, citrus fruits, other crops that can be grown locally
- Another focus is organic agriculture through knowledge dissemination on compost and bacterium culture

POLICY	YEAR	OBJECTIVES/ STRATEGY
Ministry of Agriculture 5-year Strategic Development Plan	2019 - 2023	<ul style="list-style-type: none"> <li>• To build a sustainable, competitive and resilient agriculture sector</li> <li>• To create an enabling environment that accelerates sustainability, economic opportunities, climate viability and nutrition security for all Fijians</li> </ul>
Gender in Agriculture in Fiji	2022-2027	<ul style="list-style-type: none"> <li>• Addressing Gender Gaps for Agriculture in Fiji</li> <li>• <i>Equality of access to economic resources for productive and resilient agriculture market , Equality of access to information and technology training for securing livelihoods, Equality of representation and participation indecision making and Effective mainstreaming of gender perspectives through strengthened capacities.</i></li> </ul>
Costed Operation Plan	2022-2023	<p><i>Grow Beyond</i></p> <ul style="list-style-type: none"> <li>• The Annual Plan focusses on Food Security Agriculture Growth Plan that ensures resilience, sustainability now and in to the future</li> </ul>
Agriculture Sector Policy Agenda	2010 - 2020	<ul style="list-style-type: none"> <li>• To build a sustainable community through the establishment of a diversified, economically and environmentally sustainable agriculture economy in Fiji, both in rural and urban communities by ensuring food security, employment and income-increasing opportunities</li> <li>• Improve agricultural support services' delivery mainly through an industry-focused program and Generate funds and secure investments to modernize the internal and international markets</li> </ul>
Fiji Plan of Action for Nutrition	2010 - 2014	<ul style="list-style-type: none"> <li>• To establish a nutritionally healthy community, by improving the nutritional status and health of the population, both in urban and rural communities, in the main and outer islands too.</li> </ul>
National Adaptation Plan	2019	<ul style="list-style-type: none"> <li>• Supports efforts to ensure food and nutrition security by enhancing the resilience of the food production system.</li> <li>• Introduction or promotion of certain practices and behaviours, including conservation agriculture, agroforestry, soil and water management practices, and the diversification of farming systems</li> </ul>

# FOOD SYSTEMS CHALLENGES & PRIORITIES

## CHALLENGES



Lack of access to land, restricted movements of fresh produce from farms to the markets.



Releasing arable land for productive use



Poor agricultural practices and limited access to technologies



High production and labour costs, with low productivity, inefficiency



Lack of provision of agricultural tools



Lack of access to finance

## PRIORITIES

- Benchmark level of productivity in nature-positive food systems and healthy, vibrant society with access to safe and nutritious food
- Balanced and sustainable equation of green and blue food consumption patterns that fully meet domestic food requirements, as well as positions Fiji strongly as a net exporter of food.
- Well-developed and sustainable nature-positive food production systems that prevents biodiversity loss, limited use of inorganic inputs and replacing monoculture with poly culture nature-based farming practices.
- Thriving primary sector that not only is a leading contributor to Fiji's economic growth agenda but also is an attractive commercial proposition that ensures a sustainable and equitable livelihood for all.
- Innovative, efficient, climate smart and resilient food system that is ably positioned to cushion the impact of future shocks.

## MEANS OF IMPLEMENTATION

- Promoting self-sufficiency to build resilience through local production
- Providing leadership and required resourcing to drive the inception of the agreed naturepositive game changing solutions and turning them into tangible actions
- Ensuring a collaborative, inclusive and unified progress on the 12 game changing solutions identified through the Fiji Food Systems Dialogues and regularly review progress
- Creating a conducive environment for bolstering primary sector performance, promoting own learning and sharing knowledge with others to drive nature-positive food system transformation
- Ensure relevant agencies are accountable for delivery of agreed objectives, measuring progress through annual planning reviews and robust monitoring and evaluation.

# STRATEGIC PRIORITIES IN AGRICULTURE








Priorities	Agriculture Sector Policy Agenda	Strategic Development Plan	National Adaptation Plan	Food and Nutrition Security Policy	National Food Systems Pathway
<b>Improve food and nutrition security through blue and green foods to sustain nature-positive food systems</b>	All the strategic actions outlined in this agenda contribute to improving food and nutrition security	<ul style="list-style-type: none"> <li>Nutritious food production, safety and access</li> <li>School focused interventions</li> <li>Home gardens</li> <li>Food and Nutrition Security planning, monitoring leadership and coordination</li> </ul>		<p><i>All the strategic areas outlined in this agenda contribute to improving food and nutrition security</i></p> <ul style="list-style-type: none"> <li>Promote investment in nutrition-sensitive value chains</li> <li>Support healthier school food environments</li> </ul>	<ul style="list-style-type: none"> <li>Adoption of the National Food and Nutrition Security Policy and successful implementation of agreed programmes.</li> <li>Boost national nature-positive production to compensate for potential disruptions to food imports</li> <li>Drive Food fortification or enrichment programs to address the nutrient deficiency</li> <li>Improve accessibility of healthy products in the local markets and reducing access to cheap unhealthier options</li> <li>Promote healthy diet in school environments</li> <li>Improve attractiveness of agriculture as a subject of study in schools</li> </ul>
<b>Sustainable livelihoods and increasing farmer household incomes</b>	<ul style="list-style-type: none"> <li>Improve access to credit to farmers</li> </ul>	<ul style="list-style-type: none"> <li>Access to markets</li> <li>Women and Youth in Agriculture</li> <li>Agriculture research services</li> </ul>	<ul style="list-style-type: none"> <li>Strengthening the resilience of farmers and farming families by encouraging the diversification of agricultural produce for subsistence consumption and market sales</li> </ul>	<ul style="list-style-type: none"> <li>Assist households in dealing with nutrition challenges through trainings on vegetable gardens, fish farming, household poultry</li> <li>Provide selected women and youth groups trainings on home gardens, dairy and fish farming</li> <li>Support increased youth participation and career pathways in agriculture</li> <li>Support the enhancement of social protection programmes</li> <li>Establish Fiji IYCF strategy</li> </ul>	<ul style="list-style-type: none"> <li>Promote use of technology through incentives and other schemes to improve productivity.</li> <li>Promote of contract farming schemes, providing support to farmers to enable transition from small scale to semi-commercial and commercial farming.</li> <li>Promote smart and innovative ways of making large size arable land available to producers for longer term</li> <li>Empower women and youth through targeted programmes to improve their skills on food systems</li> <li>Educate farmers and fisher and equip with both traditional knowledge and latest scientific technology</li> </ul>
<b>Improve sustainable resource management and promote diversified, climate smart agriculture and nature-positive food systems</b>	<ul style="list-style-type: none"> <li>Agroforestry and regenerative agriculture</li> <li>Promote modern organized agriculture through Rural Transformation Center model to provide information on crops, livestock, aquaculture products</li> <li>Convergence of forestry and agriculture sectors</li> </ul>	<ul style="list-style-type: none"> <li>Improve climate risk management capacities through improved technical, scientific capacities and partnerships</li> <li>Improve technical adaptation capacities of farmers through resilient crop varieties, safety nets, livestock breeds</li> <li>Increase awareness and adoption by farmers on climate smart agriculture</li> </ul>	<ul style="list-style-type: none"> <li>Encourage agronomy practices, climate-based crop planning, and the protection, breeding, and cultivation of traditional and improved seed varieties and livestock breeds</li> <li>Promote and integrate climate-smart agriculture (CSA) practices into farming, trainings extension services, policies and plans</li> <li>Increase adoption of sustainable soil and land management techniques to address soil erosion, increased soil salination and to improve soil fertility</li> </ul>	<ul style="list-style-type: none"> <li>Enhance and promote sustainable, diversified and resilient food systems in order to make available safe, diverse, nutrient-rich foods in adequate quantities to everyone, everywhere: promote the adoption of modern, diverse, nutrition-sensitive, and resilient household food production practices to enhance household food and nutrition security.</li> </ul>	<ul style="list-style-type: none"> <li>Promote regenerative agriculture, and support communities to plant a diversity of trees, crops and integrating livestock activities in degraded areas</li> <li>Achieve sustainable multiple trees and/or cropping system, based on local traditional plant biodiversity and market's demands</li> <li>Develop and promote models of organic food forestry or agroforestry systems</li> <li>Drive the development of more resilient crop varieties with special focus on regenerative agriculture and livestock breeds adjusted to the different climate and soil conditions</li> </ul>

Priorities	Agriculture Sector Policy Agenda	Strategic Development Plan	National Adaptation Plan	Food and Nutrition Security Policy	National Food Systems Pathway
<b>Integrated water, energy food support systems and commercial agriculture</b>	<ul style="list-style-type: none"> <li>• Food park infrastructure</li> <li>• Feedstock production and use of renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>• Increase farmer access to loans, develop farmer technical capacities</li> <li>• Increase agribusiness participation in market driven commodities</li> <li>• Link commercial agriculture with tourism industry</li> </ul>	<ul style="list-style-type: none"> <li>• Improve water management systems by assessing and protecting existing water sources, improving and upscaling (low-cost) irrigation systems, improving and maintaining water drainage systems</li> </ul>		<ul style="list-style-type: none"> <li>• Boost commercialization and facilitation of market access and increase commercial participation from primary sector</li> <li>• Develop a robust online system throughout the value chain, enabled through the current wide access to mobile phones and internet</li> </ul>
<b>Strengthened services on land tenure, policy formulation, coordination and partnerships</b>	<ul style="list-style-type: none"> <li>• Improve project implementation, policy formulation, fund generation capability within the MOA and its partner institutions</li> <li>• Improve cold storage facilities to reduce food waste</li> <li>• Animal health programs</li> </ul>	<ul style="list-style-type: none"> <li>• MoA structure with supportive systems and infrastructure, improved communications, enhanced capacities in research, data</li> </ul>	<ul style="list-style-type: none"> <li>• Undertake regular climate change assessments, GIS mapping, and crop modelling, in partnership with diverse and inclusive group of stakeholders to improve understanding of climate risks to food systems</li> <li>• Enhance the resilience of crop and livestock breeding infrastructure and supply systems</li> <li>• Improve bio-security efforts (including border controls, early warning systems, on-site visits, and breeding programmes) to enhance protection and action against invasive species, pests, and diseases</li> </ul>	<ul style="list-style-type: none"> <li>• Establish Food and Nutrition Act and Food and Nutrition Security Secretariat with steering committees and working groups</li> <li>• Improve food safety and quality standards</li> </ul>	<ul style="list-style-type: none"> <li>• Prioritise investments in key sectors in the food systems such as agriculture, fisheries and forestry</li> <li>• Strengthen government capacity to work collaboratively with partners to find solutions and use best practices</li> <li>• Promote use of blockchain, IoT, digital literacy trainings, digital platforms for providing information, etc.</li> <li>• Provide support for land preparation and assistance to proper land use planning and adoption of sustainable practices in the long-term</li> </ul>
<b>Climate information services and insurance schemes</b>			<ul style="list-style-type: none"> <li>• Work with diverse and inclusive stakeholders to ensure farmers (including disadvantaged groups) have inclusive access to hazard maps and climate information services</li> <li>• Enhance climate monitoring and projecting, user-friendly climate information services, hazard and risk information, and early warning and prediction systems to inform decisionmaking</li> <li>• Develop and make accessible user-friendly hazard assessments, maps and models focusing on site-specific risks</li> </ul>	<ul style="list-style-type: none"> <li>• Facilitate the establishment of national and inclusive community-based, natural disaster early warning alert and response systems (EWARS) in order to enhance the resilience of food supply during crises.</li> <li>• Establish Agriculture Insurance Scheme for commercial and small farmers</li> </ul>	<ul style="list-style-type: none"> <li>• Form alliances with financial institutions and partners to increase finance access for farmers, fishers and forest workers through financial inclusion schemes and insurance schemes, for example climate risk insurance.</li> </ul>

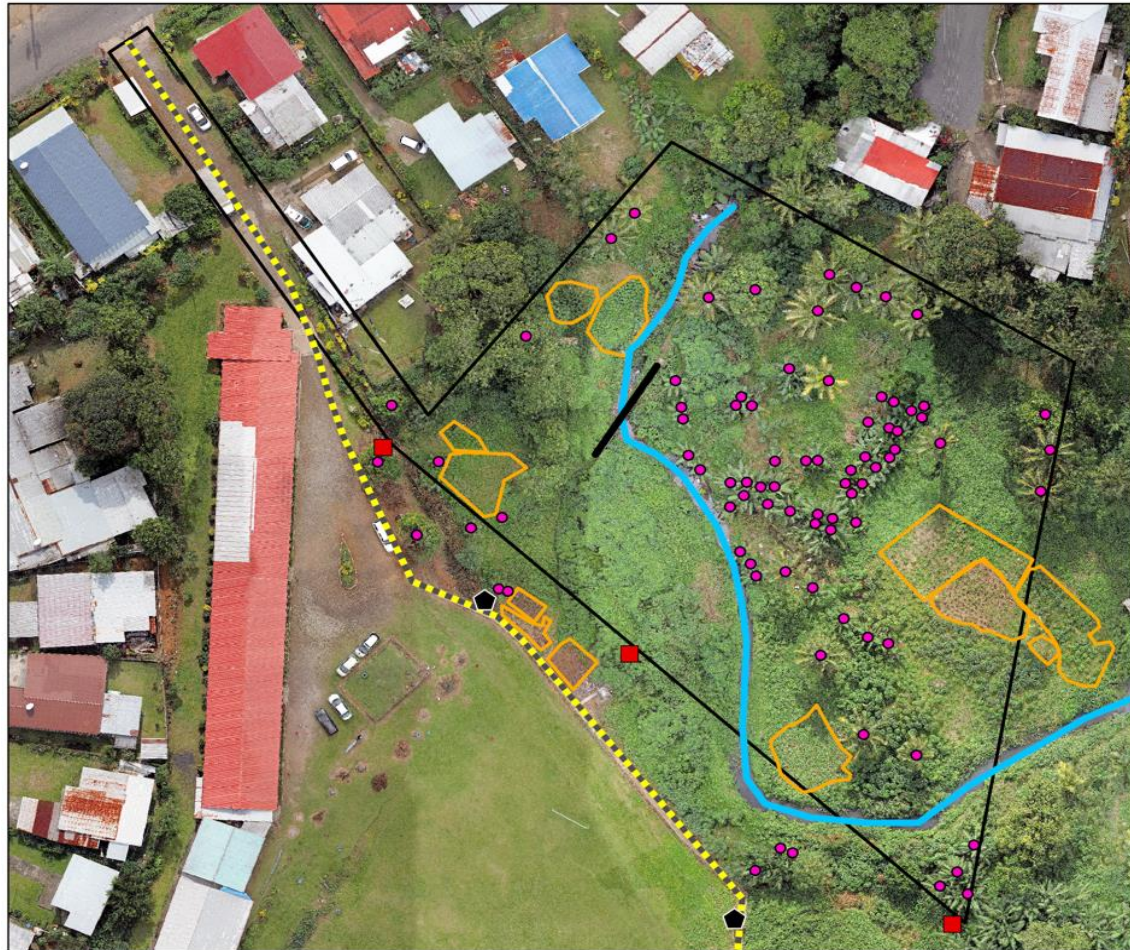
Priorities	Agriculture Sector Policy Agenda	Strategic Development Plan	National Adaptation Plan	Food and Nutrition Security Policy	National Food Systems Pathway
<b>Knowledge, research, evidence generation</b>			<ul style="list-style-type: none"> <li>Strengthen research collaborations with farmers (including disadvantaged groups), communities, and national research institutions</li> </ul>	<ul style="list-style-type: none"> <li>Support nutrition-sensitive research services for product development</li> <li>Scale up evidence-based action to reduce food and nutrition insecurity</li> </ul>	<ul style="list-style-type: none"> <li>Carry out further research in fisheries involving innovation and technology transfer</li> <li>Enhance capabilities to achieve a solid research and innovation system</li> </ul>
<b>Build resilience through self-sufficiency and local production for local consumption</b>	<ul style="list-style-type: none"> <li>Enhance local production of seeds and feeds</li> </ul>	<ul style="list-style-type: none"> <li>Link local food supply to the tourism market</li> <li>Improve production and access to local and nutritious food to communities</li> </ul>			
<b>Upscale processing and reducing food waste</b>					<ul style="list-style-type: none"> <li>Support SMEs and provide initiatives for supporting farmers to add value to their local production</li> <li>Develop a “Food Hub” production setup</li> </ul>



# ONGOING PROJECTS, PROGRAMMES AND INITIATIVES

PROJECT	THEME	STRATEGY/ OUTCOMES	LEAD ORGANIZATION
Building resilience in Fiji`s fisheries sector through improved DRR and DRM	 Climate risk management and DRR	<ul style="list-style-type: none"> <li>To enhance capacities of Fiji small-scale fisheries to respond to natural disasters and impacts of climate change</li> </ul>	FAO
Strengthening capacities to address climate change impacts on biosecurity and food security in Fiji, Samoa and Solomon Islands	 Agriculture, soil and land practices	<ul style="list-style-type: none"> <li>To assess the correlation between climate change and trans-boundary/invasive species, and impacts on food security and to address barriers in the agriculture sector</li> </ul>	FAO
Pro-Resilient Fiji - Strengthening climate resilience of communities for food and nutrition security	 Agriculture, soil and land practices	<ul style="list-style-type: none"> <li>To structurally and sustainably reduce food and nutrition insecurity derived from the negative impact of climate change induced disasters by tackling the root and underlying causes of vulnerability.</li> </ul>	FAO
Fiji Food Forestry	 Agriculture, soil and land practices	<ul style="list-style-type: none"> <li>Nature-based solution to food farming by adopting forest ecosystem model in which food plants and trees are grown in multi-layered gardens</li> </ul>	Ministry of Forestry with Nasinu Town Council, Tasty Kitchen Collective
Home Gardening Program & Farmer Support Program	 Agriculture, soil and land practices	<ul style="list-style-type: none"> <li>Households were given seeds in order to plant, tend, and harvest their own food to people living in urban and semi-urban areas. The Program also sold surplus seeds from farmers through seed buyback program, distributing it to urban areas</li> </ul>	Ministry of Agriculture

# FOOD FORESTRY: NADERA FOOD FOREST



## Nadera Food Forest Site



### Legend

- Fruit Trees
- ⬠ EFL Pole
- Boundary Pegs
- Sewer pipe
- - - Access
- Creek
- ▭ Crops
- ▭ DP4124- Lot 3

Scale: 1:750



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Produced by the GIS Officer of Forest Resource Assessment and Conservation Division at 1500hrs on the 29th of August, 2022.

*An opportunity to domesticate and commercialise many of Fiji's native forest fruit and nut trees, which would safeguard and boost Fiji's native biodiversity*

## OBJECTIVE

To implement the restoration of overgrown site in the community-managed pilot urban food forest

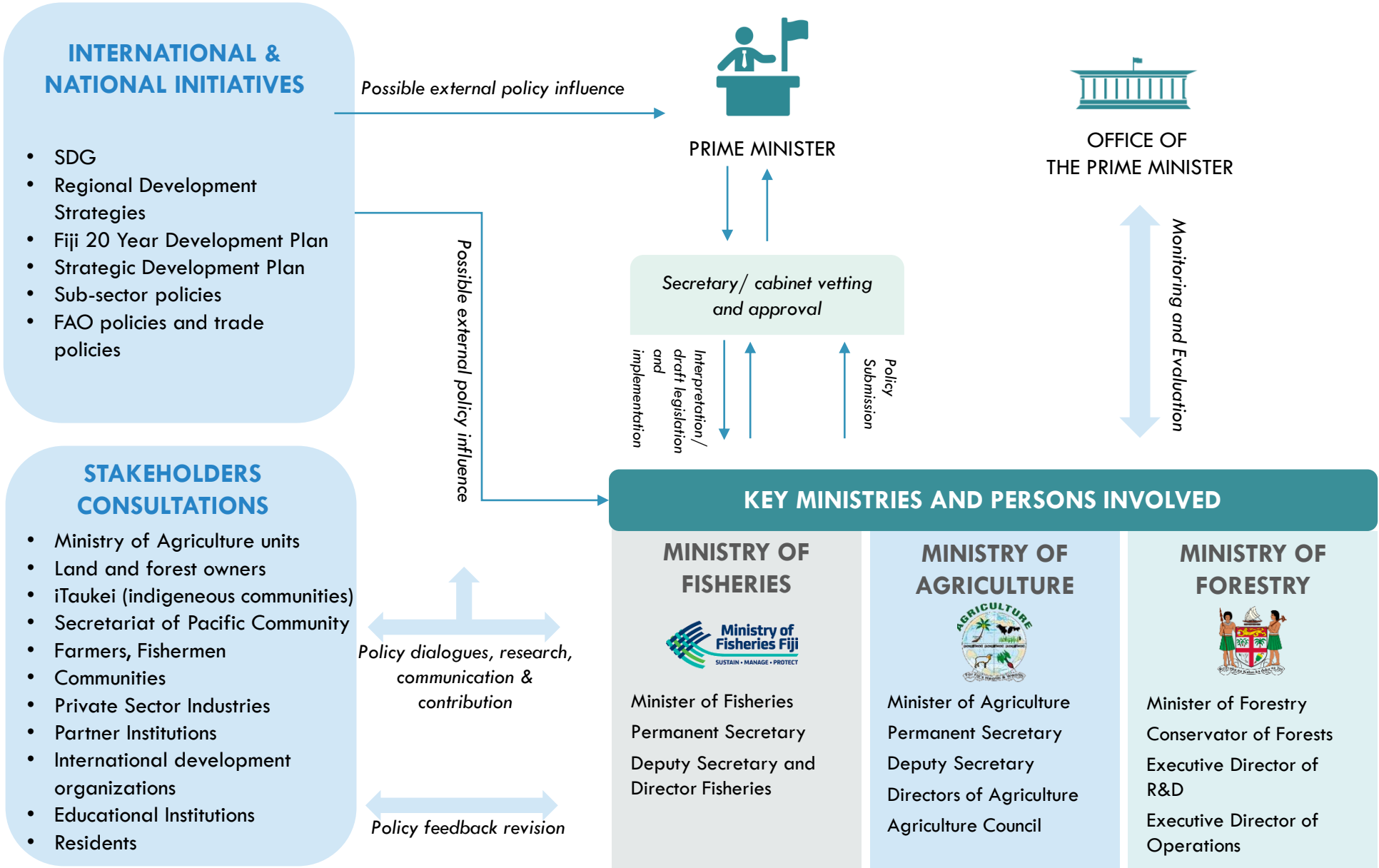
## STAGE OF DEVELOPMENT

Early stage of development establishing collaboration with stakeholder partners in the planning and design of activities, and funding proposal submission to finance some components of the action.

## ABOUT THE PROJECT

Fiji's urban centres have allocated public open space in the city/town planning, but are most often not actively managed. Nadera Food Forest of 0.6 hectares (ha) is an Open Space Reserve ear-marked by the Nasinu Town Council to be developed into a pilot small-scale Urban Food Forest. The area of interest is already cultivated for food by the residents.

The proposed Food Forest is planned to substantially improve the sustainable food nutrition and productivity of the area, with these community members and school children volunteering their time to be educated on the concept, learn about native biodiversity and harvest food for themselves





IMPROVE FOOD AND  
NUTRITION SECURITY FOR ALL  
FIJIANS



INCREASE FARMER  
HOUSEHOLD INCOME FOR  
SUSTAINABLE LIVELIHOOD



IMPROVE THE ADOPTION OF  
SUSTAINABLE RESOURCE  
MANAGEMENT AND CLIMATE  
SMART AGRICULTURE



ESTABLISH AND IMPROVE  
COMMERCIAL AGRICULTURE



ESTABLISH AND IMPROVE  
COMMERCIAL AGRICULTURE

# FIJI: GAPS IN CLIMATE RESILIENT FOOD SYSTEMS

Food systems focused mostly on production – initiatives for better market arrangements and market infrastructure not well-coordinated

Knowledge gaps on increased shoreline erosion and inundation and reduced surface water on food production

Many agencies are involved in developing Safe, Resilient, Nature-Positive, Innovative Food Systems and coordination between all of them is a challenge

Inconsistent and seasonal supply of produce due to poor infrastructure, lack of harvest and processing knowledge, storage and processing facilities

Impacts of climate change, soil degradation, salinization, desertification leading to plant diseases, pests, bovine diseases, threatening beef and dairy production

Local produce is often more expensive than imported produce

# ENTRY POINTS FOR CRFS ALLIANCE

## CLIMATE- RELATED INTERVENTIONS REQUIRED IN FOOD SYSTEMS

- Regular climate change assessments, GIS mapping, and crop modelling to improve understanding of environmental and climate risks to agriculture production, distribution and processing, and use these assessments and models as part of national planning for food and nutrition security.
- Strengthen Fiji's disaster preparedness efforts in the agriculture sector by encouraging agronomy practices, climate-based crop planning, and the protection, breeding, and cultivation of traditional and improved seed varieties; cultivars and livestock breeds
- Strengthen research collaborations with farmers communities, and national research institutions
- Assess farm community and sectoral attitudes to climate adaptation actions in agriculture to develop appropriate and inclusive education and awareness programmes, extension services, farmer field schools
- Promote and integrate climate-smart agriculture (CSA) practices into farming, trainings, extension services, policies and plans and adopt nature-based and urban solutions where possible.
- Increase adoption of sustainable soil and land management techniques to address soil erosion, desertification, increased soil salination and to improve soil fertility, nutrient management, arability & soil restoration
- Support the restoration, enhancement and conservation of coastal ecosystems such as mangroves, seagrasses and coral reefs.
- Improve water management systems by assessing and protecting existing water sources, improving and upscaling irrigation systems, improving and maintaining water drainage systems, applying and upscaling good agronomic practices for water conservation
- Extend early warning systems to fishing households
- Formulation of National Food and Nutrition Security policy to support Food Systems Pathway

## CRFS ALLIANCE ENTRY POINTS

- Identifying appropriate solutions and expertise in and promoting knowledge and innovation towards climate resilient food systems in alignment with the Fiji's vision
- Climate services, climate Data, statistical capacities, tools to inform decision-making, planning, and investment.
- Collection of possible climate finance sources and guidance on applying to them
- Helping in formulating domestic policies to promote climate resilient food systems, including aquatic foods, reducing reliance on processed and imported food. Eg. National Food and Nutrition Security Policy
- Availing methods with climate food and relevant data, information and tools for adaptive management of fisheries, building capacity for management
- Technological innovation and promoting bioeconomy
- Strengthening stakeholder coordination to ensure enhanced implementation, monitoring and evaluation of actions