



Pacific  
Community  
Communauté  
du Pacifique



# Building Resilient Agriculture in the Pacific Communities: Experience from SPC

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# Outline

- Background
  - *Importance of Agriculture in the Pacific*
  - *Agriculture and Climate Change Challenges*
- SPC Approach to Challenges and Issues
  - *SPC Community Vulnerability Assessment Approach (V&A)*
  - *V &A Results*
- SPC Programmes to building resilient agriculture in the Pacific
- Impacts of Interventions
- Conclusions
  - *Lessons & Recommendations*

## Background

- Agriculture plays an important role in the Pacific Islands economies, providing food, income, employment and livelihoods for a significant proportion (80%) of the region's population
- The performance of the sector has declined owing to many factors including, population pressures, soil fertility, P&D, low returns, narrow export based, and over reliance on imported foods
- Increasing productivity, competitiveness and sustainability of agricultural production to ensure ongoing food and livelihood security in the coming decades, a major challenge
- Climate change is already putting additional set of challenges for the sector
- There is limited research targeted on understanding climate change impacts on agriculture and resiliency of current production systems
- Knowledge gap





# SPC's Response

SPC, is collaborating with Agriculture Ministries and a range of development partners (USAID, EU, ACIAR, FAO, SPREP, GIZ, IFAD, etc.) to evaluate and implement innovative techniques and management approaches to increase climate resilience of food production systems in the Pacific Islands communities.



Evaluation of  
Adaptation Strategies  
(Impact Assessments)

Community Vulnerability  
Assessments (PRAs;  
Vegetation and Land  
cover Mapping)



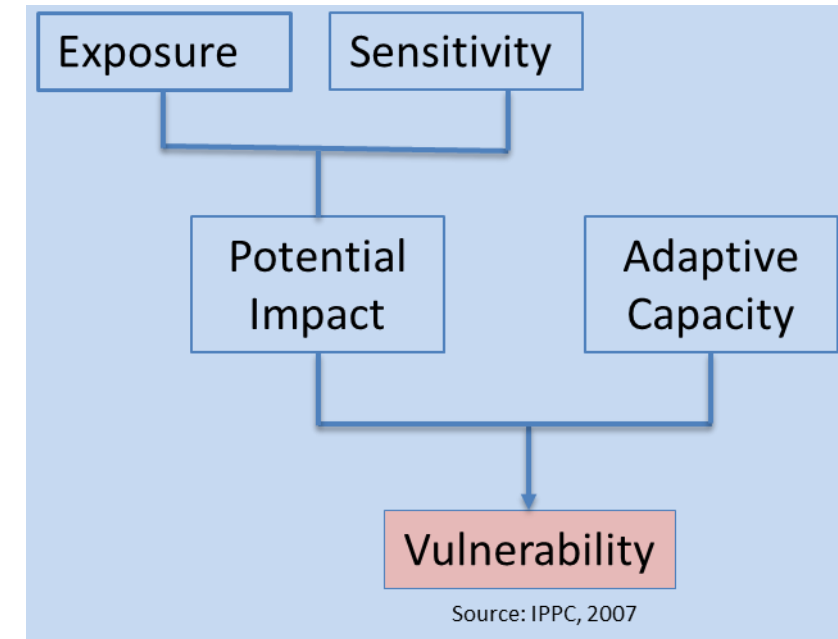
Implement Adaptation  
Strategies

Participatory Develop  
Local Adaptation  
Strategies



## Determinants of Vulnerability

- Building resilience starts with reducing vulnerabilities
- **Vulnerability** is a function of character, magnitude and rate of climate variation to which a system is **exposed**, its **sensitivity**, and its **adaptive capacity** (IPCC, 2007).
- **Exposure** is defined as the nature and degree to which a system is exposed to significant climatic variations. Climate variation includes average climate change and extreme climate variability (IPCC, 2007).
- **Sensitivity** is the degree to which a system is affected, either adversely or beneficially, by climate-related factors (IPCC, 2007).
- **Adaptive capacity** is defined as the ability of a system (the community) to adjust to climate change (including climate variability and extremes), to mitigate potential damages, to take advantage of opportunities, or to cope with the consequences (IPCC, 2007).

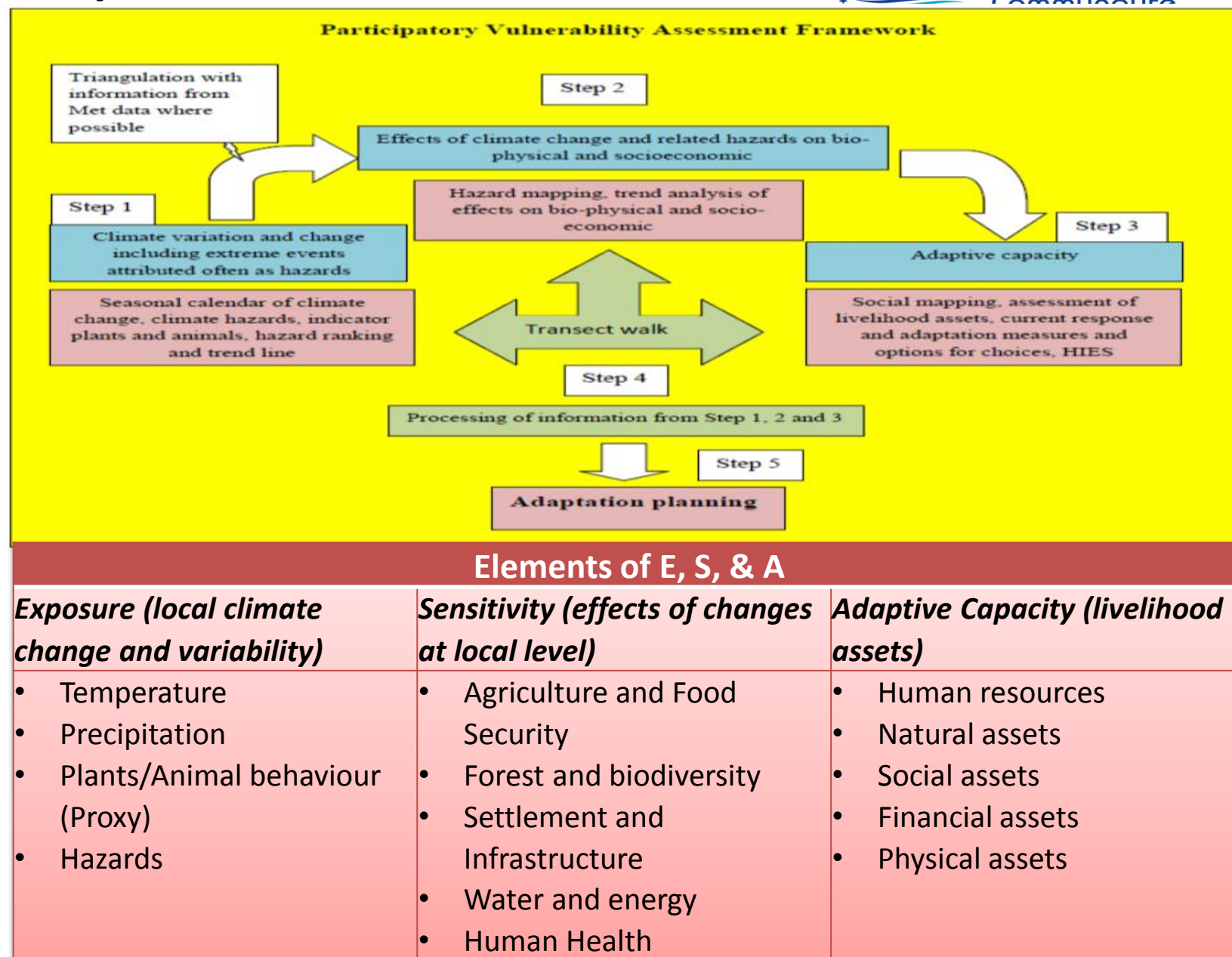




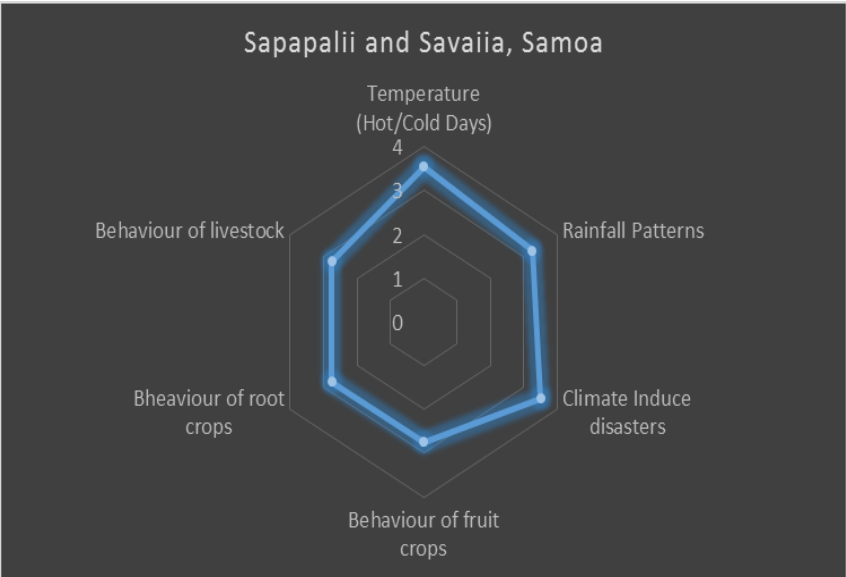
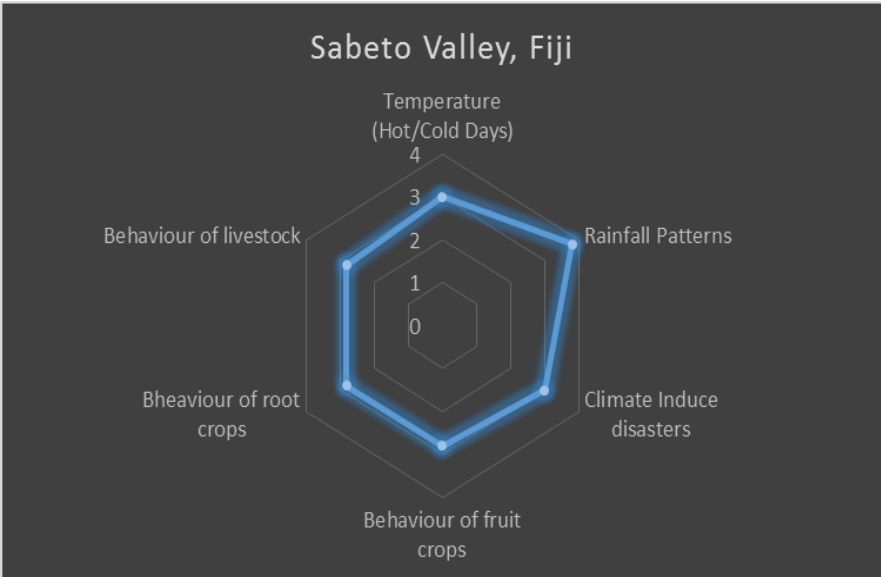
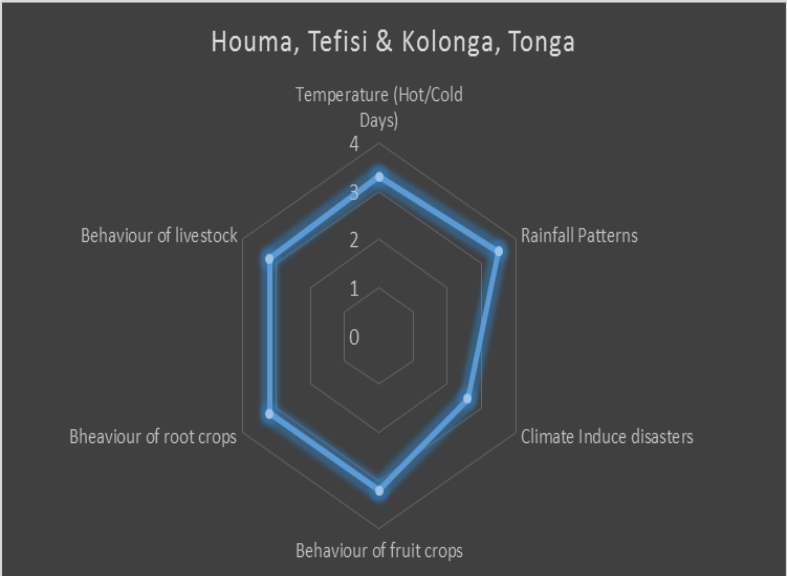
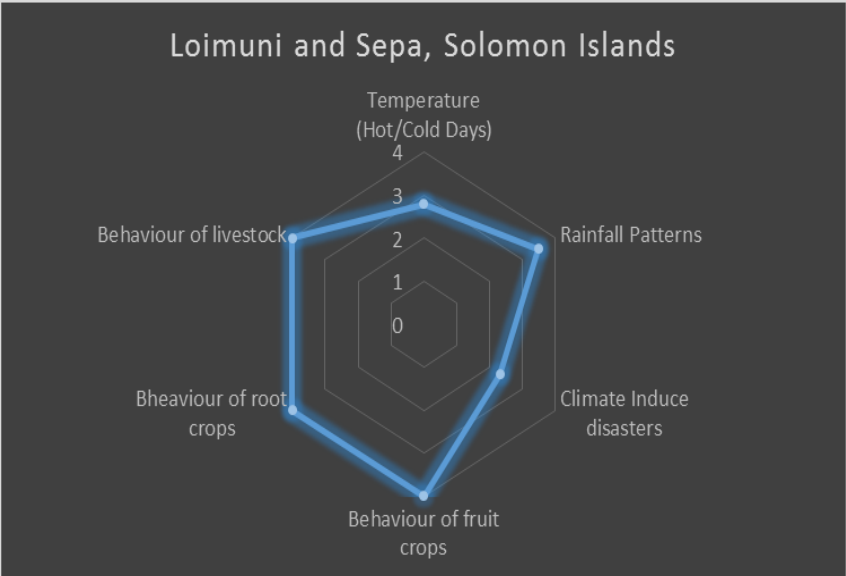
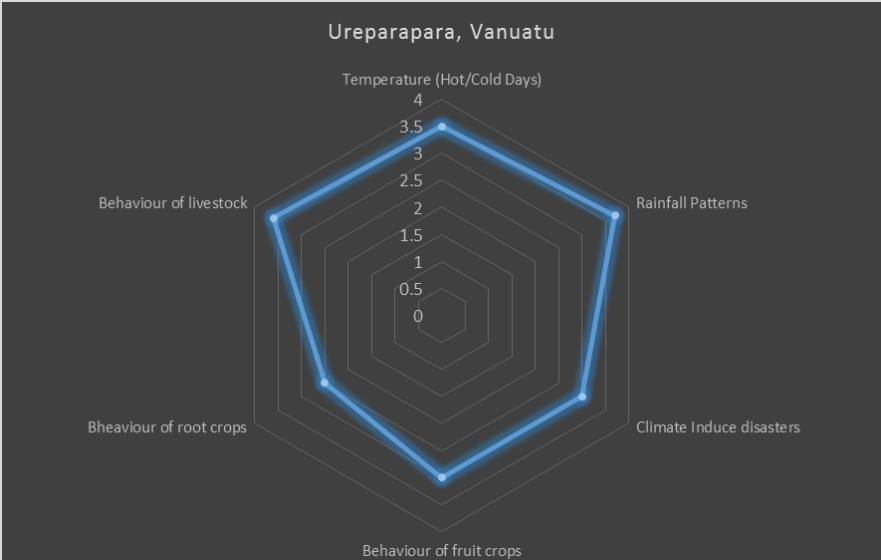
# SPC Vulnerability Assessment Framework

- Using each of the PRA tools, E, S and A were assessed at LOW (1), MEDIUM (2), HIGH (3) and VERY HIGH (4) scales through assessment of their **elements** based on community perceptions.
- Community perceptions were recorded and collated to determine the ***E Index, S Index and A Index***

$$V = E \times S / A$$



# Results: Exposure



1 – Low  
2 – Medium  
3 – High  
4 – Very High

# Exposure Indicators

Variables/Hazards	Indicators	Correlation with Scientific Studies and Evaluation of farming systems
Temperature	<ul style="list-style-type: none"> <li>Number of hot days has increased; Number of cold days has decreased</li> </ul>	<ul style="list-style-type: none"> <li>Extreme hot days to increase</li> </ul>
Rainfall	<ul style="list-style-type: none"> <li>Rainfall season has shifted (longer) and increasingly unpredictable</li> </ul>	<ul style="list-style-type: none"> <li>Seasonal rainfall to increase</li> </ul>
Climate induced disasters (Cyclones, Landslides, Drought, Floods, Sea level rise, P&D)	<ul style="list-style-type: none"> <li>Occurrence of Landslides has increased</li> <li>Occurrence of flooding has increased</li> <li>Occurrence of drought</li> <li>Cyclone and Tsunami intensity increased</li> <li>Sea level rise and salt water inundation (atoll and coastal communities)</li> </ul>	<ul style="list-style-type: none"> <li>Tropical cyclone frequency unchanged, intensity increased</li> <li>Mean Sea level to increase</li> <li>Surface and sea surface temperature to increase</li> <li>Ocean acidification to increase</li> </ul>
Livestock Behaviour (Pigs and Chicken)	<ul style="list-style-type: none"> <li>Reduced performance and productivity</li> <li>Livestock diseases</li> </ul>	<ul style="list-style-type: none"> <li>Production and productivity</li> </ul>
Behaviour of fruit crops	<ul style="list-style-type: none"> <li>Mango season ceased past 10 years (VT &amp; SI) and shifted (SW, TO)</li> <li>Productivity of banana has declined &amp; pests and diseases (All)</li> </ul>	<ul style="list-style-type: none"> <li>Climatic factors – soil health issues; P&amp;D regime, production declines</li> </ul>

预览已结束，完整报告链接和二维码如下：

[https://www.yunbaogao.cn/report/index/report?reportId=5\\_2576](https://www.yunbaogao.cn/report/index/report?reportId=5_2576)

