



# ***Food Security in the Pacific***

## ***A Snapshot***



# Who am I

- Secretariat of the Pacific Community, aka SPC
- CROP agency, owned by RMI and all other Pacific Island Countries
- 8 technical Divisions covering water, geoscience, disaster management, energy, transport, health, education, human rights and social development, agriculture and forestry, and I suspect a few more...
- I work for the Land Resources Division (Suva, Fiji based) that looks after the agriculture and forestry (and livestock) work area

# Food Security – what is it?



- Food security exists when **all people**, **at all times**, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. (World Food Summit, 1996)

## Shorter Definition

- Food security refers to access by all people at all times to sufficient, safe and nutritious food for a healthy and active life.

# FOOD SECURITY DIMENSIONS



## FOOD SECURITY

### Food Availability

Refers to “Sufficient” amount of food that is present in a country/area through local food production and imports or food aid

### Food Access

Refers to “physical, social and economic access” to acquire adequate amount of food consistently through production, purchases, barter, borrowings

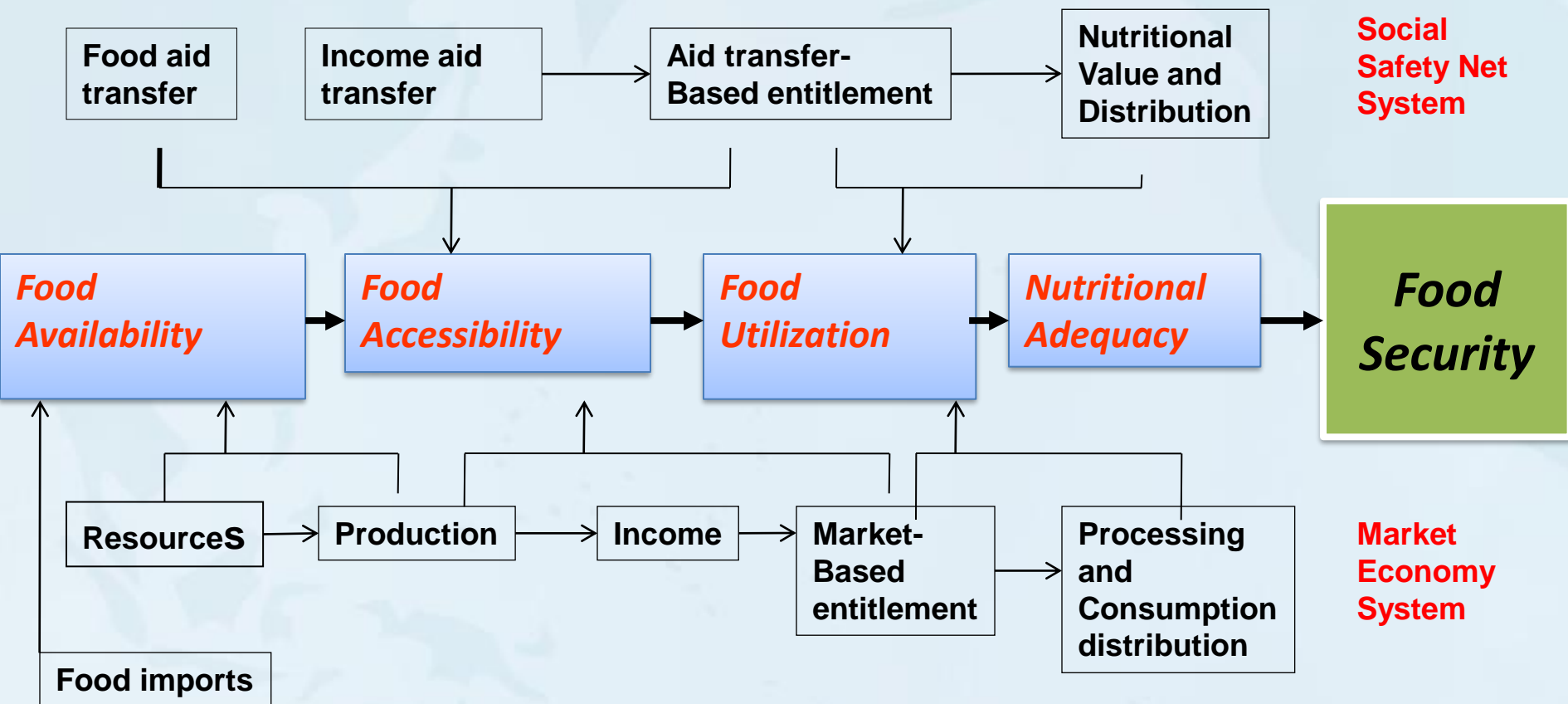
### Food Utilisation

Refers to “safe and nutritious food which meets dietary needs for an active and healthy life”

### Food Stability

Refers to “at all times” in the definition and applies to all 3 dimensions

# Determinants of Food Security



We know CC and CV cuts across all the pillars and within the sub-systems, but how, and by how much, we don't know just yet...

# Food Availability – National Level



Country	Kcalorie/per/day	% Import
Fiji	3663	51
Kiribati	3534	63.7
Solomon Islands	2422	55.8
Vanuatu	2757	49.2
Cook Islands	3185	83.4
Samoa	2886	>60%
Marshall Islands	2950	89

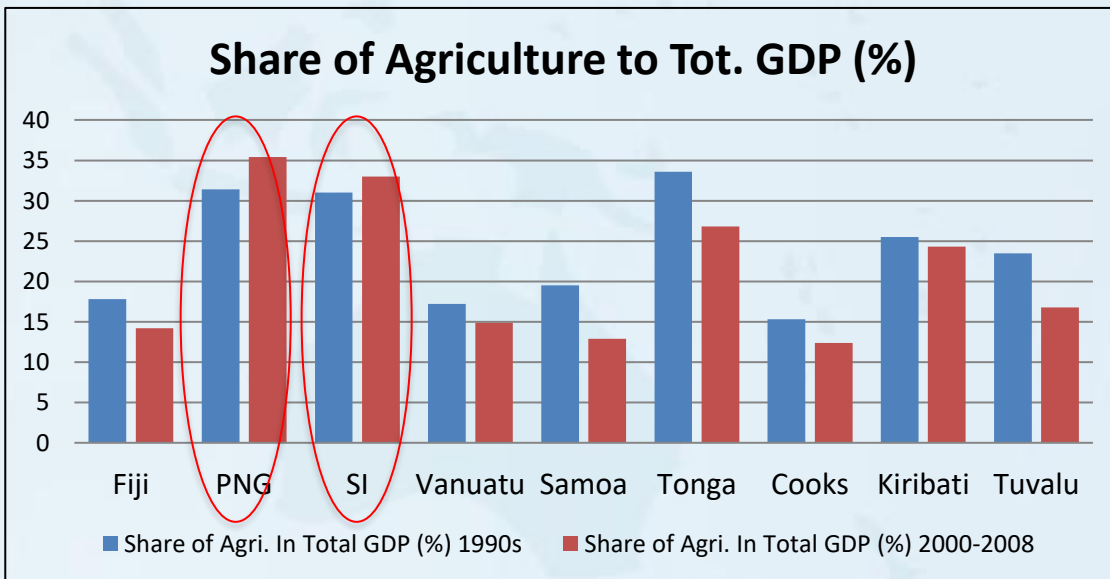
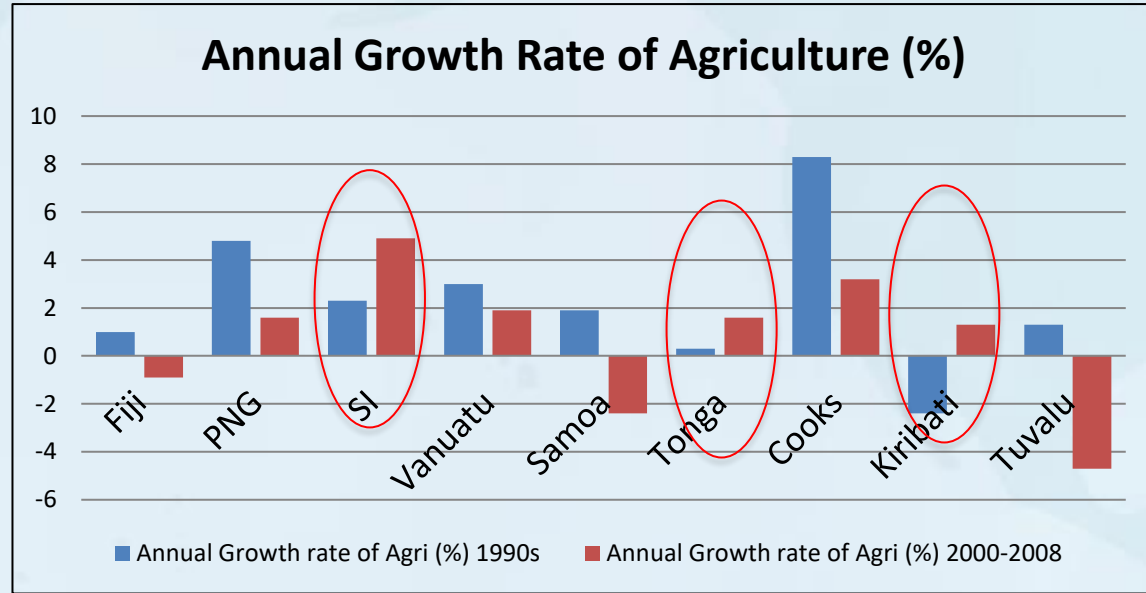
Country District/villages	% Energy Local	% Protein Local
Korobebe	48.9.0	33.2
Nabuotini	45.6	38
Kolonga	60	32.5
Tefisi	54.9	55.8

# FS Issues in PIs



## Food Production

- Except SI, Tonga & Kiribati, average agriculture annual growth rate has declined since 1990s



- Similar trend for share of agriculture to total GDP
- Share of agriculture to total GDP for PNG and SI are mainly due to increased export of coffee, palm oil & coconut oil

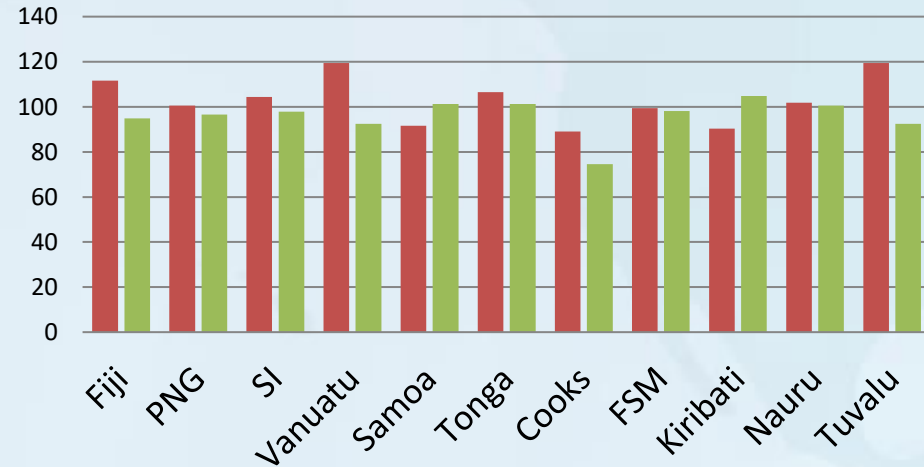
# FS Issues cont'd



## Food Production

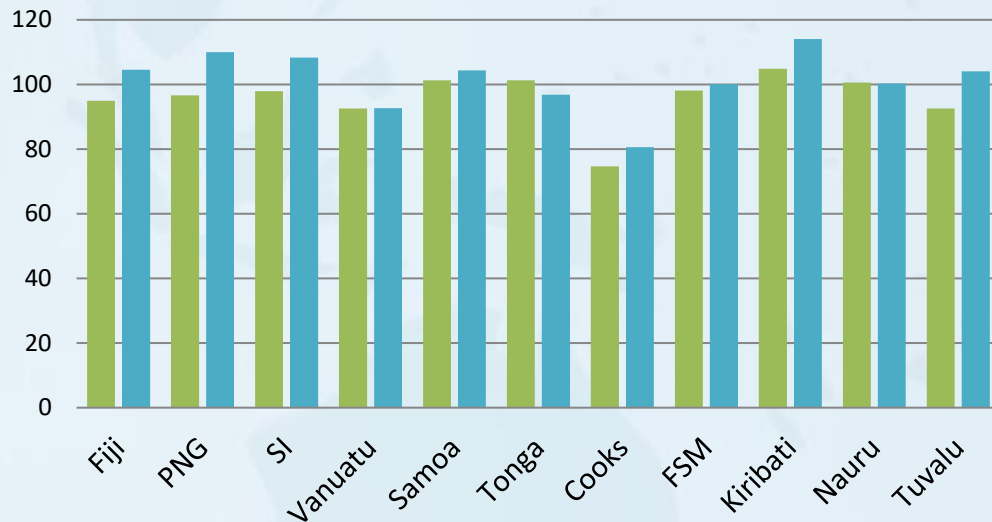
- Overall food production per capita is declining

### Net Food Production per capita



- Net Food Production per capita index 1990-1994
- Net Food Production per capita index 2000-2008

### Livestock Production Index



- Net Food Production per capita index 2000-2008
- Livestock Production Index 2000-2008

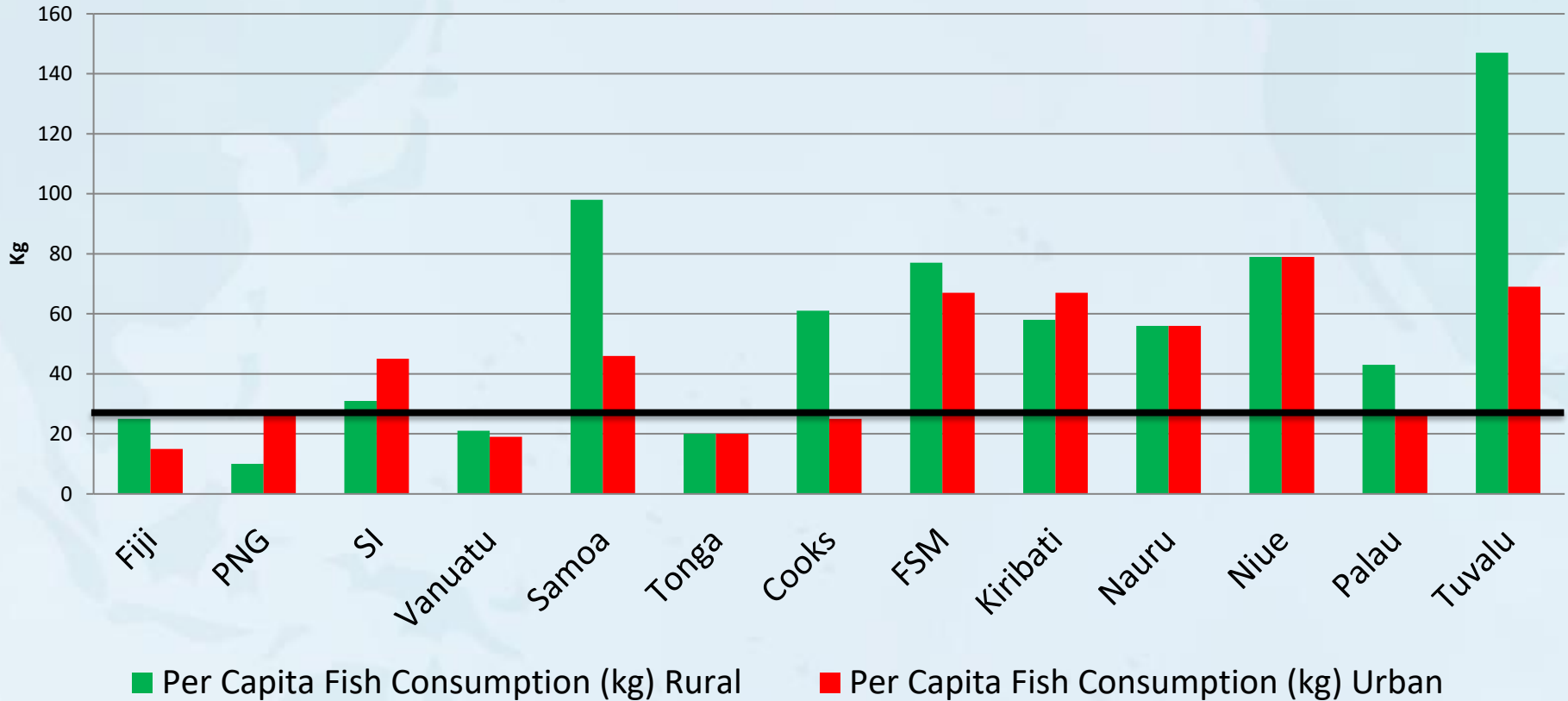
- Overall livestock production is increasing throughout the region



# Fish Availability/Consumption



## Fish Consumption in the Region



- Most fish consumption comes from coastal fisheries
- Most countries (especially rural) above requirements (35kg/year)
- Even well managed coastal fisheries will not provide the future fish needs

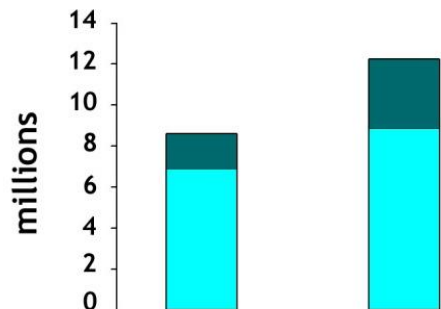
# Food Availability Issues in PIs



## Population Growth

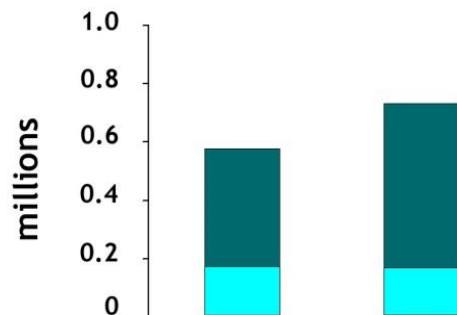
### MELANESIA

2010 2030



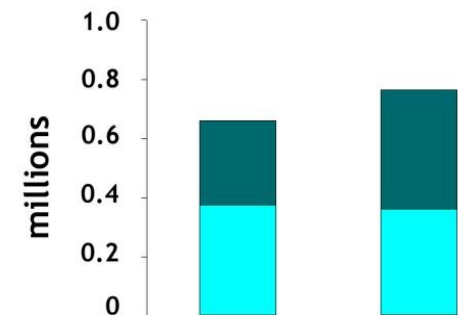
### MICRONESIA

2010 2030



### POLYNESIA

2010 2030



- Region's population will double in 2050
- Extra 115 000 tonnes of fish per year must be provided across region (*CC and Pacific Fisheries – SPC*)



Country	Kcal/person/day			
	1990	% Imported	2005	% Imported
Fiji	2592	38	3001	51
SI	1984	27	2433	56
Vanuatu	2498	34	2575	49
Samoa	2614	33	2769	65
Tonga	2918	39	2992	45
Kiribati	2589	29	2854	64
RMI	2819	67	2950	89



# Arno sample HIES FBS

Table 5. Energy Sources

	Coc conut	Breadf ruit	Panda nus	Bana na	Total Local	Rice	Flour	Ramen	Total Import	Total/da y/perso n	% Import
g	91	85	25	41	241	541	218	34	793	1034	91%
kcal	167	86	14	24	292	1949	794	124	2867	3158	

Table 6. Protein Sources

	Por k	Chicke n	Tuna	Reef fish	Total Local	Can fish	Can meat	Chicke n	Total import t	Tot/per son/da y	% Import t
g	1	8	3	39	50	61	28	1	89	140	81%
kcal	4	9	2	25	41	112	64	1	178	218	

# Soil Health and productivity





# Poor native soil fertility (atolls)



# Food Access Issues

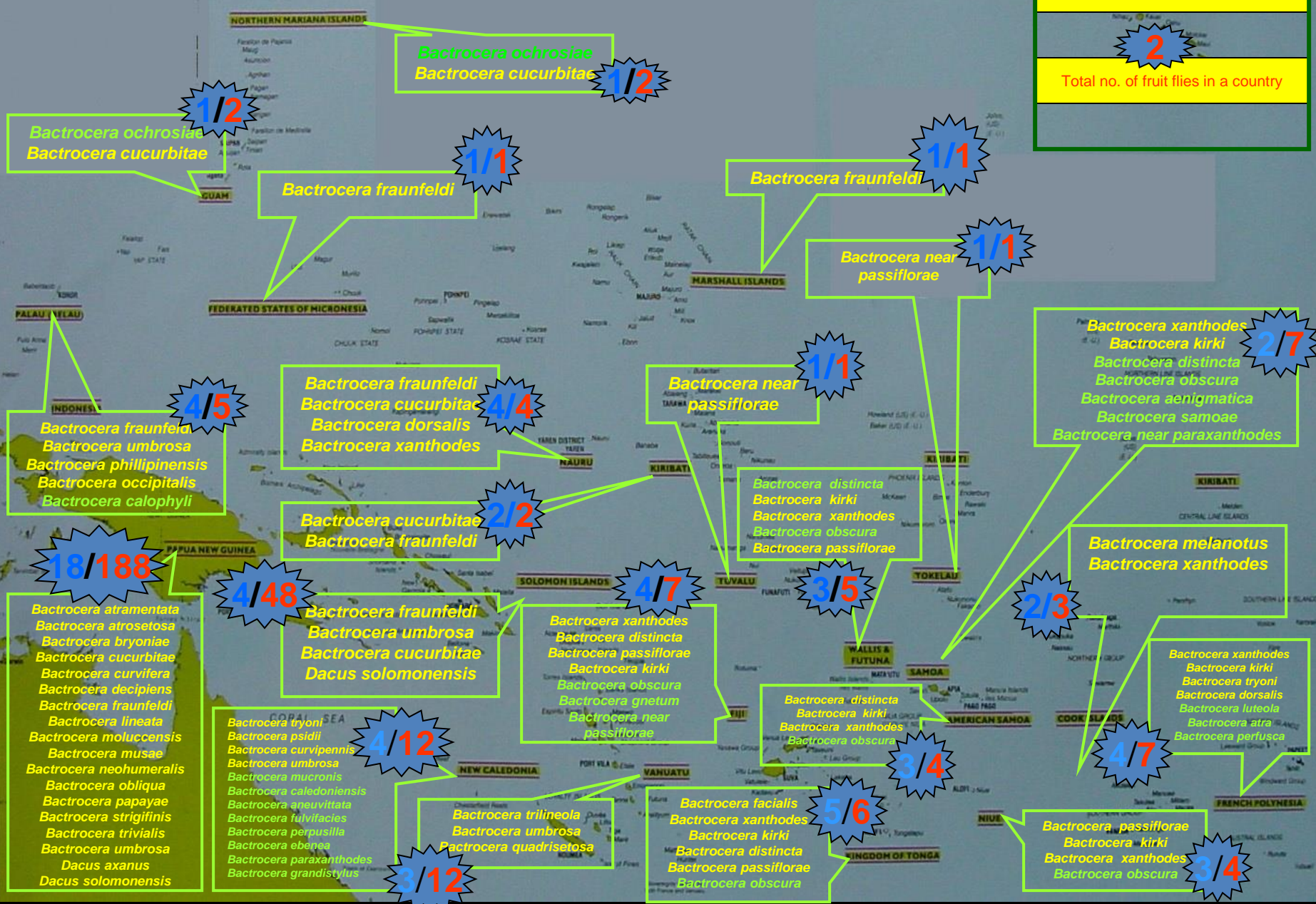


## Land Access

Village	% HH have land	Average size (acre)	Land Quality	% Grow own food
Divers Bay	100	6.42	<ul style="list-style-type: none"> <li>• Good (23%)</li> <li>• Average (77%)</li> </ul>	100
Sepa	96	2.89	<ul style="list-style-type: none"> <li>• Good (63%)</li> <li>• Average (30%)</li> <li>• Poor (7%)</li> </ul>	89.2
Loimuni	92	1.32	<ul style="list-style-type: none"> <li>• Good (33%)</li> <li>• Average (40%)</li> <li>• Poor (17%)</li> </ul>	70.37

# Pest and Disease Distribution

<b>1</b>
No. of economically important species
<b>2</b>
Total no. of fruit flies in a country

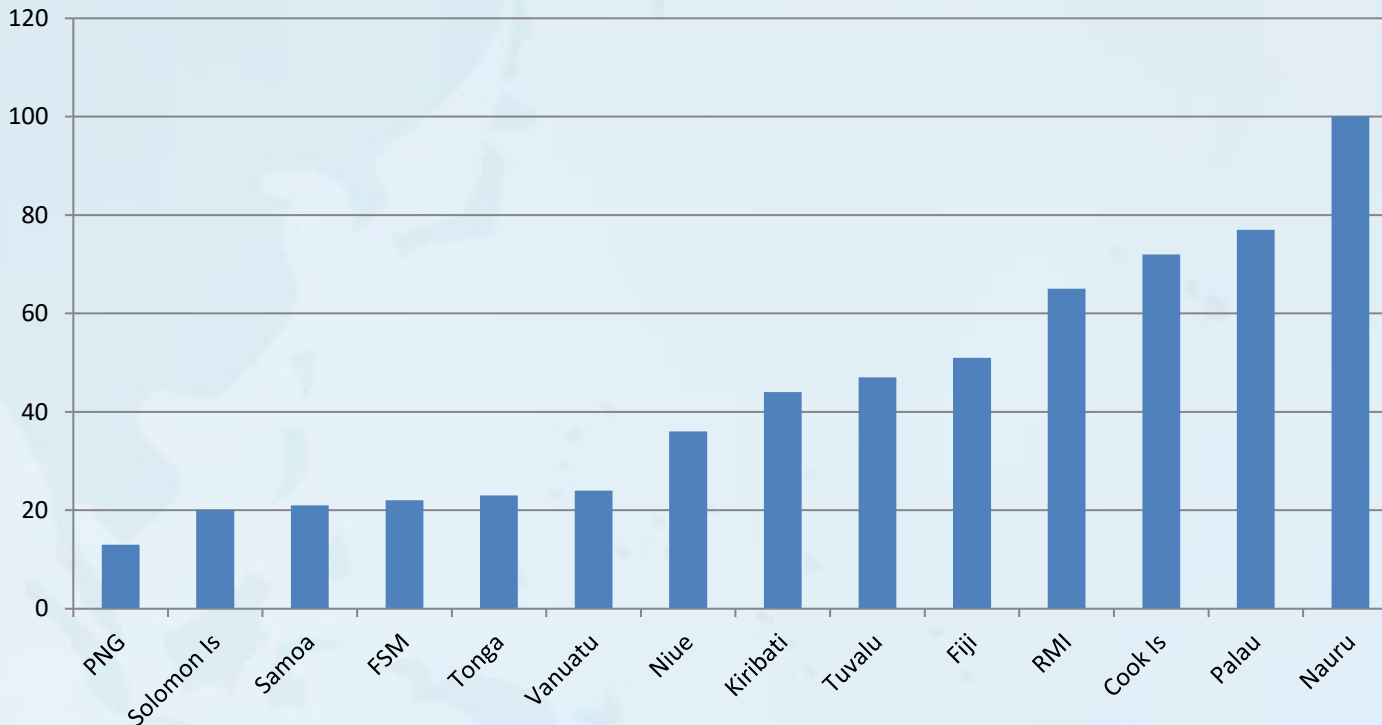




# FS Issues



## % Urbanization



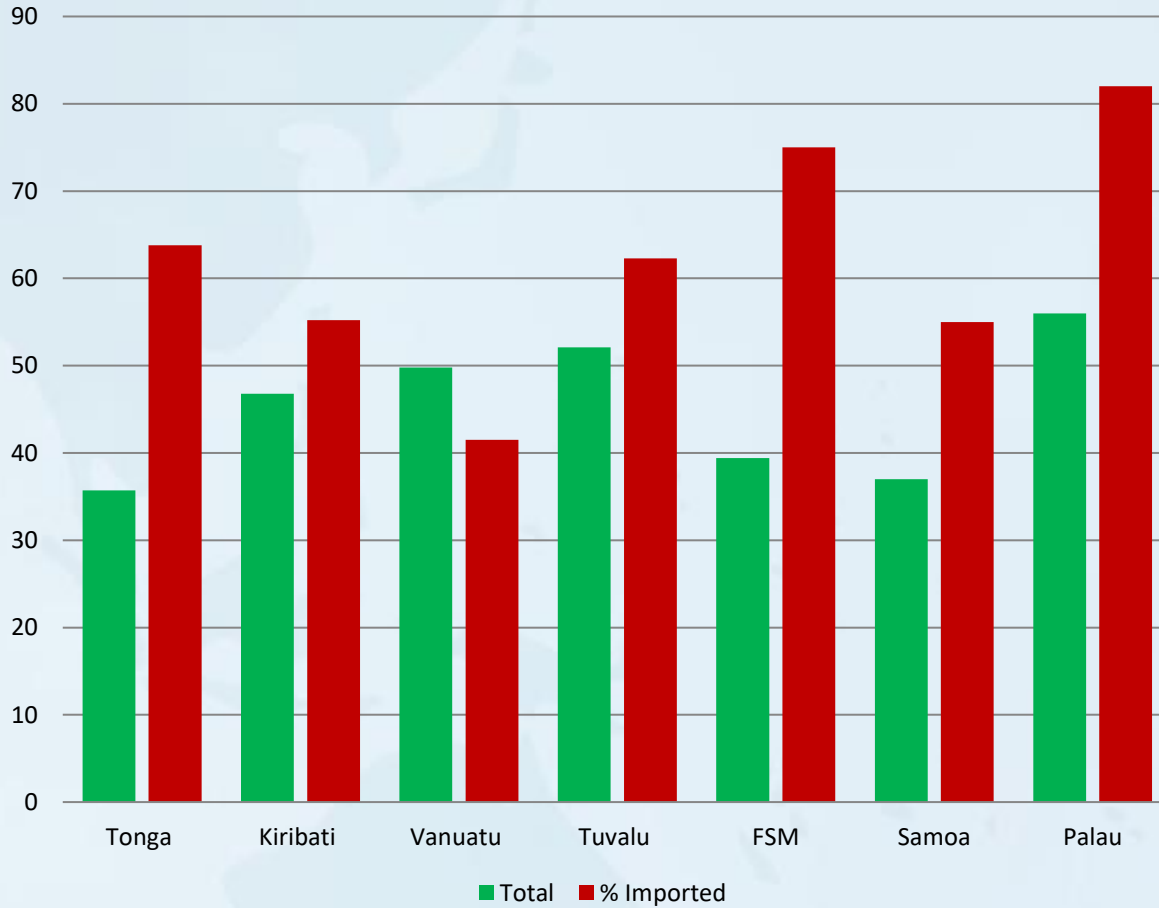
- No longer grow own food
- Increasing control of supermarkets on diet
- High prices forcing to buy cheap, poor quality food import
- Unemployment = low labor productivity = Loss of traditional knowledge



# Food Access Issues



Tot. Food Expenditure (%) & Imported Food (%)

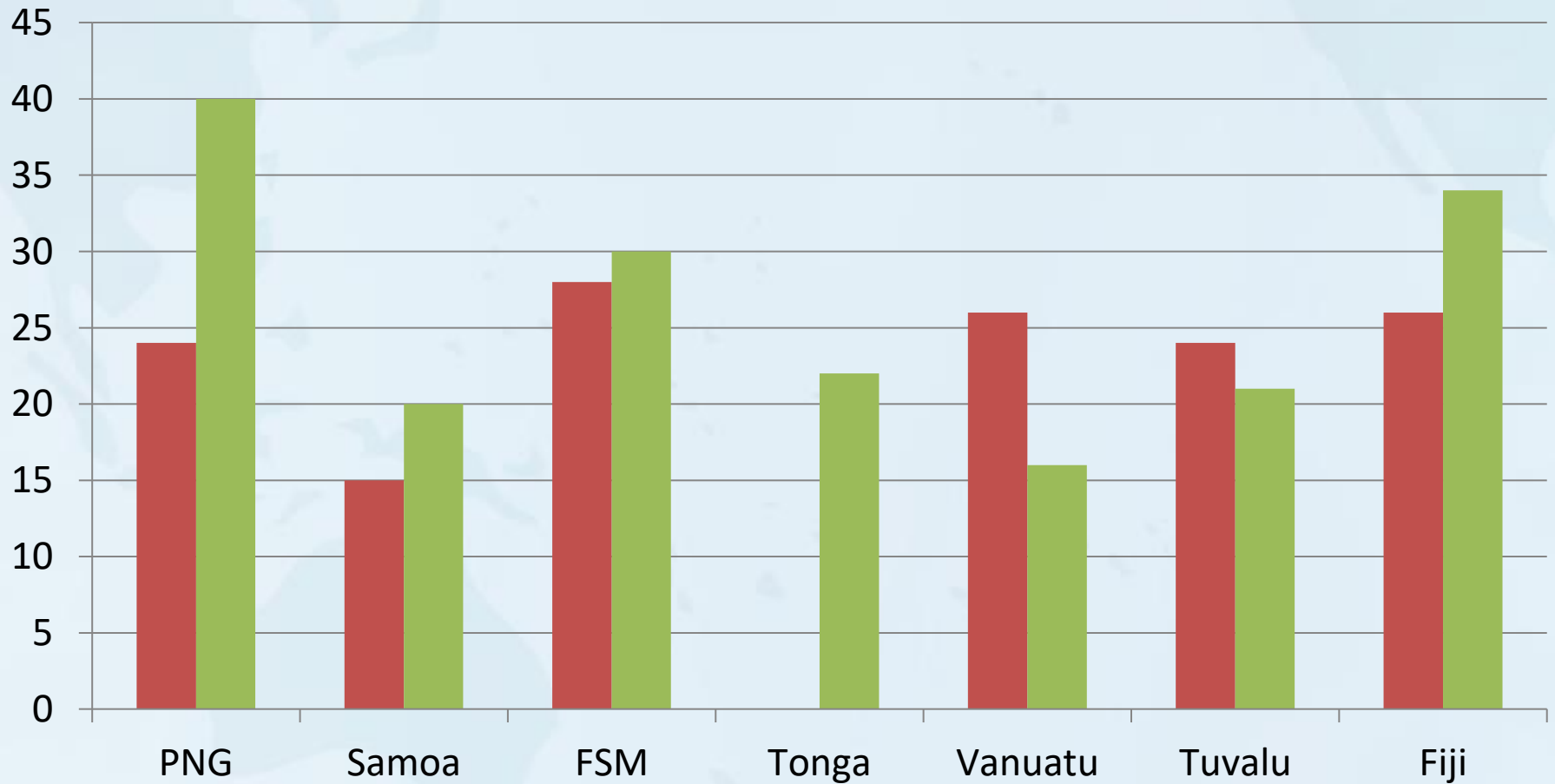


# Food Access Issues

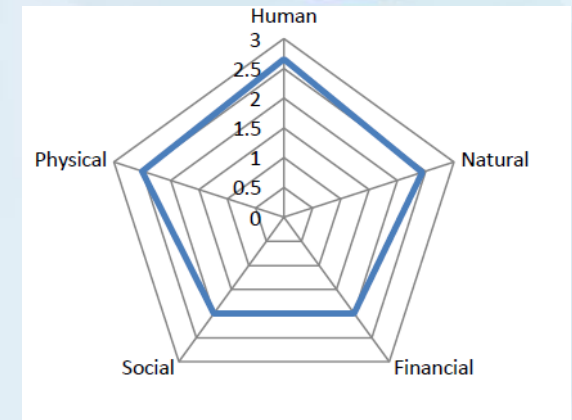
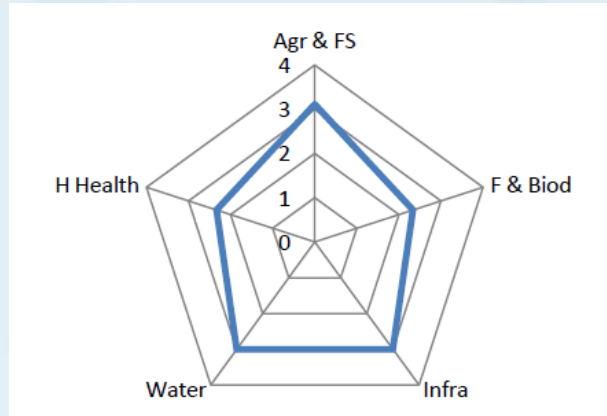
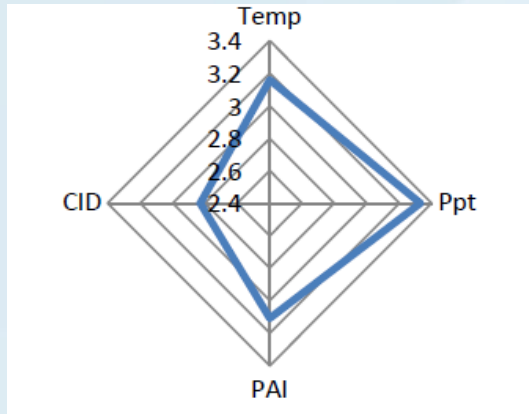


## Poverty

- % Population below basic needs poverty line (1994 - 1998)
- % Population below basic needs poverty line (2002-2007)



# Food Stability



Effect of the Global Crisis on Price of Rice

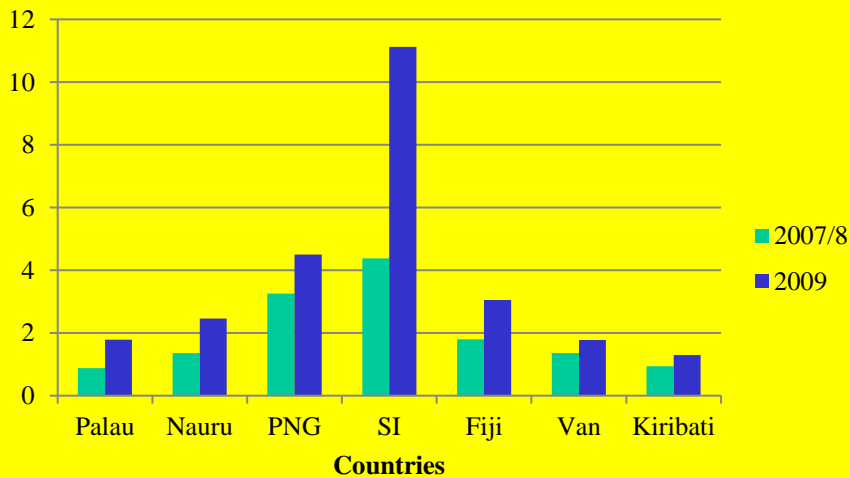
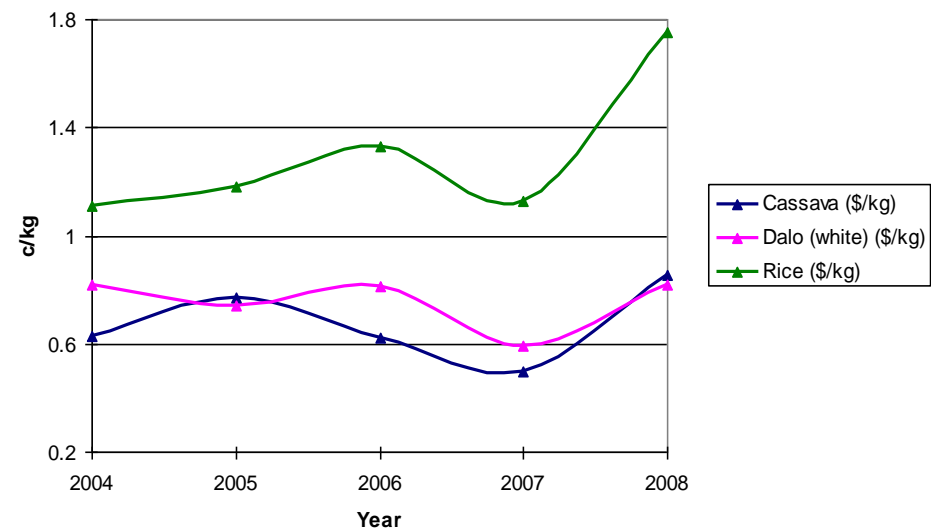
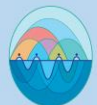
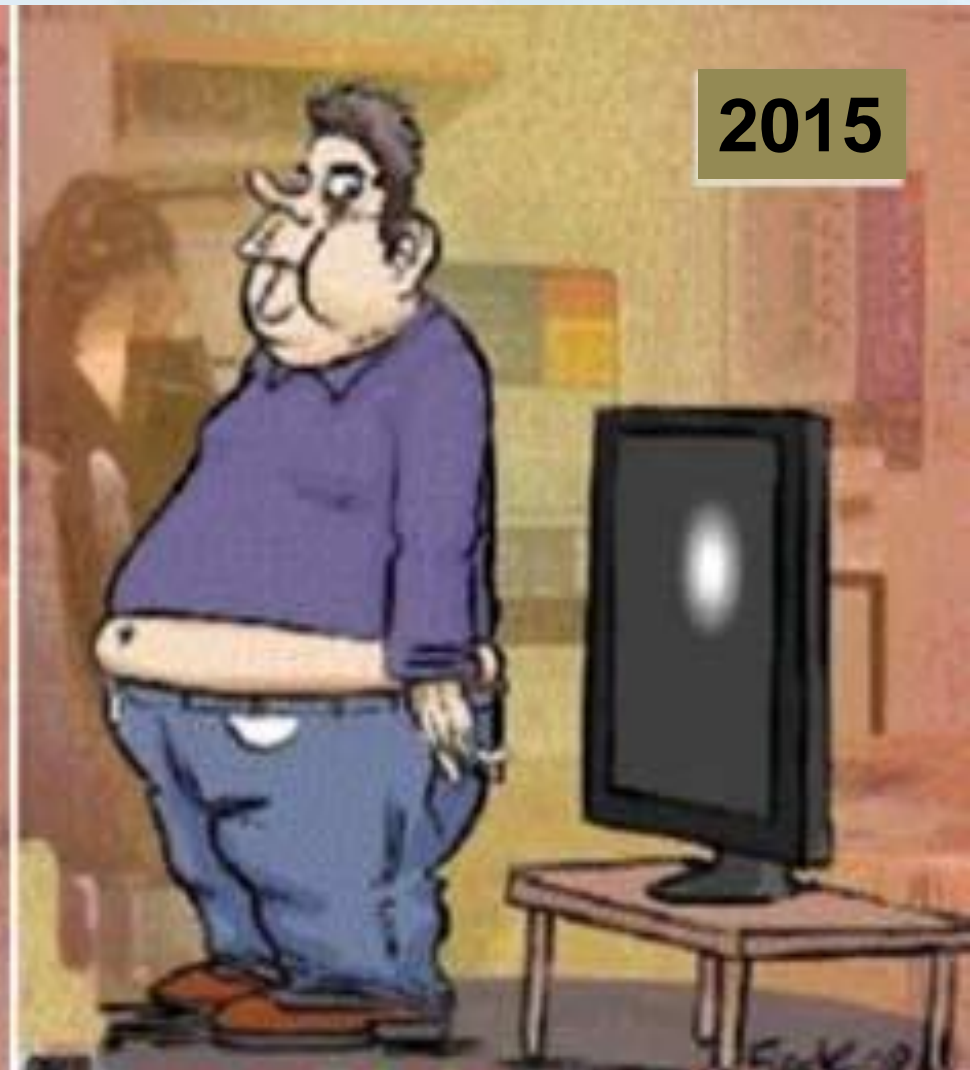


Fig 1: A comparison of Suva cassava, dalo and rice prices





# Changing times





## Leadership and cooperation

- Leaders, PHMM, MOAFs, FEMM continue to prioritize food security works in the region
- Prior to and after Vanuatu Regional Food Summit – national food summits (RMI FS WG status?)
- Food and nutritional security has been incorporated to some national development and sectoral plans
- Regional and national integrated approach set up – SPC/WHO/FAO
- National food security frameworks developed

Towards a  
Food Secure  
Pacific



Framework for Action on  
Food Security in the Pacific



Island Food Community of Pohnpei team 2009



# Enhanced and sustainable production, processing, marketing, trading and use of safe and nutritious local food

## Support for food production - Go Local

- Promote local agricultural production



## • Building resilience of systems

- \* CePaCT and Centre (Tarawa)
- \* Soil health and ICM





# Agriculture Food Security

## Expert Roundtable

### Apia Feb 2015







# context

- Agriculture in Pacific livelihood dependent
  - Approx. 40% dependent globally, Pacific 70-80% directly dependent
- High need is continuous for technical capacity, training, investment in sector at community to large scale commercial farming
- Growing small to large commercial agriculture sector development
- What about base food security concerns?
- What about nutrition? Downstream health impacts e.g. NCDs? PICTs are top 5 in the world on obesity!!!





# CC and CV

- Historically, impacts from extreme weather and climate events have caused food shortages from interrupted agricultural production at all levels
- Multiple stressors involved:
  - Global food market systems have a role, added complexity in food security
  - Population movements
  - Imported foods
  - Land use/tenure etc.
- Traditional knowledge systems still in play





# Agriculture

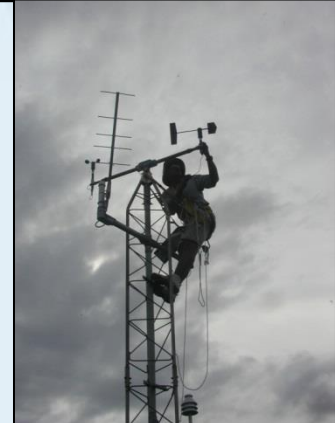
- Institutional strengths/weaknesses
  - **MAFs of the Pacific**, capacities/capabilities, planning/policy, information management (corporate/subject matter), research/extension services etc.
  - **Ability to react** and respond to natural hazards and disaster events
  - **Ability to plan** around natural hazards and disaster events
- End user characterization
  - Who/What/Where/Why/When/How





# Pacific Met Services

- Climate services capacity are different from country to country, but base services are available (e.g. seasonal forecasts, historical climate data and analysis services)
- Have moved into application development, interests in developing impact forecasting, hence need to engage sectors
- Regional organization, coordination well developed :-)
- Some have ongoing partnerships with MAF counterparts via projects, research interests
- Technical capacity is high (e.g. running application models for climate services like fire warning, drought monitoring) and services available – however need levelled up counterparts in Ag to raise efficiency in services





# Combined Services?

- Observation networks need partnering for expansion
- Need technical training from Ag counterparts (and vice versa i.e. meteorologists need to be agronomists and vice versa)
- Resources available to develop focused products and services are limited – how can we raise opportunities?
- Communication strategies in development
- Crop modelling capacity exists and needs expanding for active application (e.g. in research), data available from met what about Ag side?

# Vision



- **Strong food security base in the Pacific (and in support of commercial Ag)**
  - Community food production systems and base food security is highly vulnerable to CV and CC
- **Improved and value added services delivered effectively to end users**
  - How can climate services add value to existing agricultural services?
- **Sector equipped and using new tools, information, for effective planning, development of improved policies etc.**
  - IKM solutions, ISPs, commercial sector development



# Expert Roundtable

Where to from Here?



# Roundtable

- First formal exchange with weather/climate counterparts
- Open information sharing and learning mode
- Open and frank discussions
- Common view on improving services to agriculture end users through value adding agricultural advisory services with climate services







Ministry Institutional Capacity, two way communication, vulnerability assessments, data access and sharing, information knowledge management, community work plans, preparation and preparedness levels, access to timely warnings and advisories

Farming systems, PAR, Acceptable choices of risk, community development plans, two way communication, traditional knowledge, preparation and preparedness levels

Dynamic soil maps, water availability maps, understanding nature of risks, access to timely warnings and advisories, demand-side driven, crop diversification, PAR, data access and sharing, traditional knowledge, sunshine and rainfall data, observing network stations, formatting standards, research data and info sharing





Agromet Advisory Committee, Joint Climate Forecasting, MOUs, LOAs, Policy and Planning Consultation, AgroMet Summit, data and information policies, research, resources limit development

Traditional knowledge, two way communications, observation networks, seasonal/harvest calendars, realistic expectations, farmer field schools

Agriculture data (crops, yields, soils etc.), Climate databases, resources limit development, extreme events and impact forecasting, forecasting is not an exact science, realistic expectations, communications strategies





National level

Regional level

Proof of concept



# national

- Agriculture and Met meeting each other!
- Capturing and sharing of best practices (national experiences, lessons learnt, peer to peer training, national policy/planning/coordination guidelines and requirements)
- Creating/formalizing new partnerships and workspaces
- E.g. Tonga/Vanuatu/Samoa guiding principles and manual for MAF/MET formal engagement, sharing info/data principles, user engagement, shared communication plans, shared research priorities etc.



# regional

- Supporting actions by regional agencies in support of national level efforts
- Resource mobilization, identifying new opportunities, leveraging existing activities in-country, e.g. capacity building programmes, facilitation of peer to peer exchanges/training, policy/planning/coordination guidelines and requirements
- Terming this piece in partner/donor programmes
- Example: Existing SPC/FAO/SPREP/NIWA programmes in demo countries, existing funding opportunities, engaging WMO in CAgM, RAV CS-Ag, SPC/SPREP/FAO under FSPF, SPREP under PICS Panel and PMC/PIMS



# proof of concept

- Demonstration/learning around an 'event' for joint collaboration.
- Example: Drought seems the most highly rated risk hazard to agriculture services. Case study approach and experiences developed in countries, support from ext. agencies



## so, moving forward

- Workshop background, shared interest and concern for agricultural end user under weather and climate extremes pressure
- Emerging work space of need identified, and requiring of some regional multi-agency ecosystem of support to national efforts
- Identified some ‘low hanging fruit’ of achievable on ground activities (e.g. training), and opportunities (March 31 concept note to GFCS), key/priority areas for action





# Summary and affirmations

- There **exists a need** to support agricultural end users. Driving needs are many (productivity, total loss risks, commercial/subsistence livelihoods/food security). MAF and MET share the concern and each has supporting assets and capacities.
- There is much to **share** with results in much **enhanced support** to the **end user**
- There **exists opportunities and interests** at regional level to support the ongoing national effort on the ground



# Moving Forward

## Where To From Here?

- Agencies (regional and national) need to term this relationship and interaction with each other as a collective e.g. PICS Panel, FSPF, PMC
- Champions to form the collective spearhead (at national and regional levels)
- Highlighting risks/opportunities for the collective
- Long term goals and vision?
- Finally, an Action Plan? Needed or redundant?
  - A few options available



# Post Roundtable

- What have we learned from the first meeting of experts?
  - Boundaries and leadership
  - Policy contexts
  - What can we demonstrate?
  - Opportunities



# What have we learned

- Does data and information in both work areas exist?
- Do we have the right contexts?
- Do we have guidelines available?
- Why? Who? What? When? How?



# Do we have expertise available?

- What skill sets exist in both areas?
- Outsource and learn?



# Leadership

- VU TO WS have pioneered partnerships and cooperation between Met and Agriculture
  - Comment/lesson 1: Who are we waiting for? We have our people and mechanisms, we'll use them.
  - Comment/lesson 2: No Fear ;-)
- Sharing of lessons learnt has avenues in both Ag and Met, let's use them!



# Fa'afetai Tele Lava

