

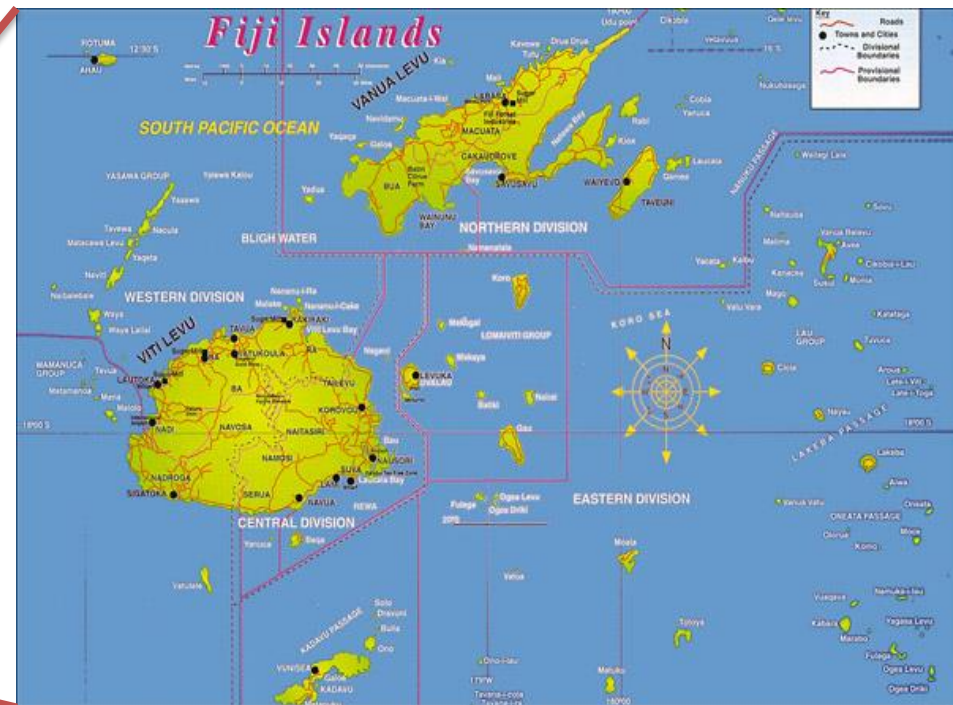


Increasing Household Vegetable Production: Shared Experience from Fiji

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Fiji is an island country in the South Pacific Region





Introduction

- Fiji comprises of approximately 330 islands, about one - third are inhabited.
- It covers about 1.3 million square kilometers of the South Pacific Ocean with a land area of 18,333 km².
- Fiji has a population of about 889,000 people, almost three-quarters of the population live on the island of Viti Levu where also the country's capital Suva is located.
- Spoken languages are English (official), iTaukei (Native) and Fiji Hindi.



Importance of Vegetable

- Vegetables provide health benefits and are an essential component in the daily diet.
- Continuous regular consumption reduces risk of some chronic diseases.
- Vegetables provide nutrients and vitamins vital for health and maintenance body.
- Get to enjoy variety of flavors and textures





Vegetable Production in Fiji

- Fiji is blessed with several kinds of vegetables (leafy, stem and root)
- A number of indigenous vegetables are also available.
- Plays a important part in developing the country's economy.
- Important source of income for rural population.
- Highly suitable for back yard gardening.
- Provides higher yield per unit area within the shortest possible time.
- Important source of foreign exchange.



Indigenous Vegetables of Fiji



Duruka (*Saccharum edule*)



Ota (*Athyrium esculentum*)



Karisi (*Nasturtium officinale*)



Bele (*Abelmoschas manihot*)



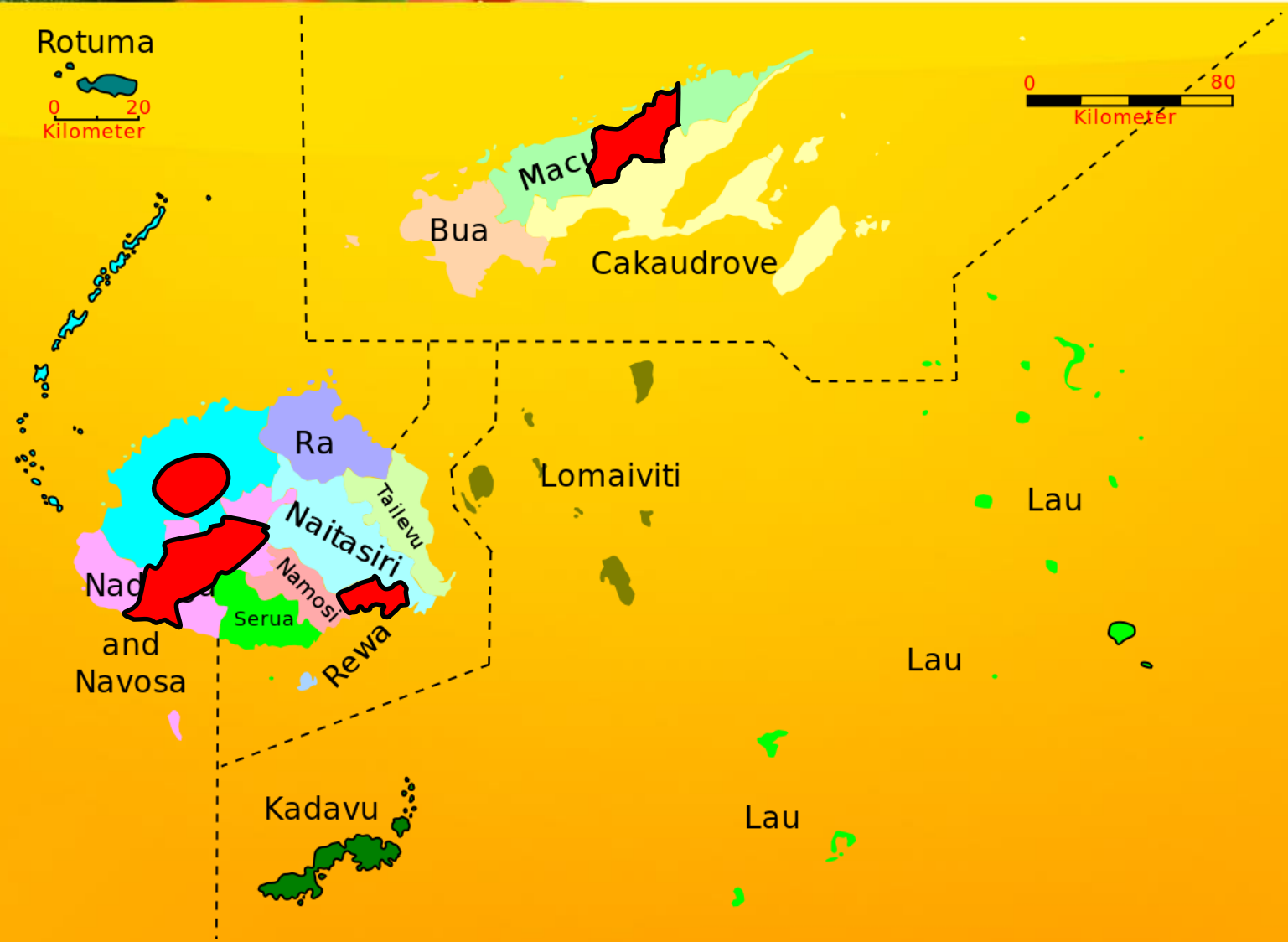
Sago (*Metroxylon vitiense*)



Rourou (*Colosasia esculenta*)



Major Vegetable Production Areas



Major Areas
Sigatoka Valley
Ba
Nadarivatu
Rewa
Labasa



Major Vegetables Grown in Fiji

1. **Amaranthus** - Local Selection
2. **Bele** - White Local, Red Local
3. **Capsicum** - Yolo Wonder A, - Yolo Wonder B, - Blue Star
4. **Carrot** - Chantenay, Baby Carrot, New Kuroda, New Kuroda Improved
5. **Cauliflower** - Tropical Sureheart, Snow queen, White Contessa, Market Wonder, Pioneer and Silver moon
6. **Chillies** - Red Fire, Long Red Cayenne, Bird's Eye, Bongo Chilly



Major Vegetables Grown in Fiji

7. **Chinese Cabbage** - Pak Choy, Kwang Moon, Wong Bok
8. **Corriander** - Small round seeded, Large oblong seeded
9. **Cucumber** - Early Set, Cascade, Bountiful No. 2, Space Master, Early Perfection
10. **Duruka** - Baribari, Duruka Leka, Wainikoro, Thick White, Pitpit Red
11. **Eggplant** - Chahat, Pritam/Long Purple.



Major Vegetables Grown in Fiji

12. English Cabbage - FS Cross, KK Cross, KY Cross

13. French Bean – Contender, Butter Bean, Labrador

14. Lettuce - **Head Type**: Great Lakes, Boxhill & **Leafy Type**: Green Mignonette, Butter crunch, Coral Lettuce, Rapid

15. Long Bean - Local White, Yard Long (Dark Green)

16. Okra - Clemson Spineless, Local Long White, Dwarf long Pod



Major Vegetables Grown in Fiji

17. Pumpkin - Queensland Blue, Butternut, Local Selection

18. Radish - Long Whiteside, Awa Cross, Everest

19. Spring Onion - White Lisbon, Yellow Bermuda

20. Tomato – Alton, Redland

21. Watercress

22. Zucchini – Marrow, Black Jack



Vegetable Production Cycle

A. Seed Production & Availability

1. Ministry of Agriculture (open-pollinated)

8 Government Research Stations are involved in production and supply of quality seeds to farmers through the following process:

- Foundation seed production

Foundation seeds of vegetable crops are produced to maintain the genetic purity and original characteristics of the variety.

- Certified seed production

Certified seeds of open pollinated vegetable varieties are produced in bulk in the research stations packed and distributed around the country from various extension offices'.



Vegetable Production Cycle

2. Private Seed Companies (hybrids)

- Importation and retail

There are only 2 seed companies directly importing and retailing seeds to the people of Fiji (KnownYou seeds – Hoptiy, EastWest seeds – KK's Hardware)

B. Seedling Production & Availability

1. Private Nursery Operators

Private nursery owners produce and supply good quality healthy seedling of vegetables to commercial producers and back yard gardeners.



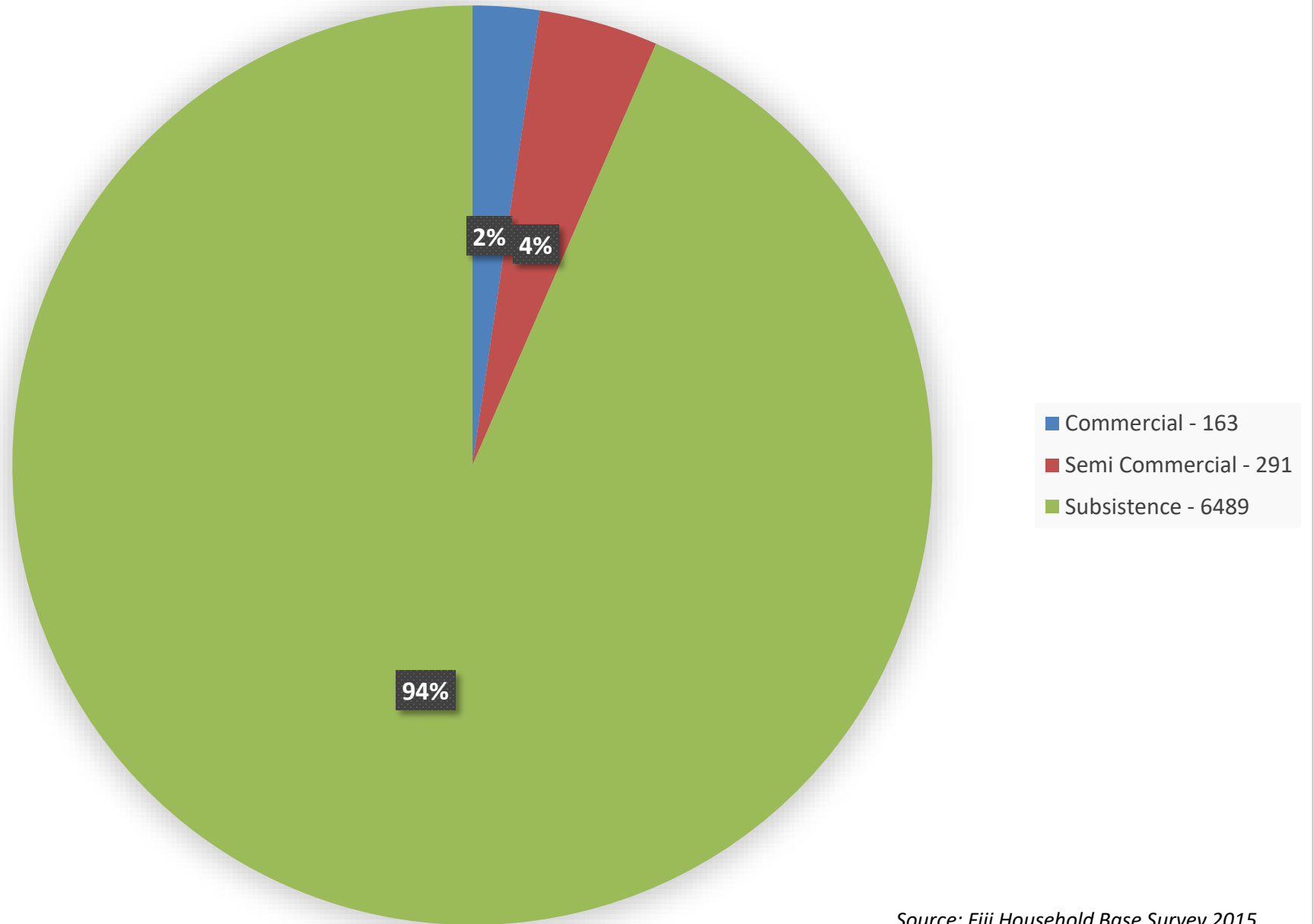
Vegetable Production Systems in Fiji

C. Farming Systems

1. Open Field Cultivation
2. Protected Agriculture
3. Hydroponic
4. Aquaponic
5. Home Gardening



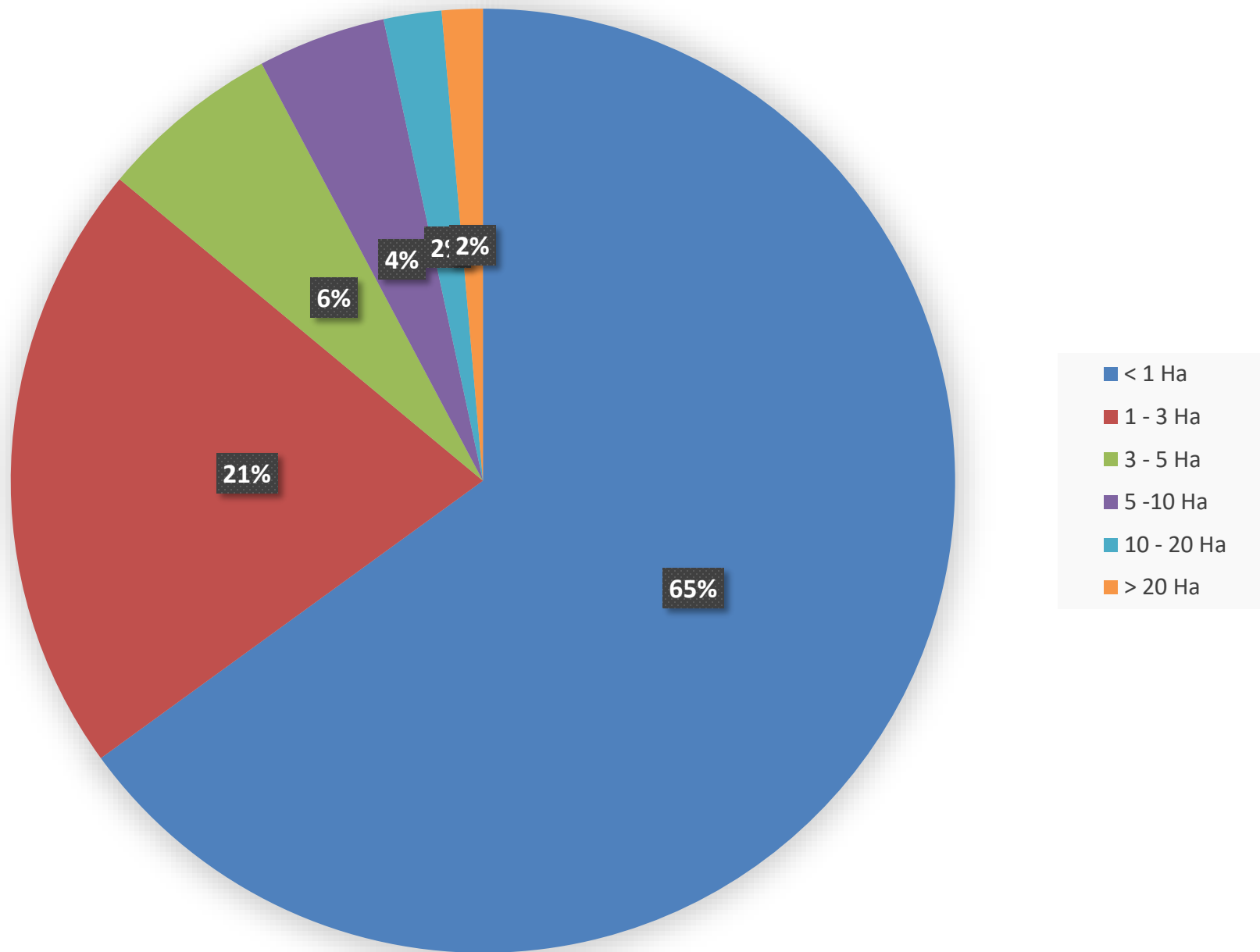
Classification of Vegetable Farmers In Fiji



Source: Fiji Household Base Survey 2015



Average Farm Land Size





Vegetable Production Systems in Fiji

1. Open Field Cultivation

- 80% farmers practice open field cultivation.
- Main season cropping is from April to October
 - Land preparation is undertaken and cropping done in large fields.
 - 70% famers only plant during main season.



Vegetable Production Systems in Fiji

- Off season cropping from November to March
 - 30% of farmers plant vegetables all year around
 - Farmers use the following techniques to produce crops in off season:
 - Trellising
 - Raised Beds
 - Improved varieties

Vegetable Production Systems in Fiji

2. Protected Agriculture

- 3 to 5% of the farmers practice protected agriculture.
- Simple structures are constructed to protect crops from intensive heat and rain experienced mostly during the main season.



Vegetable Production Systems in Fiji

3. Hydroponic

- There are only 3 commercial hydroponic farms in Fiji mainly producing Lettuce for high end supermarket and hotel industry.

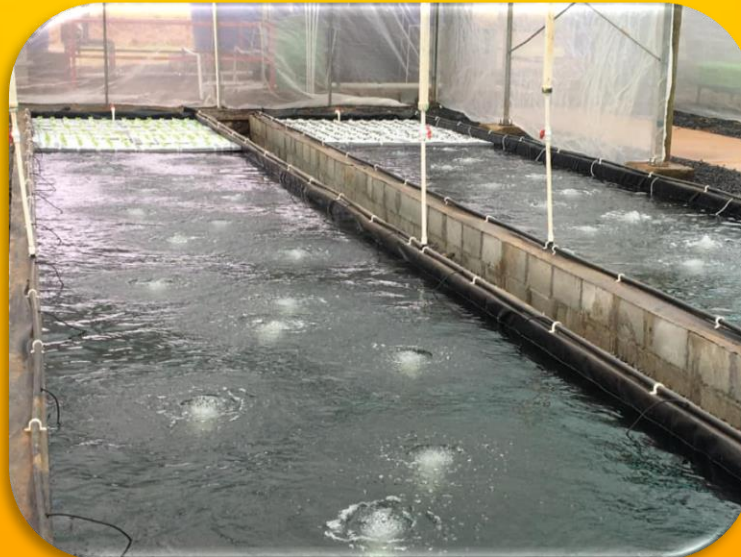




Vegetable Production Systems in Fiji

4. Aquaponic

- There is only 1 commercial aquaponic farm operating in Fiji mainly producing Lettuce for its restaurants.





Vegetable Production Systems in Fiji

5. Home Gardening

- Is widely practiced in Fiji to provide food security to households and surplus is also sold.
- Fiji has launched a home gardening initiative program in 2019 to support households for food and nutrition security.



Vegetable Production Systems in Fiji

5. Home Gardening

- Individual seed packages consisting 5 to 6 crops are distributed free of charge to households.
- To-date more than 60,000 seed packages has been distributed.





Post Harvest Handling

- Studies have shown that Fiji's post harvest losses of fruits and vegetables range from 6 – 10%.
- Majority of these losses occur during transportation.
- One of the major reasons of this losses is due to improper packaging and storage.



Marketing of Vegetables

Major Marketing Outlets

1. Municipal Markets – 60%
2. Road Side Market – 10%
3. Supermarkets – 5%
4. Hotels – 10%
5. Export – 15%



Marketing of Vegetables

1. Municipal Markets

- Municipal markets are available in all towns and cities around the country.
- Major source of trade for rural farmers within their localities.





Marketing of Vegetables

2. Road Side Market

- This form of markets has been established along the major highways around the country.
- The travelling public gets an opportunity to buy fresh vegetables from road side vendors while travelling to and from their destination.





Marketing of Vegetables

3. Supermarket

- Some of the high end supermarkets also sell vegetables for their customers. Vegetables are usually stored in cool storage and are of good quality with higher price when compared to municipal or road side markets.





Marketing of Vegetables

4. Hotels

- Hotels use a combination of local and imported vegetables in their menu.
- Currently due to COVID-10 pandemic, most of the vegetable supply to hotels are halted.



Marketing of Vegetables

5. Export

- Fiji mostly its fresh produce to Australia and New Zealand under the Bilateral Quarantine Arrangement.
- The major export vegetables include;
 - Eggplant, Chili, Long Bean, Okra, Amaranths and Taro Leaves.
- Most of the vegetables are exported as fresh.
- All fruit fly host commodities are treated under HTFA before export.



Marketing of Vegetables

5. Export of Vegetables

	2016		2017		2018		2019		2020	
Trade	QTY (ton)	Value (\$m)	QTY (ton)	Value (\$m)	QTY (ton)	Value (\$m)	QTY (ton)	Value (\$m)	QTY (ton)	Value (\$m)
Export	0.98	5.3	1.05	5.7	0.89	5.2	0.99	5.5	0.84	5.0

Source: Fiji Agricultural Statistic Unit.



Marketing of Vegetables

5. Import

- Major vegetables imported into Fiji are:

- Potato
- Onion
- Tomatoes
- Garlic
- Carrot
- Capsicum
- Lettuce
- English cabbage





Marketing of Vegetables

5. Import of Vegetables

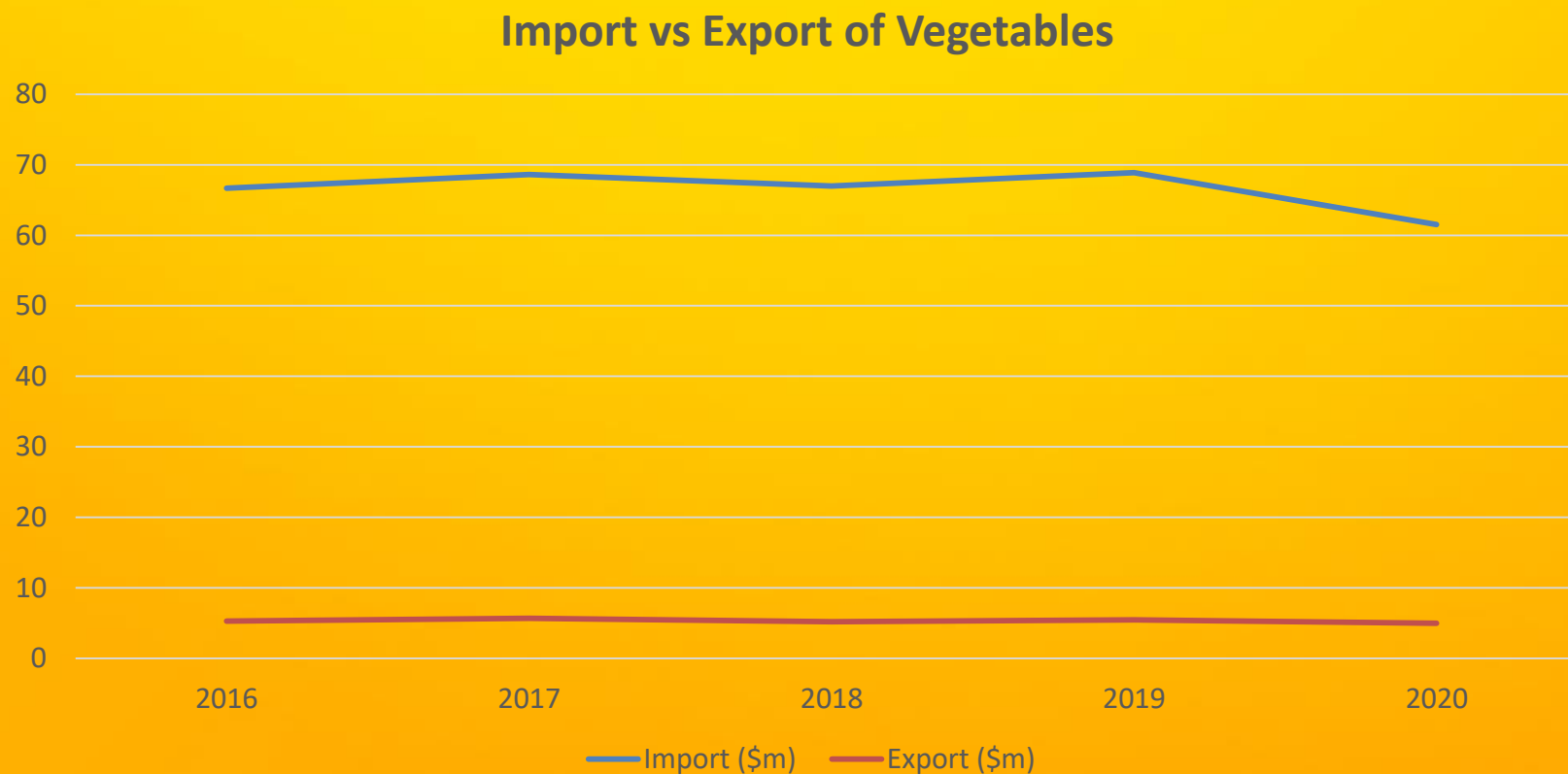
	2016		2017		2018		2019		2020	
Trade	QTY (ton)	Value (\$m)	QTY (ton)	Value (\$m)	QTY (ton)	Value (\$m)	QTY (ton)	Value (\$m)	QTY (ton)	Value (\$m)
Import	43.28	66.7	39.95	68.61	41.0	66.99	42.40	68.87	40.81	61.51

Source: Fiji Agricultural Statistic Unit.



Marketing of Vegetables

Import vs Export





Challenges of Vegetable Production in Fiji

- Lack of consistency
- Low Quality
- High cost of agro-inputs
- Low use of technology
- High levels of pest and diseases during offseason.



Opportunities of Vegetable Production in Fiji

- Increase production to meet export market demands
- Use of Protected agriculture to produce year round vegetables
- Venture into semi processed and processed vegetable
- Use of technology to increase production and maintain consistency and quality.
- Adopt certification standards (GAP, Organic)