Integration of Climate Change and Disaster Risk Management in the Agriculture Sector – Case study from the Fiji Papaya Industry

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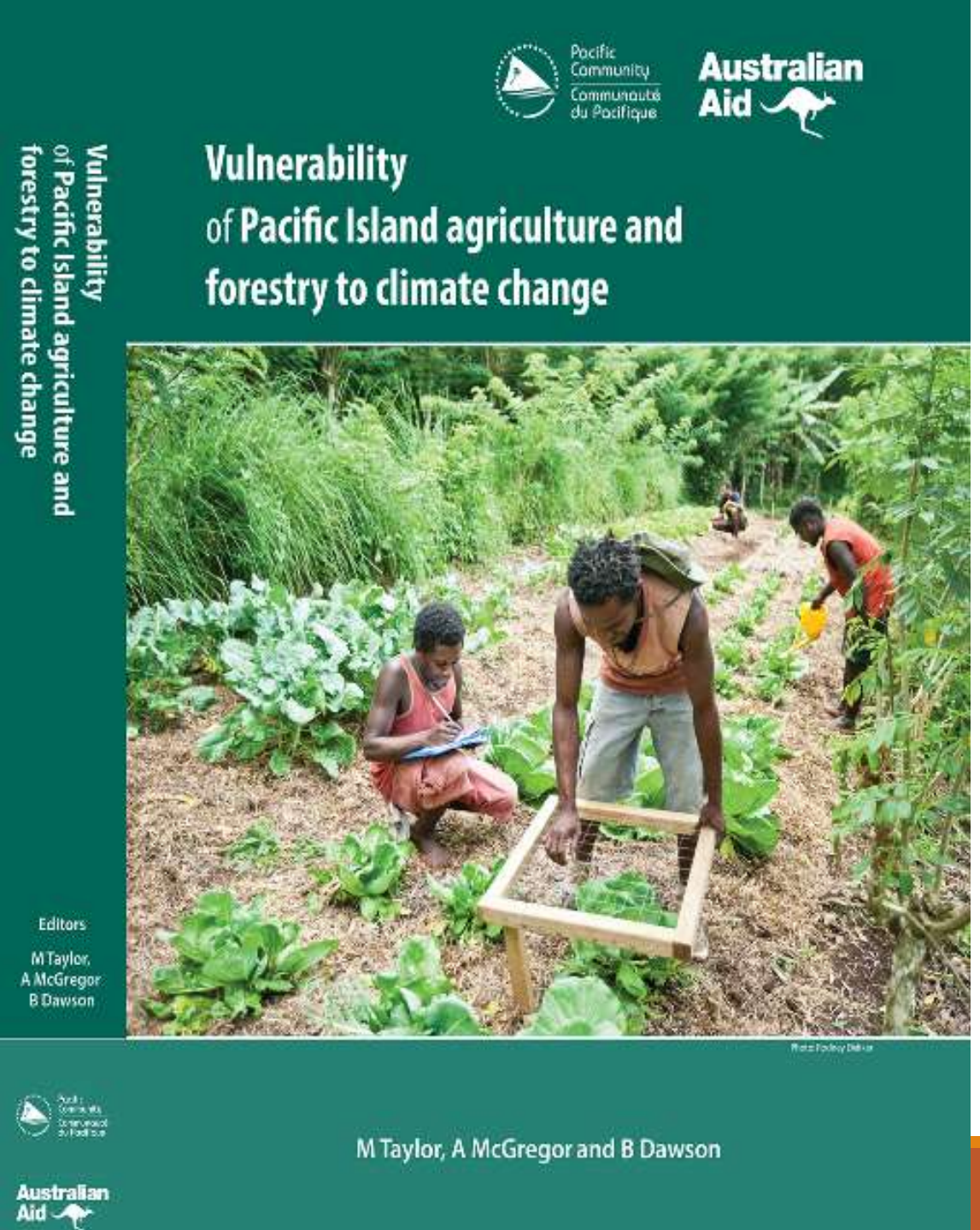
PIFON

What do we know about the likely impacts of climate change on agriculture in the Pacific?



www.spc.int/DigitalLibrary/Doc/LRD/Agriculture/Vulnerability_Pacific_agriculture_climate_change.pdf

The first comprehensive study on the impact of climate change on agriculture in the Pacific

Involved:

23 main authors over 3 years

Topics covered:

Observed and projected changes in the climate of the Pacific Islands

Vulnerability of Pacific island agriculture and forestry to climate change

- Traditional food staples
- Export commodities
- **Horticultural crops** and spices
- Livestock

Implications of climate change on contributions by agriculture to Pacific economies and communities

Adapting Pacific agriculture and forestry to climate change - recommendations

KEY OVERALL MESSAGES FROM BOOK

- Severity of impact from CC will increase over time
- Extreme weather events will have most impact
- Significant threat posed by CC impact on global staples (grains) -therefore reliance on imported food threatens food security
- PI staple food crops are likely to be more resilient
- Strengthening production and processing of these staples will be a key element of adaptation efforts

KEY OVERALL MESSAGES FROM BOOK

Agriculture has to be **climate, environmentally and economically 'smart'** now and for the future – there is no other option for sustainable livelihoods in the Pacific

Conclusions for farmer organisations/ private sector…

- Climate change will likely impact agriculture by amplifying pressure of existing threats, particularly climate extremes in undefinable ways.
- The problem with current approaches is they tend to ignore current threats and focus on ill-defined climate change issues *per se*.
- By enabling farmers to adapt to climate extremes in the short and medium term, future generations of farmers will be better placed to adapt to climate change
- The pragmatic approach is to improve our capacity to address existing threats while continuing to address knowledge gaps and identify future threats.

NATURE'S WAY COOPERATIVE

Proudly serving our members since 1995

Winner - Achievement in Business Excellence
Fiji Business Excellence Awards 2015

www.nwcfiji.com

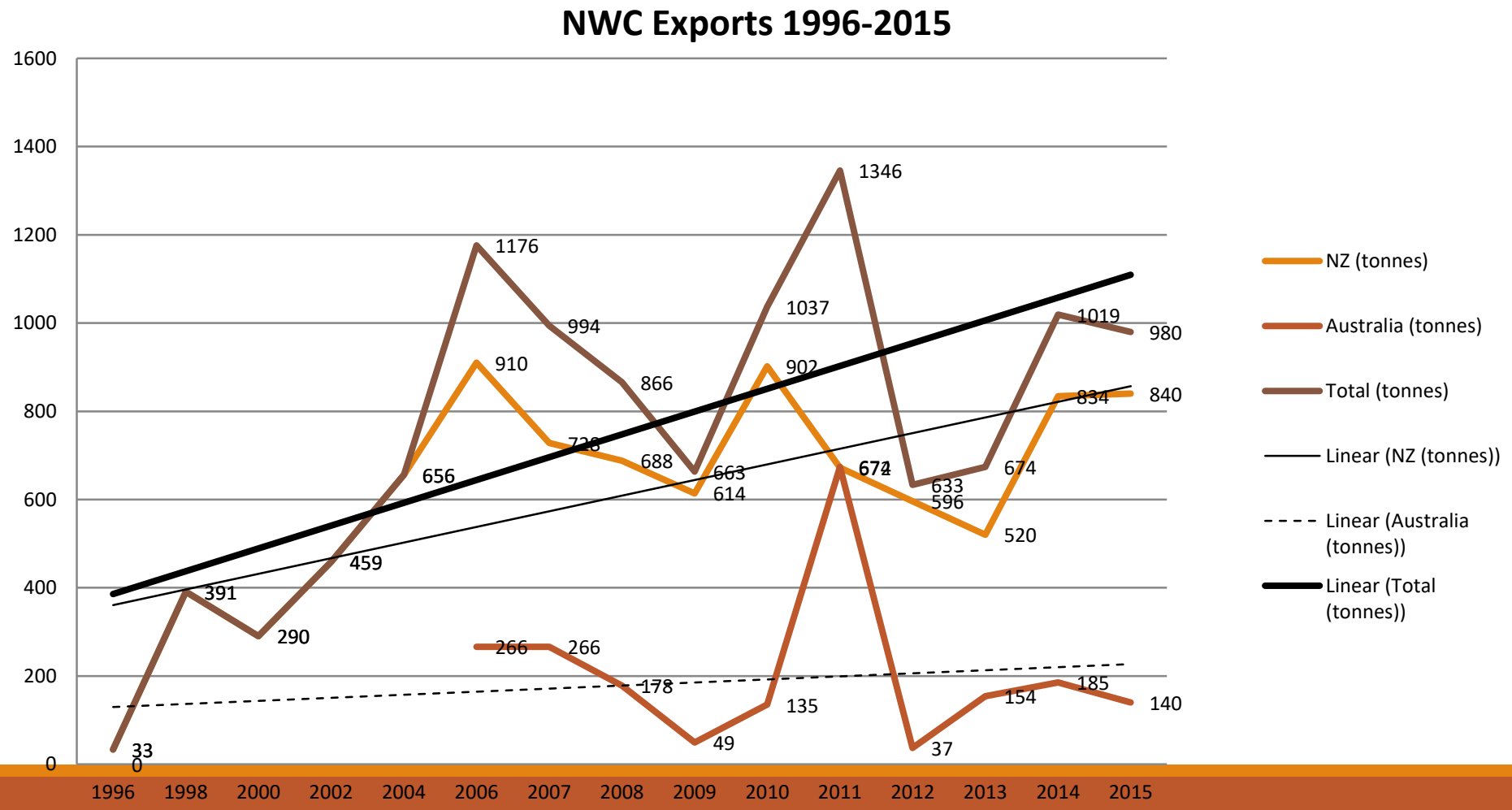
HACCP INTERNATIONAL FOOD SAFETY PROGRAMMEN CERTIFICATION

Core business

NWC was established in 1995 to undertake mandatory quarantine HTFA treatment on behalf of Fiji's fruit and vegetable export industry.

Natures' Way Cooperative (Fiji) Ltd is registered under the Fiji Cooperative Act of 1996 and is owned and operated by the Fiji fresh produce export industry.

Natures Way Cooperative (Fiji) Ltd: From small business to substantial Agribusiness



Key success factors

PPP (Private Public Partnership)

- The public sector cannot be successful on its own nor can the private sector.
- Success can be achieved when both sectors are working together appropriately

NWC Research and Extension Program

Focus on problem solving and innovation

NWC Research and Extension Programme has been very active over the past 10 years at solving problems and driving innovations

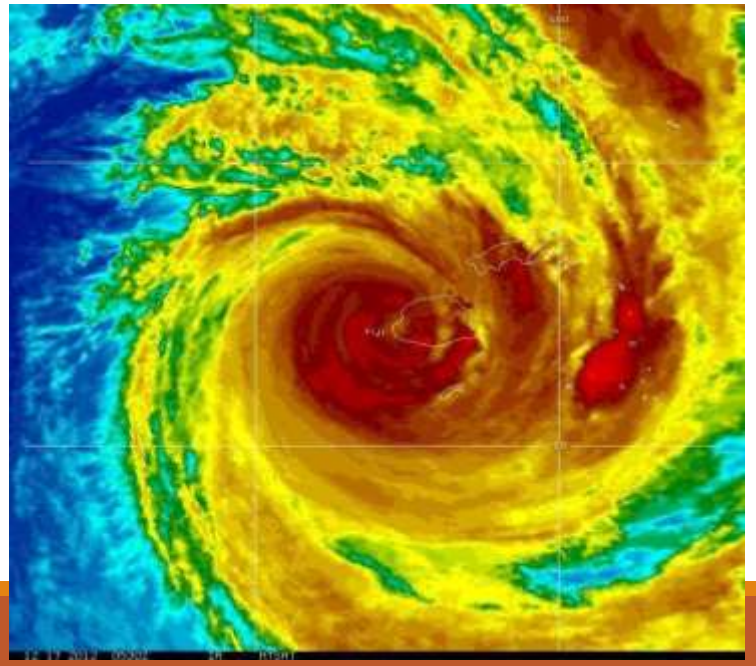
Focus on improving profitability for all actors in the value chain

NWC and the export industry likely would not have survived the various threats and challenges without this mechanism

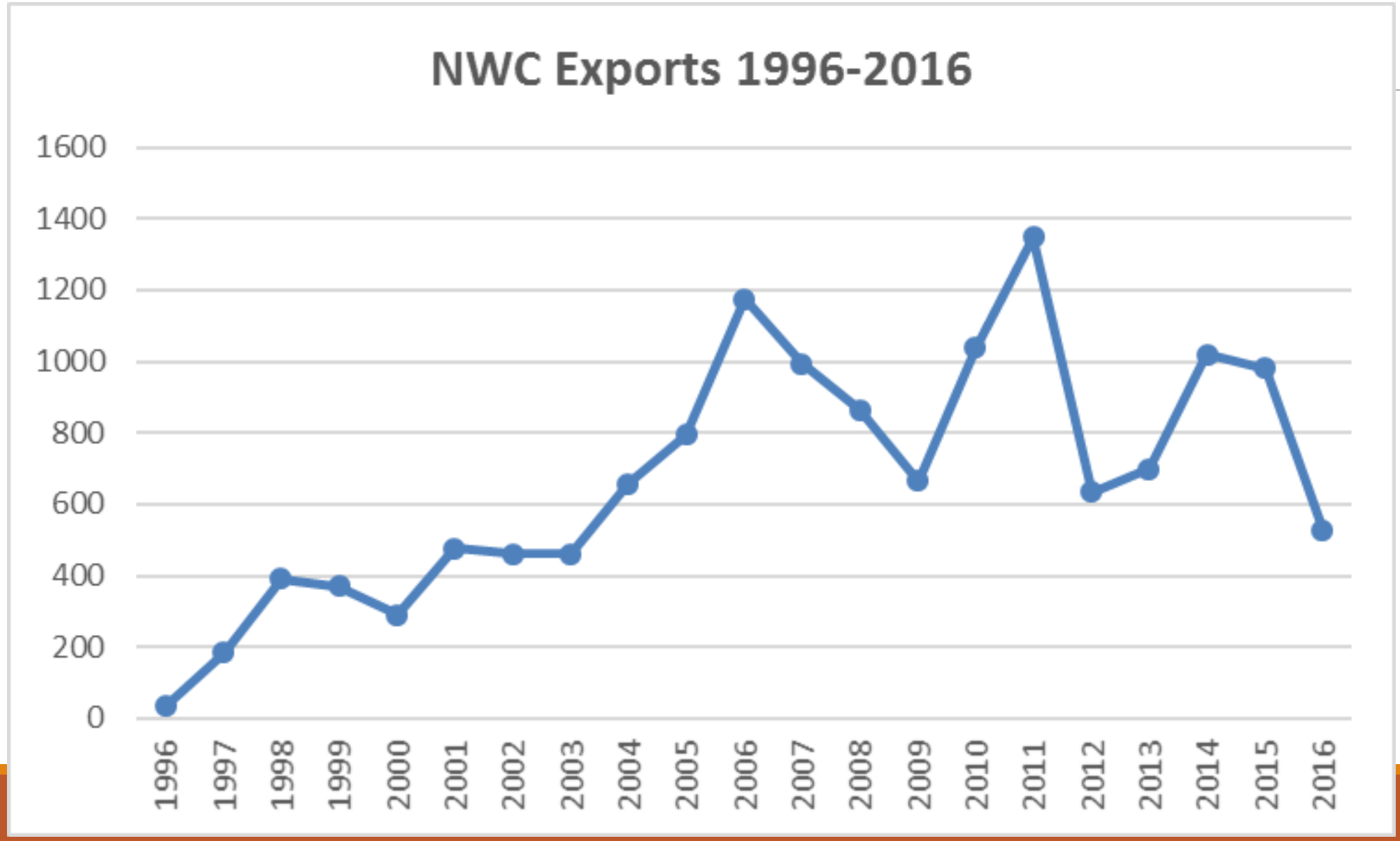

FIJI RED PAPAYA


NATURE'S WAY COOPERATIVE
Certified Fiji Red Papaya Seed
Packed on:
Batch #
PH: 679-672-4566
NATURE'S WAY COOPERATIVE
Certified Fiji Red Papaya Seed
Packed on:
Batch #
PH: 679-672-4566

‘Fiji Red’ Papaya Industry



The effects of climate extremes on NWC fruit exports



NWC response to climate extremes

How and Who?

Industry led approach (Natures Way Cooperative) bringing together stakeholders (Farmers, Exporters, MoA, SPC etc.)

Meet on a quarterly basis to discuss and prioritise work activities and identify who will do what.

Industry response to climate extremes

1. What we can do now – immediate response to the situation
2. Exploring the knowledge gap

What we can do now – immediate response to the situation

1. Spreading the production area outside the Sigatoka Valley.
2. The calculation of natural disasters into papaya crop budgets (better planning).
3. Reducing the scale of planting (smaller blocks) and increasing the frequency of planting (plant more often).

What we can do now – immediate response to the situation

'Fiji Red' Papaya Certified Seed scheme

- Selection of 'seed trees' based on performance under local conditions
- Bulking of seed stocks to quickly recover from natural disasters

‘Fiji Red’ Papaya Certified Seed Scheme

- The Fiji papaya industry has long been reliant on importation of papaya seed which is expensive and opens the door to possible disease introductions.
- The scheme is designed to ensure a steady supply of seed by encouraging enterprises to take up the role of seed producers.

NATURE'S WAY

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‘Fiji Red’ Papaya Certified Seed Scheme

- Nature’s Way Cooperative is the driving force of certified seed scheme and primary retailer of the final product to the industry.
- Ministry of Agriculture Research Division provides the auditing and certification for seed producers and Nature’s Way Cooperative.

NATURE'S WAY COOPERATIVE

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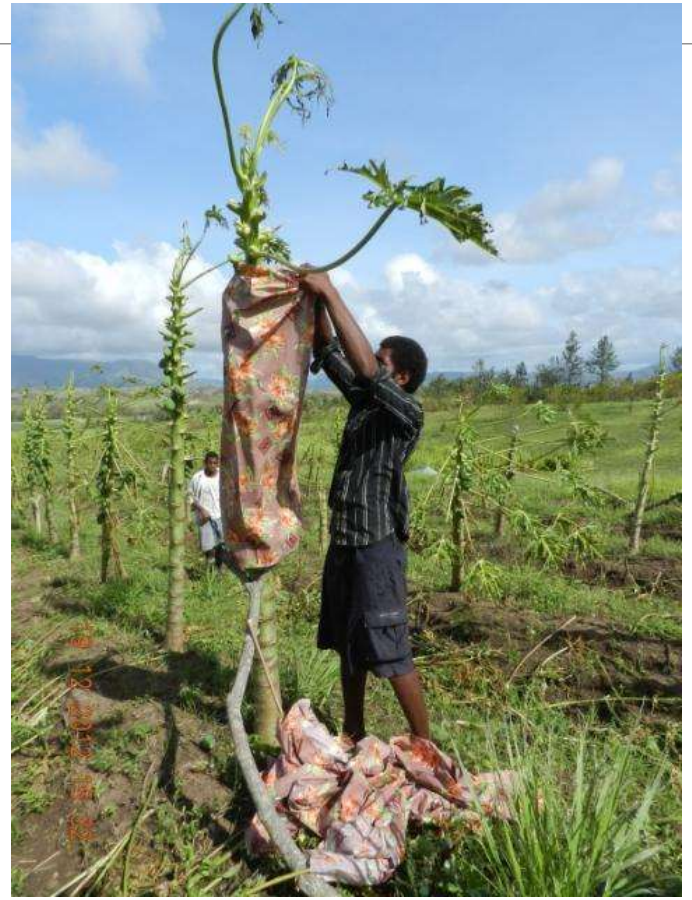
‘Fiji Red’ Papaya Certified Seed Scheme

- Launched in February 2014
- Private seed producers and Nature’s Way Cooperative are profitably engaged in seed production and marketing ensuring long term sustainability.
- Papaya seed is now available to the industry at a 30% reduced rate compared to the imported seed.
- The industry is now pushing ‘Fiji Red’ as a brand in export markets.
- A process of on going selection will ensure that the best genetics suited to Fiji’s conditions are available to growers.
- The industry is no longer at risk of importing seed transmitted diseases or GMO genes.

Exploring the knowledge gap

Research into pre and post-cyclone farm activities



Research into pre and post-cyclone farm activities

Series of trials implemented during Tropical Cyclone Evan 2012

- Defoliation
- Ratooning
- Sunburn protection

Papaya ratooning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Papaya leaf removal prior to cyclone


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Papaya sunburn protection


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Conclusion

The risks from climate change and climate extremes on tropical fruit production can be mitigated through a variety of strategies on a crop by crop basis.

A collaborative approach between government, researchers, farmers and the private sector is required to develop meaningful solutions to the current emerging challenges facing our tropical fruit industry

Vinaka