

# VETIVER IN THE SOLOMON ISLANDS

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## INTRODUCTION

In the process of searching for vetiver supply for a land stabilisation project in Solomon Islands, I came across something very interesting and unique on the application of the Vetiver System in this south western corner of the Pacific Ocean. Although vetiver has been used and fairly widespread in Solomon, no one knows for sure where and when it came from, and who brought it into the country.

The followings are the extent and significance of the Vetiver System applications of in the Solomon Islands

### **KASTOM GARDEN ASSOCIATION (KGA) ([www.kastomgarden.org](http://www.kastomgarden.org))**

I was introduced to Clement Hadosaia, KGA Manager and his staff in Honiara, Capital of Solomon Islands. In a brief overview of the work of KGA in the Solomon Islands, Clement said KGA is a lead NGO advocating food security and livelihood in the Solomon Islands, especially in isolated rural communities.

KGA has carried out independent needs assessment (food crops only) of selected communities affected by natural disasters such as flash floods, cyclones and landslides, and designed a recovery response program to address the situation with regards to food supply. KGA assistance includes: providing training on establishing vegetable nurseries and model gardens where various food crops are planted and managed on a small plot of land; and distributing planting materials: yam, cassava, sweet potato and vegetable crops. Communities were introduced not only to new techniques of food crop propagation, production and management, but also to small livestock including local chicken and ducks production.

As an NGO, KGA is primarily sponsored by Australian and Japanese aid agencies: AusAid and JICA. Its activities spread over all provinces of the country covering hundreds of remote islands and communities.

**VETIVER ORIGIN:** KGA Manager, Clement Hadosaia, does not know the origin of the vetiver at the KGA Head Office in Honiara and when and who introduced it to the country. Vetiver is widely found in the region and adjacent islands: PNG, Fiji, New Caledonia, Vanuatu, and Samoa and it may have been introduced by the Indian community from Fiji.

**APPLICATION OF VETIVER IN KGA:** Vetiver is currently only used for erosion control and mulching as part of a package to promote food security and livelihood in the Solomon Islands. (Appendix 1).

KGA was not aware of TVNI website, due to limited Internet access, so it does not know any other applications or benefits of the Vetiver System as a whole.

**VETIVER PLANTING AT KGA HONIARA GARDEN:** Vetiver planting is very limited, it is currently used mostly as borders for the vegetable plots and a few are for drain banks stabilisation.



***KGA Manager, Clement Hadosaia***



***Vegetable seedling nursery***



***Paul Truong and Clement Hadosaia***



***Drainage protection***



***Borders of vegetable plots***



***Border of vegetable plots***

**VETIVER PLANTING AT KGA IN GIZO:** As a part of KGA network in Solomon, John Holland is the coordinator for Western Province based in Gizo, the capital of the Western Province and similar to KGA Head office in Honiara, he distributes vetiver to other islands in his province.

Although he receives information and materials from Honiara KGA, he develops his network independently and he calls it **FAITH (Food Always in The Home) Garden Program (FGP)**. Similar to Honiara Garden, **FGP** supplies vegetable seedlings to farmers in his province, but John Holland's is also a commercial farm, growing crops, vegetable, chicken for meat and eggs. In addition, and most interestingly his farm is also a training centre of the

Western Province where young living-in trainees learn agriculture production **including the use of vetiver for erosion control and mulching**. He has published a booklet on how to grow Yam and how to use vetiver to protect the Yam crop (Appendix 2).

John Holland's farm is quite large by local standards, and typical of the province it is on a steep slope of red loam. His vetiver is about 3 year old and really thriving on chicken manure and vetiver compost, (well above 2m high and clumps of 60-80cm in diameter). Although he has very limited knowledge of VS, his application in soil and water conservation is very good, his vetiver planting is mostly for border demarcation including a few up and down slope rows.



*John Holland and Paul Truong*

*Contour hedges for erosion and sediment control*



*Contour hedges for erosion and sediment control*



***Vegetable garden protected by Vetiver contour hedges***



***Tall and vigorous growth and clump of 60-80cm in diameter***



***Trimming for mulch and land ready for application of proper VST***

**FAITH GARDEN TRAINING PROGRAM.** As mentioned earlier the farm is also a training centre of the Western Province where young living-in trainees learn agriculture production including the use of vetiver for erosion control and mulching. The training period is 12 months, the trainees work full time on the farm with free accommodation and meals but receiving no wages. The trainees will receive a certificate (Appendix 3) and return to their islands/villages to promote and improve local food supply. There were 8 trainees last year and currently 3 are under training.

### **INTRODUCING VETIVER SYSTEM TO KGA**

KGA has had very little knowledge of various VS applications and benefits, so following a short tour of the farm I used my Laptop to introduce VST to John Holland's family and trainees, including several videos. His family included his wife, son, cousin and a few grandchildren. They all followed the presentation intensely, I was not sure whether their interest was on VST or the pictures and sound of the videos (the farm has no electricity so the family has no TV). But we had a very long and fruitful discussion following the presentation, with a lot of questions, particularly from the trainees so I think they have followed the technical aspects of the presentation and had gained a good knowledge of VST.

After the presentation, we inspected the farm and discussed the pro and con of his various vetiver's planting and how to prepare good planting slips for sale and distribution to new members of his group.



***Introducing VST to John Holland's family and trainees on Laptop***



***Robo Vanoh explained VST to John Holland's family and 3 female trainees (right)***



***Trainees preparing seedlings for distribution and how to trim vetiver hedge for mulch***



***Discussing pros and cons of various vetiver plantings to John Holland's family and trainees and how to prepare good planting slips***

## OTHER VETIVER PLANTINGS IN THE SOLOMON

**PANATINA ROAD, HONIARA:** Panatina Road is located on the ridge top of the hill overlooking Honiara. A total length of at least 10km of this road was planted on both sides with vetiver to stabilise it. It is a mystery as Clement Hadosaia has no record of when it was planted and by whom. By the size of the clumps, this planting must be at least 5-6 year old and whoever planted it must know what they are doing as the planting was done very professionally, and been properly maintained since then.



***Correctly planted on both sides of the road***



***Vigorous growth and well maintained by local resident as dust screen***





***Local resident uses the hedge as dust screen as well as ornamental, and trims it at the start of the wet season***

**ORNAMENTAL:** Vetiver was also used purely for landscaping purpose in Honiara. This planting is along the main road of the city, in front of the National Stadium. Another mystery as it is not known who planted it and it is very well maintained by the city.



***As ornamental along the main road of the city***



***Very well maintained by the city***

**PALM OIL PLANTATION:** Vetiver is being used for drainage channel bank stabilisation on a palm oil plantation **GPPOL**, outside Honiara



***Plantation Manager Mesach Boge and Robo Vanoh in front of a temporary nursery***



***Drainage channel stabilisation***

## **POTENTIAL BENEFIT OF VETIVER SYSTEM IN SOLOMON**

Amongst the various applications and benefits of VST, the two that KGA and FAITH Garden most interested are:

**HANDICRAFT PRODUCTION:** The Melanesian has a rich culture of handicraft making for traditional use such as Bilum, a shoulder type bag used by both men and women, in Papua New Guinea (PNG). The Bilum are traditionally made from Sisal, tree bark, jute, cotton or hemp. Both Clement Hadosaia and John Holland were very excited on learning that vetiver biomass is an excellent material and has been used for handicraft production around the world, particularly by the Thai and Venezuelan. Both recognised that this is an important means of poverty alleviation for rural women in remote island communities.



**Sisal drying at FAITH GARDEN**



**Bilum from PNG and bag from Solomon**



**Hemp bag from Solomon**



**Cotton Bilum from PNG**

**WASTEWATER TREATMENT:** On a farm adjacent to FAITH GARDEN the effluent from an outdoor toilet block discharges directly to the stream on the boundary of the farm. A demonstration will be set up to show how vetiver will be used to treat this effluent, preventing it from discharging to local stream.



**Toilet block**



**Toilet outlet pipe**



*Demonstration site*


## APPENDICES

### Appendix 1: KGA information brochure

**KGA Values**  
KGA is committed to the following values:

- We value having a friendly, self-sustaining environment in which staff sees that they are part the same organisation and that that organisation is part of them.
- We will always work to maintain the simplicity of grass-roots approaches, which give opportunity to farmers, technical people, staff, researchers and interested people to select and use.
- In addition, we will promote equality between all citizens, male and female, young and old, because participation and transparency are important tools for achieving and ensuring fair distributions of benefits.

**WHO/WHERE ARE OUR RURAL BASED PARTNERS**




**National & International Partners**

- The Ministry of Agriculture & Livestock (MAL)
- TerraCircle - Australia
- National Agriculture Research Institute (NARI-PNG)
- Secretariat of the Pacific Community (SPC)
- Pacific Islands Farmer Organisation Network
- Pacific Organic and Ethical Trade Community

**Projects and Major Donors**

- DFAT – Strengthening Food Security for Rural Livelihood Project 2009 – 2014 with extension 2015
- Food & Agriculture Organisation (FAO)
- European Union (EU)
- UNDP – SWoCK Project – Solomon Is
- IFAD-PIFON- Medium Term Cooperation Program Phase 2 (MTCP 2)



**KGA INFORMATION BROCHURE**

Welcome to

**Kastom Gaden Association**

CLEMENT HADOSAIA

**PROMOTING CROP DIVERSIFICATION FOR FOOD AND NUTRITIONAL SECURITY IN SOLOMON ISLANDS**



**Organisational Structure**

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    graph TD
      Board[Board of Trustees] --> Manager[Manager]
      Board --> OrgDev[Org. Develop. Officer]
      Manager --> PSO1[PSO]
      Manager --> PSO2[PSO]
      Manager --> PSO3[PSO]
      Manager --> PSO4[PSO]
      Manager --> PSO5[PSO]
      Manager --> PSO6[PSO]
      Manager --> PSO7[PSO]
      Manager --> PSO8[PSO]
      OrgDev --> PC[Provincial Coordinators]
      OrgDev --> SS[Support Staff]
      OrgDev --> FP[Farmers & Partners]
    
```

*Banking on local Crop Diversity for Health, Wealth and Resilience*

For detailed information please contact: The Manager or Information & Planning Officer - KGA  
 Phone: (677) 39551, mobile: (677) 7495544.  
 Or write to KGA, P.O. Box 742, Honiara Solomon Is.  
 Email: [kastomgaden@kastomgaden.org](mailto:kastomgaden@kastomgaden.org)  
 Or visit our Website: <http://kastomgaden.org>  
 Location: Burns Creek (near Zai Na Tina Organic Farm).

**Introduction:**  
Kastom Gaden Association (KGA) is one of the largest NGOs, and one of few "Farmer Organisations" in Solomon Islands. KGA has been engaging with growing numbers of farmers in Solomon Islands since 1995. Under the leadership of its co-founders, Joini Tutua and Tony Jansen, KGA started as a small but innovative initiative of the Australian NGO APACE. Since 2000 it has become a registered NGO, under the Charitable Trust Act.


**Vision:**  
KGA's Vision is "A future of healthy soil that yields healthy food, for a healthy nation".

**Mission Statement:**  
KGA's Mission is "To strengthen village-based food security in Solomon Islands using participatory, practical, grass-roots approaches that enable village people to examine, understand and develop their own solutions to improving household food security and village-based agriculture economy".

**Aims and Objectives:**  
To strengthen family food security and income generation through a livelihoods approach

**Component Activities:**

- Capacity building & Networking
- Marketing & Value Adding (Processing)
- Small Livestock Farming or Husbandry
- Women & Nutritional Health
- Youth in Agriculture
- Information (Knowledge Mgmt) & Planning
- Food Crops & Organic Farming
- Planting Material Network
- Program Management & Org. Development



**Strategies.....**

- Member Services:** Increase, strengthen and maintain members' sense of ownership of KGA.
- Research & Development:** Collect and analyse data related to KGA's work and mission and directly, or through others, use that data and other inputs to develop plans, policies and programs for KGA.
- Management & Organisational Development:** Develop and manage KGA in ways that ensure effective and efficient project implementation and timely M&E/progress reports.
- Governance:** Maintain KGA's good reputation in order to sustainably attract funding and technical assistance—and to sustain or increase our partnerships with members and their organisations

**Functions .....**

- Network and Capacity building:**  
To improve the capacity of KGA partner organizations & networking; to provide advise and information to partners & Farmers
- Food Crops and Organic farming:**  
On-Farm trials with farmers and Improved varieties of food crops (sweet potato, taro, yam, etc)
- Marketing and Value Adding**  
To increase capacity of village entrepreneurs to process & market agricultural commodities
- Information & Planning**  
To provide quality information collected and used by KGA & partners in the implementation of the program components
- Small livestock**  
To develop & disseminate technologies to improve low input management system for piggery and poultry (Village Chickens)
- Youth in Agriculture**  
To strengthen the capacity of youth to improve family livelihood
- Woman and Nutritional Health**  
Nutritional awareness program on local food, and Training for woman in growing vegetables
- Planting Material Network**  
To provide best seed saving practices, quality seeds and related services to the PMN membership
- Program management**  
To effectively and efficiently manage/coordinate program components & project implementations according to schedule & budget as well as reporting of program/project activities

**HEALTHY SOIL  
HEALTHY FOOD  
HEALTHY LIVING**

## Appendix 2: John Holland Booklet on Yam growing



Published by FAITH Garden Program (FGP) with funding from the Australian Government



FAITH Garden Association  
P.O. Box 125  
Gizo,  
Western Province  
Phone: 7489101



### FAITH GARDEN PROGRAM (FGP)

Food Always In The Home Garden

'Do it, See it, Say it, and Share it'



INTRODUCING ONE METHOD  
TO PLANT YAMS:

# Vanuatu Yam

(*Dioscorea rotundata*)



"EMERGENCY FOOD CROP FOR HOME"

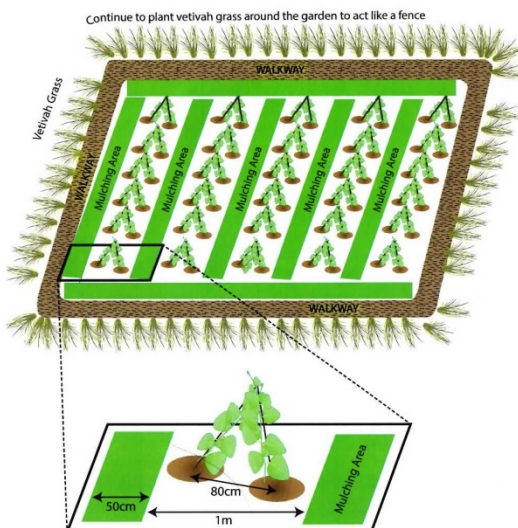
Food for when  
disaster strikes

Food maintain  
cultural obligations

Food is business

Food to be re-engaged  
on re-bulking

### B. EXAMPLE YAM GARDEN SETUP



A good and well mulched garden will keep improving the soil (expect a good yield)

Yam plots that are 40m x 50m should provide enough yams to feed the whole family and have sufficient planting material to continue to planting

### C. NURSERY AND PLANTING YAM

1. **Seasoning** – store yam tubers in cool but dry place from one week to a month long. This process allows the yam to be readily grown in producing shoots.

2. **Cutting a yam tuber** – This is one way to increase yam planting materials. Chop the yam tuber to produce multiple pieces. (Note: Larger pieces may result in large harvested tuber).

Make a "V" cut on the 'up' side of each yam cutting to indicate 'face up' direction during planting. Then leave them to dry out over one to two days or even a week. Coat them with fire ashes (from a fire place) and/or Store in a cool dry place to avoid fungi growing on them.

3. **Nursery** – Bury the yam cuttings.

Choose a shady area that has:

- » Rich black soil (lots of humus).
- » Lots of forest organic materials (dead leaves and grass, rotting logs and coconut husks).
- » Free from diseases and fungi (clean and healthy soil).

Make sure the yam cuttings face up, then partially bury them. Cover them with the organic materials. Leave them in the nursery for two weeks or more before transplanting onto permanent yam plots.

CUT TUBERS WITH V-CUT



BURY YAM CUTTING IN NURSERY



**Appendix 3: FAITH GARDEN Program graduation certificate**

	<h1>FAITH GARDEN PROGRAMME</h1>	
<p><i>Promoting households food security for climate change adaptation Training for self-reliance and stewardship</i></p>		
<p><i>This Is To Certify That</i></p>		
<p>.....</p>		
<p><i>Has successfully completed Practical Training on</i></p>		
<p>.....</p>		
<p><i>From.....To.....</i></p>		
<p><i>Held at our Community Seasonal Field School, Gizo, Western Province, Solomon Islands.</i></p>		
<p>JOHN HOLLAND SETI</p>	<p>MATHEW GARUNU</p>	
<p>_____ FIELD INSTRUCTOR(FGP)</p>	<p>_____ COORDINATOR (FGO)</p>	