



Transformative Agriculture and Enterprise Development Program

# TADEP+ Update

May + June 2019

## Key program activities

### TADEP+ Annual Meeting

Over 50 people travelled to Goroka the week before last to attend the 2019 TADEP+ Annual Meeting. Aside from attendees from each of the five TADEP+ projects, we also welcomed representatives from our key partner agencies and the Eastern Highlands Provincial Government. From ACIAR, we had Research Program Manager for Horticulture, Irene Kernot, as well as Peter Horne and Maree Livermore from the Country Programs team. The TADEP+ projects align with three particular DFAT portfolios, all of which were represented at the Annual Meeting - Julianne Leka-Maliaki from the Economics team, Nikki Wright from the Bougainville team and Anna-Clare Zanetti from the Gender team.

Each of the TADEP+ projects provided a brief project presentation, highlighting topics to stimulate group discussion and help identify potential areas for greater collaboration. To complement the program-focused discussions, there were also a number of guest presentations including Prof Lohi Matainaho from PNG Research, Science and Technology Council, Jane Ravusiro from **PHAMA+** (Pacific Horticultural and Agricultural Market Access Plus Program), John Moxon from **PPAP** (Productive Partnership in Agriculture Project), Gloria Nema from CARE International on Ripple Effect Mapping (see Family Farm Teams section below for further information) and Dr James Yoko from **UNRE** (PNG University of Natural Resources and Environment).

**Click here** to view a summary of the presentations and discussions.

**Click here** to view and download the various presentations.

### TADEP+ Steering Committee meeting

Ideas and discussions from the Annual Meeting fed into thinking and deliberations by the Project Leaders and TADEP+ Team during the Steering Committee meeting, the day after the Annual Meeting. How to further embed

Collaborative Research Grant around the utilisation of hyperspectral imaging across galip, cocoa and sweetpotato was further explored with a brief proposal already developed and being considered.

As the program is coming into its final year, the Project Leaders and TADEP+ Team discussed how to best use the momentum now established within the program and how to best build upon what has been achieved to date. It was agreed that the multidisciplinary and cross-institutional collaboration is critical to ongoing sustainability of each of the project's areas of work and of the program approach. As such, in addition to an abridged Annual Meeting, it is proposed that we host a Showcase next year and highlight the collaborative efforts and significant achievements of our key partner agencies. It is currently proposed that the Annual Meeting and Showcase will be hosted in Lae mid next year, with a date to be set in the coming months.

## Briefing with the Australian High Commissioner

The Project Leaders and TADEP+ Team including ACIAR representatives met with the High Commissioner and senior DFAT representatives in Port Moresby for an informal briefing following the Annual Meeting and Steering Committee meeting. An overview of the outcomes from the week were discussed, with emphasis on the value of having a program and a multidisciplinary approach to draw upon when faced with sometimes complex challenges and opportunities. There was a strong appetite for increased awareness and information flow between DFAT and ACIAR, and Project Leaders were encouraged to continue the informal briefings with relevant DFAT representatives, which can be facilitated by the ACIAR PNG Country Office.

## Key dates

Mark these dates in your diary and calendar:

- ACIAR Project Reports due: Monday 15 July
- TADEP+ Annual Report due: Thursday 15 August
- Pacific Week of Agriculture: Monday 30 September to Friday 4 October

## Key project activities



### Bougainville Cocoa

Baseline surveys and nutrition and vegetable cultivation information sessions were successfully completed in the 10 villages selected for the Collaborative Research Grant.

Cocoa curriculum teaching materials were submitted to the ABG Department of Education for approval to pilot the teaching of cocoa technologies in selected schools.

[Click here](#) for the full Bougainville Cocoa project update

## PNG Cocoa

Project Leader, Phil Keane attended a roundtable meeting on 14 – 15 May in Brisbane organised by Oil Search Foundation to consider options for assisting agricultural development and youth employment in Western Highlands and Hela Provinces affected by the operations of Oil Search Ltd.

Trevor Clarke and Phil Keane visited CMFT sites with New Ireland Project Coordinator John Joseph and saw mature budwood gardens and had discussion with CMFTs at Manggai, Luapul, Katedan, Panamecho, Burui, Karu, and Sena. Excellent mini-field days were held at Laraibina and Sena.

ACIAR Horticulture RPM Irene Kernot visited sites in East Sepik on 20 – 21 May with Phil, Trevor, David Yinil and Timothy to review project activities.

[Click here](#) for the full PNG Cocoa project update



## Sweetpotato

The project supported 14 PNG sweetpotato growers and 4 representatives from NARI and FPDA to visit Australia to participate in training activities and visits to sweetpotato farms, packhouse facilities and markets.

Upon returning, growers have been trialling root-based vine multiplications systems, washing and grading techniques, which have overcome market access challenges they've faced in the past.

Media interest in the growers' tour was strong with newspaper, radio and television coverage in both Australia and PNG.

[Click here](#) for the full Sweetpotato project update

The Transformative Agriculture and Enterprise Development Program (TADEP) is a multidisciplinary research program that aims to improve the livelihoods of rural men and women in Papua New Guinea. The program initially had five component projects, of which two have concluded. The program now comprises of the following:

- **Bougainville Cocoa** - HORT/2014/094 Developing the Cocoa value chain in Bougainville
- **PNG Cocoa** - HORT/2014/096 Enterprise-driven transformation of family Cocoa production in East Sepik, Madang, New Ireland and Chimbu Provinces of Papua New Guinea
- **Sweetpotato** - HORT/2014/097 Supporting commercial Sweetpotato production and marketing in the Papua New Guinea highlands



Australian Government  
Australian Centre for  
International Agricultural Research



Whilst two of the initial five TADEP projects have concluded, they have evolved into an ACIAR Small Research Activity (SRA) and another ACIAR project, respectively, and both have keenly agreed to continue to contribute to TADEP. The following updates demonstrate this continued collaboration across research disciplines, sharing useful and relevant insights.

## Family Farm Teams SRA

The Small Research Activity (SRA) is currently being developed and details will be circulated once finalised.

[Click here](#) for the 'Opening our family's eyes': The PNG 'Family Farm Teams' research report, featuring the Ripple Effect Mapping participatory data collection method.



## Galip Nut

Prof Helen Wallace and Dr Shahla Hosseini Bai presented research from the galip project at the Montpellier World Agroforestry Congress on the 22 May and at the ACIAR pre-conference meeting on the 19 May. Prof Helen Wallace was a keynote speaker at the conference and shared her experience on developing a new galip nut industry in the Pacific.

Galip entrepreneur (DMS) and one of the Galip project's private partners – Dorothy Luana, had her products displayed at an ACIAR demonstration stall at the conference to showcase galip project and Dorothy's product success.

The stockpile of nuts in the factory has now been cracked and GNC has well over a tonne of kernel in stock.

[Click here](#) for the full Galip Nut project update



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## Bougainville Cocoa

HORT/2014/094

**Recent project activities/outputs**

- Awareness on cocoa pod husk composting (organic fertiliser production) was conducted throughout with north Village Extension Workers (VEWs) with farmers in their communities.
- Miss Wendy Sawa and Kenneth Dovaro from DPI were selected by our project team to participate in iJDF Pacific training program, May to October 2019.
- Cocoa curriculum teaching materials submitted to the ABG Department of Education for approval to pilot the teaching of cocoa technologies in selected schools (1 x upper secondary, 1 x lower secondary, 1 x vocational and 1 x primary school) in each region. A week long in-service workshop will be conducted for teachers in these schools if approval is granted for this activity.
- Grant Vinning and James Butubu gave a presentation at the Primary Industries Sector Coordination Workshop in Hutjena. The meeting was convened by DFAT and led by Bougainville Partners. The meeting discussed how the different programs working with the Department of Primary Industries could better harmonise and support one another. The next steps outlined for HORT/2014/094 are:
  - Develop 33 Resource Centres
  - Commercialisation of grower groups – VEW to become commercial to become sustainable
  - Strengthen production and post-harvest skills for horticultural products
  - Source and disseminate vegetable seeds
  - Strengthen extension skills
  - fledged food laboratory: equipment for testing quality parameters
  - The possibility of working with another DFAT funded organisation – CARE – in the Wakunai area

**Bougainville Chocolate Festival**

- Because the Referendum has been changed to October 2019, the dates for Bougainville Chocolate Festival were brought forward to 7 – 8 August. The detailed work preparing for the Festival is undertaken by the Working Party while policy matters are decided by the full Steering Committee. James Butubu attends all meetings and Grant Vinning when available.
- The change in the dates for the Festival has required changes in the collection period and the subsequent processing of the beans into chocolate.
- To increase the transparency of the collection and processing steps, small changes have been made to the previous procedures. These changes were instituted with the advice of the Festival judges.
- All judges have been visited and briefed on the changed date. Bougainville Partners will be organising and funding the visit to Bougainville by the four Australian judges and Phyllis Ivosa from Queen Emma in Port Moresby.
- A new, additional school children's chocolate making competition will be trialled in this year's Chocolate Festival. Two schools (Hamatana and Tsunpetz Primary Schools) in the North have agreed to send 4-5 children to take part, while South and Central also plan to select schools. Teachers and students will be taught the basics of good fermentation, drying/processing including the chocolate making process. The children will process their own cocoa beans and use our mini chocolate lab to make their chocolate which will be judged by the international judging panel to declare the winners.
- Two suggestions for the Grand Prize for the 2019 Festival were put to the Working Party meeting. One is a macro approach that seeks to promote the whole of Bougainville's cocoa industry. The other is a micro approach that seeks to reward the immediate winner. The two suggestions will be discussed with the Steering Committee Meeting in July.

**Solomon Islands (SolChoc)**

- James Butubu and Grant Vinning went to Solomon Islands to observe SolChoc, the country's Chocolate Festival. They also held a number of meetings with experts on issues relevant to the project's activities on Bougainville.
- Issues to be followed-up in Bougainville include:
  - different organisational formats by which cocoa growers can organise themselves for marketing;
  - the cost of equipping a laboratory to assist quality assurance in cocoa;

- having the judges at our Festival present chocolates that they have made from the same beans in order illustrate that making good chocolate is a function of three interdependent aspects – the cocoa bean, the skill of the cocoa grower in producing a fermented dried bean, and the skill of the chocolate maker in converting that bean into a quality product;
- how cocoa can be converted into a multiplicity of local adapted micro value-added products; and, a new competition that involves makers of cocoa equipment.

Region	Selected Villages
North	Sing
	Kikis
	Benmate
	Kovanis
Central	Kaprosipa
	Kosawaro
South	Mamaro
	Kikimogu
	Koogu
	Mosino

#### Collaborative Research Grant

- The first phase of the Collaborative Research Grant (CRG) nutrition and vegetable cultivation project was completed between 6 – 23 May. Ten villages with higher levels of stunting (chronic malnutrition) were selected for the study based on data from the 2017 livelihoods survey.
- Local staff from the department of Health and DPI in each region were nominated by their department to join the project to conduct the interviews and information sessions. Workshops were held in each region to build capacity of the local staff members to conduct the project activities.

#### Village Visits

##### *Phase 1: Baseline Surveys and information sessions*

- Baseline data on household diet, dietary behaviours and vegetable gardens was collected from approximately 32 households in each of the 10 villages selected for the study using Commcare. (n= 320)
- Information sessions on nutrition and vegetable cultivation were held at a central location in the village in the late afternoon. This allowed school children, women and men to attend the sessions. The sessions were open to anyone from the area that wanted to attend.
  - Nutrition sessions were conducted by the trained Health staff from the local region using a question answer format to engage the community and provide context relevant information. Topics included importance of nutrition, macronutrients and micronutrients, balanced meals, cooking methods, water and sanitation, infant and young child feeding and malnutrition.
  - Vegetable garden cultivation sessions were conducted by the trained DPI staff from the local region. This session was divided into 2 sections - a short talk followed by a practical demonstration. Topics included preparing soil/garden bed, planting seeds and preparing nursery, hardening, harvesting, composting, planning the garden for consumption and sale. Villages were given shovels and watering cans to house at the village resource centres for the farmers to use when planting their vegetable gardens. Households were also given seeds to plant. Some villages were assisted to construct community vegetable nurseries to raise and distribute vegetable seedlings for planting.



**Figure 1 (top left):** Vegetable garden demonstration by Bradley and Yvonne from DPI.



**Figure 2 (centre):** Ruby and Audrey from Health conducting baseline survey using CommCare in Sing Village.



**Figure 3 (right):** Composting demonstration.



**Figure 4:** James Butubu and Professor Merrillyn Walton with Honourable Clarence Dency ABG Minister for Primary Industries and Minister's Chief of Staff.



**Figure 5:** Team capacity building Arawa.



**Figure 6:** Ruby and Audrey facilitating the nutrition information session in Kovanis Village.

#### *Next steps - Phase 2: Monitoring and Family Farm Teams training*

- The selected regional teams will visit each of the villages located in their area to conduct monthly monitoring and support visits to the 32 households interviewed in the sample villages over a 11-month period. During these visits the health and DPI staff will provide refresher information on topics covered during the information sessions. Other information captured will be whether the household has started to grow new vegetables or changed their diet.
- Selected staff from Health and DPI will also be upskilled in the Family Farm Teams approach by Barbara Pamphilon.
- Each village will also receive Family Farm Training (FTT) from accredited trainers Josephine Saul and Robert Taula. The villages will learn about:
  - how to work as a family team;
  - how to feed the family;
  - planning the family farm for healthy meals;
  - leading the family for a healthy future.

This training will reinforce and expand on the previous nutrition and vegetable garden training sessions.

#### *Phase 3: Evaluation*

- After 12 months the Health and DPI trained staff will return to the 10 villages to re-survey the households about the diet, eating behaviours, access to food, food production. This information will be used to assess whether there has been a change in household dietary intake and determine the potential for scale-up of the project.

#### **Other activities**

- Ms Julie Revere has on her own volition is experimenting with chocolate making in order to improve her skills. The experiments involved four different roasting times. Samples of her experiments were given to chocolate makers in Australia for evaluation.
- Small pieces of equipment were purchased for the Chocolate Laboratory.
- A rapid survey was made of fresh produce handling as it made its way to the Buka Market. One surprising result was the care taken in unloading the produce from the vehicles. Nevertheless, it was clear that the biggest danger to the presentation of quality produce at the markets occurs after the product leaves the farm and not before it leaves.
- Another example of the difficulty in exporting became evident during the period. The project is assisting the export of cocoa beans to chocolate makers in Australia who lost product due to a transport issue towards the end of last year. The container eventually made it to Sydney. However, we were advised that the container needed to be cleaned. But the depot where the container was held is only certified to clean machinery. So, the container had to be transported elsewhere to be cleaned then transported back for unloaded. The whole process was costly and time consuming, contradicting assurances that the export system and process is improving.
- A briefing was provided to the new DFAT officer in Bougainville. He has requested that these briefings be on a regular basis.





**Figure 7:** Irene Kernot presenting a copy of the 'Buk Bilong Kakau Fama' to local Wewak MP Hon Kevin Isifu at the Paliama Field Day, East Sepik Province, outside the village cocoa nursery.



**Figure 8:** Irene Kernot and Cocoa Model Farmer Trainer, Nola Sasingian, in the solar cocoa dryer at Yekimbole Village, East Sepik Province.



**Figure 9 (left):** New solar dryer alongside a standard kiln dryer at Balama Field Day, Madang.

## Highlands

- John Konam visited Karimui in early May and observed the construction of cheap solar dryers and the construction of bridges linking villages.
- Phil attended a roundtable meeting on 14 – 15 May in Brisbane organised by Oil Search Foundation to consider options for assisting agricultural development and youth employment in Western Highlands and Hela Provinces affected by the operations of Oil Search Ltd. He presented a paper prepared jointly with John Konam and Trevor Clarke on the possible role of cocoa development in the highlands, especially highlighting the potential role of the NGI Grass Roots Economic Empowerment Trust ('GREET') started by John and involving several highlands cocoa scientists.
- John and Phil travelled from Goroka to Mt Hagen on 13 June and saw cocoa plantings in the Waghi Valley and in Baiyer River Valley accompanied by the Western Highlands Province DAL officer Levi. They met the Head of WHP DAL and the Deputy Administrator, who are supporting the test planting of cocoa in their province.
- On Monday 17 June, John and Phil met with the Head of DAL, Eastern Highlands Province, in Goroka, and Phil was taken to visit the mature and bearing cocoa planting across the Bena Bena River.
- From 18 – 20 June, John, Trevor, Phil and Josie Saul-Maora attended the TADEP+ Annual Meeting in Goroka and presented a summary of the project activities with Suri Taisa and Hosea Turbarat from the University of Natural Resources and Environment. On Wednesday, the attendees at the meeting took part in a ceremonial planting of cocoa trees near Goroka.

## New Ireland

- From 4 – 12 June, Trevor and Phil visited CMFT sites with the Project Coordinator John Joseph and saw mature budwood gardens and had discussion with CMFTs at Manggai, Luapul, Katedan, Panamecho, Burui, Karu, and Sena. Excellent mini-field days were held at Laraibina (David and Christine Waulas) and Sena (8 hours' drive south from Kavieng, Marty and Maruel Robin). David has involved 9 young men in his activities and old ladies from the nearby village said that this had solved the problems in the village.
- Both field days were attended by about 50 men and 20 women and involved many hands-on demonstrations of cocoa technologies such as budding, nursery-work and pruning to rehabilitate old blocks. Ignatius Subul from Burau, Kalu Eliap from Karu, and Nick Misi from Bo Village assisted with the field day at Sena. Francesca Subul, daughter of Ignatius and Lydia, is planning to run their nursery as a commercial business.
- On Friday 7 June, Trevor, Phil and John met with Gideon Bogosia in the Provincial Government headquarters and in the afternoon attended a handover from the ACIAR Project of three motor bikes and Farmers Handbooks to 9 DAL officers at Kopkop. On 11 June, Nason Laki, the Cocoa Board Field Services officer in Kavieng, and Phil had a lengthy discussion with Gideon Bogosia, the Head of the Provincial Government DAL office, about the future of Kopkop station and on-going collaboration with the ACIAR project and the New Ireland Provincial Government Cocoa Project.

## East Sepik

- John Meth left his position as Coordinator of the ACIAR Project in East Sepik and was replaced by Timothy Sam, who has been appointed Head of Cocoa Board REDS there. Chris Toli remains as Assistant Coordinator of our project, based in Angoram to oversee project activities there. Irene Kernot visited sites in East Sepik on 20 – 21 May with Phil, Trevor, David Yinil and Timothy to review project activities. On 20 May, they visited Yekimbole Village to see the three solar dryers functioning well. Trevor continued to source materials in Wewak for installing solar-powered fans in the solar dryers at Yekimbole. The CMFT Nola Sasingian showed the healthy growth of pigeon pea and successful field budding of cocoa. Later the team visited Bararat Village after crossing the river on foot (the usual access bridge was impassable) to see the mature budwood garden and field budding to rehabilitate blocks. Irene was welcomed by a large crowd in the meeting house and spoke about ACIAR activities. Bararat is a centre for project activities in several nearby 'satellite' villages.
- On 21 May, the team attended a large field day at Paliama Village led by the CMFT Jonathan Poema. Irene spoke at the opening, along with the local MP, Hon Kevin Isifu. Douglas Kawasi was the MC and he and Timothy conducted demonstrations of cocoa technologies. The budwood garden is mature and ready to be certified. Farmer Handbooks were ceremonially handed to the village group. Goats from Niumindogum/Haniak Villages were a popular attraction. After the field day, the team visited Hawain Training Centre to see the restoration of the Centre funded by the project and also visited the solar dryer of Cheribim Reinimbo and saw good budding of seedlings in his nursery. He also claims to have found a CPB resistant clone. There has not been much activity at Hawain since John Meth's departure.
- Irene departed for Australia and Kanika Singh arrived early on 22 May. In the afternoon, Trevor, Kanika, Phil and David visited Banak (Francis Whan) and Mague (Linda and her mother Jane). We learned that Timothy has been couch-surfing in Wewak since his appointment, and Trevor agreed that we have to help fund a house for him to bring his family from Angoram.
- On 23 May, Kanika led the team to Yekimbole to oversee ploughing of the grassland, which was not possible on the day because of the boggy conditions. They also visited the Soil Fertility Trial site at Wingei and saw that cocoa can grow on the grasslands if good shade such as betel nut, bananas and fruit trees is established first. The *Gliricidia* had been almost completely defoliated by an orange stink bug, which is a warning for further attempts to establish cocoa under *Gliricidia* on the grasslands.
- On 24 May, Trevor, Phil and Timothy drove to Angoram to visit the Gavo CMFT site (Caleb Yali) and visit Tim's family. Chris Toli had been working with Caleb's group to re-establish the site after a *haus krai* for Caleb's father. We dropped off a high-power Olympus microscope at Brandi Secondary School and visited the cocoa nursery and budwood garden there with the agriculture teacher, Philip Daniel, to continue the contact initiated by Trevor. The project purchased a HP laptop for Timothy from Barry Lemot, a reputable electronics dealer and repairman in Wewak. On 30 May, Phil had lengthy discussions with the senior Provincial DAL staff, Kevin Hawan, John Worowan, Tony Hobiagi and Clement Niengau, who will be our main contact for all future visits to the province. Closer collaboration was promised on both sides. Timothy and Phil visited Angela Gossiba at Burui and decided to support her to build a nursery there, to use budwood from Blamda since the budwood garden at Burui is not thriving (wet feet). On Friday Chris Toli and Phil drove to Kwain Village to visit the excellent budwood garden and field budding of Xavier and Stephanie

Maninjembi supported by Simpson. En route, Robert Humbiambu, brother of Thompson Fafungian, showed us their huge nursery being established on the banks of the Hoguma River near Yekimbole. On the way home, Norman and Isadore (bothers of Leah Kowi) met us on the road to announce the birth of a kid in their goat colony at Niumindogum.

## Madang

- Irene Kernot visited Madang for three days, 16 – 19 May, to review the project with Phil and Trevor. With Godfried Savi, Gani Agadop and Mesi, the senior officers in the Provincial Government office, they attended a big field day at Balama Village on 17 May attended by about 70 farmers and CMFTs from Tamane, Erima, Mabenob and Rempe. Irene spoke about the ACIAR activities and opened the new solar dryer designed by Trevor. On Saturday, the team, joined by David Yinil, visited Mabenob Village to see the fully mature budwood garden ready for certification, and Rempi Village to see the budwood garden accompanied by the women's group. The group briefly visited the Stewart Research Centre at Murnass to see the abandoned cocoa nursery. Before the team departed for Wewak, Irene held a meeting to discuss the future of the project and the need to plan for handover of all project activities to DAL and REDS officers.

## East New Britain headquarters

- Discussions were held with John Moxon, the head of PPAP cocoa activities. Planning proceeded for the publication in Fiji of Trevor's *Pacific Cocoa Farmers Handbook*. Trevor and Phil met with Josie Saul-Maora at NARI Kerevat, to discuss the upcoming Family Farm Teams Training to be conducted in Madang (Alexishaven) from 24 to 28 June. They also met with Peter Epaina at Tavilo to discuss his work promoting the testing for cocoa plantings in the highlands. They were given a tour of the galip nut processing facilities at NARI Kerevat, and Trevor picked up about 20 kg of galip nut seed to take to New Ireland (Nick Misi) and the highlands (John Konam) for test planting.

## Collaboration

- Collaboration has continued with the ACIAR Soil Fertility Project, and project manager Dr Kanika Singh, especially to enable ripping and ploughing of a test plot of grassland at Yekimbole. A ripping/ploughing/pigeon pea trial was planned, and provisions were made to hire a grader from a nearby road-building site to deep rip the soil.

## Sweetpotato

HORT/2014/097

- The project supported 14 PNG sweetpotato growers and 4 representatives from NARI and FPDA to visit Australia to participate in training activities and visits to sweetpotato farms, packhouse facilities and markets. Hands on training in planting, multiplication nursery management, harvesting and grading of clean vines for planting, and grading and packing of roots for markets were a very effective means of introducing growers to different production and marketing practices. In addition to the learning opportunities, the growers appreciated a BBQ hosted by the local PNG community in Bundaberg and a visit to Suncorp Stadium to have photos taken with statues of famous rugby stars.



**Figure 10 (above right):** Field visit to Meteufa during the TADEP+ Annual Meeting in Goroka, demonstrating the adoption of sweetpotato grading and packing techniques learnt during the grower tour to Australia.

- On return to PNG, the grower had put in place lessons learnt within a week of arriving home. Several growers are trialling root-based vine multiplications systems, while others are washing and grading roots to sell through value chains that in the past, they have struggled to sustain trade in due to variable product quality. One grower in the Asaro Valley has begun referring to his village as Second Bundaberg as he now



wishes to make the region the centre for commercial sweetpotato production in PNG much as Bundaberg is the major production region in Australia. The enthusiasm of the growers following the visit provides a good foundation for supporting adoption of commercial production practices and behaviours.

- Media interest in the growers' tour was strong with newspaper, radio and television coverage in both Australia and PNG. The trip also featured on the project Facebook page, with several groups contacting the project team to inquire about both export and import market opportunities.

## Family Farm Teams

## Small Research Activity

- The Small Research Activity (SRA) is currently being developed and details will be circulated once finalised.
- See the TADEP+ Update for the *'Opening our family's eyes': The PNG 'Family Farm Teams' research report*, featuring the Ripple Effect Mapping participatory data collection method.

## Galip Nut

- Prof. Helen Wallace and Dr. Shahla Hosseini Bai presented at the ACIAR pre-conference meeting on the 19 May and at the Montpellier World Agroforestry Congress on the 22 May. Helen was one of the keynote speakers and presented a talk titled *'Transdisciplinary approaches to commercialising indigenous agroforestry trees: galip nuts (Canarium indicum) in the Pacific'*. Shahla presented a conference paper titled *'Root studies in agroforestry systems – a case study of coffee and cocoa trees'* on 22 May 2019. The paper was well received.



**Figure 11:** Dr. Shahla Hosseini Bai presented a titled 'Root studies in agroforestry systems – a case study of coffee and cocoa trees.



**Figure 12:** Professor Helen Wallace was one of the keynote speakers in this conference and she shared her Pacific experience to develop an industry.

**Figure 13 (right):** Galip entrepreneur (DMS) and one of the Galip projects private partners – Dorothy Luana, had her products displayed at an ACIAR demonstration stall at the conference to showcase galip project and Dorothy's product success.



## Media coverage:

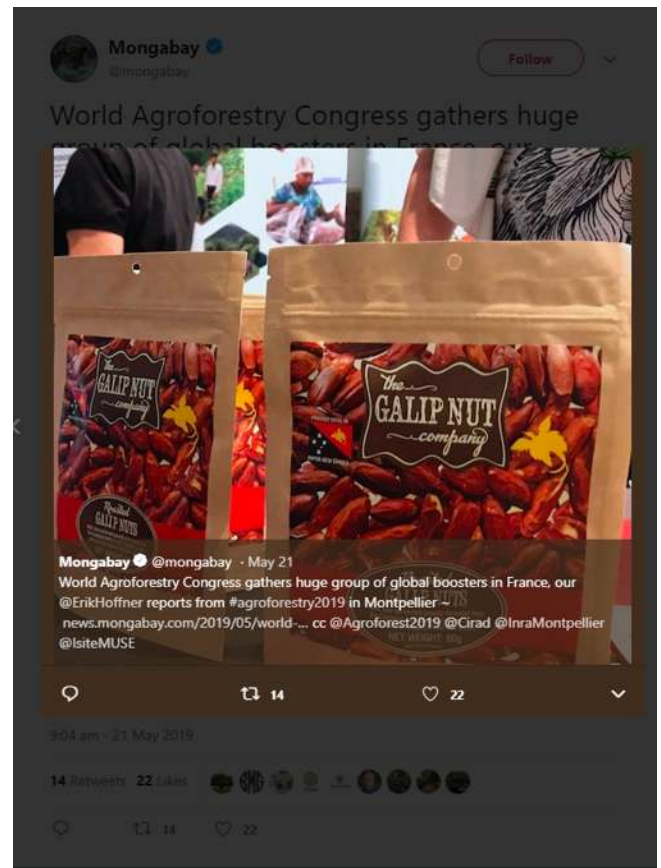
- Dorothy Luana was featured in a Mongabay article published online. Mongabay has 30 million readers globally and has been covering agroforestry via a special series for the past 2 years: <https://news.mongabay.com/2019/05/world-agroforestry-congress-gathers-huge-group-of-global-boosters-in-france/>.



- The article's author Erik Hoffner states *"One popular example of agroforestry product development having a big impact is in the exhibit hall, where ACIAR's team is helping Dorothy Luana of Papua New Guinea show off her organization's galip nuts, a delicious roasted snack that has been a long time staple in PNG but which with a dozen years of ACIAR support is now reaching an audience far beyond the Pacific island country. In fact, this particular audience has already wiped out their supply."*
- The galip nut product range was also featured on a twitter post by Mongabay showcasing the Agroforestry Congress

<https://twitter.com/mongabay/status/1130866856120791041>

**Figure 14 (right):** Snapshot of twitter post published by: Erik Hoffner for Mongabay.



#### Recent papers accepted and published:

- Hosseini-Bai, S., Trueman, S.J., Nevenimo, T., Hanneet, G., Randall, B. and Wallace, H.M., 2019. The effects of tree spacing regime and tree species composition on mineral nutrient composition of cocoa beans and canarium nuts in 8-year-old cocoa plantations. *Environmental Science and Pollution Research*, pp.1-9.