

ACIAR–DFAT PNG Economic Development Program and Bougainville Agriculture Program

Annual Report, 1 July – 30 June 2016



Australian Government
**Australian Centre for
International Agricultural Research**



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Glossary

ABG	Autonomous Bougainville Government
ACIAR	Australian Centre for International Agricultural Research
ARB	Autonomous Region of Bougainville
CCI	Cocoa Coconut Institute
CPB	Cocoa pod borer
CMFT	Cocoa model farmer-trainers
CUG	Closed User Group
DFAT	Department of Foreign Affairs and Trade
DPI	Department of Primary Industries
FPDA	Fresh Produce Development Agency
IFAD	International Fund for Agricultural Development
MAD	Mobile Acquired Data
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
MTDP2	Medium Term Development Plan 2
NARI	National Agricultural Research Institute
PPAP	Productive Partnerships in Agriculture Project
PT	pathogen tested
R4D	Research for Development
SME	small medium enterprises
SRA	Small Research Activity
TADep	Transformative Agriculture and Enterprise Development Program
TEAM	Technology Evaluation and Marketing
VCE	village community educators
VEW	village extension worker
VRC	Village Resource Centre

Executive Summary

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 through five component research projects. TADEP is co-funded by the Department of Foreign Affairs and Trade (DFAT) and the Australian Centre for Agricultural Research (ACIAR). This Annual Report summarises activities and progress in the period since the program's inception in April 2015 to 30 June 2016.

Since inception, the following five projects have commenced, held inception meetings and are at varying stages of implementation:

1. ASEM/2014/095 Improving opportunities for economic development for women smallholders in rural Papua New Guinea (*'Family teams'*)
2. FST/2014/099 Enhancing private sector-led development of the Canarium industry in Papua New Guinea (*'Canarium'*)
3. HORT/2014/094 Developing the Cocoa value chain in Bougainville (*'Bougainville Cocoa'*)
4. HORT/2014/096 Enterprise-driven transformation of family Cocoa production in East Sepik, Madang, New Ireland and Chimbu Provinces of Papua New Guinea (*'PNG Cocoa'*)
5. HORT/2014/097 Supporting commercial Sweetpotato production and marketing in the Papua New Guinea highlands (*'Sweetpotato'*)

Representatives from each of the component projects attended both the Inception Meeting in April 2015 and Annual TADEP Meeting in May 2016. Both of these events have demonstrated the projects' willingness and commitment to cooperate and collaborate to realise the overall program goal.

Each of the component projects is currently and necessarily focused on bedding down partnerships and implementing research activities to deliver early outputs. The progress made within each of these projects is detailed in this report. Despite the early stage of implementation, there have been early wins, with two notable ones being:

1. *Canarium* has catalysed small scale marketing of processed nuts through several commercial outlets in East New Britain. It is now in discussion with a significant agrifood business, Paradise Food, to explore development of a new processed food product using *Canarium*, Cocoa and other PNG ingredients.
2. *Bougainville Cocoa* played a significant role in the inaugural Bougainville Chocolate Festival on 5-6 July 2016. While the festival was just outside the reporting period for this document, its organisation focused a lot of effort of the project team during the reporting period. In particular, four Australian chocolatiers attended the festival with three participating as judges. This has created early functional linkages between the private sector and the project team, Bougainville farmers and the ABG. One of those companies is exploring small shipments of beans from particular farmers for trial chocolate production in Australia.

The success of TADEP as a program will be judged in part by (i) the extent to which it delivers value beyond the sum of the component projects and (ii) the extent to which the projects contribute to the overall TADEP performance indicators. To oversee these functions as well as provide program-level logistics and communications, an interim part-time program coordinator was recruited. This role will be filled longer-term, through Australian government procurement processes, by the end 2016. The program coordinator has, in particular, led the development of a coherent program logic, performance framework and communications plan, drawing together the projects into a common understanding of the program objectives, performance indicators and their contributions to these. The performance framework is reported in this document. It has been developed in consultation with DFAT, ACIAR and key program stakeholders and will continue to be an adaptive document as the program progresses and evolves. It is anticipated that research outcomes and impacts will begin to emerge mid-way through TADEP and by year five, the projects will be providing comprehensive evidence of development impacts.

One indicator of success of a program model like TADEP is strong functional collaboration between the component projects. Two areas of early collaboration that received enthusiastic support from the component projects are being developed by the program coordinator:

1. There has been strong interest from the component projects, ACIAR projects more broadly and external agencies such as IFAD in the women's empowerment approaches being developed by *Family Teams*.
2. All of the component projects face a common challenge in how to efficiently and effectively manage data collection and analysis. Separately, ACIAR has been evaluating a range of commercially available digital data collection applications and after an 18 month assessment has identified one for testing at scale. This powerful application (CommCare) not only dramatically improves data collection and management but empowers field staff and farmers in the data analysis process. CommCare is already being prepared for use in Bougainville Cocoa. The TADEP program is going to fund a wider implementation across the projects and encourage them to become a community of practice, supporting each other in its implementation. The projects will become a showcase for digital data approaches in PNG that can be extended to other programs, especially as funded by DFAT and ACIAR.

The program coordinator will continue to seek similar ways in which targeted funding and support to the projects will add value to the TADEP program.

1. Background and Context

Despite the robust economic growth Papua New Guinea has experienced in the past decade, the nation's social indicators remain among the most challenging in the Asia Pacific region. High international prices for PNG's mining and agricultural exports boosted economic growth and increased government spending and expenditures. However, as public debt has increased and international commodity prices have declined, this inflated prosperity has failed to translate into equitable development for Papua New Guineans.

Over 80 per cent of PNG's population are rural-based subsistence smallholder farmers. Enhancing the livelihoods of rural men and women in PNG will enable the nation to reduce poverty and promote sustainable economic development. Increasing agricultural productivity and supply-chain efficiency for both domestic and export commodities is essential to promote economic growth in the rural sector.

Key components of Australia's involvement with the agriculture sector in PNG are the ACIAR – Department of Foreign Affairs and Trade (DFAT) economic development program and Bougainville agriculture program, in which DFAT and ACIAR co-invest. The program—Transformative Agriculture and Enterprise Development Program (TADEP)—has five impact-focused research for development (R4D) projects centred on enabling economic development opportunities. The program focuses on opportunities to scale up successful innovations from previous ACIAR projects, with impetus provided by private-sector involvement, over larger areas and for more people. This will achieve economic benefits, especially increased employment and incomes in rural areas, and enhanced rural–urban supply chains. It works in the sectors of greatest benefit to rural communities, and has a particular focus on the empowerment of women and commodities that can be brought to market.

In line with the increased emphasis on gender and youth in both Australian and PNG government policies, and because of the experience in many commodity projects of male-dominated farmers' groups, new skills are needed to engage with men, women and youth in communities, to support and build their contribution to their families and their community. One of the five TADEP projects focuses specifically on empowering women and rural families to engage in a range of agriculture-based economic activities and acts as a source of ideas and approaches for the other projects.

Commencing in April 2015, the multidisciplinary research Program aims “to improve livelihoods of rural men and women in Papua New Guinea”. To achieve this, the five multidisciplinary adaptive research projects are addressing the following Program level objectives:

- To stimulate and strengthen inclusive private sector-led development in agriculture
- To sustainably increase agricultural productivity, quality and value
- To improve access to markets and strengthening value chains
- To promote gender equity and women's empowerment in rural communities
- To build individual and institutional capacity

The projects are:

1. ASEM/2014/095 Improving opportunities for economic development for women smallholders in rural Papua New Guinea (*'Family teams'*)
2. FST/2014/099 Enhancing private sector-led development of the Canarium industry in Papua New Guinea (*'Canarium'*)
3. HORT/2014/094 Developing the Cocoa value chain in Bougainville (*'Bougainville Cocoa'*)
4. HORT/2014/096 Enterprise-driven transformation of family Cocoa production in East Sepik, Madang, New Ireland and Chimbu Provinces of Papua New Guinea (*'PNG Cocoa'*)
5. HORT/2014/097 Supporting commercial Sweetpotato production and marketing in the Papua New Guinea highlands (*'Sweetpotato'*)

The purpose of this report is to provide an update on progress towards project and Program level objectives for the period July 2015 to June 2016.

2. Relevance of the Program

Poverty is a significant issue for all Papua New Guinea's provinces, including the Autonomous Region of Bougainville, with over 80% of the nation's population being rural-based subsistence smallholder farmers. Enhancing the lives of rural people and promoting stability in PNG are central to Australia's interests. In response, there is a strong focus in Australia's development cooperation programs on economic development as a pathway out of poverty and on empowering women and girls. These objectives are reflected in the PNG development priorities articulated by both the PNG and Australian governments.

In 2015, the PNG Government released its Medium Term Development Plan 2 (MTDP2), 2016–2017, which describes the intentions, priorities and activities towards achieving its 'Vision 2050' aspirational long-term strategy. The National Agriculture Development Plan also aligns with Vision 2050 and MTDP2, and aims to enhance agricultural productivity, scale of production, market access and income generation through smart partnerships and innovative, sustainable and entrepreneurial farming systems and agro-industry. Australian assistance aims to complement, not substitute for, PNG's own investment in priority areas.

In line with the PNG Government strategy, the five projects within TADEP collectively aim to foster private sector-led development in agriculture, increase agricultural productive capacity and improve access to markets for farmers, particularly women farmers.

3. Summary of Program developments

A two-day **TADEP Inception Meeting** was held at the National Agricultural Research Institute (NARI) on 6 – 7 August 2015, with representatives of all five component projects. The program included overview presentations from NARI (Director General Sergie Bang) and ACIAR (Peter Horne), followed by presentations and discussions about each of the component projects. Doug Gray and Barbara Chambers facilitated discussions on how the projects could interact as a program. Further work was done in small groups on the second day to develop the strategies and assign priorities to various co-ordination issues. There was an explanation of how the Monitoring and Evaluation for TADEP might be approached, but without the presence of the M&E specialist this could not be developed any further during the inception meeting.

The Inception Meeting identified the willingness of TADEP projects to cooperate, setting the foundation for developing functional cross-project collaboration. The meeting also identified the willingness of the projects to participate in program level discussions but also the challenges of achieving that outcome. This has formed the basis of subsequent planning at program level.

To assist in the management of TADEP, a **part time Program Coordinator** (Elizabeth Brennan) was contracted in February 2016. This role provides coherent communication between the projects and throughout the program, and facilitates opportunities for value-adding to the projects, ensuring that the program 'is greater than the sum of its parts'.

The **TADEP Annual Meeting** was held on 18 – 19 May 2016 at the PNG Cocoa Coconut Institute (CCI) in Kerevat, East New Britain, and brought together 51 attendees from across the program. A draft Program Performance Framework was developed with all of the component projects and stakeholders at the Annual Meeting. This will be an iterative framework, revisited at each annual meeting, and will evolve as the high level impacts emerge through the life of the program.

Monthly Updates that provide information on progress and plans of the projects and the program are being delivered to all relevant stakeholders. These form part of a broader **Communications Plan**, which identifies target audiences and channels, and was presented in draft form at the TADEP Annual Meeting in May 2016. Each project has produced a **Project Information Sheet** which provides key information about project activities in a format that is suitable for a general audience (included in Annexe I).

As projects have shared their progress and ideas for collaboration, a number of opportunities for project-to-project collaboration have already been identified. Communication within projects was highlighted as a major constraint and challenge during the Annual Meeting. Two of the TADEP projects had taken steps to remedy this through the use of **Closed User Groups** (CUG) which allow a predetermined group of people to make and receive unlimited calls within that group. A program wide CUG is being facilitated via the TADEP program coordinator to not only encourage easier communication within projects but also between them.

All of the component projects face a common challenge in how to efficiently and effectively manage data collection and analysis. Separately, ACIAR has been evaluating a range of commercially available

digital data collection applications and after an 18 month assessment has identified one for testing at scale. This powerful application (CommCare) not only dramatically improves data collection and management but empowers field staff and farmers in the data analysis process. The Bougainville Cocoa project has already been piloting the use of CommCare for the collection, collation and analysis of their survey data. The TADEP program is going to fund a wider implementation across the projects and encourage them to become a community of practice, supporting each other in its implementation. The projects will become a showcase for digital data approaches in PNG that can be extended to other programs, especially as funded by DFAT and ACIAR.

Building on lessons learned from a DFAT-ACIAR co-investment in Myanmar, a draft **Collaborative Research Grant** document was presented to projects at the TADEP Annual Meeting in May. The small competitive, merit based fund has been proposed to promote (i) cross-project collaboration, (ii) cross-project capacity building, (iii) new activities that could directly address high-level targets of the Australian aid program, especially women's economic empowerment and private sector engagement and (iv) activities that promote collaboration between Papua New Guinean agencies. The first call for submissions to the Collaborative Research Grant will be held in financial year 2017-18.

4. Engagement with the private sector

Engagement with the private sector will be a key driver of success for the TADEP projects and program. Previous work has shown that improving farmers' access to and understanding of markets is most successful when it closely involves the private sector. Facilitating open communication between the two groups also helps create trust and foster a positive working relationship. Engaging early with a range of private sector organisations across the provinces and commodities involved in TADEP is an important focus for the project teams.

Paradise Food is interested in collaborating with the TADEP *Canarium* project to explore development of a new product (similar to Nutella) using *Canarium*, Cocoa and other PNG ingredients. Commercial agreements are currently being discussed, including the supply of nuts from East New Britain and the role of the PNG research partners (NARI). These should be finalised in the next few months. The *Canarium* team will work with a range of commercial outlets in Port Moresby (including restaurants, cafes and supermarkets), with the aim of launching the commercial product in the first half of 2017.

The inaugural Bougainville Chocolate Festival was held in Buin and Arawa in early July 2016. The festival was a partnership between the Bougainville, PNG and Australian Governments, and the Bougainville Cocoa project team were involved in the initial farmer engagement, some logistical support and the competition aspect of the festival. Several private sector entities were involved in the festival, including:

- Paradise Food produced all of the chocolate from farmer samples and were involved in the judging of the chocolate competition. They already export directly from farmers in Bougainville, however following the festival they have approached a number of new farmers to build an export relationship and expand their market.

- Four Australian chocolatiers attended the festival; three participated as judges and one attended to explore options for exporting from Bougainville. All four of the chocolatiers were impressed with the tenacity and drive of the Bougainville farmers, and the quality of their product. One of the chocolatiers (Jasper and Myrtle) is organising a trial shipment of beans from several farmers at the festival for small scale chocolate marketing trials in Australia.
- Following the festival an American company has requested bean samples from a selection of the farmers, as a trial shipment.
- The festival also involved a number of other private businesses who facilitate the export of Cocoa from Bougainville, including Consort Shipping, who provided logistical support for the initial shipments, and other logistics related businesses.

AgMark is the biggest company in the PNG Cocoa industry, operating across all of the Cocoa growing provinces. They are a crucial partner in the *PNG Cocoa* project, working closely with the team to identify communities, provide networks and review extension materials and opportunities. Their continued involvement will help align project activities and outcomes with the needs of the commercial Cocoa sector.

Canarium is often grown in conjunction with Cocoa and AgMark is also working with the *Canarium* project team to look at ways to integrate the two supply chains. Over the next few months AgMark Tokiala (Gazelle District, ENB) will trial *Canarium* purchasing at their Cocoa buying point.

5. Increasing women's economic empowerment

A second key focus for TADEP is its ability to assist women to transform themselves and their businesses from subsistence to commercial enterprises. Women farmers are key to PNG family livelihoods, producing essential subsistence crops whilst undertaking valued social roles such as family care. Women farmers, however, face significant constraints including low literacy, limited access to resources, limited access to finance, lack of understanding and access to markets, primary responsibility and burden for household labour, restrictions to mobility, and overall safety issues. Although most women aspire to improve their family livelihoods, very few women farmers have the necessary agricultural and business acumen.

A previous ACIAR project (ASEM/2010/052 "Examining women's business acumen in Papua New Guinea: Working with women smallholders in horticulture") demonstrated that a **whole-of-family approach to farmer** learning has enabled farming families to work in a more equitable and effective way to improve their livelihoods. The biggest change this approach has had is on women's ability to access training and resources, with support and assistance from their husbands and families. The TADEP *Family Teams* project integrates this inclusive learning approach into training modules, with a focus on village community educators to build local skills and sustainability. This project now seeks to understand the effectiveness of the approach at scale and across a broader range of commodities and geographies, including across other TADEP projects.

Tending to nut-bearing fruit trees like *Canarium* (also known as galip) is traditionally the domain of women, and whilst they are a highly nutritional food source, suboptimal production and postharvest methods are limiting the development of this crop. The *Canarium* project has already created **opportunities for women to generate income** by selling nuts to the *Canarium* processing facility at NARI in Kerevat, East New Britain. It has also delivered a training workshop in galip processing and solar drying, which was attended by 22 women. This training provided women the knowledge to start a small processing business to value-add to their own *Canarium*, and the project team will continue to support women to develop in this area.

New technologies developed through the project were introduced to East New Britain Women and Youth in Agriculture (ENBWYIA) during the training workshop which discussed topics such as postharvest physiology, good handling practices, value adding, food safety and hygiene and nut drying including solar drying. Attendees also undertook a range of hands on exercises in galip nut grading, galip nut depulping, galip nut cracking, using the solar drier, roasting, making oil and packaging galip.

6. Project Updates

6.1 ASEM/2014/095 Improving opportunities for economic development for women smallholders in rural Papua New Guinea (“Family teams”)

Background

The project aims to improve the lives and economic security of women smallholder farmers in Papua New Guinea. Women farmers are key to PNG family livelihoods. They produce essential subsistence crops whilst undertaking valued social roles such as family care. However, women farmers face significant agricultural constraints including low literacy, limited access to productive resources, low banking rates, limited financial skills, lack of understanding and access to markets, unequal gendered family roles and division of labour, restrictions to mobility, and overall safety. Although most women aspire to improve their family livelihoods, very few women farmers have the necessary agricultural and business acumen.

A previous ACIAR project (ASEM/2010/052 “Examining women's business acumen in Papua New Guinea: Working with women smallholders in horticulture”) demonstrated that a whole of family approach to farmer learning has enabled farming families to work in a more equitable and effective way to improve their livelihoods. The family teams approach integrates family teams modules, banking and saving training and agricultural planning techniques as well as the training of peer village community educators. This project now seeks to understand the effectiveness of the approach at scale and across a broader range of commodities and geographies.

Six areas have been selected across two areas or ‘hubs’ to provide contrasting settings that ensure that area differences emerge but also that local skills and solutions to local problems are maximised:

- Highlands
 - Alona Ward, Lumusa, Western Highlands (vegetables)
 - Wahgi Valley, Jiwaka (Sweetpotato)
 - Asaro Valley, Eastern Highlands (coffee)
- Islands
 - Bougainville (Cocoa)
 - Bougainville (Canarium)
 - New Ireland (pearl shells)

The project is currently focused on the three areas within the Highlands and will be focusing on the three areas in the Islands in 2017.

Progress summary

This project commenced in July 2015 and builds on the successful platform developed in the previous project (ASEM/2010/052). Their expansion into new provinces with new partner agencies has shown promise. M&E data being collected over the next 12 months will confirm whether this has been

successful and will help guide any future out-scaling of this work. IFAD is interested in looking at ways to expand this approach to a broader scale.

Achievements against project objectives:

Objective 1: To examine the capacity development of women as community-based agricultural leaders

A review of women's leadership literature and programs has informed the development of a Women's Leadership program in Lumusa, Western Highlands, that was hosted in November 2015. Women's leadership teams have been formed and supported in the three areas of focus in the Highlands. Each woman leader is responsible for supporting a team of six VCEs in the delivery of the peer education. The leadership program uses strengths-based training that helps women recognise their existing skills and the leadership roles they already have in the community and identifies other possible leadership pathways. Women leaders have also been trained in project planning and management skills, communication and monitoring and evaluation.

Objective 2: To explore ways in which communities can develop partnerships with the private sector, schools and training providers that are relevant to the local context and culture

Area situational analyses have been completed in each of the focal areas in the Highlands to understand the area profile, agricultural needs and assets. Similarly, baseline studies undertaken in each of the specified villages have profiled villages and identified needs and assets through participatory community workshops. These workshops have enabled communities to identify their community learning needs and increase their knowledge of local assets. In conjunction with the review of available training programs, community learning plans have been developed and have catalysed a range of brokered training to support the business and agricultural development of the VCEs and their families:

- Banking and saving (Nationwide Microbank): Alona ward, Asaro Valley, Wahgi Valley
- Bulb onion commercial production model farm (FPDA): Alona ward, Asaro Valley
- Livestock production (PNG University of Technology): Wahgi Valley

Objective 3: To further develop the peer education model of agricultural extension

Teams of Village Community Educators (VCEs) have been trained as peer educators. Three models of VCE teams are being trialled: female only, females with male leader support, female and male teams.

- Alona ward: 44 women, 8 senior male community leaders
- Asaro Valley: 34 women, 1 man
- Wahgi Valley: 21 women, 18 men

Objective 4: To examine the uptake and impact of a family team approach to farming for women and girls

The VCEs have begun to deliver the Family Teams modules to other farmers in their village.

- *Module 1: Working as a family team for family goals*
 - Alona ward: 213 F, 39 M

- Asaro Valley: 76 F, 71 M
- Wahgi Valley: 107 F, 58 M
- *Module 2: Planning your family farm as a family team*
 - Alona ward: 155 F, 19 M
 - Asaro Valley: in progress
 - Wahgi Valley: in progress
- *Module 3: Communicating and decision-making as a family team*
 - Alona ward: In progress
- A new module has been developed in light of the PNG drought, *Module 4: Feeding your Family Team*
 - Alona ward: 155F, 17M
 - Asaro Valley: in progress
 - Wahgi Valley: in progress

Upcoming

The activities in the Highlands area will be concluding at the end of this year with activities in the three areas in the Islands hub to commence at the beginning of 2017. The intensive 12-month delivery process for each area has been a challenge and given the action research design of the project, the second hub will be reconsidered to both address the challenges and maximise the opportunities.

There has been strong interest from other TADEP projects, ACIAR projects more broadly and external agencies such as IFAD in the family teams approach to learning. Further opportunities to scale out this key approach will be explored as part of TADEP.

6.2 FST/2014/099 Enhancing private sector-led development of the *Canarium* industry in PNG (“Canarium”)

Background

This project seeks to increase commercial processing and expand markets for *Canarium* nuts (or galip nuts) in East New Britain, Papua New Guinea. The project is trialling a range of interventions to reach this goal including market research, technical advice, capacity building, business mentoring and access to infrastructure for both private and public sector stakeholders.

Progress summary

The project commenced in April 2015. Building on much earlier work, it has catalysed small scale marketing of processed nuts through several commercial outlets in East New Britain. The next challenge is to launch and develop a commercial market in Port Moresby, and to ensure the *Canarium* factory in East New Britain is producing a regular and reliable product.

Achievements against project objectives:

Objective 1: Assess the needs of the private sector to participate in the *Canarium* industry

Interviews with smallholders and young people, market stallholders, industry representatives, Women and Youth in Agriculture (WYIA) network and government staff have been conducted. Barriers to upscaling the sale and processing of nuts include farmers’ knowledge of supply chains and optimising production. Extension requirements of these groups will be further identified and will explore opportunities to engage their young people.

New market opportunities, particularly those in Port Moresby, have been assessed, with a formal launch in Port Moresby planned for 2017. Relationships with a number of key buyers have been developed and a number of new product propositions have been discussed.

Objective 2: Develop and undertake research-based interventions that address the needs of the private sector at all scales

Solar drying is a method that can enable small scale processors to add value and increase participation in the *Canarium* industry. A solar drying training, food safety and nut processing workshop was developed by the project team and delivered in November 2015. It was attended by 22 women and youth from the East New Britain Women and Youth in Agriculture (ENBWYIA). A trial solar drier was constructed and used during the training.

Objective 3: Develop an appropriate commercial model for a medium scale value adding factory for the *Canarium* industry

Market chain opportunities are being investigated for a range of food and non- food products for a range of export markets. The NARI factory successfully bought and processed 11.52 tonnes nut-in-pulp resulting in 263.6 kg kernel being processed with an additional 243 kg Kernel-in-Testa (KIT) still to be processed. Of this 136 kg KIT will be processed for galip oil and 107 KIT will be processed for kernel consumption.

Markets have been established in the Tropicana supermarket and the factory is receiving repeat orders from several wholesalers. 146 kg sold have generated 7000 kina. New equipment (refrigerated container and drying oven) has been received to increase the capacity of the factory for future seasons and nuts from the next season will be available shortly.

Objective 4: Create a model for public- private partnerships in the Canarium industry in PNG

A draft report has been prepared based on a desktop literature review and unstructured interviews with industry and government staff. Preliminary findings are that the Allanblackia nut industry may provide some useful examples for a public-private partnership. Multi-national and offshore partners need to be careful to not exacerbate poverty for some poorer sections of the community. NARI have commenced their role in the partnership through developing processes and markets but neoliberalism is constraining their reach. Possible partners include SMEs, ENB Development Corporation and larger corporations. The final report will be produced pending further research, discussions and interventions and a final monitoring and evaluation stage.

Upcoming

The next planned phase of market development (new product development initiatives) is “Nut in Sachet” retail launch in Port Moresby 2017. Plans and commercial justifications towards a trial launch include packaging, serving sizes, product specifications, branding, retail price, launch strategy, distribution and marketing, in-market partnership development, and procurement processes. A similar investigative process is planned for “Nut in Spread” product after discussions with Paradise Foods to value add galip nut and oil materials.

6.3 HORT/2014/094 Developing the Cocoa value chain in Bougainville (“Bougainville Cocoa”)

Background

Cocoa production directly supports about two-thirds of the population in the Autonomous Region of Bougainville (ARB). Arising from the post-conflict environment, many cocoa farming communities in Bougainville have formed themselves into cohesive communities with clear goals and objectives. These communities have specifically requested assistance to better their circumstances in the major areas impacting their lives – profitable crops and better access to healthcare. However, the potential benefits of improved cocoa management have not yet been realised because of poor access to extension support, limited labour availability and inefficient cocoa supply chains. Indeed, cocoa production in ARB has been falling since 2009, with reduced productivity and profitability associated with ageing trees and increasing damage from the invasive cocoa pod borer.

The specific aim of this project is to improve the profitability and vitality of smallholder cocoa farming families and communities in Bougainville. The project will foster and strengthen public and private sector partnerships and facilitate the development of enterprises that enhance productivity and access to premium markets, while promoting gender equity, community health and well-being. The key partners are the ABG Departments of Primary Industries and Marine Resources, Local Government and Health, the University of Natural resources and Environment and PNG-Cocoa and Coconut Institute.

Progress summary

This project commenced on-ground implementation in the first quarter of 2016. Despite the short time since commencement, the project has achieved a considerable amount, particularly in terms of background work (survey design and project team development) to enable more-rapid early implementation. Their involvement in the Bougainville Chocolate Festival was a great opportunity for the project team to share information on their project activities and initiate engagement with farmers. While the festival was just outside the reporting period for this document, its organisation focused a lot of effort of the project team during the reporting period.

Inception and Stakeholder Reference Group meetings were held in February 2016, developing the baseline survey tool, planning for the Bougainville Chocolate Festival, and market training workshops in May 2016. The project is well advanced to apply the digital data collection app, CommCare.

Achievements against project objectives:

Objective 1: To improve the productivity, profitability and sustainability of Cocoa farming and related enterprises

The project inception meeting was held in Buka in February 2016 and the Project Stakeholder Reference Group was established. Several meetings with ABG DPI, DoH and DCG have been hosted to develop criteria for selecting participating Village Assemblies. Project team members travelled to Canberra in June to participate in the Mobile Acquired Data (MAD) Masterclass to contribute and learn about the utilisation of Apps for data collection, collation and analysis. A baseline survey has been developed utilising CommCare and piloted at the Bougainville Chocolate Festival.

Objective 2: To understand and raise awareness of the opportunities for improved nutrition and health to contribute to agricultural productivity and livelihoods

Project staff participated in workshops on gender and nutrition-sensitive agriculture organised by DFAT. Lessons learnt from these workshops have informed the development of the project's baseline survey which was piloted at the Bougainville Chocolate Festival. Ethics approvals have been granted from the University of Sydney and ABG DCG.



Bougainville Chocolate Festival

The inaugural Bougainville Chocolate Festival was hosted in Buin on 5 July and in Arawa on 6 July 2016. Hundreds of growers attended both days to witness speeches, cultural activities, over 20 stalls displaying information from a range of stakeholders and presentation of Gold, Silver and Bronze awards to the 46 entrants to the Chocolate Competition. Beans were made into chocolate by Paradise Foods in Port Moresby, and judged by a panel consisting of Barry Kitchen (Daintree Estates), Peter Mengler (Cravve) and Luke Spencer (Spencer Chocolates).

<http://bougainvillechocolatefestival.com/>



Objective 3: To foster innovation and enterprise development at community level

There have been consultations with ABG DPI locate and establish regional research hubs in South, Central and North Bougainville. Hub Managers have been identified and will be recruited when funds are available. CCI Field Officers have been identified and recruitment is also in progress. Selected facilitators will be trained at the Mars Cocoa Academy so the ABG DPI has a network of well-supported research hubs staffed by trained scientists and technicians.

Objective 4: To strengthen value chains for Cocoa and associated horticultural products

To assist in improving better postharvest handling, fermentation and drying, a series of cocoa quality workshops have been conducted in Buka, Buin and Arawa in November 2015 and May 2016, in conjunction with the evaluation and supply of specialist testing equipment to DPI. An analysis of the world cocoa market situation and 15 comprehensive newsletters providing market information have been prepared and circulated to key stakeholders.

The inaugural Bougainville Chocolate Festival was hosted in Buin on 5 July and in Arawa on 6 July 2016. The Festival, an important component of the project run this year with the assistance of the Australian High Commission in Port Moresby, was a great success.

6.4 HORT/2014/096 Enterprise-driven transformation of family Cocoa production in East Sepik, Madang, New Ireland and Chimbu Provinces of Papua New Guinea (“PNG Cocoa”)

Background

In PNG Cocoa production has been fairly opportunistic, which led to the industry almost being destroyed by the incursion in 2006 of the Cocoa Pod Borer (CPB). The industry could only be revived by transformation to more intensive management, which controls the pest, in combination with new varieties developed and released by the PNG Cocoa Coconut Institute (CCI) to increase yield. The aim of this project is to expand these new varieties and intensive management to smallholder farms across cocoa growing provinces in PNG.

This will be done by linking extension services of CCI, Provincial and District Governments and private cocoa companies to support the development of village-based cocoa advisory (Cocoa Model Farmer-Trainers, CMFTs) and other services (nurseries, fermentaries, farm supplies, cocoa buying) as self-sustaining micro-enterprises backed by financial institutions. CMFTs (usually a man and woman team) are being recruited from 20 wards in each Province, and given training and support to return to their home villages to teach other farmers. CMFTs will introduce and evaluate, on farms with farmer participation, the intensive management and new varieties. They will also look at diversification in the cocoa system, to integrate food crops, high-value shade trees (e.g. galip nut, coconut, betel nut, bananas), and livestock such as goats.

Progress summary

This project was only signed off by the PNG and Australian Government's in the first quarter of 2016. Prior to this, the project team had already identified provincial project coordinators, and started recruiting cocoa model farmer-trainers in all four provinces. The team has also had extensive discussions with Government and private sector, to ensure these crucial partners are involved and committed from the start.

Achievements against project objectives:

Objective 1: To foster the development of self-supporting, village-based cocoa extension and other services as micro-enterprises supported by financial institutions, commercial cocoa buying and supply companies, and existing extension services

An inception meeting was held in February 2016, which was attended by stakeholders from private sector (cocoa buyers), finance institutions, government (both Provincial and District), Cocoa Board, CCI (provincial and HQ), donors (PPAP, ACIAR) and farmer groups. With guidance from this diverse group, the suggested target communities were identified and work plans were developed. These were further refined in meetings in each Province with specific stakeholders. The involvement of the Provincial and District Government from the start is important to ensure sustainability of the services in the long-term.

Objective 2: To introduce and evaluate on farms, with farmer participation led by village extension workers, transformative new cocoa cultivars and cocoa selection, propagation, production and postharvest methods

Evaluation of the CCI-established on-farm cocoa variety trials has been completed in Karamui, Simbu, and recommendations for planting materials are being given to farmers. Farmers in other provinces have identified their best-performing trees, and the research team is working with them to assess the best overall performing varieties and provide provincial cocoa variety recommendations. This will be finalised over the remainder of 2016. These decisions are being made in consultation with farmers, private sector and the research team, which is the model that will be used to develop the recommendations for all aspects of cocoa production and processing.

Objective 3: To introduce and evaluate on farms, with farmer participation led by village extension workers, options for development of new cocoa farming systems integrating food crops, livestock and high-value shade and other trees

Initial awareness meetings have been conducted to understand the cocoa farming systems with baseline surveys soon to be conducted with CMFTs. The project is currently exploring the use of Apps in data collection as part of the Mobile Acquired Data (MAD) 4 TADEP Small Research Activity. Whilst baseline surveys are yet to be completed, there has been early observations that goats form part of farming systems in Seventh Day Adventist (SDA) influenced areas such as Karamui and Mussau Island.

6.5 HORT/2014/097 Supporting commercial Sweetpotato production and marketing in the PNG highlands (“Sweetpotato”)

Background

The economy of the PNG Highlands, especially in those areas with relatively good transport infrastructure, is evolving rapidly, with smallholders continuing to turn from subsistence farming to market-oriented production. Sweetpotato plays a key role in this evolution, becoming a cash crop in its own right and assuring food security in more diverse systems with coffee, vegetables and small livestock providing a cash income. This project will support smallholders to turn from subsistence farming towards market-oriented Sweetpotato production, producing specifically for the market and managing production to meet market/customer requirements.

This project will support an expansion in market-oriented Sweetpotato value chains by strengthening supply chains to selected high value markets and promoting enterprise development along supply chains, and by improving crop production capacity by introducing a scheme to supply clean, high performing planting material. An increase in market oriented production will create income generating opportunities for growers as well as enable other groups to enter into Sweetpotato fresh product and Sweetpotato-based food product supply chains.

Progress summary

As this project was only signed off by the PNG government in late March 2016, the project is still in its early stages and significant project impacts are yet to be realised. There has been good progress in the initial mapping of commercial Sweetpotato value chains in the four identified regions as well as the establishment of the three commercial grower sites for the multiplication of clean planting material.

Significant opportunities for development of cooperative links have been established through discussions with representatives from the International Fund for Agricultural Development (IFAD) who are developing a ‘PNG - Markets for Village Farmers (MVF)’ project with Sweetpotato as one of the targeted commodities, and Care International who have developed and delivered training programs for growers in the Asaro and Jiwaka regions.

Achievements against project objectives:

Objective 1: To develop and strengthen market oriented Sweetpotato supply chains

Initial mapping of commercial Sweetpotato value chains in four regions (Asaro, Minj, Hagen central, Baiyer Valley) has been completed. The Baiyer Valley region was confirmed as a significant and expanding commercial Sweetpotato production area warranting project attention, and the decision has therefore been made to conduct trials in each of these four Technology Evaluation and Marketing (TEAM) sites rather than the three agreed upon at the Inception meeting. FPDA have initiated interviews with commercial growers and traders to map key participants in commercial chains operating in each of the four regions.

Objective 2: To build capacity of Sweetpotato value chain players

Planning for delivery of the capacity building component of the project is well advanced. The program is in line with the Ward Development Planning approach, with FPDA Village Extension Workers engaged in the technical training components of the project.

The TADEP *Family Teams* project has undertaken training activities in Asaro, Jiwaka and Baiyer Valley regions in 2016, and this training will be continued in 2017 within the Sweetpotato project. Meetings have been held with IFAD and Care International representatives in Goroka to discuss mutual interests in aligning training programs targeting sweet potato growers in Asaro and Jiwaka.

Objective 3: To develop a 'clean seed' scheme to increase availability of clean planting material of Sweetpotato

Three commercial Village Extension Workers grower sites have been set up for multiplication of clean planting material from Aiyura. Clean planting material has been distributed to Asaro (variety 'Gimani'), Jiwaka (variety 'wahgi besta') and Central Hagen (variety 'wanmun') regions for multiplication in preparation for field demonstration trials. Additional material of varieties 'Kerot Goroka', 'Marasonda', 'Gimani/Sinato', 'Wanmun', 'Wahgi besta', 'Beaureguard', 'Korawest' and 'Rachael' is being produced at the NARI facility in Aiyura for distribution to multiplication sites in the four TEAM sites later in the year.

Upcoming

The *Sweetpotato* project has achieved key project milestones despite the delays in contracts. Participatory planning workshops will be held at TEAM sites to review local knowledge of Sweetpotato production and marketing. Information gathered during these workshops will inform a report that prioritises opportunities and assesses key barriers for each value chain. Work already undertaken to identify trainers for technical aspects of commercial Sweetpotato production and new enterprise development will continue and build upon the engagement with the *Family Teams* project and through the Ward Development Planning approach.

7. Program Annual Meeting

The inaugural TADEP Annual Meeting was held on 18 – 19 May 2016 at the PNG Cocoa Coconut Institute in Kerevat, East New Britain. There were 51 attendees from across each of the five TADEP projects including representation from DFAT, ACIAR Research Program Managers and key country partner stakeholders. The annual meeting was and will continue to be an integral component to the success of the program. It provides an opportunity for each of the projects to showcase their progress and to collectively contribute to the future direction of the program. Despite the diversity of sectors and research goals of the projects, the annual meeting draws the projects together once a year to monitor progress towards the program objectives and stimulate learning and collaboration between projects.

As this was the first time each of the projects had come together as part of the program and given the varying progress of each of the projects, the annual meeting agenda was designed to provide the overall context and expectations of the program. This included introductions to key staff, a history of the program development as part of ACIARs broader PNG program of work and the role the program key proponents in DFAT and ACIAR. The role of the program in providing coordinated and coherent communications and in value adding to each of the projects was reinforced in the introduction and throughout the annual meeting.

7.1 Project updates

Each project shared an overview and update on the progress of their research activities. Participants were invited to ask questions of each project presentation and to consider what links could be established across projects. Aside from the more obvious geographical crossover between project research activities, some of the approaches and research methodologies shared during the presentations garnered interest, for example, the ‘family teams’ approach to learning. Brainstormed ideas identifying opportunities and challenges were captured in a group discussion and catalysed proposals for program level activities such as the development of Closed User Groups to enable cross-project communication. Informal networking was also a key element of cross-project learning and knowledge sharing.

7.2 Performance Framework workshop

In the weeks leading up to the Annual Meeting, a draft Program Performance Framework had been developed by the Program Coordinator in consultation with ACIAR, DFAT and each of the TADEP projects. The rationale and context of the Program Performance Framework was discussed as part of a Performance Framework workshop followed by the presentation of the draft Program Performance Framework. Project teams broke into groups to review the elements of the Performance Framework and to consider how individual projects could provide evidence to the verifiable indicators. It was stressed that at this early stage in the program and for many of the projects, it was unlikely that research outcomes or impacts would be evidenced given the early focus of the projects is on the research activities. The feedback and ‘ground-truthing’ process from the Performance Framework fed into the next iteration of Performance Framework, which is featured below.

7.3 Other presentations

A number of additional presentations were delivered during the Annual Meeting including a tour of the Canarium Processing Facility at NARI, details on an ENB Cocoa Project by Brad Jackson of i2i Development and a presentation by Grant Vinning on the importance of considering marketing as a key component of value chain development.

7.4 Communications Plan

A draft Communications Plan was presented to inform projects of the key stakeholders being engaged, the types of channels being utilised and the frequency of communication. This document will be reviewed on an annual basis to reflect the needs of the projects and program.

7.5 2017 Annual Meeting

The next TADEP Annual Meeting is scheduled for the week commencing 10 April 2017. Bougainville has been nominated as the host province but details will be confirmed closer to the date.



8. Program Performance Framework

8.1 Purpose of the Program Performance Framework

A performance framework allows a program or project to reflect on the desired research outputs and outcomes or helps defines “what will success look like” and to plan how to monitor progress towards those development outcomes and impacts.

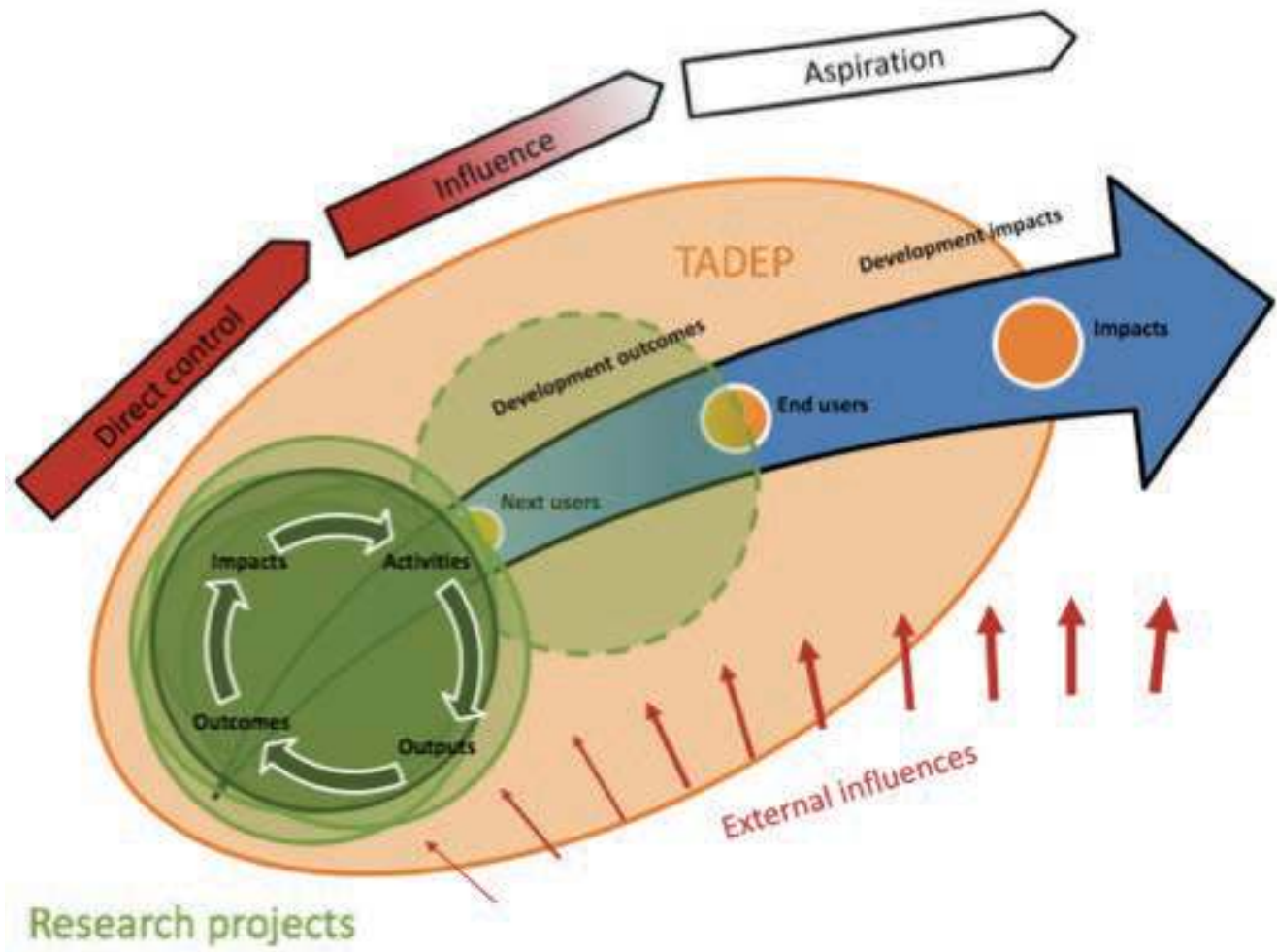
Table 1: Typical elements of project monitoring and evaluation

Inputs	Activities	Outputs	Outcomes or impacts
<i>what resources go into a project</i>	<i>research activities the project implements</i>	<i>the direct product of those activities</i>	<i>the changes or benefits that result from the activities or outputs</i>
funding, staff, equipment	surveys, field experiments, PRAs, adaptive research trials, extension efforts	publications, varieties identified, workshops held, people trained, policy engagement events held	net change in farmer income, changes in labour allocation, reduced incidence of disease in aquaculture systems

For the research projects, it is especially important to define clearly the area in an impact pathway over which the project team has direct influence (Figure 1). This is generally limited to the footprint of the project (the area bounded by the green circle) plus the managed relationships with ‘next users’. For research projects, ‘next users’ might typically include government extension services, NGOs, private sector, and a small group of end users.

This impact pathway concept was discussed the TADEP Annual Meeting in May 2016. It is especially useful to note the concepts of the Area of Control, the Area of Influence and the Area of Aspiration. The projects have direct influence over their Area of Control in the impact pathway. Beyond the area under the direct control of the research teams, the projects have a broader area of influence, in which the demonstrated benefits of the research are sustained and promoted on a larger scale by the commitment of the ‘next users’. Finally, the Program has higher level impact goals to which each of the projects contributes to – the Program’s Area of Aspiration on the impact pathway. These impacts are the broad changes that, in the longer term, might be impacts on the lives of the target beneficiaries at a large scale. The further from the project’s area of control, the more external influences affect the delivery of these aspirational impacts.

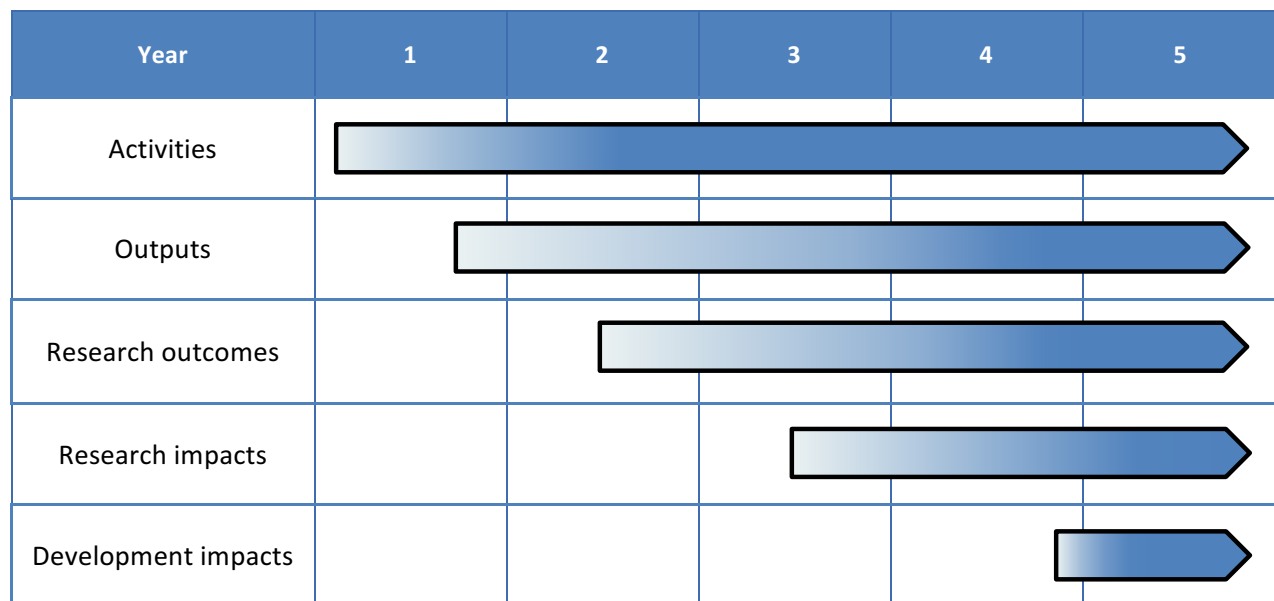
Figure 1: Impact pathway for research projects and TADEP



In the context of TADEP, the five projects are part of an overall program which has five aspirational goals. It is intended for each of the projects to have their own M&E plan which monitors and reports both (i) outcomes and impacts within the direct control of the project and (ii) the relationship management and some outcomes of the 'next users'.

Given the early stage of the program, each of the projects are necessarily and quite rightly focused on bedding-down the project teams and early implementation of research activities and outputs. As the projects progress, research outcomes and impacts will begin to emerge and by the end of the program, the evidence provided by the projects will be to demonstrate program level development impacts.

Figure 2: Anticipated timing of emergence of outputs, outcomes and impacts



8.2 Development of the Program Performance Framework

The development of the Program Performance Framework has been an iterative process and incorporates feedback from within the program via the projects and from external stakeholders including DFAT and ACIAR. The Performance Framework draws from each of the TADEP Project Proposals and is informed by development priorities of the PNG and Australian governments.

The Program Objectives align with the draft TADEP Umbrella Document and the each of the Visions of Success articulate ‘what success will look like’ to provide a narrative and context to the Program Objectives.

Success of the program will be measured by (i) the extent to which it adds value beyond the sum of the component projects and (ii) the extent to which the projects contribute to the program level performance indicators.

The purpose of this performance framework is therefore to:

- Ensure projects are aware of and contribute to Program objectives (including higher level targets of the Australian aid program) and that these objectives/targets are effectively integrated into project level monitoring and reporting.
- Improve communication mechanisms between and among projects and the program and with program stakeholders.
- Provide effective monitoring and evaluation to support adaptive management at project and program level.
- Provide evidence of potential policy options flowing from the program to relevant government agencies.

This Performance Framework does not prescribe specific M&E practices necessary for monitoring inputs, outputs and outcomes within each of the projects. Rather, each project team is responsible for its own detailed M&E practices in order to ensure that program objectives and higher level targets of the Australian aid program are effectively integrated into project level monitoring and reporting.

The Verifiable Indicators developed for this Performance Framework were discussed by all projects at the annual Program meeting in May 2016. Each project subsequently provided feedback on how each contributes to some or all of these indicators (Table 2).

Projects will now report progress towards each of the Verifiable Indicators annually as part of their annual reporting process.

8.3 The Program Performance framework – contributions of each project

The following table describes the contributions of each of the individual projects to the overall Program Performance Framework. As the program progresses, more evidence will emerge of how each project is contributing to the overall project objectives and higher level development goals.

Project contributions are highlighted as per the following:

- (F)** ASEM/2014/095 Improving opportunities for economic development for women smallholders in rural Papua New Guinea
- (C)** FST/2014/099 Enhancing private sector-led development of the Canarium industry in Papua New Guinea
- (B)** HORT/2014/094 Developing the Cocoa value chain in Bougainville
- (P)** HORT/2014/096 Enterprise-driven transformation of family Cocoa production in East Sepik, Madang, New Ireland and Chimbu Provinces of Papua New Guinea
- (S)** HORT/2014/097 Supporting commercial Sweetpotato production and marketing in the Papua New Guinea highlands

Table 2: Contributions to Program Performance Framework during the reporting period

Program objective	Vision of success <i>What will success look like?</i>	Verifiable Indicators <i>When considering how each Project has contributed to a VI, specify both the scale (quantity) and nature (narrative) of the impact</i>	Evidence your Project will provide
To stimulate and strengthen inclusive private sector-led development in agriculture	The private sector is engaged and actively contributing to economic development in partnership with government in the agricultural industry. Poverty in PNG is being addressed through local economic development driven by new and innovative private sector engagements with a focus on women and youth participation. The strengths of current private sector partnerships in PNG are built upon and new ways to support inclusive business models are explored.	Number and size of agribusiness SMEs, micro-enterprises and companies (current, new and potential)	(C) Markets have been established in the Tropicana supermarket and the factory is receiving repeat orders from several wholesalers. 146 kg sold have generated 7000 kina.
		Number of partnerships and engagements with agribusiness SMEs, micro-enterprises and companies (current, new and potential)	(B) Project Stakeholder Reference Group meetings held February and July 2016 (P) Extensive discussions with Government and private sector to establish strong relationships from the beginning of the project. (S) Three commercial grower sites for the multiplication of clean planting material have been established.
		Number of men and women farmers and workers engaged with agribusiness SMEs, micro-enterprises companies and formal markets (current, new and potential)	(C) Interviews with smallholders and young people, market stallholders, industry representatives, Women and Youth in Agriculture (WYIA) network and government staff have been conducted. Barriers to upscaling the sale and processing of nuts include farmers' knowledge of supply chains and optimising production.
		Evidence of positive private sector engagement outputs, outcomes and impacts for men and women farmers and workers	(C) Growers have sold Canarium nuts to be processed at the NARI processing facility in Kerevat, ENB. Markets have been established with major retailers and wholesalers. (B) Involvement of private sector in the Bougainville Chocolate Festival (5-6 July).
		Number of smallholder farmers that have transformed from subsistence or opportunistic farming to SMEs and the nature of the transformation	(F) Western Highlands (Lumusa) 44 F and 8 M farmers and their families are engaged in the bulb onion model farm for commercial production (FPDA)

Program objective	Vision of success <i>What will success look like?</i>	Verifiable Indicators <i>When considering how each Project has contributed to a VI, specify both the scale (quantity) and nature (narrative) of the impact</i>	Evidence your Project will provide
		Potential number of beneficiaries (men and women) that can reasonably be expected to benefit from developing partnerships between the private sector, schools, institutions and training providers and the nature of the impact	<p>(F) East New Britain (Kokopo) 23F and 14M trained in using agricultural messages in primary school</p> <p>(F) Solomon Islands (Honiara) 77F and 59M teachers trained using agricultural messages in primary school (validation of process beyond PNG)</p> <p>(B) Ultimately 80% of the Bougainville population (or 300,000 people) who are about Cocoa farmers will benefit from higher productivity and prices for their Cocoa, diversification of incomes including service provision, food crops and livestock, improved health and nutrition. The success of many of these initiatives will depend on the establishment of successful partnerships.</p>
To sustainably increase agricultural productivity, quality and value	The livelihoods of rural men and women are transformed through improvements in and adoption of production technologies in agriculture.	Actual increase in agricultural productivity of target livelihood systems resulting from Project interventions and the nature of the impact	(C) The NARI factory successfully bought and processed 11.52 tonnes nut-in-pulp resulting in 263.6 kg kernel being processed with an additional 243 kg Kernel-in-Testa (KIT) still to be processed.
		Actual increase in quality of agricultural produce of target livelihood systems resulting from Project interventions and the nature of the impact	
		Actual increase in agricultural value of target livelihood systems resulting from Project interventions and the nature of the impact	
		Actual number of target beneficiaries that adopted and maintained new technology and systems and the nature of the impact	

Program objective	Vision of success <i>What will success look like?</i>	Verifiable Indicators <i>When considering how each Project has contributed to a VI, specify both the scale (quantity) and nature (narrative) of the impact</i>	Evidence your Project will provide
		Potential increased agricultural production and quality of target livelihoods systems and the value of this increase to rural livelihoods that can reasonably be expected within five and ten years after completion of this Program and the nature of the impact	(B) Significant increases in Cocoa yields and quality; diversification of incomes
		Potential number of target beneficiaries that adopted and maintained new technology and systems and the nature of the impact	(B) <33 Village Assemblies establish Village Resource Centres to promote adoption of improved Cocoa management, income diversification, improved health and financial literacy. Potential impacts will spread beyond these initial target VAs.
To improve access to markets and strengthening value chains	Smallholder farmers and their families are connected to business opportunities and markets in PNG and internationally that can improve livelihoods and provide employment opportunities around all links in the value chain.	Actual number of activities targeted at farmers to increase their capacity to access markets and the nature of the impact	(C) The <i>Canarium</i> project has delivered a training workshop in galip processing and solar drying, which was attended by 22 women. This training provided women the knowledge to start a small processing business to value-add to their own Canarium, and the project team will continue to support women to develop in this area. (B) Cocoa marketing seminar, Chocolate competition and judge's feedback seminar.
		Actual number of activities targeted at value chain partners and institutions to increase their capacity to support access to markets and the nature of the impact	(B) Chocolate festival.
		Actual number of activities targeted at developing opportunities for improved post-harvest handling, processing and marketing and the nature of the impact	(B) Judge's feedback seminar, part of the Chocolate Festival, stressed the importance of proper fermentation and drying. The Festival also linked potential single-origin Cocoa buyers with growers.
		Actual number of new markets identified and the nature of the impact	(F) Bulb onion markets for Lumusa (WH) and Asaro Valley (EH) with FPDA

Program objective	Vision of success <i>What will success look like?</i>	Verifiable Indicators <i>When considering how each Project has contributed to a VI, specify both the scale (quantity) and nature (narrative) of the impact</i>	Evidence your Project will provide
			(B) Interest from the 3 judges, and from international chocolatiers
		Actual number of new markets developed and the nature of the impact	
		Potential increased number of farmers and potential increased capacity of farmers to access markets and the nature of the impact	
		Potential number of beneficiaries (men and women) that can reasonably be expected to benefit from improved post-harvest handling, processing and marketing within five and ten years after completion of this Program and the nature of the impact	
To promote gender equity and women's empowerment in rural communities	Gender equity is evident in farm, financial and decision-making in families, SMEs and rural communities. Men and women have equal access to economic opportunities, information and leadership development or representation.	Actual number of activities specifically targeted towards women's decision making capacity, leadership and representation , actual number of women and men actively participating and the nature of the impact	(F) 4 training sessions for 7 F leaders (WH) 2 training sessions for 7 F leaders (EH); 2 training sessions for 9F and 6 M leaders (Jiwaka) (B) Proposed links with ASEM/2014/095 will embed Village Community Educators in <100 Village Resource Centres across Bougainville. Josephine Saul-Maora has been appointed to manage links between this project and women's groups in Bougainville.
		Actual number of activities specifically targeted towards women's economic opportunities , actual number of women and men actively participating and the nature of the impact	(F) Module 1: 396 F & 168 M Module 2: 155 F & 19M – in progress Module 3: in progress Module 4: 155F & 17M - in progress (C) The <i>Canarium</i> project has already created opportunities for women to generate income by selling nuts to the <i>Canarium</i> processing facility at NARI in Kerevat, East New Britain. It has also delivered a training

Program objective	Vision of success <i>What will success look like?</i>	Verifiable Indicators <i>When considering how each Project has contributed to a VI, specify both the scale (quantity) and nature (narrative) of the impact</i>	Evidence your Project will provide
			workshop in galip processing and solar drying, which was attended by 22 women. (B) Income diversification initiatives are primarily directed towards women and youth.
		Actual number of activities specifically targeted towards improving women's skills and access to information , actual number of women and men actively participating and the nature of the impact	(F) Module 1: 396 F & 168 M Module 2: 155 F & 19M – in progress Module 3: in progress Module 4: 155F & 17M - in progress (C) 22 women have increased skills and access to information about canarium processing and solar drying. The women have indicated eagerness to have access to solar dryer in their respective villages to enable canarium processing and other value added products.
		Actual number of women and men actively involved as members of research teams and the nature of the impact	(F) 9F and 2 M – participatory M & E and training capacity building and skill development (B) One of three Research and Training hub managers, and one of two Bougainville Project Managers are women.
		Potential increased number of women in leadership and representative roles and the nature of the impact of both women and men actively participating	(F) Hub 1: 25 F & 10 M
		Potential number of beneficiaries (men and women) who can reasonably be expected to benefit from increased economic opportunities for women and the nature of the impact of both women and men actively participating	(F) Hub 1: 400F & 200 M (B) <300,000

Program objective	Vision of success <i>What will success look like?</i>	Verifiable Indicators <i>When considering how each Project has contributed to a VI, specify both the scale (quantity) and nature (narrative) of the impact</i>	Evidence your Project will provide
		Potential number of beneficiaries (men and women) who can reasonably be expected to benefit from improved skills and access to information for women and the nature of the impact of both women and men actively participating	(F) Hub 1: 400F & 200 M (B) <300,000
		Potential number of beneficiaries (men and women) who can reasonably be expected to benefit from being actively involved as members of research teams and the nature of the impact	(F) Hub 1 11F and 2 M participatory M & E and training capacity building and skill development (B) Team members from DPI, CCI and UNRE totalling about 20 scientists
To build individual and institutional capacity	The sustainability of the agricultural industry in PNG has been transformed through targeted capacity building of individuals and institutions across geographically and socio-economically diverse locations. At the conclusion of TADEP, the Project research outcomes have translated into long-term Program development impacts that respond to the Program goal.	Actual number of activities targeted towards building the capacity of farmers, SMEs and micro-enterprises , the number of beneficiaries (men and women) and the nature of the impact	(C) The <i>Canarium</i> project has delivered a training workshop in galip processing and solar drying, which was attended by 22 women. This training provided women the knowledge to start a small processing business to value-add to their own Canarium, and the project team will continue to support women to develop in this area. (P) CMFTs (usually a man and woman team) are being recruited from 20 wards in each Province, and given training and support to return to their home villages to teach other farmers. (S) Planning for delivery of the capacity building component of the project is well advanced. The program is in line with the Ward Development Planning approach, with FPDA Village Extension Workers engaged in the technical training components of the project.

Program objective	Vision of success <i>What will success look like?</i>	Verifiable Indicators <i>When considering how each Project has contributed to a VI, specify both the scale (quantity) and nature (narrative) of the impact</i>	Evidence your Project will provide
		Actual number of activities targeted towards building the RD&E capacity of institutions , the number of beneficiaries (men and women) and the nature of the impact	(F) Hub 1 11F and 2 M participatory M & E and training capacity building and skill development (B) Planning meetings held throughout project development, which will continue when funds are available and implementation begins.
		Actual number of Project participants (men and women) whose knowledge, attitudes, skills and aspirations (KASA) have specifically benefited through involvement in Project team and the nature of the impact	(F) Hub 1: 9F & 2M (B) About 20 scientists
		Actual number of short-term training events and post-graduate training opportunities , the number of beneficiaries (men and women) and the nature of the impact	(F) 2 Masters projects : 1 F & 1 M
		Actual number of activities undertaken in geographically and socio-economically diverse locations and the nature of the impact	(F) Hub 1: 3 Highlands locations 4 activity blocks Lumusa, 2 activity blocks Asaro Valley and Wahgi Valley
		Potential number of beneficiaries (men and women) including the farmers themselves who can reasonably be expected to benefit from increased capacity of farmers within five and ten years after completion of this Program and the nature of the impact	(F) Hub 1: 400F & 200 M – excludes ripple effect
		Potential number of beneficiaries (men and women) including the institutions themselves who can reasonably be expected to benefit from increased RD&E capacity of institutions within five and ten years after completion of	(F) Hub 1 11F and 2 M participatory M & E and training capacity building and skill development

Program objective	Vision of success <i>What will success look like?</i>	Verifiable Indicators <i>When considering how each Project has contributed to a VI, specify both the scale (quantity) and nature (narrative) of the impact</i>	Evidence your Project will provide
		this Program and the nature of the impact	
		Potential number of beneficiaries (men and women) whose knowledge, attitudes, skills and aspirations (KASA) can reasonably be expected to benefit from involvement in Project team and the nature of the impact	(F) Hub 1 11F and 2 M participatory M & E and training capacity building and skill development
		Potential number of beneficiaries (men and women) who can reasonably be expected to benefit from short-term training events and post-graduate training opportunities and the nature of the impact	(F) 4 Masters students planned
		Potential number of beneficiaries (men and women) who can reasonably be expected to benefit from activities undertaken in geographically and socio-economically diverse locations and the nature of the impact	(F) Hub 1: 400F & 200 M – excludes ripple effect



JULY 2016

Improving opportunities for economic development for women smallholders in rural Papua New Guinea

Overview

Women smallholder farmers are key to PNG family livelihoods; they produce essential subsistence crops whilst undertaking valued social roles such as family care. However, women smallholders face significant agricultural constraints including limited access to productive resources, low banking rates, limited financial skills, lack of access to credit, poorly developed transport systems, lack of understanding and access to markets, unequal gendered family roles and division of labour, restrictions to mobility, and overall safety. They have educational disadvantages due to low school completion rates and limited access to training or extension services.

Although most women aspire to improve their family livelihoods, very few women farmers have the necessary agricultural and business acumen. The aim of the project is to enhance the economic development of PNG women smallholders and their families by building their agricultural and business acumen.

A previous ACIAR project (ASEM/2010/052) demonstrated that a whole of family approach to farmer learning has enabled farming families to work in a more equitable and effective way and improve their livelihoods. This project now seeks to understand the effectiveness of the approach at scale and across a broader range of commodities and geographies.

Research

The research objectives are to:

1. examine the capacity development of women as community-based agricultural leaders
2. explore ways in which communities can develop partnerships with the private sector, schools and training providers that are relevant to the local context and culture
3. further develop the peer education model of agricultural extension
4. examine the uptake and impact of a family team approach to farming for women and girls

ACIAR project number	ASEM/2014/095
Start date and duration	July 2015 (3 years)
Location	Papua New Guinea
Budget	\$3,000,000
Project leader and Commissioned Organisation	Barbara Pamphilon, University of Canberra
Partner country project leaders and their institutions	Dr Norah Omot, National Agricultural Research Institute, PNG Ms Fredah Wantum, Baptist Union of PNG Mr Robert Lutelele, Fresh Produce Development Agency Ms Lilly Be'soer, Voice for Change Professor Halim, University of Technology, PNG
ACIAR Research Program Manager	Jayne Curnow



Women village community educators discussing family financial decision making cards as part of the Family Teams' Module : Communicating and Decision-making as a Family Team , Alona ward, Lumusa district, Western Highlands Province , Papua New Guinea Photo: Sanna Harri University of Canberra

Achievements

In this first year, the project focused on our first hub in the PNG Highlands:

- September 2015 to present —Alona ward, Lumusa (Baptist Union);
- February 2016 to present — Asaro Valley, Eastern Highlands (FPDA); Wahgi Valley, Jiwaka (Voice for Change).

The development of women's leadership teams is under-way

- Alona ward : 7 women
- Asaro Valley: 6 women, plus 1 FPDA staff member
- Wahgi Valley: 7 women, plus 2 staff members

Teams of Village Community Educators have been trained as peer educators, trialling three models (female only, females with male leader support, female and male team)

- Alona ward : 44 women, 8 senior male community leaders
- Asaro Valley: 34 women, 1 man
- Wahgi Valley: 21 women, 18 men

Village Community Educators have been trained as facilitators and delivered Family Teams modules to other farmers

Module 1: Working as a family team for family goals

- Alona ward : 213 F, 39 M
- Asaro Valley: 76 F, 71 M
- Wahgi Valley: 107 F, 58 M

Module 2: Planning your family farm as a family team

- Alona ward : 155F, 19 M
- Asaro Valley: in progress
- Wahgi Valley: in progress

Module 3: Communicating and decision-making as a family team

- Alona ward: In progress

A new module has been developed in light of the PNG drought —Module 4: Feeding your Family Team

- Alona ward: 155F, 17M
- Asaro Valley: in progress
- Wahgi Valley: in progress

Impact story

Strong women make strong leaders

In the remote Alona ward of the Mul-Baiyer district of the Western Highlands Province, seven women have stepped forward to become the community leaders of small teams of village community educators (VCEs). Although most of these women have had minimal schooling, the roles they have played as church and women's group leaders have proved to be a strong basis for their further development through the project's women's leadership capacity development work. They are currently leading their teams of VCEs to roll-out four peer education modules to other farming families that aim to support women and men to work more equitably and effectively as a family team. To further develop their team skills, they have recently planned a collaborative project to learn how to use chicken waste as manure on a demonstration farm that is part of the project

Congratulations to Rose Koyea, Mevis Lai, Nuni Kugu, Jennifer Leme, Janet Koie, Patricia Win and Rose Yaki and our regional leader Fredah Wantum for such achievements in only 6 months!



A PNG family team: equal roles and equal work equal strong sustainable families, Alona ward, Lumusa district, Western Highlands, Papua New Guinea photo: Jo Caffery, University of Canberra



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JULY 2016

Enhancing private sector-led development of the canarium industry in Papua New Guinea.

Overview

This project seeks to expand markets and processing of canarium nuts in East New Britain, by strengthening private sector capacity and engagement using nuts from existing trees. Women conduct the majority of canarium nut growing and trading activities, including: nut cultivation, harvesting, processing and selling.

Nuts have huge potential to improve the livelihood of the rural poor in developing countries and meet the Millennium Development Goal to eradicate poverty and hunger. Nuts have excellent nutritional value, can be stored for long periods and can be sold for cash, processed and exported to distant markets. Canarium indicum is an agroforestry tree in Eastern Indonesia and the Pacific that produces edible nuts and has been the focus of efforts by donor agencies to commercialize the industry in PNG and the Pacific.

The project will take a whole of value-chain approach, and offer a range of interventions such as market research, technical advice, capacity building, business mentoring and access to infrastructure for both private and public sector stakeholders. The private sector will be targeted at 3 different scales: smallholder and small scale entrepreneurs, SMEs, and large scale processors. This is one of 5 projects in the TADEP program which aims to foster private sector led development in agriculture, increase agricultural productive capacity and improve access to markets for farmers in Papua New Guinea and Bougainville, particularly women farmers.

ACIAR project number	FST/2014/099
Start date and duration	30 June 2015 to 30 June 2018 (3 years)
Location	Papua New Guinea
Budget	\$3,518,000
Project leader and Commissioned Organisation	Professor Helen Wallace, University of the Sunshine Coast
Partner country project leaders and their institutions	National Agricultural Research Institute, Papua New Guinea
ACIAR Research Program Manager	Tony Bartlett



Women farmers with a successful harvest.

Research

There are four objectives:

- Assess the needs of the private sector to participate in the canarium industry
- Develop and undertake research-based interventions that address the needs of the private sector including smallholders, small scale entrepreneurs (especially women) SMEs, and large scale processors
- Develop an appropriate commercial model for a medium scale value adding factory for the canarium industry
- Create a model for public- private partnerships in the canarium industry in PNG

Achievements

The project has achieved the following:

- New market opportunities, particularly those in Port Moresby, PNG, have been assessed, with a formal launch in Port Moresby planned for 2017. Relationships with a number of key buyers have been developed and a number of new product propositions have been discussed.
- Farmers' knowledge of supply-chains and optimising production have been identified as barriers to upscaling the sale and processing of nuts
- Solar drying has been identified as a method that can enable small scale processors to add value and increase participation in the canarium industry.
- A solar drying training workshop was delivered in 2015. It was attended by 22 women and youth from the East New Britain Women and Youth in Agriculture Association. A number of studies have been conducted on growing, nut quality, processing and storage systems.

The key findings are:

- Soil nutrients in cocoa canarium cropping systems were similar to cocoa Gliricidia cropping systems when trees were spaced at 8 metres by 16 metres compared. Some differences were found at an 8 metres by 8 metres tree spacing.

- Kernels of purple fruits contained significantly higher calcium, iron and zinc compared to those of green fruits.
- Keeping the testa on during storage may slow down the autoxidation and prevent rancidity of the kernels.
- Short-term storage of nuts in freezer results in lower free fatty acid composition.
- One of the several mechanical crackers investigated shows promise. The jessie roller cracker can crack twenty times the current factory capacity with half the required staff. This will be tested further in the coming year.

Impact story

A major milestone for the project is that NARI Group Corporation are participating in buying and selling canarium nut in a formal commercial market in East New Britain province. The staff at NARI Group Corporation have commenced selling dried and packaged nuts into the local retail supermarket and to several wholesalers, and demand is strong. Sales of canarium nut product to commercial retail outlets is a first for PNG. The factory successfully bought and processed 11.52 tonnes nut-in-pulp resulting in 263.6 kg kernel being processed. An additional 243kg Kernel-in-Testa is still to be processed.



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JULY 2016

Developing the cocoa value chain in Bougainville

Overview

Bougainville is an autonomous province within Papua New Guinea recovering from a decade-long crisis that caused significant social and economic disruption. Before the crisis cocoa was a major contributor to the economy with over 80% of Bougainvilleans involved in cocoa production.

The aim of this project is to improve the profitability and vitality of smallholder cocoa farming families and communities. The project will foster and strengthen public and private sector partnerships and facilitate the development of enterprises that enhance productivity and access to premium markets, while promoting gender equity, community health and well-being.

Key partners are the ABG Departments of Primary Industries and Marine Resources, Local Government and Health, the University of Natural resources and Environment and PNG-Cocoa and Coconut Institute.

Research

The project has four objectives:

1. Improve the productivity, profitability and sustainability of cocoa farming and related enterprises
2. Understand and raise awareness of the opportunities for improved nutrition and health to contribute to agricultural productivity and livelihoods
3. Foster innovation and enterprise development at community level
4. Strengthen value chains for cocoa and associated horticultural products.

ACIAR project number

HORT/2014/094

Start date and duration

2016 (6 years)

Location

Autonomous Region of
Bougainville, PNG

Budget

\$5,994,982

Project leader and
Commissioned
Organisation

David Guest, The University of
Sydney

Partner country
project leaders
and their institutions

Thomas Betitis, ABG Department
of Primary Industries and Marine
Resources

ACIAR Research
Program Manager

Dr Richard Markham



Photo: Conor Ashleigh



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Achievements

- Detailed planning and engagement in extensive consultations with project partners, Government, NGO and private stakeholders
- Project staff participated in the DFAT Gender in cocoa value chains workshop and DFAT Nutrition sensitive agriculture workshop
- In collaboration with the Australian High Commission, the project led a tour of Sulawesi for ABG Ministers
- Inaugural Bougainville Chocolate Festival (5 & 6 July 2016)
- Inception workshop, PIPA and project workplan developed
- Establishment of Project Stakeholders Reference Group
- Cocoa marketing skills training
- Renovated accommodation for project staff
- Drafting and piloting of Baseline surveys and Ethics Approvals
- Marketing skills training (Bougainville, May 2016)

Impact story

Bougainville Chocolate Festival

The inaugural Bougainville Chocolate Festival was held in Buin and Arawa on 5 and 6 July 2016. An initiative of the Autonomous Government of Bougainville led by the Department of Primary Industries in partnership with the Australian Government the festival was strongly supported by ACIAR, DFAT and the “Developing the cocoa value chain in Bougainville” project.

Farmers provided cocoa samples to be made into chocolate and then Judged by three chocolate experts from Australia. Direct feedback was given on the quality of the product what is needed to make good cacao beans. The judges also provided samples of chocolate made from good and poor quality beans to demonstrate how important it is to process the beans correctly. This was a first for many of the farmers who clearly appreciated the messages coming from their end consumers. The main take home messages for the farmers were to ‘eliminate smoke’, ‘ferment properly’ and ‘dry correctly, preferably with the sun’.



Photo: Conor Ashleigh



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JULY 2016

Enterprise-driven transformation of family cocoa production in East Sepik, Madang, New Ireland and Chimbu Provinces of Papua New Guinea

Overview

Cocoa production in PNG, always low due to poor management, was nearly destroyed by the incursion in 2006 of the Cocoa Pod Borer (CPB); the industry could be revived only by transformation to more intensive management of the crop using new varieties and methods developed by the PNG Cocoa Coconut Institute (CCI) that can increase yields to high levels. The aim of the project is to have these new varieties and straightforward methods applied more widely on the smallholder farms that make up more than 90% of production.

This will be done by linking the extension services of CCI, Provincial and District Governments and private cocoa companies to support the development of village-based cocoa advisory (Cocoa Model Farmer-Trainers, CMFTs) and other services (nurseries, fermentaries, farm supplies, cocoa buying) as self-sustaining micro-enterprises backed by financial institutions. CMFTs (usually a man and woman team) are being recruited from 20 wards in each Province, given a short, hands-on training in the new methods and cocoa propagation and supported to return to their home villages to teach other farmers. CMFTs will introduce and evaluate, on farms with farmer participation, the new methods and varieties, as well as new cocoa farming systems integrating food crops, high-value shade trees (e.g. galip nut, coconut, betel nut, bananas), and livestock such as goats.

Research

The project will facilitate scientists from CCI and project staff to conduct research into:

- (i) maintenance of soil fertility on farms in various locations
- (ii) collection of new sources of Trinitario cocoa clones that have thrived for many years on farms

ACIAR project number	HORT/2014/096
Start date and duration	Feb 2016 (5 years)
Location	Papua New Guinea
Budget	\$4,990,000
Project leader and Commissioned Organisation	Dr Philip Keane, LaTrobe University
Partner country project leaders and their institutions	Mr Alfred Nongkas, PNG Cocoa Coconut Institute Ltd. Dr Samson Laup, PNG University of Natural Resources and Environment
ACIAR Research Program Manager	Dr Richard Markham

- (iii) the possible build-up of biological control of Cocoa Pod Borer (as has occurred in Indonesia)
- (iv) the physiology and performance of cocoa clones at high altitude at Karamui and the selection of cocoa varieties adapted to this location
- (v) the integration of food crops, high-value shade trees and livestock with intensive cocoa farming
- (vi) the development of cheaper plastic-covered solar driers that can be constructed by farmers.

Achievements

- Village awareness meetings conducted and recruiting Cocoa Model Farmer-Trainers (CMFTs) begun; Project Coordinators and assistants have been selected and briefed also in Madang and East Sepik and have developed workplans and begun awareness meetings and recruiting CMFTs.
- Provincial and District Government officers have been involved in all aspects of project implementation, while NGIP-Agmark and the Productive Partnerships in Agriculture Project (PPAP) have provided on-going advice.
- A meeting of the Simbu Cocoa Development Steering Committee was led by John Konam and Damien Tokei in Karamui Settlement with participation from Provincial and District Administration staff and farmers; selection of the best adapted types from the CCI trial planting at Karimui has begun.
- Project Managers have received support from authorities for the testing of a relatively cheap, plastic-covered solar drier that will help reduce the problem of smoke tainting of cocoa beans caused by kiln driers.
- The number of CMFTs to be supported in the project has been doubled to 66.
- The final drafts of the CCI Extension Manual and a Cocoa Farmer's Pocketbook were presented to PPAP for publication. The pocket book is being translated into Tok Pisin. These books will be available to project participants in late 2016.



Cocoa nursery on kunai grassland, Yangoru, East Sepik

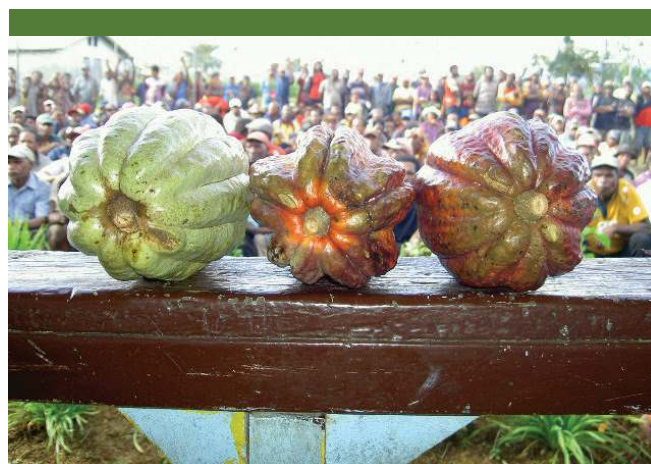
Impact story

Thompson Fafungian, a former police inspector, is assisting his home village in East Yangoru, East Sepik Province, to expand cocoa production and improve the livelihoods of his people.

Mr Fafungian has developed a nursery and a budwood garden with the new cocoa clones he obtained from The PNG Cocoa Coconut Institute in East New Britain, and accompanied project staff on a recent visit to East Sepik to learn more about the new cocoa farming methods.

The nursery and budwood garden is an ideal location for Cocoa Model Farmer Trainers. Nola Sasingian, and Dorkas Nakambari, have been chosen to train as CMFTs with the support of their husbands. Nola is convinced that, by using the new cocoa varieties and methods, her family will be able to make a good living equivalent to that from a town job. The new PNG CCI Cocoa Extension Manual and a Cocoa Farmer's Pocket Book will help in every aspect of cocoa production.

Nola's husband, Chris, has a Wokabaut Sawmill and has cut the timber to construct the group nursery. He will also cut timber for a new design of solar cocoa drier.



Large cocoa pods and farmers meeting at Karamui



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JULY 2016

Supporting commercial sweetpotato production and marketing in the PNG highlands

Overview

The economy of the PNG Highlands, especially in those areas with relatively good transport infrastructure, is evolving rapidly, with smallholders continuing to turn from subsistence farming to market-oriented production. Sweetpotato (kaukau) plays a key role in this evolution, becoming a cash crop in its own right and assuring food security in more diverse systems with coffee, vegetables and small livestock providing a cash income.

This project is supporting smallholders to turn from subsistence farming towards producing specifically for the market and managing production to meet market/customer requirements.

This project supports enterprise development and an expansion in market-oriented sweet potato value chains by strengthening supply chains to selected high value markets. By introducing a scheme to supply clean, high performing planting material the project is also helping to improve crop production.

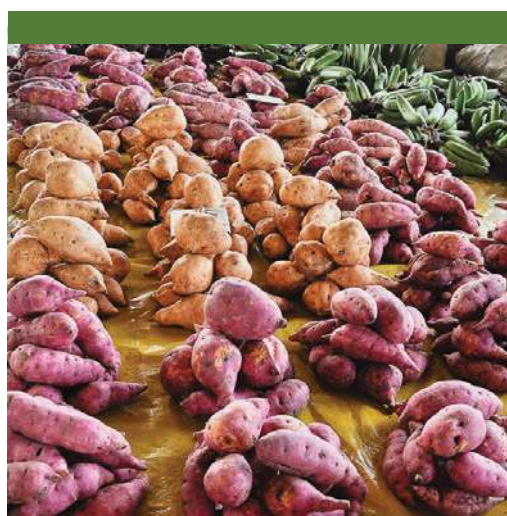
An increase in market-oriented production will create income generating opportunities for growers and will enable other groups to enter into sweetpotato fresh product and sweetpotato-based food product supply chains.

Research

The key elements of the project are:

- To develop and strengthen market oriented sweetpotato supply chains.
- To build capacity of sweetpotato value chain players.
- Develop a 'clean seed' scheme to increase availability of clean planting material.

ACIAR project number	HORT/2014/097
Start date and duration	March 2016 (5 years)
Location	Papua New Guinea
Budget	\$4,998,084
Project leader and Commissioned Organisation	Prof Phil Brown, Central Queensland University University
Partner country project leaders and their institutions	Mr Robert Lutulele Fresh Produce Development Agency, PNG Dr Ramakrishna Akkinapally National Agricultural Research Institute, PNG
ACIAR Research Program Manager	Dr Richard Markham



Kaukau (sweetpotato) in the market place.