ACIAR PROJECT FST/2019/128

Gender equitable sourcing of senile coconut stands from rural Fijian agricultural communities

Coconut and other non-traditional forest resources for the manufacture of Engineered Wood Products (EWP)

2022

Research Team: Natalie Jones, Moana Masau, Sefanaia Tawake, MaikaTabukovu

This report is part of a larger ACIAR project 'Coconut and other non-traditional forest resources for the manufacture of Engineered Wood Products' (FST/2019/128), led by Dr Rob McGavin.

For further information about this report, please contact Dr Natalie Jones: n.jones3@uq.edu.au

Citation: Jones, N. A., Masau, M., Tawake, S., & Tabukovu, M. (2022). *Gender Equitable Sourcing of Senile Coconut Stands from Rural Fijian Agricultural Communities*, University of Queensland, Brisbane Australia.

The research team would like to sincerely thank all focus group participants and key informant interviewees who took part in this study. We would also like to acknowledge the contribution made to the research, particularly in relation to data collection activities, by Lennard Powell (PHAMA Plus), Sevanaia Saravaki and Vilimone Qolitabua (The Pacific Community - SPC).

Gender equitable sourcing of senile coconut stands from rural agricultural communities in Fiji

Executive Summary

The objective of this study is to build an understanding of gender and age differences in roles, opportunities and priorities in Fijian agricultural communities for the purpose of assessing the gender implications of sourcing senile coconut stands i.e., trees that are no longer producing fruit. The study aims to explore levels of interest among village members for selling senile stands and identify how participation within the proposed value chain may impact women and men in different ways.

The research involved conducting focus groups in four villages located in the following Provinces: Macuata, Bua and Cakaudrove (2 villages visited). Four focus groups in each village were carried out involving (i) younger women, (ii) younger men, (iii) older women and (iv) older men. A key informant interview was also conducted in each village to gain a community perspective.

Drivers for selling senile coconut stands: There was significant interest among all participants in the study for selling senile coconut stands. A key driver identified was the opportunity to earn an income from a resource that has minimal, if any, monetary value. Making more productive use of the land on which senile coconut stands are located was also raised, with many participants indicating they would use the land to replant coconuts once the senile stands were removed.

The opportunity to gain news skills was also found to be a key driver, particularly by men. Participants discussed how involvement in the EWP value chain could create opportunities for men to gain skills in forestry (i.e., logging) and for both women and men to gain skills in business.

Identified challenges for participating in the EWP value chain: A key constraint which may limit rural agricultural families from improving their livelihood through the EWP value chain is the quality of the consultation processes implemented to engage villages, and in some instances households within villages, in selling senile coconut stands. What constitutes meaningful consultation should be discussed between the villages and the mills so that pathways for deriving mutual benefit from the EWP value chain can be identified and achieved through co-operation. Within the villages, it is important to promote gender and age inclusive consultation processes to ensure benefits are shared throughout the village.

Principles for gender equitable sourcing of senile coconut stands:

- ***Recommendation 1:*** *Ensure coconut stands purchased are of a certain age to prevent selling of trees that are still productive, and not yet of senile age.*

- ***Recommendation 2:*** *Explore opportunities for integrating coconut tree replanting programs into senile coconut stand sourcing protocols.*

- ***Recommendation 3:*** *Identify opportunities for developing the skills of both women and men in rural agricultural communities to facilitate active participation in the EWP value chain, and build broader capacity and professionalisation in the forestry sector*

- ***Recommendation 4:*** *Ensure proper consultation processes are implemented to ensure participation in the proposed EWP improves rural livelihoods and mitigates identified risks. Opportunities for including younger and older women in these decision-making processes should be explored.*

- ***Recommendation 5:*** *Conduct further research to understand how removal of senile coconut stands will impact the environment, including an understanding of the gender dimensions of those impacts.*

Table of Contents

1. Introduction

1.1 Background to the research

This study contributes to understanding social dimensions of the ACIAR project 'Coconut and other non-traditional forest resources for the manufacture of Engineered Wood Products' (FST/2019/128). The aim of this overall project is to develop a new engineered wood (EWP) product value chain in Fiji using senile coconut stems. Engaging rural agricultural households in this value chain can provide an opportunity to derive income from selling senile coconut stems that no longer produce fruit. This can increase profitability of coconut-growing in Fiji and promote the renewal of coconut trees for families within villages who are dependent upon these trees for food security. The proposed value chain can also support renewal of Pacific coconut estates on a larger scale, identified by Nampoothiri (2019) as a priority for governments, development agencies and researchers.

As women and men have different roles, responsibilities, opportunities and constraints in rural agricultural communities, it is widely recognised that every agricultural development project will likely have gender differentiated impacts (Moser, 1993; Singh-Peterson & Carnegie, 2019). Gender roles and responsibilities are socially constructed and therefore differ within different socio-economic contexts and throughout time. These roles and responsibilities are not fixed, they shift as people adapt to social and environmental changes, including changes in values, technology and the economy. Initiatives aimed at improving livelihoods of rural communities must seek to understand the different lived experiences of men and women in a given context in order to promote equitable sharing of benefits that derive from development projects and avoid reinforcing gender inequalities. This study aligns with a strengths-based inquiry approach (Juliet, Naomi, Joanne, Claire, & Gabrielle, 2013) to identify how the aims of the overarching ACIAR project – i.e., to develop an EWP value chain using senile coconut stems - can build on what community members see as strengths in relation to gendered roles and responsibilities (what is currently working) and seeing how things can potentially be made even better through selling senile coconut stems for EWPs.

1.2 Research questions

The objective of this study is to apply a gender lens to the household and village level within Fiji to understand gender differences in roles, opportunities, needs and priorities within rural agricultural areas. These differences will also be explored in relation to age to provide deeper insight into how sourcing of senile coconut stands may affect men and women differently. A key focus will also be on depicting community reflections on existing gender roles and responsibilities as well as their aspirations for the future.

This study will address the following research questions:

- What are the drivers for members of rural agricultural villages to sell senile coconut stands, and how might these differ for women and men of different ages?
- What challenges do members of rural agricultural villages face to effectively participate in the EWP value chain, and how might these differ for women and men of different ages?
- What actions can promote socially equitable sourcing of senile coconut stands in rural agricultural villages?

The following literature review offers a gendered perspective of agricultural communities in Fiji.

2. Literature review

Traditional values have a strong influence on gender relations in rural areas whereby men are seen to hold positions of authority in family and social life. Fiji is recognised as a patriarchal society where established cultural hierarchies attribute men with higher status and greater power in decision-making processes at all levels of society from the provincial to the village level. Leadership roles within the family, community and politics more broadly are typically held by men. Over recent decades, Fiji has made national and international commitments to improve gender equality, including the Fiji National Gender Policy (Ministry of Social Welfare Women and Poverty Alleviation, 2014), and have thus succeeded in raising the status of women in some sectors of society. While these changes are evident within formalised policies and legislation, gender-based discrimination persists whereby individuals or groups are treated unfairly or disadvantaged in some way due to gender, as is the case in many other developed and developing countries throughout the world.

Recognition of gender-based discrimination is important for determining how women and men may be differentially impacted through selling of senile coconut stands. The following sections describe the contributions men and women make to rural agricultural life by unpacking their roles and responsibilities. Attention is drawn to the gendered opportunities that arise in rural agricultural communities which can create inequitable social and economic benefits.

2.1 Land ownership and decision-making

Land governance in Fiji involves both traditional decision-making as well as Government laws and policies (including the Land Transfer Act, the Property Law Act and the Crown Lands Act). Land is classified as either iTaukei land (around 90% of all Fiji land), freehold land (approximately 6%) or crown land (approximately 4%) (itTaukei Land Trust Board, N.D).

iTaukei land is the dominant land management system and is defined as land that exists under traditional ownership. In the majority of instances, land is held by the *mataqalis* which is recognised as a land-owning clan group. Within the mataqalis system of ownership, a certain amount of land is dedicated to the village, with the rest divided into parcels and allocated to different family groups. Use of iTaukei land, including for agricultural purposes, is determined by the mataqalis, or other ownership group, typically under the leadership of the most senior man. According to the FAO and SPC (2019), this system of land management can pose a barrier to some women in wanting to use the land for economic purposes and participating in agribusiness activities more broadly. They explain that inequality stems from both family inheritance patterns as well as social norms, which reflect local understandings of identity and belonging (Fejerskov, Engberg-Pedersen, & Cold-Ravnkilde, 2019). Men are thus imbued with an identity of 'landowner' which can be tied to a person's status within a community. In terms of family inheritance, while women are able to inherit land, decisions on how that land is used are typically made by their husbands, brothers or uncles.

2.2 Gendered division of agricultural labour

The recent Fiji Agricultural Survey shows that the majority of women and men farmers in Fiji are unpaid family workers (54.9%) or self-employed (39.5%), highlighting the importance of subsistence agriculture in Fiji (FAO, 2020). Overall, men's work in rural agricultural areas of Fiji (including tasks such as clearing, ploughing, planting and harvesting tasks), is more likely to be paid than the work women do, which typically involves growing subsistence crops, taking care of family members (particularly cooking, cleaning and childcare), collecting firewood and fulfilling community obligations. Women's tasks are described as "on-going and time intensive", compared to men's tasks which are considered more physically strenuous (FAO & SPC, 2019).

The Agricultural Survey (FAO, 2020) reveals that as a farming activity becomes more professional - indicated by amount of income derived from the task - women tend to become less involved in that activity. In particular, the results show that men are more active in cultivation of more profitable, export crops such as kava and sugar cane. The FAO (2020) conclude that there is a need to promote 'professionalisation of agriculture' among women farmers. This includes identifying ways to increase not only men's access to agricultural training, finance and specific markets, but also women's access to these resources in order to close the gender gap within the agricultural sector. It is important to recognise, however, that these initiatives can run the risk of placing greater burden on women if gendered responsibilities, resources and constraints are not taken into consideration in the design and implementation of these activities (Doss, 2018).

According to the literature, women play a greater role than man in the marketing of agricultural produce (Porter, Gaechter, & Upadhyaya, 2020), particularly older women as younger women take on more responsibility for caring roles (Singh-Peterson & Iranacolaivalu, 2018). According to Porter et al (2020), some women derive a range of benefits from selling agricultural products, particularly within local market settings. A key benefit is that participation in local markets provides women with cash income, which according to Porter (2020) is used to buy food for the family (particularly items they cannot grow themselves), pay for utilities (including electricity and water), and pay education expenses, including school fees, uniforms and books. Some women vendors explain that this garners respect within their family for the contribution they make to household income (Porter et al., 2020).

Research also shows that some women gain a sense of autonomy in selling products at markets whereby they can be their own boss, set their own schedule and make their own decisions (Porter et al., 2020). Finally, research also shows that some women benefit from the opportunity to build social relationships with others. On the downside, women in rural areas often have to travel long distances to markets and may stay within the market until all their produce is sold, which may take a number of days and present a safety risk in some instances.

2.3 Food security

In rural agricultural communities in Fiji, food security responsibilities are shared between men and women, however women typically fulfil the role of primary care giver, taking greater responsibility for the health and nutrition of household members (FAO & SPC, 2019). Women typically fulfill food preparation duties and look after subsistence food production, including weeding, watering and garden maintenance. Both men and women are involved in fishing and collecting food from the sea.

Shah et al (2018) explain that as farming households engage to a greater extent in cash cropping activities, there is a risk that efforts dedicated to subsistence food production may decrease over time. He explains how cash crops and/or cattle may be placed close to a family's house, resulting in food gardens – *teitei* - being relocated further away. This makes it more difficult and time consuming to manage these gardens (Shah et al., 2018), which are typically the responsibility of women.

Fijian families often grow a range of plants within their teitei which are used for food, medicinal and cultural purposes (Shah et al., 2018). Shah et al. highlight, however, that this diversity is under threat as farming households dedicate increasing amounts of time and labour to cash crops. This holds implications for household nutrition as the diversity of food eaten may be reduced. It also potentially holds social ramifications for reciprocity and sharing of food produced within one's garden (Singh-Peterson & Iranacolaivalu, 2018). Shah et al (2018) explain that growing coconuts for commercial purposes has

narrowed the range to varieties grown throughout the Pacific. Coconuts are used domestically for food, beverages, rope making, housing and medicine, with different varieties likely suited to different purposes.

Climate change and natural disasters present a significant threat to food security in Fiji and the wider Pacific. Weather and climate conditions impact the extent to which households are able to grow sufficient food, leading them to participate to a greater extent in the cash economy. This, however, holds implications for health and nutrition. While purchasing food can be more convenient and less labour intensive compared to producing food for the family, it may be less healthy and nutritious (Shah et al., 2018)

3. Methods

The research draws on a strengths-based inquiry approach to identify how the coconut EWP project can help realise community-based visions of gender equality by building on what they see as strengths in relation to gendered roles and responsibilities (what is currently working) and seeing how things can be made even better (Willetts, Carrard, Crawford, Rowland, & Halcrow, 2013).

The study was carried out with communities in four villages, each located in different regions to reflect diverse social and geographic settings. Villages invited to participate were located in the following Provinces on the islands of Vanua Levu and Taveuni:

- Macuata
- Bua
- Cakaudrove

Table 1: Number of focus group participants in each region.

PROVINCE	YOUNGER WOMEN	OLDER WOMEN	YOUNGER MEN	OLDER MEN	TOTAL
MACUATA	3	12	12	10	**37**
BUA	5	10	8	10	**33**
CAKAUDROVE 1	10	19[1]	5	10	**44**
CAKAUDROVE 2	8	8	6	13	**35**
TOTAL	**26**	**49**	**31**	**43**	**149**

Using a qualitative approach, focus group discussions (FGDs) were conducted to explore differences in (i) roles and responsibilities of women and men of different ages in rural agricultural villages (who does what), (ii) level of involvement in decision-making within the household and village more broadly; and (iii) needs and aspirations of being involved in selling senile coconut stands and involvement in coconut production activities more broadly.

Permission to visit and carry out research in the four villages was gained from the Chief of each village. Ethics approval was gained through the University of Queensland, Project ID: 2022/HE000407, and an approval letter obtained from Ministry of iTaukei Affairs, Fiji.

[1] While the number of participants in this focus group is high compared to the other groups, the research team did not want to dissuade community members from participating in the research. Facilitators encouraged active input from all participants as much as possible.

The project team (made up of individuals from the University of Queensland, The Pacific Community, Fiji National University and PHARMA Plus) visited the four villages in April, 2022. Data collection activities lasted one day in each village. The visit began with a brief oral presentation to village members to introduce the team and describe the overall aims of the ACIAR project. The project team then explained the purpose of the data collection activities for that day.

Following the brief presentation, four focus groups were formed with participants pre-selected by the Village Chief, this included:

- One group of younger women aged 18 to 35[2];
- One group of younger men aged 18 to 35;
- One group of older women aged 36 and above; and
- One group of older men aged 36 to above.

A total of 16 FGD took place, involving 149 participants. The number of participants within each FGD is provided in Table 1. The women's groups were facilitated by two women project team members, and the men's group facilitated by two men project team members. One men's and one women's focus group ran simultaneously during the morning, and another men's and women's group ran simultaneously in the afternoon following lunch.

At the beginning of each focus group session, participants were again explained the purpose of the research and were given the opportunity to ask questions. Those willing to participate signed a consent form as per ethics requirements. Each focus group took part in two activities (described below). A local translator based in Vanua Levu translated the questions from English to the local language, and then responses from the local language back into English. Some responses were communicated in English.

Activity 1: The first activity involved a modified version of the 'floating coconut' developed by The International Women's Development Agency and collaborating organisations (see International Women's Development Agency, N.D). This is a participatory technique designed to explore gender differences in roles and responsibilities within a community (particularly Melanesian communities) and facilitate discussions around what works well with these social arrangements and what could work better. The technique was used to make explicit the work women and men do that contribute to the well-being of their family and community. Participants were first asked to list activities that men and women in the village engage in that are aligned with the:

- Formal cash economy, i.e., wage or salaried work, such as a village nurse.
- Informal cash economy, i.e., paid work that involves selling good or services in unregistered business, such as selling fish or making and selling coconut oil.
- Non-cash economy, i.e., activities that contribute to the well-being of the household and community (such as domestic chores and volunteering for community events).

These responses were written down on butcher's paper (in English) and were used to guide further discussions within the group.

[2] The age group of 18 – 35 aligns with the definition of youth as determined by the Fijian Ministry of Youth.

Participants were asked what they think works well with these different roles and responsibilities for women and men, and what could work better[3]. Questions were also asked about involvement in decision-making within the household and village.

To conclude this activity, questions were asked about what role women and men would potentially play in selling senile coconut stands, including how they might benefit or be negatively impacted.

Activity 2: The second activity involved a FGD around the following topics:

- Growing of coconut trees and their uses (in some FGDs uses were captured in a drawing, see Figure 1);
- Uses and problems associated with senile coconut trees;
- Interest in selling senile coconut trees, and how participants would like to be involved (if at all); and
- Experience with coconut replanting programs.

Overall, activity 1 and 2 took a total of two to three hours to complete.

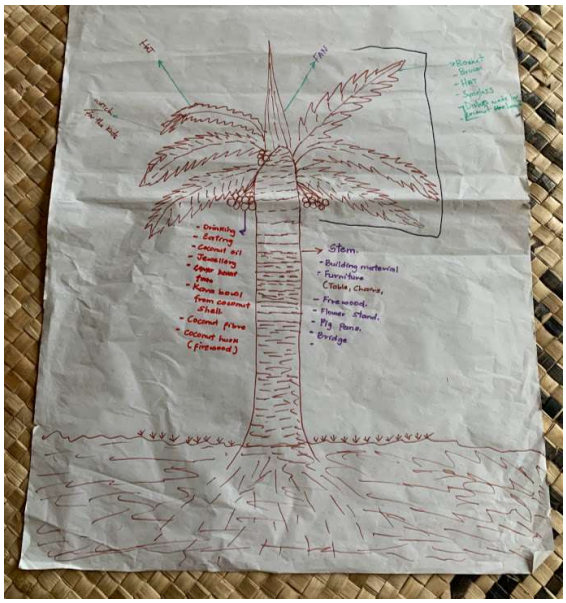


Figure 1: Drawing created by focus group participants to depict the uses of the different parts of the coconut tree.

In addition to the focus groups, one key informant interview using semi-structured questions was carried in each village. The key informant was identified as an individual with high status within the village, such as the Village Chief or headman. This was to provide a community perspective on topics discussed in the focus groups discussions.

[3] Typically, the 'floating coconut activity' involves bringing the men's and women's group together to discuss these questions for the purpose of awareness raising in the context of exploring gender equality within the community. In this study, the focus groups remained separate.

All sessions were audio recorded, with data also captured on butcher's paper. Thematic analysis was used to identify key themes raised by participants which give insight into aspirations for being involved in the proposed value chain for women and men of different ages, and associated implications, including potential benefits and challenges they may experience.

Figure 2: Men's focus group discussion.

Figure 3: Women's focus group discussion.

4. Results

4.1 Roles and responsibilities of women and men in rural agricultural villages

The roles and responsibilities of women and men in the formal and informal cash economy, as well as non-cash duties that contribute to the well-being of the family and community, were explored using the floating coconut activity. These discussions provided context for exploring the potential roles of women and men in selling senile coconut stands (see section 4.4) and assess how these roles might reinforce gender inequalities or, on the contrary, foster conditions for addressing gender inequality experienced in rural agricultural villages. Involvement in decision-making processes within the household and village were also explored. This provided context for exploring aspirations and opportunities for participating in decision-making relating to selling of senile coconut stands within the village.

4.1.1 Gendered division of labour

The day-to-day work of women was typically explained as involving 'lighter' yet more numerous duties compared to men. Participants described how women are the first to wake up in the morning to begin preparing food for the family and are the last to go to sleep, once domestic duties for the household have been completed. Men's work, on the other hand, was described as being 'heavier', and more labour intensive, with fewer duties. Men for example are more likely to engage in farming root crops and collect coconuts.

Women's work was described as being mostly carried out close to home, while men's work was carried out further away, usually to perform farming activities on the family's land which may be located 1 – 2 hours walk away. It was mentioned in a number of women's FGDs that it is the role of women to 'support' men. One older participant explained: *Biblically, women are supposed to help men. When you put on the ring, you are supposed to work together as a team. The man is the head, and the woman is to help him (FG1OW)*.

Formal and informal cash economies: Both women and men contribute to the household income, including engaging in waged or salaried work in the local region, employed for example as a hotel worker, school teacher or village nurse.

Both women and men are also involved in a range of informal economic activities, including growing and selling agricultural products such as root crops, vegetables, fruit and livestock (i.e., pigs, goats, cows and roosters), as well as marine resources such as fish, crabs and mussels. Coconut products, particularly copra (involving men and women) and coconut oil (mainly women), was identified as an important source of informal income in agricultural communities in Fiji.

While both men and women are involved in many of the informal cash activities mentioned by participants to varying extents, the study identified a number of activities associated predominantly with women. These include making and selling baked goods and handicrafts, such as woven mats and fans, as well as sewing and selling garments. In some villages, women also sell pandanus for making handicrafts. The findings suggest that women engage more in the on-selling of products, such as fuel and canteen items, particularly sweets and tobacco. Both men and women earn an income from informal contracting work, with women earning money from baby sitting and men earning money from carpentry, logging, weeding, tree planting as well as cutting cane and grass.

Figure 4: Fan woven by a woman within one of the villages visited.

Overall, both men and women are associated with the highest paying informal cash activities in some way, though the findings suggest that men have a more active role. In most villages, men identified copra as being the highest paid informal cash activity, while women identified fishing (performed mostly by men though women also involved). The sale of kava, dalo and crabs were also mentioned as high paying cash activities, with kava mostly associated with men. In one women's group, it was stated that women have to sell a larger volume of vegetables and oil to get the same return as men do in selling fish and kava.

Non-cash economy: Unpaid activities that contribute to the well-being of the household and community are also performed by both women and men, though in all women's focus groups it was reported that a greater number of domestic duties, such as cooking, cleaning and looking after children, are mostly the responsibility of women, with men also engaging in domestic duties and help when necessary. In one older women's FGD it was mentioned that women help men with farming activities and then they are also responsible for domestic duties when they return home. One participant felt that 'the men should concentrate more on the farming', highlighting the difficulties some women face in fulfilling both farming and domestic tasks within the family.

Overall, it was expressed in many of the women's and men's FGDs that the gendered division of labour works well, with participants explaining that the roles of women and men are complimentary. Furthermore, while certain cash and non-cash tasks are typically considered women's or men's work, participants reported that in most households, women and men help each other with given duties when needed. In a number of women's focus groups, however, it was a stated that in situations where men are not helpful with domestic duties, this can make life difficult for women as they have many tasks to do on a daily basis. They mentioned they would like this issue addressed to remove the burden for these women, potentially through receiving gender awareness training that is offered through Government departments, including via disaster recovery initiatives. In one village, participants explained how they have formed a women's group to support each other with their different cash and non-cash responsibilities. This group also provides a space for them to discuss issues affecting women in the village more broadly. They take some initiatives that are raised within the group to community meetings for further discussion. Women's

groups thus provide a space for women to act collectively in setting and working towards goals within their village.

Overall, the study found that while there are gender differentiations with certain roles and responsibilities in the villages studied, these boundaries are often permeable rather than rigid. A young woman participant stated that when growing up, girls often learn a whole range of tasks that contribute to the well-being of the household. She explained that according to Fijian custom, it is typically women who move away from their family and marry into another village in a different location. In order for the woman to fulfill the duties expected of her in the new village as a wife, and often mother, she must learn a wide range of skills to ensure she is prepared to take care of herself and new family. The participant explained that when growing up, she was also expected to help with some of the 'heavy' tasks associated with men's work. This highlights how gendered-roles and responsibilities for an individual changes through time as a person gets older, and through space, as they move to and settle in a new location. A number of participants also explained how expected behaviours of women and men have also changed over the years as people become more aware of gender equality issues. Participants stated that awareness raising programs about gender equality are delivered through the Government.

4.1.2 Gendered dimensions of decision-making

The results show that overall men play a more prominent and visibly active role in decision-making compared to women in the villages studied. However, FGDs reveal that the extent to which women are involved in making decisions is largely dependent upon the context, for example whether the decision-making process takes place at the household, village or mataqali level (i.e., the clan or landowning unit). Variation was observed across villages in terms of the level of involvement women have in decision-making, particularly within the village.

Household decision-making: The results suggest that women are most active in decision-making within the household. While many participants referred to men as being the head of a given household, a number of participants identified women as having greater influence in managing family life. Most agreed that decisions affecting the family were typically made jointly between the husband and wife.

The household unit thus provides a dominant social structure within which women exert influence and agency, i.e., the power of an individual to make decisions according to their goals. In Fijian society, when the influence of women extends beyond the household unit via her husband and into male-dominated decision-making arenas within the village, this may be referred to in colloquial terms as 'coming from the kitchen'. The household unit is an important social setting through which (some) women are more able to exercise agency and free will compared to other social settings, such as village meetings.

Village decision-making: According to women's FGDs (where the topic was explored in greater depth), women participate in decision-making processes at the community level to varying degrees. The village chief typically holds the greatest decision-making power within the village. Most village chiefs are men, however women can also hold this position or act in this role, though it is a rarity. There are a number of committees within each village which discuss and make decisions about various issues, including water, health, sanitation, development, school and women's affairs. Women are members of these committees in most villages and can participate to an extent in decision-making processes within these forums. It was explained that those with higher status in the village can grant permission for women to attend and speak within these meetings.

In some villages women have self-organised to form women's groups where they work together on projects and address issues affecting them. While these groups provide space for women to share stories and act collectively to achieve shared goals, in some villages these groups are limited in their capacity to access resources beyond the village level. In one older women's FGD it was explained that if they want to access support from the Government Provincial Office, to start a new business for example, they must go through the Village Headman and the women are not able to go on their own or speak for themselves.

In one of the younger women's FGDs, it was explained that in their village community decisions are mainly made by men, stating *women are often not invited to participate in community sessions, including those run by outsiders (WFGY1).* They discussed how young women who are married into the village are often further excluded from decision-making processes by older women who originate from that village. One participant stated that even with an organised women's group, they do not necessarily have a say. This highlights intersectionality of gender discrimination experienced by younger women from elsewhere who marry into the village. To have an influence in community affairs, they use their voice through their husbands and children.

Mataqali decision-making: Decision-making at the mataqali level focuses on land and resource use, as well as other issues of concern to the clan unit. The head of the mataqali has greater decision-making power than the other members, though often issues are discussed and decisions made democratically. While these processes have traditionally involved only men, the findings show that in current times women are increasingly taking part in certain villages and situations. In one village it was explained that not all women can be involved, only women with recognised status. One participant explained:

> *When there is a mataqali meeting, women will not speak up and have a say unless they are given the space to talk, and are allowed to talk. Women will be told that they can now have a say about an issue. Other than that, they are not allowed to have a say in the mataqali meetings. (FWGV4O)*

4.2 Importance of coconut trees in rural agricultural villages

In all villages visited, coconut trees were described as being highly important to the well-being of families. The following table outlines the range of ways in which the various parts of the coconut tree are used in the villages, as described by participants.

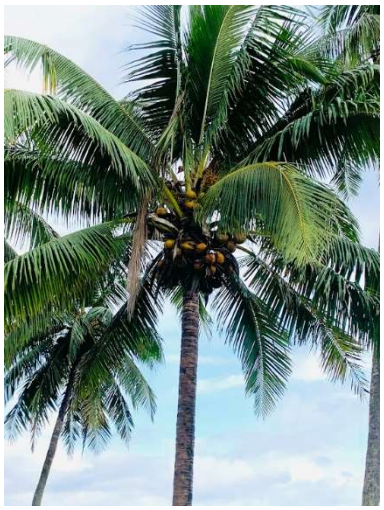
Table 2: Coconut tree uses expressed in FGDs.

Leaves	***Fruit***	***Stem***	***Roots***	***Whole Tree***
Brooms	Food (day-to-day and ceremonial)	Building structures (houses, bridges)	Prevent erosion	Shade
Fans	Food for animals	Building furniture (benches, tables, cooking stand)		Beautification
Baskets (fishing, vegetables)	Form of income, including from sale of copra and coconut oil	Firewood		
Lighting fires	Shells and husks for baking			
Hats	Shells for soup bowls and cups (including kava)			
Craft material for children (make play watches, glasses)	Fibres for rope			
	Husks for stepping stones			
	Medicine			
	Hair wash			
	Husks for Firewood			

A key informant interviewee explained:

> *The coconut tree is the 'tree of life' that has been handed down to us. In the past, we mainly lived off coconuts. Our houses were built from coconuts, the roof and the walls.*
>
> *The fruit we use for eating, the leaves we use for craft and thatching. We consider the coconut as the mainstay of our village. We use it for everything. It is carried down through the generations. (KI4)*

When asked what the most important uses are, many participants stated food and as a source of income. Participants explained how coconuts, particularly coconut cream, are a key part of their daily diet and are a key ingredient in baked goods prepared for community gatherings and in traditional ceremonial meals. Coconuts were also described as an important source of food for animals, such as pigs which are raised for household consumption or to be sold for cash income.



Participants explained how weather events within recent years, particularly Cyclone Yasi and Cyclone Winston, have destroyed large numbers of coconut trees in the region, along with other crops and marine resources, which impacted food security. It was stated that these events are becoming more frequent and are stronger than in previous years. In one village, women recalled how they had no coconut trees left after the cyclone hit which meant they had to go without coconut, a key part of their diet, until the trees regenerated. As a consequence, it would take a much longer amount of time for men and women to collect food for the family. The dry season from June to July, particularly in times of drought, can also present challenges as the fruit tends to be smaller with little to no liquid inside and therefore cannot be used.

Figure 5: Coconut tree in Fiji.

Another key problem associated with growing coconut trees mentioned in the focus groups by both men and women was the impact of animals on eating seedlings and leaves of young trees, particularly cows and horses. Participants highlighted the importance of installing fencing to protect the new trees. Other challenges raised included pests (such as the rhinoceros beetle), lack of planting tools and lack of land.

In one of the villages, participants explained that they have very few senile trees. The key informant interviewee stated that this is due to a lack of attention paid to replanting of new coconut trees which he sees as highly problematic for sustaining future generations. He stated:

> *In the past, almost every day, including myself and my father, I know that when I go out to the bush, I must carry two or three young seedlings to plant daily. This is daily. I take it to the bush to plant for the future. My father was telling me 'this is for you and your generation', and I believe so.*
>
> *But now days, we hardly see anyone go out from the village and plant seedlings, because we rely on new things for our income, especially dalo and kava and other stuff, because it is easy. But coconut takes longer and it lasts longer. That's what we don't see now days. But our fore-fathers had seen that. They relied on it because they lived off it. That is a problem today.* (KI4)

The participant explained that families are running out of coconuts which they use for food on a daily basis, adding: *If we don't plant now, we will feel sorry for generations to come* (KI4).

In terms of people's future aspirations, all participants agreed that growing coconut trees would continue to be important for them and future generations as a source of food and income. In one village with very few senile coconut trees, a participant explained:

> *It is important for the community to start replanting now, rather than later. We realise that we depend on the coconut. Some of these young people, they don't own any coconuts. I still have those trees now, not much but they are still there to sustain us.* (KI4)

4.2.1 Senile coconut trees: uses and problems

Participants were asked how they use senile coconut trees and whether they cause any problems.

A common usage of the stem in most villages was for building furniture (i.e., benches, stools, tables and cooking stands) for the home and for village gatherings. The stem is also commonly used to make small bridges for stream crossings (often temporary), and is used for making house posts, sheds, fences and animal pens. Some women explained how they use the leaves from senile trees for making brooms and starting fires. The function of senile coconut trees from an environmental perspective was also raised. Participants described how the trees act as a wind break and provide protection from hurricanes and tsunamis, particularly in villages directly located along the sea. It was explained that senile trees are important for holding the soil together and preventing erosion, and are left standing for that purpose. One participant stated that if it does fall, it rots and is good for the soil.

In terms of causing problems, a number of participants mentioned that the senile coconut trees take up space which means the land can't be used for anything else. Removing the trees would allow them to bring the land back into production, particularly by replanting coconuts.

It was also mentioned that the senile coconut trees can fall which may damage crops, infrastructure and cause injury to people or animals. A few participants also stated that they attract pests.

4.3 Interest in selling senile coconut trees, including perceived benefits and challenges

Interest in selling senile coconut trees was expressed in all FGDs, with no opposing views voiced by participants. One of the younger women participants did specify that it would not be good to sell any fruiting trees, only the older trees no longer producing.

4.3.1 Benefits

Income: A key benefit raised in the FGDs and key informant interviews was that participation in the value chain would provide a new source of income for families, mataqali and the community as a whole. When asked how families might use this income, many of the women participants stated that it would be used for education expenses (school and university) and other day-to-day needs. Some participants also suggested that the money would be used to construct or extend the family home.

From a community perspective, it was explained in both men and women's FGDs that the income can help with implementing community projects. Women in particular mentioned projects such as pearl farming or honey production. In one village, the younger women expressed an interest in using the income to build a road to the sea to make it easier for buyers to drive to the seaside and buy fish. This would reduce their workload as they would not have to carry the fish to the village and roadside to sell.

More productive land use: In addition to acquiring direct income, it was also raised that removing the senile coconut trees would enable more productive use of the land. Almost all participants stated that the land would be used to replant coconut trees, which are important for food security, household income and other material uses, as described in section 4.2. A few participants explained that removing the senile trees would provide an opportunity to plant cash crops, such as dalo, cassava and taro, together with the coconut trees.

Removing the trees would also reduce hazards associated with the trees falling which can hurt people and animals and cause damage to crops and infrastructure.

New skills: Participating in the value chain would create an opportunity for both men and women to develop new skills. Older men in particularly highlighted that this would be associated with gaining skills in logging, hauling, chainsaw and other machinery use. Women on the other hand would develop skills in business (also mentioned by men) and financial management (discussed further in section 4.4).

4.3.2 Challenges

Social and economic: Lack of market information, particularly in relation to the price of senile coconut stems, was raised as a challenge in a number of the men's FGDs for villages to effectively participate in the proposed value chain. It was stated that people may lack the required knowledge and skills to gain benefit, including business management and harvesting skills.

Conflict at varying levels, from the household to mataqali and village levels, in regard to who has rights to the coconut trees was raised in the men's FGDs and by one of the younger women participants. There were shared views amongst the men that this challenge can be addressed through ensuring proper communication and co-ordination within families and the village, and with proper consultation processes with the mill and other relevant Government agencies, including those responsible for water, roads, telecommunications and iTaukei Affairs.

A few women expressed that decision to sell the senile coconut trees would largely be made by men within the family and village. Involvement in decision-making processes, from choosing to sell the trees, deciding how the money is spent and future land use, may thus pose a challenge for some women.

Environmental: Environmental impacts of removing senile coconut stands were mostly raised in the men's focus groups, though was mentioned by a few women participants also. Impacts mentioned included soil degradation and erosion.

While not stated explicitly by participants as a challenge, removing the senile trees means those trees will no longer play a role in providing physical protection from hurricanes and tsunamis, and will no longer offer shade to animals, people and in some cases crops.

Infrastructure: Poor infrastructure including road conditions to transport the logs was raised within one of the younger men's groups as a potential challenge. Communication with various Government agencies to plan and co-ordinate activities may also pose challenges.

4.4 Potential involvement of women and men in selling senile coconut trees

Roles: Participants in the FGDs and key informant interviews were asked to describe the potential role of women and men in selling senile coconut stands. There was significant overlap in the views expressed overall, with women's tasks aligning with the notion of 'lighter' duties and men's tasks aligning with 'heavier' duties. In some discussions, women's roles were talked of in terms of 'supporting' men , through providing food during harvesting for example.

Specific roles mentioned for women relate to administrative and business duties, such as selling the trees to the mill and managing the money. This would benefit women by providing them with an opportunity to develop skills in this area. A key informant interviewee noted that women would benefit from participating in business training to build their capacity for this role.

Men would carry out the 'heavy' work of felling and removing the logs, and would also be responsible for the replanting coconut trees. They also may play a role in the business side of things, and manage the contract with the mill.

FGDs suggest that both men and women would take part in negotiations with the mill.

Decision-making: Decisions about whether or not to sell the senile coconut stands would be made within different settings, including the village, Mataqali and the family. The Village Chief would play a key role in deciding whether the village would be involved in the EWP value chain or not, and would most likely engage in discussions with village members. Women may or may not take part in these meetings, depending on processes in place within specific villages.

The mataqali make decisions on how land owned by the clan is used, including the resources that exist on that land, such as senile coconut stands. While men have traditionally been involved in these decision-making processes, women are increasingly playing a greater role. However, those women who marry into the village from other regions are less likely to be involved and have a say.

Findings show that individual families in most villages will make their own decision on whether they will choose to sell the senile coconut trees on their land. FGDs suggest that women and men will make these decisions together.

5. Discussion

5.1 Key drivers to participate in the EWP

This study has identified a number of drivers for rural agricultural communities in Fiji to sell senile coconut stands and thus actively participate in the proposed EWP value chain. A key driver discussed in all FGDs, both women and men, was that selling senile coconut stands will provide an additional source of income for families. This money will likely be used to pay for day-to-day expenses, including school expense, and general running of the household. The income may also be used to fund new projects that aim to improve people's livelihoods in rural agricultural villages. This may involve women working together through established women's groups, for example, to implement projects such as honey production. As such, a new income stream can empower rural agricultural women in Fiji by resourcing women's groups to strengthen the role of these informal settings as sites where women can exert agency (in addition to the household unit) and potentially contribute to a shift consciousness associated with women's status in the village and broader society (Cornwall, 2016).

Money earnt from the sale of senile coconut trees located on community land can fund community projects, for example relating to the church, local school or village infrastructure (often raised within the younger men's FGDs). In some cases these decision-making processes may not involve the voices of women, particularly younger women who marry into the village.

Another key driver, discussed mainly by men though also raised by women, is that families will be able to make more productive use of their land. At present, senile coconut stands take up land which limits replanting of new coconut trees and constrains land available for growing cash crops and food. Coconut trees are described as the 'tree of life' and are important in rural agricultural villages for food security, income, making household items and as a building material. It was mentioned in all women's focus groups that once the senile trees are removed, the land will be used to replant coconut trees. This will not only benefit families who exist today by increasing food security, but also future generations. As explained by

one key informant interviewee, some families have neglected the replanting of coconut trees in favour of high paying cash crops. He stated that it is important that families continue to recognise the value of coconut trees and the importance of actively replanting them.

Participation in the proposed EWP value chain will also provide an opportunity for women and men to develop new skills. Men will likely engage in 'heavy' tasks and will therefore be given the opportunity to gain new forestry skills in logging and hauling. Women will likely engage in the 'lighter' administrative duties, which can open up opportunities for developing skills in business and accounting. Increasing capacity and experience in engaging in negotiations with outside businesses, namely the timber mill, can potentially offer a pathway for women to further increase their influence and status in decision-making structures within the village. This can prompt engagement with social norms which limit women in exercising agency within the broader community.

5.2 Potential risks of participating in the EWP value chain

The study also identified risks which participation in the EWP may pose to rural agricultural communities.

Firstly, decision-making processes may be constrained by a lack of information and proper consultation with outside organisations - specifically the mills - as well as internally within the village. The findings show that community members, particularly men, want to ensure they have access to up-to-date market information on the price of senile coconut stands so they can negotiate effectively. Concerns were raised that people may lack the business skills required to ensure these processes are fair. Ensuring that the mill engages in proper consultation processes with the village was identified as an important issue.

The study shows that effective consultation and decision-making processes will also be important 'within' the village. For example, selling trees that have not yet reached senile age in order to derive cash income may have implications for food security and other aspects of well-being that are tied to the use of coconut trees. Some women, particularly younger women and those who have married into the village, feel they may be left out of these processes. Decisions at the village level concerning land and resource use are typically made by men, sometimes also involving women who have certain status due to their family lineage and age. There is a risk that participation within the proposed EWP value chain does not include the voices of those often marginalised from decision-making processes at the village and mataqali levels.

Ensuring open and inclusive dialogue within the community is also important for dealing with conflicts that may arise in relation to rights over coconut stands within families and the mataqali.

Environmental impacts associated with removal of senile coconut stands should also be considered. These trees play a role in providing protection from severe weather events including hurricanes, cyclones, tsunamis and erosion caused by heavy rains. Severe weather events affect subsistence food production and thus household food security. As women take more responsibility for food preparation, these impacts can potentially place a greater burden on them. Income from the sale of cash crops and handicrafts may also be impacted.

Developing knowledge of the technical processes involved in logging and hauling of senile coconut stands will be important to ensure other cash crops and subsistence food crops, particularly those belonging to other families, are not damaged through removal of the senile trees.

6. Conclusion

Overall, the study found that there is significant interest among all participants for selling senile coconut stands. The key driver is the opportunity to derive an income from a resource that has minimal, if any,

monetary value. This view was shared among men and women, both younger and older. Senile coconut trees were found to have a number of uses, however, including making furniture and infrastructure, as well as providing an environmental function in terms of preventing erosion and providing a barrier to reduce severe weather impacts. Consideration of how these uses will be met through other resources should be considered. Participants were also driven by opportunities for gaining new skills in forestry (mainly men) and business (mainly women).

The study found that the key constraint which may limit families from improving their livelihood from participation in the EWP value chain is the quality of consultation processes implemented to engage villages, and households within the village, in selling senile coconut stands. What constitutes meaningful consultation should be discussed between the village and the mill so that opportunities and processes for deriving mutual benefit from the EWP value chain can be identified and achieved through co-operation. Within the village, it is important to promote gender and age inclusive consultation processes to ensure opportunities to derive benefit are shared throughout the village. Removal of senile trees will also involve decision-making in relation to land use (for example, to replant with coconuts or other cash crops), which affects food security and well-being of present and future generations. Such decision would benefit from ensuring a diversity of voices are heard, including younger women.

In terms of realising community-visions of gender equity, the majority of participants communicated that the gendered division of roles and responsibilities work well whereby women largely engage in lighter duties and men engage in heavier duties. A number of women did express however that they would like greater involvement in decision-making processes, particularly within the village. The proposed EWP value chain provides opportunities for creating forums for women to exert greater agency. This includes opportunities for resourcing existing women's groups, as well opportunities for women to gain new skills in business.

Principles for gender equitable sourcing of senile coconut stands are presented below as a set of recommendations.

6.1 Recommendations: principles for gender equitable sourcing of senile coconut stands

- ***Recommendation 1:***
  Ensure coconut stands purchased are of a certain age to prevent selling of trees that are still productive, and not yet of senile age.

  Coconut trees play a vital role in Fijian agricultural communities. They are important for food security and cash income, as well as for making household items and infrastructure. There is a risk, however, that a high cash price for coconut stems may encourage some families to sell the stands that are still producing fruit and not yet of senile age growing. This can present a food security risk for households. Women in particular may find it more difficult to provide meals and meet their household's nutritional needs. They may also find it difficult to access enough coconuts to meet social obligations of preparing and contributing food, such as baked goods, to community events, including ceremonial food. Removing younger coconut stands can also limit women's ability to produce handicrafts, such as brooms and fans, which are important for household use and are an important source of cash income. These handicrafts are often made within a group setting, providing a valuable forum for women to discuss issues and act collectively. Women's groups make an important contribution to women's empowerment.

- ***Recommendation 2:***
  Explore opportunities for integrating coconut tree replanting programs into senile coconut stand sourcing protocols.

  Promote the sustainable management of coconut trees within Fiji's agricultural communities by exploring opportunities for integrating replanting programs into sourcing protocols. Sustainable management of coconut trees is important for meeting food security and material needs of both present and future generations.

  These programs should be designed in close collaboration with communities, with participation from both women and men, as both depend on coconuts for their livelihoods and well-being. The success of replanting programs in the past have been undermined by insufficient supply of seedlings and inputs to protect the trees from livestock. Preferred varieties should also be discussed.

- ***Recommendation 3:***
  Identify opportunities for developing the skills of women and men in rural agricultural communities to facilitate active participation in the EWP value chain, and build broader capacity and professionalisation in the forestry sector

  Value chains that have high levels of 'co-operation' and where participants derive 'mutual benefit' are likely to be more effective than value chains that rely on exchange of price information only (Norton, 2014). To promote co-operation and achieve mutual benefit it is important to identify alignment of interests between value chain actors, in this context buyers and sellers of senile coconut stands.

  In this study, coconut growers voiced an interest in participating in the EWP value chain to not only gain an income, but to also develop new skills. For men, this may involve gaining skills in forestry,

particularly logging and hauling. For women, this may involve developing business skills, such as administration and book-keeping. Self-organised women's groups within villages may provide an informal structure through which to deliver training programs, providing an opportunity for women act collectively to increase the voice of women and build leadership capacity in agricultural communities. It is important to ensure these groups are inclusive of women of different ages and social standing within the village.

Being directly involved in the physical removal of senile coconut stands may be important for ensuring that cash crops and subsistence crops are not damaged, including those used for handicrafts such as pandanus. As women play a greater role in domestic duties, damage to these crops may place a significant burden on them in providing for the nutritional needs of the family.

- ***Recommendation 4:***

  Ensure proper consultation processes are implemented to ensure participation in the proposed EWP improves rural livelihoods, and mitigates identified risks. Opportunities for including younger and older women in these decision-making processes should be explored.

  Stakeholders involved in sourcing of senile coconut stands should engage with communities in the early stages of developing the EWP value chain to jointly define what 'proper consultation' means and what this would look like. Early discussions can also identify how the buyers (i.e., timber mill) and sellers (i.e., farming families) of senile coconut stands can achieve mutual benefit through participating in the value chain, and what social and technical processes need to be implemented to ensure benefits are realised. Explore opportunities for ensuring these forums are gender- and age-inclusive, as well as inclusive of outsiders married into a given village who may often be excluded from community decision-making processes. A person's status within the community will likely influence where their land for cash and subsistence crops is allocated. When devising logistical processes for logging and hauling of senile coconut stands it is important to take into consideration the different land contexts (such as topography, access, crop layout) and thus the voices and needs of all landholders. This will ensure a greater number of households within the village will be able to participate in the EWP value chain, and avoid marginalising those whose land plots are less accessible. As stated in Recommendation 3, it is important to ensure that processes for removing senile coconut trees do not damage other crops or infrastructure which may burden some families.

- ***Recommendation 5:***
  Conduct further research to understand how removal of senile coconut stands will impact the environment, including an understanding of the gender dimensions of those impacts.

  The community have identified potential environmental impacts of removing senile coconut stands, particularly in relation to erosion and reducing natural barriers that provide protection from extreme weather events. Gaining a more nuanced understanding of these impacts and how they may affect women and men of different ages is important for ensuring livelihoods are improved through participating in the EWP value chain, and not negatively impacted.

10. References

Cornwall, A. (2016). Women's Empowerment: What Works? *Journal of International Development, 28*(3), 342-359. doi:https://doi.org/10.1002/jid.3210

Doss, C. R. (2018). Women and Agricultural Productivity: Reframing the Issues. *Development Policy Review, 36*(1), 35-50. doi:https://doi.org/10.1111/dpr.12243

FAO. (2020). *2020 Fiji Agriculture Census: Volume III - Gender Analysis Report* Suva, Republic of Fiji

FAO, & SPC. (2019). *Country Gender Assessment of Agriculture and the Rural Sector in Fiji*. Suva, Republic of Fiji

Fejerskov, A., Engberg-Pedersen, L., & Cold-Ravnkilde, S. M. (2019). Rethinking the Study of Global Gender Equality Norms: Towards a Situated Approach. In E.-P. L. & S. M. Cold-Ravnkilde (Eds.), *Rethinking gender equality in global governance* Cham, Switzerland: Palgrave Macmillan.

International Women's Development Agency. (N.D). The Floating Coconut Poster: a Tool to Value Women's Work. Retrieved from https://iwda.org.au/resource/tool-floating-coconut-poster/

iTaukei Land Trust Board. (N.D). *Land Ownership in Fiji*. Suva, Republic of Fiji

Juliet, W., Naomi, C., Joanne, C., Claire, R., & Gabrielle, H. (2013). Working from Strengths to Assess Changes in Gender Equality. *Development in Practice, 23*(8), 991-1006.

Ministry of Social Welfare Women and Poverty Alleviation. (2014). *Fiji National Gender Policy*. Suva, Republic of Fiji

Moser, C. O. N. (1993). *Gender Planning and Development : Theory, Practice and Training.* New York: Routledge.

Nampoothiri, K. U. K., Krishnakumar, V., Thampan, P. K., & Nair, M. A. (2019). *The Coconut Palm (Cocos nucifera L.): Research and Development Perspectives*. Singapore: Springer.

Norton, R. (2014). Agricultural Value Chains: A Game Changer for Smallholders, viewed 16/06/2022. *https://www.devex.com/news/agricultural-value-chains-a-game-changer-for-small-holders-83981*.

Porter, C., Gaechter, L., & Upadhyaya, S. (2020). Comparing Apples and Coconuts: Food Regimes and (Farmers) Markets in Brooklyn, USA, and Suva, Fiji. *Journal of Agriculture, Food Systems, and Community Development, 9*(3), 197-214. doi:10.5304/jafscd.2020.093.020

Shah, S., Moroca, A., & Bhat, J. A. (2018). Neo-Traditional Approaches for Ensuring Food Security in Fiji Islands. *Environmental Development, 28*, 83-100. doi:https://doi.org/10.1016/j.envdev.2018.11.001

Singh-Peterson, L., & Carnegie, M. (2019). *Integrating Gender in Agricultural Development*. Bingley: Emerald Publishing Limited.

Singh-Peterson, L., & Iranacolaivalu, M. (2018). Barriers to Market for Subsistence Farmers in Fiji – A Gendered Perspective. *Journal of Rural Studies, 60*, 11-20. doi:10.1016/j.jrurstud.2018.03.001

Willetts, J., Carrard, N., Crawford, J., Rowland, C., & Halcrow, G. (2013). Working from Strengths to Assess Changes in Gender Equality. *Development in practice, 23*(8), 991-1006. doi:10.1080/09614524.2013.840564

For further information please contact:

Dr Natalie Jones (social scientist)

School of Agriculture and Food Sciences

University of Queensland

Australia

E: n.jones3@uq.edu.au