



UNIVERSITY OF
CANBERRA

**‘Opening our family’s eyes’:
The PNG ‘Family Farm Teams’
research report**

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December, 2018

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List of abbreviations

ACIAR – Australian Centre for International Agricultural Research
CARE PNG – Care International in Papua New Guinea
CISP – Coffee Industry Support Project
FBM –Family Business Management
FGD – Focus Group Discussion
FFT – Family Farm Teams
GBV – Gender Based Violence
MFF – Model Farming Families
MFFA – Model Farming Family Activity
NARI – National Agricultural Research Institute (PNG)
PNG – Papua New Guinea
REM – Ripple Effect Mapping
UC—University of Canberra
VCE—Village community educator

ACKNOWLEDGEMENTS

This project consumed a huge amount of work, research and dedication. Still, implementation would not have been possible if I did not have the support of many individuals, groups and organizations. Therefore, I would like to extend my sincere gratitude to all of them.

Firstly, I would like to thank the University of Canberra for its partnership between CARE International in Papua New Guinea and to the Australian Centre for International Agricultural Research for funding the research. Through the partnership, friendships and networks have been created, and lessons learnt for better application in the future.

Secondly, I would like to express a sincere thank you towards volunteer researchers and individuals who devoted their time and knowledge in the implementation of this project as well: Baptist Union and Baptist Bible College of Baiyer Valley, the families of VCEs and the VCEs themselves, Susanne Trapu and her family, community leaders of Kwinkya and Kumbareta, Tinganagalip and Vunapalading, Ketarobo and Kivirinka. Also, to Kiteni Kurika and Elizabeth Ling, the two dedicated and strong women of East New Britain NARI and not forgetting staff of ENB NARI. My gratitude is also extended to my team at CARE PNG and the officers of the Coffee Industry Support Project for their patience and contributions in ensuring I had time aside from other project duties to write the report.

Thirdly and most importantly, I am very thankful to the hard-working farmers and their families in Kwinkya, Kumbareta, Ketarobo, Kivirinka, Vunapalading and Tinganagalip who put time aside to provide valuable data and made sure the research was successful in each site. To the families of the farmers thank you for allowing me to be a part of your lives and for guaranteeing my safety and accessibility to different locations, my deepest gratitude. You all define what it means to work as a family team and it is through your efforts that this project has been a success.

Lastly, an enormous thank you to Barbara Pamphilon, Anna Bryan and Katja Mikhailovich for giving their continuous advice in the write up of this report. The three of you have been instrumental in your encouragement and guidance, even when I felt like giving up.

Gloria Nema, December, 2018

1. Introduction

This report documents the process and findings of a research project conducted by Care International in PNG (CARE PNG) and the University of Canberra (UC), from July 2016 to June 2018. The research explored the ‘family teams’ training approach, which CARE PNG’s Coffee Industry Support Project (CISP) and UC have used as a means to achieve more equitable household and farm roles for women, and to improve their economic empowerment within the family.

The research was conducted by Gloria Nema, with support and guidance from Anna Bryan (CARE), and Barbara Pamphilon and Katja Mikhailovich (UC).

The report contains six further sections:

- Section 2: Project overview
- Section 3: Overview of the Family Teams programs
- Section 4: Methodology
- Section 5: Findings by area
- Section 6: Main themes
- Section 7: Summary and recommendations

2. Project overview

As both UC and CARE have been developing a family teams’ approach in the training and development of women smallholders and their families, this applied research sought to understand more about the enablers and barriers for women, as families move towards a more ‘family teams’ approach. Both UC and CARE have developed curriculum, trained trainers and delivered the training to agricultural families in the Eastern Highlands, Western Highlands and East New Britain over the last five years. Therefore, it was timely to do in-depth research with the families who have begun this approach and those nearby to them who may have been influenced or who may not find the concept resonating. In the Western Highland and East New Britain provinces the research was conducted four years after the trainings were completed, while in Eastern Highlands Province, trainings were still ongoing in some communities, while in others the training was completed two years previously.

Project aim

The overall aim of the research was to identify what is required for the ‘family farm teams’ model to become a sustainable and scalable approach to development in PNG. The data will be used to improve the ‘family teams’ training activities and modules and to inform the work of other programs and stakeholders.

3. Background to the Family Teams programs

Both CARE and the University of Canberra have trialed and developed a ‘family teams’ approach to improve sustainable livelihoods of semi-subsistence farmers in PNG. The programs target farming families with gender sensitized capacity building trainings that enable them to more effectively work together in all aspects of their livelihood activities.

CARE PNG Coffee Industry Support Project

CARE PNG’s Coffee Industry Support Project goal is to improve the social and economic wellbeing of women coffee farmers in the highlands of PNG. To achieve this CARE PNG partners with key industry stakeholders, coffee cooperatives, community-based organizations and coffee farmers to promote women’s meaningful engagement in the coffee industry. CISP engages stakeholders to create an enabling environment for women’s engagement along the coffee value chain through improving organizational practices, coffee extension services and household financial management practices, so that they are more gender equitable.

One of CISP’s foundational activities is the Family Business Management (FBM) training which aims to address attitudes that are often prevalent in households that result in women’s unequal participation in important decision making for the family. Thus, FBM training helps to reinforce and value women’s contribution to the family’s livelihood and supports families to work together more effectively, plan together and make decisions together. For further information see <https://www.care.org.au/wp-content/uploads/2018/05/CARE-PNG-fmbt-ONLINE.pdf>

The model farming families activity (MFFA) is the other major activity of the CISP. The MFFA targets coffee farming families and trains them to be models in their communities. Model Farming Families (MFF) are composed of a husband, wife and their children. A model family is given two types of training: theory (social trainings abstracted from the FBM training) and technical (skills and knowledge of coffee management). It is a pre-requisite for MFFs to attend the theoretical training before moving onto the practical sessions. The theoretical part includes topics on gender, skills in dialogue and communication building, problem solving, leadership, decision-making methods and participatory techniques that positively challenge coffee farming culture. There are currently seven MFFs situated in seven locations in Eastern Highlands Province.

University of Canberra Family Farm Teams program

The Family Farm Teams program began in 2012 in three locations that were selected to reflect PNG’s cultural, geographic and agricultural diversity: the highlands (Western Highlands province), the islands (East New Britain province) and the lowlands (Central Province). It was conducted in partnership with the National Agricultural Research Institute, Pacific Adventist University and the Baptist Union of PNG and was funded by the Australian Centre for International Agricultural Research (ACIAR) <https://www.aciar.gov.au/project/ASEM/2014/054>

Through participatory action research, appreciative inquiry and asset-based community development, the team developed a series of experiential learning activities for farmers with low literacy. The resultant Family Farm Teams program is a gender-inclusive approach that encourages male and female family heads to work

together as a family team and to collaboratively plan the further development of their agricultural and family activities. The three¹ modules were: 1) Working as a family farm team for family goals; 2) Planning your family farm as a family team; and 3) Communicating and decision-making as a family farm team. The Family Farm Teams program was complemented by brokered training in the areas of sustainable livelihoods, business and financial literacy, and agricultural production development relevant to each area. See <https://www.aciar.gov.au/publication/PNG-Family-Farm-Teams-Manual>

A number of farmers were trained as peer educators known as village community educators (VCEs). The VCEs were encouraged to use the Family Farm Teams learning in their own family and then further disseminate the training to other families through farmer-to-farmer peer education and/or with groups through their affiliations, such as churches. These VCEs become important role models in their own communities. See <https://www.aciar.gov.au/publication/farmer-farmer-adult-learning-manual>

For further information, see <https://www.canberra.edu.au/research/faculty-research-centres/aisc/png-family-farm-teams-project>

¹ In 2017 a further module *Feeding your family farm team* was developed as a response to the PNG drought

3. Methodology

Four research sites where the CARE Family Business and the UC Family Farm Teams work had already been conducted were selected for the study:

- UC: Vunapalading 1 and Tinganagalip (East New Britain province)
- UC: Kumbareta and Kwinkya (Western Highlands province)
- CARE: Ketarobo and Kivirinka (Eastern Highlands province)
- CARE: Yabiyufa and Arikayufa (Eastern Highlands province)

A progressive plan was drawn up which included known site-specific demographics, data collection tools, duration of data collection and tentative dates for logistics. The research was conducted by Gloria Nema in Tok Pisin to enable the greatest depth of data. The research project was approved by the University of Canberra Human Ethics Research Committee.

An exciting participatory data collection method was piloted —the Ripple Effect Mapping or REM as it is known by its commonly used abbreviation. REM has emerged as a distinctively powerful tool to understand if and how a program is taken up at a community level and to understand what has had wider adoption. The process also builds community awareness of the changes that have been achieved (Chazdon et. al., 2017). REM's evolution came about as a result of two separate efforts in the USA: the Community Capitals Framework evaluation and the evaluation of Horizon's Program (Emery et. al., 2015). The process of how REM was conducted will be elaborated after the research questions and methods, as well as in the report body.

Research questions and methods

- I. What language and concepts used within the 'family teams' models enable women to negotiate more equitable farm and family roles?

Sub-questions

- What constitutes a family and a family team
- What ideas have been taken up and used
- What ideas do not work or are not as useful
- How do the family teams' ideas help women – what are the barriers they face in working as an FFT
- Does the FFT help in any way with gender-based violence (GBV)? or exacerbate any GBV issues
- What makes FFT successful
- What is missing
- Where should future FFT work be targeted

Research methods

i) Focus groups with FFT participants

- Older men
- Older women
- Middle-aged men
- Middle-aged women
- Young men
- Young women

ii) Follow-up interviews with selected people from the above, plus key informant interviews where relevant

II. To what extent does the ‘family teams’ model have a ripple effect in farming communities?

Sub-questions

- Does the FFT idea ripple – if yes, to whom; how and how far
- Which concepts ripple
- Are there any inappropriate ripples?
- How do we achieve positive ripples for scalability?

Research methods

Focus groups with female and male farmers who have not been directly trained but who have learned from other FFT farmers

Focus groups with female and male FFT participants

Farm visits – using interviews and photo documentation

Ripple effect mapping

REM is a process that requires bringing a sufficient number of program participants together in a focus group setting. It combines four distinct evaluation methods: one-to-one interviews, group interviewing, mind mapping, and qualitative data analysis (Hansen et. al., 2012). REM was recommended by evaluation experts as a best fit to use in this research because as Scott Chazdon states, “REM is not only a powerful technique to document impacts of a project or program — it also engages and re-energizes community members around shared goals in ways that conventional evaluation techniques like surveys and focus groups do not” (Vitcenda 2014, <http://blog-ripple-effect-mapping.extension.umn.edu/p/stages.html>)

REM was used in all six sites. An outline retrieved from the University of Minnesota website is provided below and gives an idea of how REM was conducted in five basic steps:

1. Scheduled the event and invite everyone who participated in the training as well as community members who indirectly benefited from the training. There should be less than 20 participants.
2. Appreciative inquiry (Cooperrider et al., 2003) pair interviews was next. This is a group facilitation method that encourages participants to reflect on the most positive aspects of the family team/family business management training. Participants paired up and interviewed each other about ways they or their community were positively affected by the training.
3. Next was the mapping, which is the core element of REM and involved group mapping — a process of brainstorming and recording effects (the "ripples") of a project on a butcher's paper taped to a wall. This step enabled participants to see the connections among the training effects (as well as continue building personal relationships).
4. Reflection and feedback: After mapping, the sketch map was redone, exactly as it was but neatly on a new butcher's paper and participants were given time to comment. When all participants were satisfied with the map, they finally provided their feedback on what they thought about the whole process.

The first step was an explanation of REM in very simple terms. This process took 20-30 minutes using the analogy of a rock being thrown into the water. After that participants did an appreciative inquiry interview where they took turns in pairs and told their 'story' while listening and asking questions. Open ended questions were given by the facilitator as a guide to use to gather information from the person telling the story. The main questions were:

1. What have you learnt (seen/heard) from the family teams training?
2. How have you practised ideas from the family teams training? What have you done?
3. What changes have you seen in your/others' family/community after the family teams training? And if so, what is different from before?
4. Who has helped/supported you in practising ideas from family training?

With the appreciative inquiry interviews, participants took turns in explaining their partners' story. Although Chazdon and Langan state that this stage takes approximately 45 minutes to an hour (Chazdon et al., 2017), in this case it took an average of two to three hours. This might be due to the fact that the method was trialed with participants' who had very low literacy and the facilitator herself was new to the process. Furthermore, everyone was enthusiastic about sharing their 'stories' and therefore it took more than the required time to share. This is an important empowerment benefit of the method.

While participants gave their story, the facilitator walked around and made sure the process was being properly followed while taking notes of what each person said. Notes taken were then transferred onto butcher's papers in front of everyone, making sure not to miss out anything. This part was where the actual mapping was done. Words were categorized into groups, arrows drawn across signifying relationships, etc.

The first draft of the map was quite messy as a result of the many types of ripples discussed. After everyone had a chance to say something and participants broke up for lunch the facilitator re-did another neat map so everyone could discuss the RE map. The discussion after lunch proved useful as participants gave their feedback on what they thought of the map and the REM activity itself.

Farm visits

Observations on farms were also done with participants during the research. Farm visits were scheduled after interviews were done to verify what was reported by participants. Farm visits also provided an opportunity for further probing into some of the responses and gather more data to substantiate responses. The four main questions used were:

1. What difference has there been from past yields compared to after you practised ideas from the FFT training?
2. Who does most of the work in the farm and what kind of work?
3. (If there was evidence of similar types of garden nearby) whose farm is that? Tell me about how you shared ideas with them or how they copied your new way of farming?
4. Tell me about your relationship with other farmers near you after the training? (Has it improved? How?)

Field work

Field work commenced in October 2016 in Western Highlands Province and ended in Eastern Highlands Province in April 2018. There was a three month break from May to July 2017 due to the PNG national elections. For all research sites accessible by road excluding East New Britain, there was a driver and security officer from CARE who occasionally accompanied the research officer. However, in East New Britain, Elizabeth Ling and Kiteni Kurika, officers of the National Agriculture Research Institute (NARI), provided the support that was needed.

Field trips to Ketarobo and Kivirinka took the least time by road while the Mul-Baiyer district took the longest. Most of the sites were allocated a week each for data collection except Ketarobo and Kivirinka which took three to four days. Below is the schedule that was used iteratively for data collection in all sites. There were a few minor changes where activities were postponed to the next day.

- Monday 9am – 3pm: In house session, socialization/FGD meeting with training participants (VCEs)
- Tuesday 9am – 3pm: Farm visits, document observations, informal discussions
- Wednesday 9am- 3pm: In house session, FGD/interviews with other farmers besides VCEs
- Thursday 9am – 3pm: Ripple Effect Mapping exercise
- Friday & Saturday: Follow up interviews

A general observation worth noting in all sites excluding Kumbareta was the farmer groups were well organized and seemed to be working in harmony. Furthermore, in the UC areas, active VCEs were continuously providing support in helping farmers who had come forward to try some of the ideas after witnessing positive changes in the VCEs families. In Kumbareta during the time of the research it was observed from responses by farmers that everyone was not in agreement with the woman leader and that showed by lack of participation during focus group discussions.

4: Findings by area

Kwinkya, Western Highlands

Data collection in Kwinkya went very well:

- two FGDs, one with VCEs (5 males and 4 females.) and one with non-VCE (2 males and 7 females);
- three in depth interviews (1 male and 2 females)
- ten farm visits: 7 of which the farmers were present and notes was documented from informal discussions with them
- A REM session at the end of the week (8 males and 18 females)

- Focus Group Discussions

The first FGD was conducted with the VCEs who were actively practising ideas from the family farm teams training and providing supervision to other farmers wanting to learn. The discussion took place at the Women's Resource Centre next to the Baptist Union Theological College and took four hours (10am –2pm). There were nine participants, five males and four females.

The second FGD was with farmers who had not participated directly in the FFT training but had seen ideas or had been told by the VCEs of ideas and were practising it in their families/gardens also took place at the Women's Resource Centre. A total of nine farmers participated, seven females and two males and the discussion took just less than four hours.

- Interviews

In depth interview were conducted as a follow up after doing FGDs. The interview with the male participant was conducted at the Baptist Union area as he was a pastor there. With the female interviews, one was with the woman leader and the other was with a farmer who had been coached by one of the VCEs and had gone to build a permanent house with the support of her husband and was now looking to saving money to purchase a twenty-five-seater coaster bus to run a public motor vehicle business.

- Farm Visits

Interesting discussions came from doing the farm visits. Farmers told stories of their struggles, their successes with relationships, and some even arranged with their 'photo-copy' farmers to give an account of what these farmers learnt from the VCEs. It was apparent the VCEs were very proud of the work they did and wanted to show off the new gardening techniques they had practised. A total of 10 farms were visited from 8:30am – 4pm during that day.

- Ripple Effect Mapping

The REM exercise was the final group activity at the end of the week and proved to be exciting as the participants were all engaged and enthusiastic. A total of 26 farmers (18 females, 8 males) shared in the experience which took the whole day. Lunch was provided by local women and at the end of the session participants gave positive feedback on how the REM exercise was a great tool to use with community members and how motivated they felt to continue doing the FFT work.

Major Findings

There were a number of other topics that emerged from all discussions, however they were not directly related to the family teams training but were ideas from other trainings delivered by partners like soil management, doing drainage, pesticides and insecticides, financial book keeping, budgeting, savings and opening bank accounts. Therefore, this section only reports on the findings relevant to the FFT approach.

Below are major findings that emerged from all data collected in Kwinkya. They are categorized under sub-headings in order of significance with relevant quotes included.

1. Family members working together

Family members working together was a concept in most of the participants' responses. Two main areas where participants explained visible changes in family members working as a team were when *communicating* and *during gardening*.

In terms of communication, responses in Kwinkya suggests that for the 'family team' to function, spaces have to be created for effective dialoguing and discussion with all members of the family, including children. Ideas are communicated during family meal times or gatherings with all members of the family present. Decisions are being reached collectively as a result of the FFT, which indicates that women and children's opinions are acknowledged and that this matters. Both are important components for the family to function as a team.

For many participants who discussed FFT ideas and failed to get an immediate response from family members, instead they applied new gardening methods and initiated discussion during gardening. With increase in quality and quantity of crops yield as a result of new gardening methods, men and women reported working together and sharing of labor more within families. This affirms one of the principles of adult learning that adults learn new ideas effectively by 'doing or practising' it themselves (Knowles, 1984).

Examples

"I learnt in the family team training about working together as a family, about sharing ideas and talking together. I think that is very important, sharing ideas and talking together. I learnt this as well in communication part of the training. It helps my family understand each other and to share responsibilities within the family. Now every member has a part to play. I used to be a woman who used to get angry a lot with my husband, argue a lot. But that changed when I changed my way of talking. My husband talks with respect to me as a result of this" (Female)

"Working together as a family team is good. In the past I usually worked alone in the garden. After coming to the family team training I went back home and told my family what I learnt and that from now on everyone had to work together. Each person will have a responsibility. There are six of us in my family, now everyone knows what they are supposed to do and it has helped a lot with work load." (Male)

2. Food crop marketing for family income – a new idea

Commercial food crop production was not an idea practised in large scale before the FFT training in Kwinkya. Most participants spoke of how marketing was done only when there was surplus in the harvest and families needed small amounts of cash for basics like salt and soap from the local food stores. Furthermore, participants spoke of witnessing an increase in food crops sales at the roadside and taking certain crops in bulk to sell at Mt Hagen market.

Evidence of increase in local food crop marketing in Kwinkya shows farmers are now gardening primarily as a business idea for regular income as opposed to previously before the intervention of FFT where they were gardening mainly for consumption. With increase in food crop produced and regular flow of income for farming families, there is an increase in options for a variety of nutritious food especially store-bought protein that is accessible and complements the family diet. Furthermore, farming families now consider selling produce outside their locality which connects them to bigger markets. This suggests that farmers in Kwinkya are moving in the direction of commercial farming and there is a need for accessing larger formal markets.

Examples

“In the past I gardened mainly for family consumption. Now I garden to sell at the market. Food crops like corn, greens, cassava and sweet potato I sell here in Kwinkya. Other crops like peanut and mandarin I take to Mt Hagen to sell.” (Female)

“This idea of marketing for income has made me realize too that I as a pastor’s wife can actually do something to help my family, by bringing income. I feel happy and I think it is a great idea.” (Female)

“Something I’ve noticed in the community is before there never used to be road side marketing, you hardly see any women sell their food crops because everyone gardened for consumption. When we sat for the training and learnt about the story of ‘Maria’² it opened the women’s eyes to the idea of selling their crops. There’s also been a change in variety of food crops they sell. Like you see the round cabbage? We never had that here before, it used to be something we bought from Mt Hagen. Now we have women gardening and selling that. I’ve noticed these changes”. (Male)

3. Attitude/Behavior changes

The ripple effect also showed attitude and behavior changes (referred to as ‘tingting’ (thought) and ‘pasin’ (action) in Tok Pisin). Participants gave accounts of their personal changes as well as the changes in their family members once they started practising FFT ideas. Changes described by both genders were new ways of doing things and included men helping their wives more with gardening, couples listening to each other and communicating respectfully, children’s ideas being included in family farm plans, women responding to their husbands in positive ways and being more aware of their husband’s body language.

A further ripple effect demonstrated by other ‘copy-cat’ farmers came from witnessing positive changes in directly trained FFT farmers which led to adopting ideas that copy-cat farmers felt they could practise within their own family.

Examples

“My husband never gardened with me before, even his first wife and I argued a lot. After the training I went home and did a huge peanut garden myself. Everyone thought I was crazy, but after I received K1000 from selling my peanuts my husband came around the house and asked what I had done. I told him about the training and he went and spoke to the first wife. She later came with him to the garden and helped me. I was very happy. Now we have a good

² This refers to the Maria books —dual language (English and Tok Pisin) early literacy books that were developed from the project research findings, and used to complement the FFT training see <https://www.canberra.edu.au/research/faculty-research-centres/aisc/png-family-farm-teams-project/marias-family-books>

relationship because the first wife and I garden together and don't argue or fight like we used to." (Female)

"I was a man who used his work as an excuse to get away from helping my wife in the garden. I am a pastor so I tell my wife that gardening is your duty, your business. You do your work and I will do mine. But after the training I was ashamed, I began helping my wife more. I realized it also stresses in the Bible about husbands supporting your wives. Now I help my wife more, I spend most of my time with my family helping them. I have seen the fruit of that, we no longer have shortage of food like oil, salt, and sugar, because my wife sells the garden produce and helps me. I realized my wife and children are much happier than before" (Male)

4. Learning by observations

Although most of the theoretical learning of FFT occurred in a workshop setting, VCEs and other participants spoke of how ideas made sense when practised and when gradual changes were observed in gardens. Opportunities opened up for sharing ideas when interested farmers who farmed next to VCEs enquired when observing how positively crops fared by applying the new style of gardening. Evidence from the research shows the learning process for not-directly FFT trained farmers began in the garden through *observing first* and practising after *one-to-one discussion* with VCEs. The one-to-one discussions included choosing crops to plant, mapping the garden, identifying markets and what to plant after harvesting as reported by most participants. The learning process was replicated from farmer to farmer that then resulted in three levels of replication: VCE→copy-cat farmer → other farmer. However, many farmers interviewed did not have the one-to-one discussion but went from observation directly to practising.

The process of learning by observation illustrates the importance of effective transferring of knowledge and skills from one farmer to the next. It also highlights the need for evaluating FFT immediately after training is delivered so that new concepts have a high success rate.

Examples

"That's right. Farmers like me who were not formally trained saw what the VCEs were doing and copied their gardening style. Their crops seemed to be faring better than ours so we took the chance in trying something new. I am happy I did" (Male)

"I did not sit for the training but learnt from the stories my neighbor told me. When I saw the result in my garden I was happy. Other women gardening next to me copied what I did, they never asked me but just imitated the way I planted my crops. Later when they approached me I took them to my neighbor so she could share what she learnt with them". (Female)

"My husband's other wife heard from our husband how I was gardening. She came over one day to the garden and saw what I had done and asked me about it. I told her what I learnt and she saw what I did. She did not need instructions from me as she already knew how to garden, so she just went and did exactly what I had done." (Female)

• Farm Visits

A total of 10 farms were visited in Kwinkya, seven of which where owners were present and informal discussions took place. It was observed that new gardening techniques were practised and participants had expanded their garden plots for commercial marketing purpose.

Three VCE participants introduced other farmers who had copied gardening ideas from them. The farmers provided accounts of witnessing changes in the trained VCE

farmers' attitude and behavior which included: couples spending more time working together in gardens, improvement in physical appearance, children helping around the house more, respect between the couple when communicating, and less arguments in family. As reported by the copy-cat farmers, gradual changes were witnessed in the months after the FFT training was delivered, which suggests changes were attributed to the trainings. All farmers shared their success in achieving personal and family goals: one farmer had achieved her short-term goal of building a permanent house, two farmers reported having similar goal to the first farmer, another two farmers said they would expand their small farms to raise savings for school fees, and one farmer said she would like to run a big poultry business one day. These goals came about as a result of discussions with the each other during gardening sessions.

The farmer who achieved her goal of building a permanent house shared how her husband was now very supportive by helping her cook, sell garden produce at the market, and helped to tend to the children when she was gardening. She confessed that he was not like that before and that by sharing ideas from FFT and changing the way she communicated with her husband had improved her relationship with him.

Kwinkya ripple effect summary

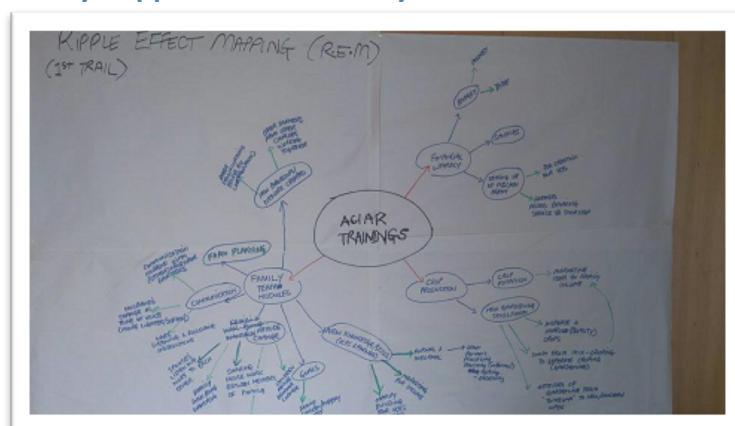


Fig 1. REM Kwinkya

There were four ripples that emerged from the REM activity in Kwinkya. The first major ripple showed how participants remembered three trainings delivered by the University of Canberra: family **teams**, **financial literacy** and **crop production**.

The second ripple that evolved showed topics or ideas participants either remembered, liked or practised over time. The family teams ripple included: new farming method, setting family goals, communication and decision-making, and working together as a family. Ripples created from financial literacy were: budgeting, savings, and setting up the Nationwide Microbank MiCash account. Crop production ripples included new gardening ideas, and working with what we have.

The third ripple were changes participants experienced when putting into practice ideas learnt from the trainings. The ripples are: inter-cropping to single cropping, planning what crop to plant, couples sitting and discussing family goals, setting short term and long-term goals, wives reporting positive change in husbands' tone during communication, couples listening more to each other, more respectful communication with members of the family, change in gender roles in men, and children helping parents more when aware of family goals.

The fourth ripple was the long-term changes seen in families and communities and included a range of responses: applying farm planning to family daily activity planning, three couples realized communication and planning improved their relationship, five farmers achieved their short-term goals while two achieved long term goals, family happier than before, and relationships with other farmer groups created for future collaboration.

While some ripples from the family teams and financial literacy's third ripple went further to creating the fourth ripple, others remained at the third ripple. Below is a break up in levels of bullet point of responses in ripples explained above.

FAMILY TEAM

- **Setting goals**
 - *Couples sitting and talking together about family goals*
 - ***3 couples realizing that communicating and planning together improves their relationship***
 - *Setting short term and long-term goals*
 - ***5 farmers achieved short term goals***
 - ***2 farmers achieved long term goals***
- **Communication and decision making**
 - *Women noticed husbands' change in tone of voice (lighter, softer)*
 - *Couples listening more to each other*
 - *Communication with other family members more respectful*
- **Working together as a family**
 - *Husbands helping out more with domestic chores*
 - ***Behavior change in husband, wife happier than before***
 - *Family members understanding their responsibilities*
 - ***Feeling of unity and harmony in families***
 - *Children helping out more with chores and gardening*
 - ***Positive change in children's attitude and behavior***
- **Networking with others**
 - *Farmers from other denominations coming together to learn gardening ideas from Baptist Union farmers*
 - ***Relationships built and networks created for future collaboration***

CROP PRODUCTION

- **Planned farming**
 - *From inter-cropping gardening to single crop plots*
 - *Actually, having a plan of what to plant in the garden*
 - ***Applying 'farm planning' to daily planning of activities with family***
- **New gardening ideas**
 - *From inter-cropping to separation of crops in plots*
 - ***production increased in quantity and quality***
- **Working with what we have**
 - *Chicken manure used as compost*
 - ***Quality crops produced***
 - *Home grown plants like bird's eye chili used as ingredients for creating insecticides*
 - ***not as effective but less cost***
 - *Shading of crops using local resources.*

FINANCIAL LITERACY

- **Budgeting**
 - *Families using money wisely*
 - *Couples realize they have extra cash to use for other purposes*
 - *Savings achieved*
 - *Time management*
 - *Achieved many chores/tasks in one day as each day is scheduled*
 - *No time for doing unproductive things like gambling*
 - *Garden plots bigger than before*
- **Savings**
 - *Savings for school fees achieved*
 - *Children's fees paid and children go to school*
 - *Children happy*
 - *Contribution to community events*
 - *feel part of community, sense of belonging*
 - *relationship with community members improved*
 - *Opened new bank accounts*
 - *Savings for family goals*
 - *more than 10 goals achieved*
- **Setting up of MiCash**
 - *Small income/allowance for VCEs*
 - *Bringing banking to our doorstep*

Kumbareta, Western Highlands

Data collection in Kumbareta did not go well as anticipated. The farmer groups were not as organized as Kwinkya and there were less active VCEs performing their roles. There was obvious disagreement among some of the women about leadership roles. It was later discovered that some of the VCEs were from enemy tribes and had been in disagreement for a while. The activities conducted were:

- three in-depth interviews; 1 male and 2 females,
 - one informal interview with two men from the community employed by the district's Division of Primary Industry,
 - two farm visits,
 - two Focus Group Discussion; VCEs 6 females and 1 male, non VCEs (0 females, 3 males)
 - REM activity at the end of the week; 1 male and 15 females
- **Focus Group Discussion**
- Both focus group discussions took place at the Village Birth Attendants' Resource Centre with the VCEs and later with farmers informally trained by VCEs. There were 6 females and 1 male, and only 10 females who participated in the first and second FGD respectively. Both group discussions took less than 4 hours.
 - **Interviews**

In depth interviews with two VCEs (male and female) were held after the first focus group discussion. The female stressed how her relationship had improved with her husband and his second wife after practising new gardening ideas with the second wife. She spoke of how she had come to terms with the relationship after seeing the

second wife generate income from marketing the family's food crops while she volunteered to take care of the second wife's children.

The interview with the male participant showed how he had started his own trade store and was progressively working towards building a big permanent house for his family.

The third interview was with a female 'photo-copy'³ farmer who was a widow and had struggled alone for a long time but had finally managed to make an income for herself through the sales of her crops which had come from practising new gardening ideas. New gardening methods like separating crops in blocks was introduced by one of the VCE's husband who had brought her over to his family's farm and she'd seen how healthy the crops fared as a result of practising new gardening methods.

On the second day, an informal interview was held with two men who worked for the district agriculture office and whose wives had been involved in copying some ideas from the trained farmers. Both men commented positively on the FFT trainings. One man mentioned how he had advised his wife to enquire about the new gardening ideas he witnessed being practised through observing a growth and variety in crops at their local market. His wife was reluctant at first but after witnessing improvements in the crops of a neighbor who was a VCE, she decided to try and was delighted by the results.

- Farm Visits

Most farmers either resided or had their gardens high up in the mountains where access by road was difficult and farm visits were not able to be conducted. However, visits were done with two female farmers who lived nearby. The data from both these women showed that there are also non-family related issues that women face:

- Woman 1: Local theft is an issue in the area. She spoke of how she had begun raising six ducks to breed and sell and how they had been stolen by young men under the influence of marijuana when she was away in another village attending a funeral.
- Woman 2: She spoke of taking her crops to Mt Hagen market to sell and the difficulties in transporting her crops and actually securing a market space to sell.

- Ripple Effect Mapping

The REM exercise was conducted on the fourth day with a total of 16 participants: 15 females and 1 male. The same process in Kwinkya was replicated in Kumbareta with lunch provided, however the session took more time as participants arrived late and their literacy level was lower than Kwinkya hence more time was taken in explaining the method. At the end of the REM, participants again provided positive feedback about how the exercise was an encouragement for them to continue working. This is an important learning for projects working with farmers as it reinforces the need to have follow-up training and/or learning opportunities

³ Please note, this was the term used in Kumbareta for the 'copy-cat' process

Major findings

Below are major findings that emerged from all data collected in Kumbareta and are categorized under sub-headings in order of significance with relevant quotes included.

The Kumbareta group of farmers were slightly different from Kwinkya in the way their group was organized. There were not as many active VCEs present during interviews and discussions. Women farmers outnumbered the males by a large margin, and there was an obvious sense of tension between women farmers and their group leader (see above).

1. New gardening methods

Most farmers spoke highly of the technical side of learning from trainings especially about improvement of their crops with new gardening techniques. Response from this finding suggest there is a gap and still a need for technical agriculture extension and trainings, especially at the community level.

Examples

“I for one have learnt about new ways of gardening, not like how we used to garden before, mixing everything together on one plot. Now that my crops have been separated they are growing very nicely and I am happy” (Female)

“This new method that we learnt in the training about separating food in the garden instead of mixing has made a difference in my crops. They are much bigger and nicer than before” (Male)

“The training given to us VCEs has been really good for us. With the gardening ideas of separating food and planning the garden has helped our crops grow better than before” (Female)

2. Marketing for family income

Commercial marketing was evident. It was a main idea expressed in discussions with women placing high emphasis on marketing as a source of family income. Women also related cleanliness in presentation of crops and themselves as a positive way of encouraging customers to buy their food. Money raised from marketing sales proved to support most of the farmers in purchasing basic store necessities like soap, oil and salt for their families. Farmers in Kumbareta spoke also of how marketing food crops in bulk for income was not a common practice in their area but was something people in Mt Hagen did. This is similar to what Kwinkya farmers expressed.

Some of this change was accredited to the Maria books which were an additional part of the UC project. This suggests that for effective learning and implantation of FFT ideas, incorporating more visuals in learning materials is paramount.

Maria book examples

“We never used to do be committed towards selling our crops before, it used to be the people in Mt Hagen who did that kind of thing. Maria book has helped us see that marketing is a good thing. I’ve seen money come from the crops I sell and I am happy, it has encouraged me to market more. I am a single mother of two and I can support myself now with my crops sales” (Female)

“Women selling at the roadside markets are much cleaner, their markets bags are cleaner, the crops they sell are cleaner, and they take care of themselves and their families more. The market area is also cleaner and rubbish are kept well in one area. It wasn’t like that before. I believe that it is the result of the FFT training about Maria Book” (Female)

Other examples

“The local market we have here used to be small. Now it has grown bigger because many women have brought in their crops to sell. Most of these women are the ones who have been trained with family teams. I can see money come from marketing, so I think other women are realizing that as well” (Female)

“My wife and I have been taking our crops to sell at Mt Hagen market. The market there is much bigger, you sell faster and your crops don’t go to waste at the end of the day. With the money we get from the sales I have managed to build a big permanent house for me and my family” (Male)

3. Changes in attitude and behavior

Farmers who practised communication skills and changed their way of responding to others spoke of seeing changes in attitude and behavior of others around them, especially immediate family members. This shows an important close ripple. FFT training taught farmers what good communication skills are and later when put to practice by some farmers, positive results were witnessed. The positive results are illustrated in the quotes below.

Examples

“My husband and I used to argue and fight a lot over money. When I used money on something he didn’t agree with, we would fight. It was his money and I never cared much about spending wisely. I never knew how to budget, or save money. After the family team training I started using money wisely. My husband was surprised and happy so when I told him about the training the both of us began budgeting together. We haven’t fought for a long time now.” (Female)

“My husband and I never got on well. Every time we talked we would shout at each other and argue. It was never ending and I was unhappy. Family team training taught me how to communicate with others, especially my husband. I felt guilty as I knew I was wrong too. I changed the way I responded to my husband and listened more than talk. I’ve realized he has changed a little too. It is working but slowly.” (Female)

This last example is an important one as it illustrates the reality of change which is not always easy and/or immediate.

4. Actual learning by observation

‘Actual learning by observation’ surfaced in discussions when asked how ideas were brought on and practised. This finding was similar to one of the findings for Kwinkya. Although theory in FFT workshops was taught, trained and untrained farmers spoke of the importance of seeing positive results from families or gardens when people took the initiative to do something. Actual learning for the farmers took place when they practised what they saw from others who boldly practised straight after learning in the classroom. This was when what they did in reality made sense with what they had learnt in theory.

Examples

“The first time I practiced separating my crops and planting many of the women commented on how I was wasting the land by not filling up all the space. I didn’t bother, I just did what I learnt. After my crops began growing very nicely the same women saw the improvement and asked if they could try it too” (Female)

“I told some people in my village about the family team training, starting off with my family. They didn’t listen and thought I was crazy when I told them about the idea of separating

crops. I did it anyway. When they saw the difference in my crops that's when they believed me and this gave me the opportunity to share other things as well". (Male)

"William (VCE) brought me to his garden, where he and Maria (his wife, also VCE) had practised new ideas from the family team training. I had never seen such huge cabbage before. I am a widow and I have struggled a lot with the little land I have in supporting my children. When William showed me how to do what he did I went back home and practised on my garden. I was very happy. I even get good money from selling my crops at the market here." (Female)

Kumbareta ripple effect summary

The REM exercise in Kumbareta was done the same way as it was in Kwinkya however participants were fewer than in Kwinkya and only one male turned up. It would have been better if more male farmers had taken part to see if responses from men were different/similar to what the women were saying. Participants also turned up late and so the activity took more time than anticipated. Below a diagram of the ripple effect map done in Kumbareta shows ripples from trainings carried out by UC, where there are more ripples (effects/changes) from the FFT training.



Fig 2: REM Kumbareta

Kumbareta had an extra ripple compared to Kwinkya and responses were slightly different from the second to the fourth ripple.

The first ripple showed the effect of trainings delivered by UC were again **family teams, financial literacy and crop production**.

The second ripple showed topics or ideas participants either remembered, liked or practised. Some were similar to Kwinkya's responses which was not surprising as first ripples created were the exactly the same. The second ripples from family teams included setting family goals, working together as a family, and the Maria books. Ripples from financial literacy were savings and budgeting, while ripples from crop production included inter-cropping to single crop farming, and farming poultry and piggy for family income.

The third ripple were changes participants experienced when put to practice ideas learnt from the trainings. These included: setting short- and long-term family goals, selling food crops and poultry for family goals, couples talking and deciding together, men taking on household chores, children understanding their responsibilities, health and hygiene, and marketing for income. The last two responses were reported by women alone.

The fourth ripple were progressive changes seen in families, and included: seed money as capital helped farmers achieve short term goals, families achieve long term goal of building permanent house, families go to church, women are happier and less stressed, decrease in arguments between couples, women communicate positively to children, women look cleaner and more presentable at markets, and market venue is cleaner and attractive.

The fifth ripple showed transformative change. Kumbareta was the only site that had a fifth ripple. Transformative changes stemmed out from the first ripple of family team and included two significant ripples: family quits gambling and smoking, and man respects woman and stops hitting her altogether.

Responses from all major ripples showed an association between each other. Below is a break up of all ripples in bullet points.

FAMILY TEAM

- **Setting family goals**
 - *Setting short- and long-term family goals*
 - ***K1000 seed money helps those without capital to achieve short term goals***
 - ***Families achieve their long-term goal of building a permanent house***
 - *Selling food crops and poultry for family goals*
- **Working together as a family**
 - *Couples talking and deciding together on family goals*
 - ***Family decides to go to church***
 - *Family quits gambling and smoking*
 - *Men respects wives and stops hitting her (one woman described this)*
 - *Men doing house chores and helping wives*
 - ***Women are happier and less stressed***
 - ***Decrease in arguments between couples (2 couples)***
 - *Children understand their responsibilities and help mother with chores*
 - ***Mother changes her approach and talks and responds positively to her children***
- **Maria book**
 - *Women learn about health and hygiene*
 - ***Women practice good hygiene and are looking more cleaner at markets when selling food crops***
 - *Increase in customers buying her food*
 - *Mothers make sure house is clean and children bathe, wear clean clothes to school*
 - ***Food crops sold at markets are more cleaner resulting in attractive and clean markets***
 - *Women learn about marketing for income*
 - ***Women are happy from gaining their own income from selling food crops***

FINANCIAL LITERACY

- **Savings**
 - *Families have savings*
 - *Savings set to achieve family goals*
 - *Less stress on woman to look for money for school fees*
 - *Increase in children from families going to school*
- **Budgeting**
 - *Couples discussing and deciding together on how money should be spent*
 - *Couples are transparent with their income for the purpose of achieving their goals*
 - *Extra money for other purposes*
 - *Savings for community obligations achieved*

CROP PRODUCTION

- **Inter-cropping to separation of crops**
 - *Increase in quantity and quality of food crops*
 - ***Other families copy gardening style***
 - *Increase in food for consumption at home*
 - ***Children bringing lunch to school as opposed to before where they went without***
 - ***Families eating three times a day as opposed to twice a day in the past***
 - *Practicing farm planning*
 - ***Applying farm planning to planning for family' daily activities***
 - ***Planning food crops for selling separate for consumption***
- **Learning to produce chicken and pigs for income**
 - *Practising breeding of pigs*
 - *Income gained from selling chicken and pigs*
 - *Contributing pigs to family obligations*

Vunapalading 1 East New Britain

The research in Vunapalading went very well:

- two FGDs; VCEs (5 males and 3 females) and non-VCEs (7 males and 6 females)
- three in-depth interviews (2 males and 1 female)
- two farm visits of which the farmers were present
- REM session towards the end of the week (8 males and 6 females)

• Focus Group Discussions

The first FGD with the VCEs and took place inside the United Church building next to the roadside. The pastor of that church was one of the active VCEs. The discussion lasted for three and a half hours with a total of eight participants, five males and three females.

The second FGD took place at Sandaun, a remote settlement area in Vunapalading with farmers who had not participated directly in the FFT training but had been encouraged by the VCEs to practise ideas from the training. A total of 13 farmers participated, six females and seven males and the discussion took four hours.

- Interviews

Interviews took place at the residence of each farmer and lasted for two to three hours. The three farmers, one female and two males, were all settlers who had been granted land following the Rabaul volcano eruption. All three farmers spoke of how the cocoa pod borer pest had destroyed most of their cocoa and how they were fortunate that funding from the World Bank had revived their farms.

The female farmer spoke mostly of budgeting her money she got from sales of food crops as her cocoa farm was new and she had not seen a full 'flush' or harvest yet. The farmers all commented on FFT teaching them to budget their time well and to have all families working together towards a common goal.

- Farm Visits

Visits to two farms were also conducted. Both farms were two hours walking distance from the main road and five kilometers apart from each other. The farmers showed off the new type of cocoa clones as well as the old type. Both farmers explained they were replacing the old ones with the new clones and were anticipating a good harvest. The farms looked like they were managed well with evidence of pruning of the cocoa trees and the area at the base of the trees neat and tidy. The farmers spoke of FFT training of budgeting time and money, family working together, and working towards a goal.

- Ripple Effect Mapping

A total of 17 farmers, 10 males, seven females, participated in the REM exercise at the United Church. Also present were the two female officers from NARI and the district DPI officer Mrs. Kwadila Tuam. The activity proved to be a success with participants actively engaging in discussion. At the end of the activity some of the farmers made positive remarks on the REM and also said seeing what their efforts had done in the community was encouraging.

Major findings

Below are major findings that emerged from all data collected in Vunapalading 1 and are categorized under sub-headings in order of significance with relevant quotes included.

1. Family working together

Family working together or as a team was a predominant category that emerged from almost all farmers during discussion in East New Britain. The realization that not only parents but children also had a responsibility in making the family work and achieving their goals was important to the farmers. Some farmers who were strong Christians also related the ideas from the FFT training to teachings outlined in the bible. Evidence from the research shows farmers who were Christians linking concepts from FFT to Christianity, and interpreting the program as something good.

Examples

"With the family teams training I realized each member of my family had a responsibility to making our family work, even my children. I told them about what I learnt and gave each of them a task to do. They even sat down with my wife and me to set our goals and contributed ideas. I was surprised at what my children said during our family meeting as I had never given them the opportunity to discuss. Now everyone knows what they have to do to meet our family goals" (Male)

“My family and I now work as a team, before it was never like this. I used to do most of the work in and around the house, even the garden to, and was always very tired at the end of the day. The family team training has been good as now we are all working and I am less tired” (Female)

*“The family team training **has opened me and my family’s eyes**⁴. It has given us a direction in life and shown us our failures as a family. I used to be the one deciding for the family all the time and I understand this is not the way to a happy, balanced family. Now everyone has a say and have agreed to work together.”* (Male)

2. Farm plan

Planning the farm was evident in discussions as an important aspect learnt from the FFT training. The idea enabled the farmers to plan how to manage the little land they had as many were settlers from another part of East New Britain. The ‘farm plan’ concept was also applied within family units with activities to do every day in order to reach a target or goal.

Examples

“I learnt also about planning my farm. How to manage my cocoa garden and other gardens as well. We have the cocoa on one side now, without the banana and small trees that used to be in the farm. I’ve removed everything and left the cocoa to grow on its own. Everything used to be disorganized but now is in order. We all like the way things are now with the planning” (Male)

“We learnt about planning the farm, about having one crop in one area and not to mix. My cocoa is faring well now after I removed everything from the farm besides the cocoa trees. I’ve also planted the new type of cocoa and am planning on removing all the old ones with the new ones. I’ve seen the way they are growing and I know I will have a very good harvest”. (Female)

“So, I’ve learnt that if you want to help your family you have to have a plan, a vision and you have to have like a program to work towards that vision. That is the plan. We learnt about farm planning but it can also be applied to the family unit. Each day every member of my family knows what to do, and we let each other know what we are doing so everyone knows what each person is doing. I think communication is important in family as well, and we learnt that too” (Male)

3. Setting family goals

Setting family goals was high on the list of discussions however, although many farmers suggested they had set goals and were working towards achieving them, only a few managed to provide evidence of their achievements. Many related ‘savings’ as an integral part towards facilitating the success of their goals and that savings was going to be acquired through cocoa sales.

Examples

“My family’s goal is to complete our permanent house. After that we have other goals like setting up a piggery and poultry project. But for now, all our concentration and our money from our cocoa farm is for the house. When that is finished we will continue with other goals” (Female)

⁴ The title of the report has been adapted from this quote

“Two things from the family team training that stuck with me was farm plan and family goals. You see my area now? It was never like this before the training. I had things disorganized. After the training I applied what I learnt to my family. That permanent house you see there is our first family goal, that fermenter there is our other goal. Now we can see the future. Setting goals has been really good for me and my family”. (Male)

“So, one of the big things is plan or like in biblical terms we call vision, that’s like a goal. Like when we learnt about things in the training, or when we read then we dream or vision how we want our lives to be. Dreaming without doing anything is not good. The action part has to come from us, we have to be committed. That’s what I am doing”. (Male)

4. Budgeting money and time

Participants mentioned budgeting money and time interchangeably and in two different contexts, when gardening and during income generating activities. Budgeting was generally described as a new way of using money and time wisely. Many participants referred back to previous spending habits where in most occasions all money was exhausted and compared their experiences to their current state where money had been put aside as savings.

Examples

“I’ve learnt how to manage and budget my money. If I didn’t learn that, my life would still be like what it was before. Honestly, it was really hard at first but I managed with the support from my wife. I’m not saying I’ve done it, that I’m perfect. I still fail but I’m getting there” (Male)

“We hardly saved any money before because whatever we had we spent it without having a budget in place. Now we learnt how to use money the right way, wisely. This training has been good. I have actually saved money for my children’s school fees.” (Male)

“I have a small trade store along with my cocoa farm. Before I used to wonder how money I got from the store ran out. I realized after the training that I never knew the importance of budgeting. I would go to town spend unnecessarily, then come back and realized that I didn’t need half of what I bought. The training has been great as it taught me well and now I go by my budget. I’ve seen progress in my trade store”. (Female)

Vunapalading 1 ripple effect summary

The REM exercise was replicated in Vunapalading as it was done in sites in Western Highlands Province. Participants were very enthusiastic and contributed a lot during discussion. Unfortunately, due to technical problems and power outage at the time of the exercise a good quality picture of the map was not taken. The REM picture below is cropped from one of the photos taken during gratitude speeches given by one of the farmer leaders.

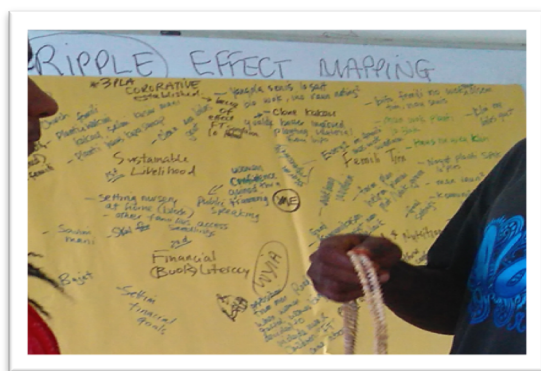


Fig 3: REM Vunapalading

Out of the two sites in East New Britain Province, REM was conducted only in Vunapalading. Improvements were made on REM's facilitating process with lessons learnt from Western Highlands Province. Participants in Vunapalading were slightly more literate than Kwinkya and Kumbareta so when asked about family teams they had a lot to contribute to the session. The REM began with the topic Family Teams and ripples created amounted to five with participants remembering six major topics from the training.

The first ripple included working together as a family, setting goals, communication and decision-making, farm plan, food and nutrition, and budgeting.

The second ripples included: family members realise their responsibility, young children help parents more, couples begin to help each other, change in gender roles for men, setting short term and long term family goals, family has a sense of direction and purpose for the future, setting business goals, couples deciding together, parents listening to children and including them in family discussions, women gain confidence and reach out to other women, planning and managing land, applying farm plan to family activities, women learn new ideas in preparing and cooking healthy meals, area beautification, and women learn about health and hygiene.

Third ripples included: families working together as a unit unlike before, youths begin helping their parents more, male youths farming cocoa, couples not trained in FFT enquire and copy ideas from trained couples, three permanent houses built as a result of setting family goals, two trade stores built by two families, improved relationships between couples themselves and their children, less arguments and fights between couples, women have confidence in public speaking, and family members use time doing productive activities.

Fourth ripples included two significant changes: other families from different districts residing within the community mobilize and work together, and men from other families within the community begin changing gender roles.

The fifth ripple shows changes on a larger scale and are community attracts other families to settle and emulate what is now seen as a culture of that community, three cocoa cooperatives established as a result of community collaboration, and members of the community set community goals.

Below is a summary in bullet points of ripples described above.

WORKING TOGETHER AS A FAMILY

- **Family members realize their responsibility**
 - *Families work together as a unit unlike before*
- **Young children helping parents more**
 - *Other youths begin helping their parents more*
 - *Young men planting their own cocoa*
 - *Young men setting their own goals*
- **Spouses began helping each other more**
 - *Other couples observing, enquire advice and emulate*
 - *Families from different districts who reside in the same settlement come together and work together.*
 - *Community attracts other families to settle and emulate what is now seen as a culture of that community*
 - *3 cocoa cooperatives established as a result of community working together*
 - *Setting goals for the community*

- **Change in gender roles for men**
 - *Other men observe changes in behavior of man and his family and enquire/seek advice*
 - ***Men begin changing gender roles in other nearby families***
 - *Women much happier, more relaxed, less stressed*
- **SETTING GOALS**
 - **Setting short term and long-term family goals**
 - *permanent houses (x3) erected as a result of setting family goals*
 - **Family has a sense of direction and purpose for their future**
 - **Family sets business goals**
 - *Two families set up two trade stores as a result of setting business goals*
- **COMMUNICATION AND DECISION MAKING**
 - **Couples deciding together on family matters**
 - *Other couples in the community see the difference and ask for advice*
 - **Parents listening to children and including them in family discussions**
 - *Improved relationship between parents and children*
 - *Children happier than before*
 - **Open dialogue between spouse**
 - *Less arguments and fights between couples*
 - ***Improved relationship between couples***
 - **Women gain confidence in speaking out to other female friends**
 - *Women have confidence in public speaking*
- **FARM PLAN**
 - **Planning farm for cocoa and food production separately**
 - *Quality cocoa produced*
 - **Have some clear understanding of managing land**
 - *Wise usage of land*
 - **Applying farm planning to other land areas and family activities**
 - *Family members spend more time doing productive things rather than gambling or loitering.*
- **FOOD AND NUTRITION**
 - **Women learn new ideas on preparing and cooking healthy meals**
 - *Children eating balanced meals*
 - *Children have lunch to take to school*
 - *Women use cooking ideas to cook and sell at the markets*
 - ***Women's cooking skills improve, confidence increases***
 - *Women share ideas with network of friends*
 - ***Friends take ideas learnt home and use it to cook family meals***
 - **Flower beautification in family area**
 - *House is always clean most of the time*
 - **Women are cleaner and dress better than before**
 - *Children are cleaner when going to school*
- **BUDGETING**
 - **Families differentiate between wants and needs**
 - **Women open new bank accounts**
 - *Women's confidence increases with knowledge on banking*
 - **Saving acquired**
 - *School fees saved*
 - *Stopped asking relatives for financial assistance*
 - ***Feelings of freedom from family obligations***
 - ***Less stress***
 - *Families setting financial goals*
 - ***Short term goals achieved give motivation for long term goals***
 - *Extra money for other purposes*

Tinganagalip, East New Britain

Tinganagalip was an hour's drive from the NARI guest house and socialisation had happened the weekend prior to data collection. It was obvious by attendance the women's group was very active upon meeting for the first FGD. The REM activity was not conducted at the end of the week due to insufficient number of participants.

- three FGDs (20 females and 2 males)
- five interviews (4 female, 1 male)
- two farm visits

- Focus Group Discussion

The first FGD with the VCEs took place at one of the VCE's residence after the local community meeting with 19 farmers: 17 females and 2 males. The second FGD involved youths from the area, some of which were children of the VCEs and other community youths, while the third was an informal FGD with three women living in and around the community. All FGDs took between three-four hours.

The FGD with youths was quite interesting as one of the VCE children talked about how he witnessed huge change in his father's behavior towards helping with domestic chores and gardening and how seeing his father changed had a profound impact on himself. This youth's testimony also had positive impact with other youths around him as he was seen as a leader among his peers.

- Interviews

The interviews were done with four females and one male VCE at their residential area. The women spoke mostly of how FFT had taught them the importance of working together as a family, setting family goals, managing time, and budgeting the little income they had for basic necessities. The male VCE spoke mostly of time management and realizing that each family member had a responsibility to work towards a common goal. Each interview took more than three hours.

- Farm Visits

The discussion during both farm visits proved worthwhile as the women talked mostly about challenges and the walking distance from the main road. The first farm had a nursery where cocoa seedlings were grown for transplanting to a bigger area once the old cocoa trees were cut down. This process had happened a while before the research occurred.

The second farm visit belonged to a model farmer who was considered to have the most outstanding cocoa farm. It was evident she and her husband looked after their farm very well as it was well managed and very clean. The farmer spoke mostly of how FFT training had come in such a good time as she learnt how to budget her income from selling cocoa. She budgeted a supplementary income from marketing food crops while waiting for the cocoa harvest. Her husband also spoke of the whole family working together towards a family goal and how they support their extended families by paying them small amounts of income for helping on the farm.

- Ripple Effect Mapping

On the day the REM activity only six farmers turned up which was less than the required number of participants, hence REM was cancelled.

Major findings

Below are major findings from all data collected in Tinganagalip and categorized under sub-headings in order of significance, with relevant quotes included:

1. Working together as a family unit

This change proved to be a strong category among the participants as many spoke of changes seen with sharing workload, children helping out and husbands lending their wives a hand with domestic chores. This goes to show that the best approach for any intervention seeking change would be to start with the family as a unit.

Examples

“This training has been good for us. I’ve actually learnt three main things from it. The first one is working together as a family unit, like one team. Before anything should happen, the family must have an understanding to work together in harmony, change their way of thinking. I see that as very important” (Male)

“I would like to say that family team was the main thing that stood out for me. That working together as one unit, one team. Everyone in the family has a responsibility, even the children. When I told my family about it, everyone tried taking a task and working together and so far, it has been good”. (Female)

“The cooperation of the family. Each family member has a responsibility and everyone must work alongside each other for the good of the family. If a family has a goal, the road towards achieving that goal is the family working together” (Male Youth)

2. Communication with members of the family

‘Communication with members of the family’ was reported in a few discussions. While some participants mentioned changing their approach to how they reacted to family members, others stating listening as also important to effective communication.

Examples

“Communication and decision making in a family is important. That’s one of the main things that stood out for me. Good communication is also listening. I never used to do that with my sons before, I was the one always talking and giving instructions. When I tried to listen more I saw my sons’ behavior changing. They were lazy, now with responsibilities I gave each one, they have improved in working and helping me around the house.” (Female)

“I think communication is important in the family. Without communication how can we understand each other? I learnt that and tried to apply some skills in communicating in my family. There have been some good decisions that I’ve made as a result of not talking but really listening and trying to understanding others.” (Female)

3. Planning the farm

Planning the farm was evident in discussions as an important aspect also learnt from the FFT training. The idea enabled the farmers to plan how much and manage their land for cocoa and other food crops. The ‘farm plan’ concept was also applied within family units with activities to do every day before reaching a set target or goal.

“Then Jane (VCE next door) talked to me. I never had a plan, never managed my time well. I would just wake up, have no plan on what I would do that day, just do what needed to be done, and that went on for a long time. I’ve changed now. I’ve planned my small farm and have started planning my days. It’s hard but I try my best to do it. I usually have a plan but when a sister or friend comes along without notice I can’t chase them away, which would be

rude. So, I stay and tell stories with them till I forget what it is I was supposed to do. But I'm slowly getting better" (Female)

"I was very happy learning about farm planning. That was the first thing that stood out for me in the training. I was practising some of it and when the training came it encouraged me to continue. I've rearranged my garden after the training and it's been very good" (Female)

4. Budget and savings

The concept of budget and savings was used together frequently and emerged in discussions regarding finances. Participants commented on learning how to budget and actually save income for future emergencies. There were also comments on the need for more trainings as some participants were struggling with the concept as previous spending had been without a budget and there were ongoing failures in achieving set targets.

Examples

"My husband was a heavy drinker. He misused money on beer a lot. Now we work together more than we did. When the family teams training came I told him to go with me. He realized what he was doing and we began budgeting and saving together. We don't have any children yet but are planning to in the future so we've saved some money for that" (Female)

"I learnt that savings is important. When we spend unnecessarily we find there are shortages of things in the house, like food, soap, money etc. The family teams training taught us to look at what was needs and not to spend money on things that was not something useful for the family. My kids are growing up and would often ask for lunch money and to buy things. It was very hard for me as I'm a single mother but that has changed now. I've told them about saving for school fees and that there are some things they cannot have because it is not in our budget". (Female)

Ketarobo, Eastern Highlands Province

Data collection in Ketarobo in August took four days and went surprisingly well despite the fact that there was ongoing tension in some districts as a result of the national elections. It was expected that farmers might not be available for interviews but a good number showed up.

- two gender segregated FGDs (6 males and 7 female)
 - four in depth interviews (2 males and 2 females)
 - one farm visit
 - REM activity on the last day of the trip (9 males and 8 females)
- Focus Group Discussions
- The FGDs were done simultaneously with help of two other officers from CARE PNG facilitating the male FGD while the research officer discussed with females. The discussion took place at an old hut which was for community meetings. Both discussions took less than four hours and had a total of 13 participants, 7 females and 6 males. Most of the discussion with the women centered on managing time, budgeting with needs and wants for the family. The men talked mostly of coffee husbandry, learning to work together as a family and time management.
- Interviews

All interviews were done within three days as farmers lived more than two kilometres apart so it took a while for interviews to be completed. In all the interviews the topic that came up the most was around learning how to budget income from coffee and

food crop sales, savings towards achieving a vision. The second most talked about topic by the men was changes in gender roles and family working together to achieve a goal.

- Farm Visit

The coffee farm visited belonged to a couple who had started buying coffee cherries from other farmers as a result of the trainings by CARE and its partners. Income from selling all the acquired cherries helped towards their family goal of building their permanent house and piggery which was also part of the couple's vision.

- Ripple Effect Mapping

The REM exercise was the final group activity on the fourth day. A total of 17 farmers took part, 9 males and 8 females. Lunch was provided and at the end of the session participants gave positive feedback on how the REM exercise was a great tool to use with community members. The exercise lasted for three hours.

Major findings

Below are major findings that emerged from all data collected in Ketarobo and were categorized under sub-headings in order of significance with relevant quotes included.

1. Budgeting and savings

Budget and savings were used by participants as one concept and was a high topic of discussion for farmers in Ketarobo. Almost all participants remembered learning budgeting and saving coffee income through the "in-and-out tree" which was an activity with CARE's Family Business Management Training.

Examples

"We learnt about how to budget the money we got from our coffee, about spending on good things to help ourselves and not unnecessary things. When we start budgeting we will have extra money where we thought we didn't. I have seen that. I have failed sometimes but am still trying to sell small things apart from coffee and budget that money" (Female)

"Yes, I tried doing a budget and it helped my family save a little more. Like the money I receive from selling coffee is put forward to getting materials to build my family house. Some of it I use for oil, sugar, salt and soap. Otherwise, everything we need is here in the garden" (Male)

"I learnt about using money the right way, the wise way. What money I earn from coffee I budget and get things that I need for my family. Whatever is left I try to save in case of emergencies" (Female)

2. Vision

Visioning or 'driman' (Tok Pisin) was used interchangeably by many participants and was a main category. While some spoke of having a vision and working towards acquiring enough savings to make their vision a reality, others spoke of already starting something. Visioning is an important activity in the FBM training as it allows participants to reflect on their own families, discuss with their partners what goals they would like to achieve and envision a meaningful future in the process of doing the activity.

"...and also, about dreaming/visioning, what we would like to happen in the future. For myself I would like to build a permanent house for my family...I've done small things and I've saved up a little now" (Female)

“My dream is to build a small trade store here, close to the road. I’ve invested most of the money I get from my coffee to getting materials for the store. You can see the foundation there, and the timber. I hope to have the store up by the end of this year or next year but that depends on how well the coffee produces”. (Male)

3. Changes in attitude and behavior

Farmers who practised communication skills and changed their way of responding to others reported seeing changes in the way others around them responded to them, especially immediate family members. Findings demonstrate that communication components of FBM are having a positive impact on farmers. Significantly, male farmers reported that they learnt how part of making a family work was deciding together as a couple and letting women take part in decision making inside the family, whether it be decisions in finances, daily household chores, gardening etc.

Examples

“One of the things that I learnt in the Family Business training which I can still remember is having our wives take part in decision making of the family. I felt ashamed of myself because I hardly included my wife in family decisions. I would always be the one who made the final decision. Now I allow her to be part of every decision I make, I listen to her sometimes and she listens to me and we come up with a compromise. I realized she’s much happier these days” (Male)

“I’ve learnt also that the tools I work with are not just for men but women can use to if they are taught how to use it. Likewise, tools in the kitchen are not only for women but men too. I help my wives now with teaching them how to use the coffee tools and split my time between my wives”. (Male)

“I did not sit for that training as I was away attending a funeral of a brother when CARE came. But I can say the training must have been good as my husband has changed a little in his behavior towards helping me. I am the first wife, and he lives with the second wife. When he married the second wife he never had time for me and my children, he never helped with gardening, etc. Now he helps often, he includes me in the decisions of the coffee, we both work together in picking, washing, drying and selling. When the money comes he splits it equally with me and the other woman.” (Female)

4. Time management

Time management was stressed more than once during discussions. Participants spoke of budgeting their time and recalled the ‘daily activity clock’ as something that was useful in the FBM Training as it helped them identify workload within their family.

“We waste a lot of time doing unnecessary things, like gambling, going to campaign houses, gossiping, when we could be doing so much. We did this daily activity clock and this has put things into perspective for me and I know what’s more important now, my family. I used to waste my time doing the above but now I spend more time helping my family”. (Male)

“In a day we can do so much. This training helped me budget my money as well as time. I know I sometimes fail, I’m not perfect. But I’m still trying. Before I go to sleep I think about the things I need to do the next day and plan out my day in my head. The next day I try to complete them, if I don’t I do that task another day.” (Female)

Ketarobo 1 ripple effect summary

The REM exercise in Ketarobo proved worthwhile as participants were engaged and actively took part. The exercise gave farmers who had not spoken much during focus group discussions a chance to tell their story. Unlike in the other sites, ripples from the changes documented in Ketarobo had not progressed to the third level which was

expected as the Family Business Management training had only recently been delivered to the farmers. The picture below shows the REM activity on butcher's paper during the research.



Fig 4: REM Ketarobo

The first ripple shows visioning or driman, budgeting and savings, changing gender roles, and taking more care of coffee farms.

The second ripple included building a permanent house, building a trade store, starting to budget income gained from coffee, savings acquired, men including women more in family discussions, women feeling happy men are helping with child care and house work, drainage in coffee farms where none existed before, weeding and clearing coffee farms.

Below is a bullet point summary of ripples that emerged during the REM session.

- *VISIONING OR 'DRIMAN'*
 - **Building a permanent house**
 - **Building a trade store**
- *BUDGETING AND SAVINGS*
 - **Starting to budget income gained from coffee**
 - **Small savings acquired**
- *CHANGING GENDER ROLES*
 - **Men including women more in family discussions**
 - **Women feeling happy men are helping with child care and house work**
- *TAKING MORE CARE OF COFFEE FARMS*
 - **Drainage where none existed before**
 - **Weeding and clearing coffee farms**

Kivirinka, Eastern Highlands province

Kivirinka was one of the sites in which data collected was not thoroughly completed due to conflict between supporters of two election candidates. Only one FGD with six female farmers and the REM exercise were completed. Dates scheduled for follow-up interviews with farmers identified after conducting the REM failed to occur as there had been two deaths in the community and constant tension between supporters of two election candidates continued.

- Focus Group Discussion

There were six women who participated in the FGD and the discussion took less than three hours. The discussion centered mostly on workload of men and women and family members each having responsibilities. Half of the women mentioned budget and savings as something important they learnt and were still struggling to do on a daily basis. Others talked about communicating with their husbands and how they would like to see their husbands help more with domestic chores at home.

- Ripple Effect Mapping

Data was retrieved from the REM exercise done during the project's evaluation with Pacific Women Shaping Pacific Development. A total of 30 farmers participated, 14 females and 16 males. The session took approximately four hours. Lunch was provided by CARE staff and at the end of the session participants gave positive feedback on how the REM exercise was a good way for people to actually see the extent of their efforts.

Appreciative Inquiry interviews took 40-50 minutes where participants were asked to pair up with someone who they did not often socialize with to "tell their story". Farmers were then given a few questions to think about while they interviewed each other:

After the interviews, the farmers were asked to share their friend's story (or their own if they preferred). This was where notes were taken on butcher's paper in front of everyone and the actual ripple effect mapping happened. It was interesting to see participants engaged in discussion and everyone had a chance to say something.

Major findings

Below are major findings that emerged from all data collected in Kivirinka and were categorized under sub-headings in order of significance with relevant quotes included.

1. Family working together

Family members working together was the topic most participants mentioned. Most participants saw this as something good and related it back to the FBM Training.

Examples

"The thing that stood out for me in the training is family working together. The father, mother and children all have responsibilities in the family. Many times, it is us parents who are responsible for the way our children behave as the children see everything happening between the parents. If the parents work together, the children will become better adults." (Female)

"I liked the family business training. It has shown me that families need to work together. If each member of the family does not work how will good things happen? I told my wife about the training and we have tried to do this together. There are days when I've failed, I have to be honest, no one is perfect. But my wife is a very supportive woman and when she keeps working hard I see that as encouragement and try again." (Male)

2. Budgeting and Savings

The idea of budgeting and savings with the 'in-out-tree' activity was favoured among most participants. It is called the in-out-tree because the name itself simplifies income and expenses for rural farmers through the analogy of income received from the roots as nutrients and expenses as the leaves. Findings showed that participants remembered effectively when new concepts are introduced using pictures. Some of

the farmers stressed on the importance of savings as they hardly practised it while trying to manage their income. Savings was a follow up comment from budgeting that a few participants managed to achieve purposely for school fees.

Examples

“I never had savings before because whatever I spent was done without a budget in place. Now we learnt how to use money the right way, wisely. This training has been good. I have actually saved money for my children’s school fees.” (Female)

“I learnt that savings is important. When we spend unnecessarily we go out and ask for credit and end up with the burden of paying that money back plus interest. The FBM training taught us to look at what was needs and not to spend money on things that was not something useful for the family, or wants. I have tried doing that and realized I sometimes have a little extra money. (Male)

3. Vision/Driman

Similarly, to Kivirinka farmers visioning or ‘driman’ was a concept spoken by many participants. While some spoke of having a vision and working towards acquiring enough savings to make their vision a reality, others spoke of already working on an activity toward their goals and a few participants had set up a goal.

Examples

“I want so much to build a permanent house for my family. That has always been my big dream. In the training I learnt there were others too who had similar dreams and it gave me a challenge to see if I would be the one to set up my house before them. I am saving for that dream now with the money I get from coffee sales”. (Male)

“I used to misuse money. When I sat in this training that CARE gave I learnt about visioning (Driman) and was very interested in how to do savings to achieve that vision. I have learnt about achieving my dream. I have a dream I want to achieve now” (Male)

“Our (my husband and I) coffee gardens were not managed properly before. Now they are clean and branches pruned. We get money from coffee but then so much money is spent on family obligations, customary obligations. Now we have decided to budget our money well to achieve our dreams. Our dream is to build a permanent house and send the kids to school”. (Female)

4. Communication and decision making

Learning how to effectively dialogue with family members and listening to what the other person was trying to communicate was one important idea mentioned by farmers in Kivirinka. Women spoke of their husbands letting them take part in discussions and deciding together as a family. This shows that the communication aspect of the FBM training is having a significant impact on men’s behavior and attitude in Kivirinka, and validates similar evidence emerged from FBM sites.

Examples

“My life hasn’t been so good. I have encountered so many problems in my life. But since my husband and I went through this training I have seen that it has been useful for us. We are talking more than what we used to, we are deciding together, I am a little happy than what I was before. I like the training that CARE gave to us. It has been good for us”. (Female)

“I liked that part about communication between husband and wife. The activity about the husband leading the wife who was blind folded. It truly gave a sense of understand where communication between couples is very important. Not only talking but listening to each other as well”. (Male)

Kivirinka ripple effect summary



Fig 5: REM Kivirinka

Ripples in Kivirinka went as far as the third level however a full-scale impact of the FBM training is yet to be seen. This was anticipated as the REM activity was conducted a few months after the FBM training in Kivirinka.

The first ripple was similar to Ketarobo: visioning, families working together, the in-and-out tree, and communication and decision making.

The second ripple includes: couples setting goals, permanent house as long-term goal, couples working together and sharing labor in coffee farms, children aware of family goals and helping parents, families cutting down on unnecessary costs and identifying ways to generate income, income budgeted from coffee sales, women contributing in family discussions, men including women's ideas in decision making for the family, and couples talking and listening more to each other.

The final ripples emerged from visioning and the in-and-out tree and include: one family achieved their goal in building a permanent house, and families realising they have extra money for other costs when a budget is done. Evidence show impact from FBM training in a short period of time, and suggests that the topic of visioning and the in-and-out tree are ideas that worked well for farmers.

Below is a summary of the data that emerged Kivirinka's REM exercise.

- **VISIONING OR DRIMAN**
 - **Couples setting goals and working towards a common family vision**
 - **Permanent house as a long-term goal**
 - *One family achieved their goal in building a permanent house*
- **FAMILIES WORKING TOGETHER**
 - **Couples working together and sharing labor in coffee farms**
 - **Children aware of family goals and helping parents more**
- **IN AND OUT TREE (BUDGETING)**
 - **Families cutting down on unnecessary costs and identifying ways to generating income**
 - **Income budgeted from coffee sales**
 - *Families realize there is extra money for other costs when a budget is done*
- **COMMUNICATION AND DECISION MAKING**
 - **Women contributing in family discussions**
 - **Men including women's ideas in decision making for the family**
 - **Couples talking and listening more to each other**

Yabiyufa and Arikayufa, Eastern Highlands province

Data collection included three interviews with two couples and a widow whose husband had recently passed away, and one REM session with the seven MFFs. The interviews took approximately three hours and were done in two locations (Yabiyufa and Arikayufa) situated 30 to 45 minutes from CARE PNG's office. A CISP field officer assisted with data collection and transcribing data from a recorder.

- Interviews

The three women and two men who participated in the interviews were two couples and a widow. Similar responses from the females appeared regarding significant changes in their husband's attitude and behavior towards domestic chores and wise use of income from coffee. The women spoke of challenges in working with their husbands in a farming activity perceived by society as a man's area of work. Men discussed mostly how much they changed in managing coffee farms and income, to looking after their family and achieving family goals. All participants talked highly of how FBM training showed them they had been heading in the wrong direction and provided guidance to be better people. This shows FBM having a gradual impact in the way men are thinking.

- Ripple Effect Mapping

The REM session took place at CARE PNG's office with some farmers travelling as long as six hours to Goroka town. A total of 16 farmers participated, 8 females and 8 males. The session took approximately four hours. Lunch was provided by the CISP team.

The REM exercise was replicated once more with CISP's model farming families as in the other Eastern Highlands sites. REM was a new method for participants so time was taken to thoroughly explain the process before proceeding with introductions. Participants were very enthusiastic and engaged by contributing during the appreciative inquiry interviews. At the end of the session participants gave positive feedback on how REM motivated them to continue working in coffee farming.

Major findings

Below are major findings that emerged from data collected from interviews and the REM session with MFFs. They are categorized under sub-headings in order of significance with relevant quotes included.

1. Vision/ driman

Vision or driman was highly mentioned by farmers that were interviewed and during the REM session. Although most of the respondents did not use the word vision they described in Tok Pisin how they had set their sights on what they'd like their future to look like.

Examples

"My husband and I had a dream of creating a project that would complement the income we get from our coffee farm. We decided we were going to build a big permanent house for our family. That was our dream but then he passed away late last year. We had saved so much money for this but when he died I had no choice but to use it for his funeral cost." (Female widow)

“With money I’ve gotten from selling my garden produce I’ve managed to buy a rice cooker and jug for our house. I have told myself I will not depend on coffee money to have my own savings and asked my husband not to help me to bank as I’d like to do this on my own. I have been eyeing a K1700 freezer I’d like to get for our house. It’s like my big aim. I am working towards that now.” (Female)

2. Budget and savings

Budget and savings were terms used together in many of the farmer’s response. This was a highlight for some of them who said learning how to do basic budgeting had actually helped them save money for school fees and other things.

Examples

“Firstly, I learnt from FBM on how to do budgeting and savings. Although I own a large coffee plantation I never used to budget before. I’d pay my workers (coffee pickers), contribute to community issues and keep the rest of the money for myself. But I’ve never actually made a budget to know how much I get from coffee and place a little aside for savings. After sitting in the training, I now know how to budget and actually have a little savings.” (Male)

“God has brought CARE to us, that’s what I believe. After I sat for the training I started marketing and doing little sales to support my family. I also do street sales. Savings from my market sales and budgeting that money has helped me pay for my son’s bride price. That was a total of K3000. My family helped with K1000 and I put K2000.” (Female)

3. Gender roles and decision making

Change in gender roles and family members deciding together was one of the topics many farmers mentioned. Farmers saw this as something good and related it back to the FBM Training.

Examples

“What I get from coffee I used to spend on my own. My wife helps me with all the labour but when it comes to actually selling the coffee and getting money from it, I did that. I never shared coffee money with my wife and kids. But FMBT has helped me realized my problem and changed my behaviour. That training has taught me to share money with my wife and kids, not only that but to include my family in decisions. Every member of my family has a share in coffee money now. I’ve realized my coffee garden is my family’s and money that comes from our coffee is for my family.” (Male)

“Before I used to see my wife as just a woman, like I’d demand her to listen when I talk, that I’m the boss. But then FBM came in and taught me that my wife is my right hand, my co-partner and should be treated as my equal. So, I became aware of where I went wrong. Gender equality, my wife and I decide together more now, if my wife says no about somethings then we try come to an agreement, sometimes I go with what she says and agree with her. Whatever the consequences of our decisions we face together.” (Male)

“I have noticed my husband has changed a lot since the FBM training. He has changed many of his ways, especially around sharing income and managing time. He also supports me and lets me decide about some things for the family. Sometimes we discuss and decide together. He was never like that before. I am his fourth and only current wife so you can imagine how he used his coffee money before, on women. He’d change the women in his life frequently. But after I came into his life CARE came in with this FBM training and it has helped mend our relationship. I am a much happier woman than I was before.” (Female)

Yabiyufa and Arikayufa ripple effect summary

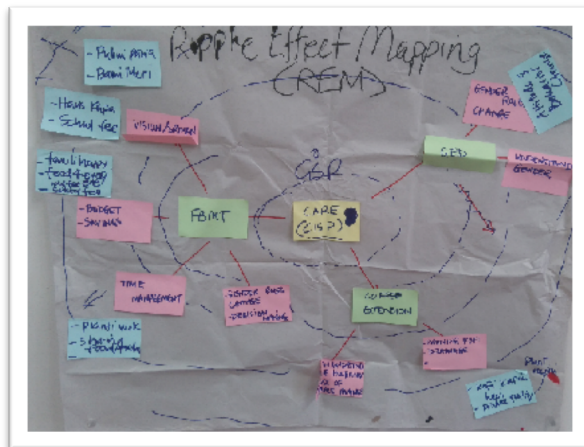


Fig 6: REM with MFFs

Similarly to Ketarobo and Kivirinka ripples from REM with MFFs amounted to three.

The first ripple includes budget and savings, visioning, and change in gender roles and inclusive decision making.

The second ripple shows couples learn and know how to budget, women start savings, family dreams of building a permanent house, dreams of saving enough for school fees, couples understand that men and women need to work together as a unit, and men start including women in family decisions.

The third ripple includes extra money available for other purposes, food always available in the house, planning for what to do with savings, feeling financially secure and happy, two couples on their way to completing their houses, school fees saved half way through, relationships between couples improve, training helps a young man understand women before having a relationship, and women are happier when contributing to family discussions.

- **BUDGET AND SAVINGS**
 - **Couples learn and know how to budget**
 - Extra money available for other purposes
 - Food always in the house
 - **Women start saving**
 - Planning for what to do with savings
 - Feel financially secured and happy
- **VISION OR DRIMAN**
 - **Family's dreams of building a permanent house**
 - 2 couples on their way to completing their houses
 - **Dream of saving enough money for school fees**
 - School fees saved half way through
- **CHANGE IN GENDER ROLES AND INCLUSIVE DECISION MAKING**
 - **Couples understand that men and women need to work together as a unit**
 - Relationship between couple improve
 - Training helps a young man understand women before having a relationship
 - **Men start including women in family decisions**
 - Women are happier when contributing in family discussions

5: Discussion

This section first discusses the REM methodology and then the major themes that arose.

The ripple effects

The ripple effect proved to be an empowering and useful tool. An analysis of the ripple across all sites showed that there were up to five common ripples.

- 1st ripple (red) – type of training: there were many trainings given in all sites by different organizations/partners and topics mentioned by participants had to be categorized under what type of training received.
- 2nd ripple (green) – topics from each trainings remembered by participants in their own words
- 3rd ripple (brown) – concepts or ideas from the topics that resonated with participants and which they had actually practised
- 4th and other continued ripples (blue) – the effects or changes as a result of practicing these ideas learnt from trainings.
- Follow-up ripples from the 4th ripple showed prolonged effects from the changed observed by participants, which was observed in Western Highlands and East New Britain Provinces.

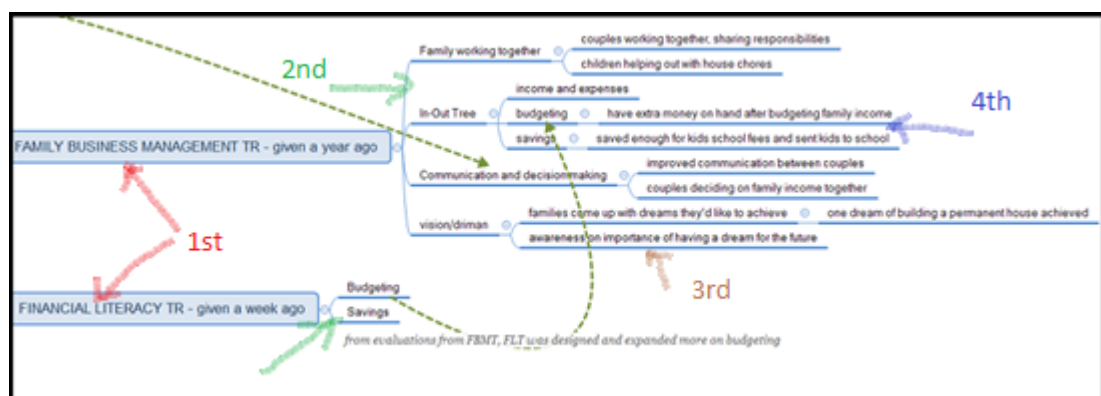


Fig 1: a part of a digitized map of REM conducted in Kivirinka (EHP)

These findings show that REM is an effective process with farmers with low literacy as it enabled them to easily identify the impacts and for these impacts then to be mapped consistently across all sites. Most importantly, the process enabled participants to reflect on the achievements they reached and to see the impact they had had on others around them. This is a significant bonus for a development project.

Major themes

Qualitative analysis of findings was conducted under supervision of UC staff during a two week visit to Canberra, 12th – 23rd of September 2017. From the data collected two concepts emerged as central to the changes: working as a family and practising better farming.

Concept 1: Working as a family

In all sites more than half of the total number of participants mentioned ‘families working together’ as an integral part to the changes observed as a result of the family team/family business management trainings. Sub-themes were understanding family

roles and responsibilities, setting family/farm goals, ability to communicate effectively and make decisions together as a family, ability to budget and save as a family, and understanding the difference between needs and wants. Narratives relating to these sub-themes were: improved family attitudes and behaviours; improved family communication; improved relationships between husband and wife, within families (polygamous and monogamous), improved communication between wife to wife and man to wives. An indication of improvement in relationships was reports from women of decrease in arguments between couples as a result of communicating better through setting family goals.

The implications of findings in this thematic area suggests that for women to be economically empowered and to achieve more balanced development, applying the family approach to learning is fundamental. Facilitators of development have to be aware that for women to fully realize and utilize their potential, the family is central and all need to understand their roles and responsibilities and work cohesively together. It is clear in this research that women learn more effectively and the success rate of practising ideas increases when their husbands or family members are included. Clearly communicating roles and responsibilities to farmers through contextual targeted training on families rather than isolating genders is evidently essential for positive learning and change.

Findings also demonstrate farmers awareness of the importance of engaging children in all family discussions and that for a family team to function, children should be included. Children of farming families interviewed are reacting positively to FFT by helping parents and showed signs of positive attitude change. For all women interviewed, almost half the number reported positive changes in attitude was attributed to positive change in the behavior of husbands, children as well the 'other' woman in polygamous relationship. This suggests that FFT program is affecting farmers to support women, and that changes were having an influence on other farmers and their families.

Concept 2: Practising better farming

Findings also demonstrated practising better farming is central to learning. Family farming includes all family-based agricultural activities, and it is linked to several areas of rural development. Approximately 60% of participants who were trained commented on actually 'doing or practising' the ideas and when seeing results they fully understood the ideas. Participants who were not trained (40%) initially stated 'observing' positive changes in crops first before enquiring or applying the new techniques. A number of participants from the 40% also mentioned informal discussions on learnings from the training and saw then how they could be applied in their own families. This links to the adult learning theory (Kolb, 1984) that learning of a new idea happens effectively when it is linked to something concrete in the person's life, in this case farming.

Most women expressed that income from selling cash and food crops helped towards paying for their children's school fee and related it back to the training. The women said they had often previously relied on relatives to assist with school fees. There were also high responses around conducting more of similar family centered trainings with a focus on agriculture in other districts as well as for the participants themselves.

It is evident from the research that effective gender-inclusive agricultural extension is key to improving productivity, increasing farmers' knowledge and understanding of

farming, and for promoting more diverse sets of crops and improved methods of cultivation.

Challenges and barriers

Challenges reflected in the findings showed similarities across sites. Major issues were markets, culture, and gender.

Markets—access to bigger and/or the availability of formal markets where cash and food crops could be sold in large quantities for a better price were major challenges. Furthermore, participants also talked about market saturation as a high number of them were gardening the same kind of crops, both cash and food.

Gender—Both male and female remarked on difficulties in changing gender roles because of fear of being seen differently by community members or peers. Women responded mostly about having no support system in place from family members to help facilitate desired change from ideas that were taught.

Culture—Cultural obligation and the effect on family saving was a challenge, particularly for men. The men expressed that giving a contribution was a community obligation and as security for the future of their families. Women also mentioned community perceptions and the danger of sorcery-related accusations around not contributing to customary obligations. This affected relationships they had with community members.

Two barriers predominated, land shortage and access, and climate change. Responses about land shortage came mostly from participants in Western Highlands and East New Britain provinces while climate change was noted across all sites.

Land shortage and access—although participating in FFT increased women's access to information and their participation in many agricultural decisions, there was limited impact on farming when there was shortage of land, and/or where women were not allowed land to farm, especially for women in polygamous marriages.

Climate change—this was noted across all sites with the recent El Nino drought damaging 80% or more of the farmers' cash and food crops.

Summary

One of the most important dynamics revealed in this research is that 'family' and 'farm' are linked and can be supported to co-evolve. Together they combine not only economic factors but also a range of other 'hidden' factors, including environmental, reproductive, social and cultural ones. In the absence of state institution or the private sector support, there are significant gains to be made by supporting the family farming approach more effectively. This is where ways to assist women's empowerment can be identified and possible further solutions developed.

6: Conclusion

Family farming is a means of organizing land and food production which is managed and operated by a family and predominantly reliant on women's and men's family labour. As stated by the International Food Policy Research Institute (see websites in reference list), family farming is one of the most predominant forms of agriculture world-wide, both in developing and developed countries. The sector comprises a wide spectrum of farm sizes and types, ranging from very large land holdings in high-income economies that are easily cultivated by one or two family members with the use of labor-saving machinery and hired labor to the small holdings of a few hectares or less in low-income economies, such as in PNG. These small family farms, run by small producers are, by far, the most numerous. Globally there are approximately 525 million small family farms.

In this research, we found that the 'managing and organizing' of farm activities had not been done before the FFT interventions. The FFT training enabled farmers to take a more gender equitable structural approach to their farm and, intentionally, farming families applied that structure to their family daily activities. Thus, in conclusion, it is safe to say that FFT has become a success and recommendations for future application must be taken into consideration.

Below in bullet points are main responses merged together as a means of answering questions that guided the research, followed by four recommendations.

What language and concepts within the 'family farm teams' models enable women to negotiate more equitable farm and family roles?

What constitutes a family and a family team?

- Family team is defined by most respondents as everyone living together in one household, while family extends beyond the household to other blood relatives.

What ideas have been taken up and used?

- Families working together and sharing household labour
- Effective communication leading to attitude change and women being involved in decision making
- Setting goals for the family or having a family vision
- Time management

What ideas are not as useful?

- Savings: respondents from all sites mentioned how they struggled with saving money from selling food crops and coffee. Their struggle was mainly to do with having discipline in using money saved for traditional and family obligations

How do the family teams' ideas help women – what are the barriers they face in working as a FFT?

- Women have become empowered through earning income from selling their food crops, having workload shared between family members, contributing to family decisions, improved communication with spouse and other men who've sat in the trainings, knowing how to budget and save income.

- Women spoke of being much happier than before when they were not given opportunities to decide in family matters

Does the FFT help in any way with gender-based violence? Or exacerbate any GBV issues?

- Yes, women who have experienced violence in their families have spoken of reduced or no violence and improvement of relationship with the other person. The other person being either the husband/partner or one of the husband's wives in polygamous marriages.

What makes FFT successful?

- Respondents spoke of FFT as an eye opener due to becoming aware of gender and sharing of labour within the household
- Respondents of FFT related topics back to the Bible saying what they were taught was in line with they heard in church sermons.
- Activities and sessions were simple and easy to understand. Materials used in training were easy to relate to and understand.
- Facilitators spoke in a language that was understood.

What is missing?

- FFT: a full manual that has all modules included with pictures depicting activities/ exercises
- FBMT: more capacity building on budgeting and savings/financial literacy.

Recommendations —how should future FFT work be targeted?

- Continue to target families while placing emphasis on women and gender.
- Continue using participatory approaches and adult learning principles.
- Work with young men and women (youths) for the future when and if they have a family of their own.

To what extent does the 'family teams' model have a ripple effect in farming communities?

Does the FFT idea ripple – if yes, to whom; how and how far?

- For ENB there have been significant ripples from one family out to other families and to the community youths through their sons. The effect went from the boys to their homes and community.
- For WHP ripples have gone from farmers who were trained to other neighbouring farmers
- For EHP ripples have gone from families to extended families living within the same community.

Which concepts ripple limit or have not gone as far as other concepts have but have been consistently spoken by many respondents?

- Vision (driman) and/or family goals
- Farm planning
- Budgeting and time management
- Communication

Are there any inappropriate ripples?

There was one example of an inappropriate ripple reported in the Western Highlands Province, where some women were not sharing ideas learnt from FFT directly with other women because of fear of competition.

Recommendations

From the findings gathered from all research sites, it is recommended that:

1. *The Family Farm Teams approach should be made scalable by widely targeting farmers or farmer groups across PNG.*

The FFT is an excellent model for women's economic empowerment and gender equity in farming families. It has shown success in diverse areas of PNG, from the highlands to the islands and in coffee, cocoa and food crop production.

2. *Funding for improvements to the Family Farm Teams model should be explored.*

Further development of participatory methods and more picture or visual materials to contextualize the training process should be done to enable effective adult learning as most farming families in PNG have low literacy and education levels.

Regular visits following training are needed as this motivates farmers and ensures the success of program and its sustainability.

A consistent rigorous monitoring and evaluation plan should be developed to be used across all future FFT programs to identify needs for improvement and to document learning during implementation.

3. *Agricultural training should be more widely available to farming families.*

Knowledge of farming techniques is critical to productivity, however women farmers have inadequate access to agricultural extension and training services. It is important that training and agricultural technologies are accessible and adapted to rural women's needs and the constraints for families to enable them to work together more effectively, plan together and make decisions together.

4. *Women should be linked more effectively to agricultural value chains.*

When women are linked to agricultural value chains from production all the way to processing and marketing, they help make traditional farming more productive and commercially viable. Inclusive value chains also offer work opportunities for women and men off the farm.

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