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‘Training by Papua New Guinea women, for Papua New Guinea women’: lessons from the development of a co-constructed course for women smallholder farmers

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This article examines the lessons from a collaborative project that worked with women agricultural leaders in Papua New Guinea. The project sought to build the capacity of these leaders as trainers in a way that would enable the development of a sustainable community of practice and worked within a critical and place-based pedagogy underpinned by asset-based community development principles. Whilst the process of our collaborative work has a number of salutary lessons, the co-construction of the training course with PNG women farmer leaders did illustrate a particular knowledge design continuum: that is, *surfacing* knowledge, *distilling* knowledge, *clarifying* knowledge and then *consolidating* knowledge. From this consolidated knowledge, together we were able to design locally valid and locally relevant modules. As the trainers went out to trial their training, they were then engaging in *sharing* knowledge and *reviewing* that knowledge which then lead to our collective ability to *improve* knowledge that will enhance future training in this area.

Keywords: training; learning and development; women’s learning; Papua New Guinea; women smallholder farmers

Introduction

Across the developing world, agricultural extension has been funded as a major platform for enhancing agricultural productivity through the training of farmers. Such training has been the major vehicle for technology transfer within the overall global project of modern, scientific, industrial farming practice. Although

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there is evidence that technology transfer and skills training have a place in the lifelong learning of farmers, that place is quite limited. As Braun, Jiggins, Röling, van den Berg, and Snijders (2006, p. 16) argue in their discussion of the place of conventional agricultural extension:

If simple messages, and simple technologies, are required to deal with straightforward problems in largely homogenous landscapes, and among largely homogenous populations, cost-effective options are available to guide extension and communication practice.

However, farmers in the developing world face complex contexts that require them to be active problem-solvers who have the ability to adapt information for their local application. There is a place for technology transfer; however, to be effective this must be located within a place-based contextualized approach to farmers as lifelong learners.

It is only in the last decade that agricultural extension has been interrogated for its assumptions about farmers as learners or about the process for developing culturally appropriate learning experiences. Although there is no agreement on the boundaries of the new participatory approaches to farmers' learning such as participatory learning and action research, participatory technology development and farmer field schools (Braun et al., 2006), they typically focus on capacity building within which technology transfer is just one factor. As Lauzon (2013) emphasizes, this turn to capacity development, especially one founded on intimate, empathic and connected relationships rather than didactic information transfer signals an important shift in the discourses that construct both farmers and their learning/education. Lauzon (2013, p. 264) challenges his audience in the following way:

I am sure there are readers who will argue that this [empathic capacity building relationship] is not practical, perhaps not helpful in realizing our goals as we work with marginal and resource-poor farmers; it is too philosophical, too impractical. Yet we, as professionals who aspire to work with others and to assist them in living full and rich lives must also enter into intimacy—intimacy with the people and contexts in which we work—and do so with an openness and freedom where we are willing to be changed too.

This paper responds to Lauzon's challenge by reflecting on one small project that sought to re-orient the 'training of trainers' in Papua New Guinea (PNG). This project aimed to create a capacity-building environment and an enabling process by which one group of women smallholder farmer¹ leaders could surface their own knowledge about how to improve family livelihoods through a more business-like approach to their horticultural activities. Working from the participant smallholders' rich and deep contextual knowledge, and in partnership with the facilitators, the team aimed to build business skill training modules for other women smallholders.

Agricultural extension in PNG

Agricultural extension was initially conceptualized as a way to 'extend' research-based knowledge to the rural sector (Akinnagbe & Ajayi, 2010, p. 353). In PNG, agricultural extension was extensively developed in the post-war period when the country was a colony of Australia. In the manner typical of this era, the services were run through the three levels of government (national, provincial and local) and focused on the development of cash crops. Following Independence in 1975, under the Organic Law on Provincial Governments, as with many government roles, responsibility for agricultural extension training was primarily devolved to the provinces. A further development of agricultural extension occurred in the 1990s when the government set up commodity organizations (coffee, oil palm, cocoa and coconut) that then collaborated with the provinces to offer specific commodity-focused agricultural training (Sitapai, 2012, p. 3).

According to Sitapai (2011), the extension approaches used in PNG since the 1950s can be grouped into four models: technology transfer, human resource development, private sector-assisted delivery and participatory or farmer-demand-driven extension. *Technology transfer* is the dominant agricultural training model in PNG and indeed across the developing world. It relies on a top-down 'train and visit' hierarchical structure, with agricultural trainers at 'the bottom' who are given the technical information and then 'are responsible for disseminating training to different villages and conducting visits on an often pre-determined time basis to assist in the successful uptake of training information' (Collett & Gale, 2009, p. 71). The *human resource development* model is akin to the USA state universities' extension departments in which there is a commitment to sharing information with people who do not have the opportunity to attend university. Although still a top-down model, this approach enables participants to choose for themselves what they take up from the training.

The more recent extension approaches focus on a community development orientation. *Private sector-assisted delivery* is a relatively new training approach whereby donor agencies fund a community development process by which communities identify their local priorities which are then addressed in a number of ways including training. In PNG, this is seen in the 'social responsibility' activities of mining companies whereby they set aside funds from their profits to reinvest in the communities located in their mine area.² In the last 10 years, there has been some attention paid to *participatory or farmer-demand-driven extension*. This is an important shift in training and extension thinking as the focus of the extension work goes beyond training to collaborative problem-solving that deliberately makes links across communities and in which the agricultural scientist and local farmers share their expertise in order to understand the best solutions to local problems. Participatory modes of extension currently being used in PNG include the farmers' field school concept, participatory action research and participatory technology development (Sitapai, 2012, p. 13).

Agricultural extension and PNG women smallholders

One of the major criticisms of agricultural extension in PNG is that it has had little impact on women smallholder farmers, despite the fact that, according to Peter (2011, p. 44), it is largely the women (85%) who grow the food for the

country. One of the goals of the PNG National Agricultural Development Plan 2007–2016 is ‘to improve the recognition of women’s contributions to rural industries and increase opportunities for women’s decision-making in agriculture’. However, to date, women smallholders’ learning needs have been overlooked as the major focus of extension has been on cash crops (male-dominated spheres) rather than the informal and subsistence areas in which women predominate (Fairbairn-Dunlop, 1997). As women smallholders primarily grow subsistence crops, selling only the surplus for cash, the focus of training on cash crops has not been seen as relevant by most women.

There are a number of sociocultural factors as to why PNG women have not benefited from the agricultural extension that has been offered. Cahn and Liu (2008, p. 135) note that a number of factors have created an ‘invisible barrier’ for women in accessing training. Culturally, PNG women may not be permitted to attend training run by men. Further, because most extension is held in a central town location rather than at a local village level, because of the time needed for family responsibilities and issues of cost and safety when travelling, even if they are permitted to attend by their husbands or fathers, PNG women smallholders are not easily able to attend training (Cahn & Liu, 2008).

A further significant barrier to agricultural extension is the low literacy and numeracy of PNG women. According to the most recent published census results (2011), literacy rates of people aged 15 and over are improving with male rates of 65.4% and female rates of 59% (World Factbook, 2012); however, in the previous census in rural areas such as the Western Highlands women’s literacy rates have been cited as low as 19.4% (United Nations Development Program [UNDP], 2010). Such literacy rates impact on women’s confidence to engage in training as well as limiting the number of women who have the baseline skills to become trainers (Rennie, 1991).

It is very telling that there is a paucity of literature that examines the impact and relevance of agricultural extension for women smallholders in PNG. This silence indicates that the gender dimensions of farming and farming knowledge are not yet acknowledged as core components of effective agricultural extension. Overall, it is fair to say that in the past extension practices have been gender blind. In contrast, this paper outlines how agricultural extension that identifies and builds from women smallholders’ knowledge and their learning experiences has the potential to be both gender-sensitive and culturally rich.

The meri kirapim femili, meri kirapim komuniti project

The ‘meri kirapim femili, meri kirapim komuniti’ (women building families, women building communities) Train the Trainer project was developed for and with the PNG Women in Agriculture Development Foundation (WiA). The project was part of a larger study, ‘Improving Women’s Business Acumen: Working with Women Smallholders in Horticulture’,³ that aimed to build the capacity of PNG WiA leaders whilst researching constraints to women’s greater participation in horticulture and in the development of women farmers’ business skills.

PNG WiA is an emerging non-government organization that aims to act as a peak body for women and organizations who support the development of women farmers. PNG WiA began in 2000 at a national workshop ‘Voices in the

Food Chain' where a group of women farmers found their voices and PNG WiA 'found its purpose and with it the passion and drive to establish an organization which would be, both a voice for the women and the platform to advocate for better participation of women in agricultural development' (Peter, 2010, p. 5). At the time of this project (2010/2011) there was a small board of women mobilizing over 3000 women in networks covering 14 provinces. The group was auspiced by the PNG National Agricultural Research Institute (NARI) and received some financial support from donors as well as pro bono services from NARI. The women to be trained came primarily from one province and were identified as current and potential future leaders who would have the skills to support and develop this emerging national body. PNG WiA had identified 'training skills' as one major aspect of leadership development. They agreed that the lack of business acumen was a significant barrier for women smallholders and that this would be an important area for future training at a village level.

The development of the business acumen of women farmers is an overlooked issue in PNG where, just as in general agricultural extension, most of the agricultural business training has focused on men and on cash crops. Although there continues to be an important 'cashless' informal economy through bartering, exchange and gifts (Curry & Koczberski, 2013), increasingly women smallholders have to deal with a cash economy (Schram, 2010). Women smallholders sell surplus product to pay for school fees, medical care and the like and importantly they grow the crops that feed the family. Hence, even the woman who only has a backyard garden needs to understand the cost of inputs and the income from the outputs to ensure she is not losing money and ideally is able to save some money to reinvest in the productivity of her garden.

Building learning from the inside out

Our project used a capacity-building philosophy and drew on the principles of asset-based community development (ABCD) (Green & Haines, 2012; Kretzmann & McKnight, 1993) and the process of appreciative inquiry (AI), (Cooperrider, Whitney, & Stavros, 2003). Both these approaches share an 'empowerment' philosophy that in the case of ABCD understands local communities and community members as resilient and resourceful and aims to collaboratively identify and build on the assets in a community, and in AI works with communities to identify 'what works' and 'what strengths can be built on' rather than focusing on deficits and needs. Hence, we borrow from the ABCD concept of 'building communities from the inside out' (Kretzmann & McKnight, 1993) to describe our approach as 'building learning from the inside out'.

Given our focus on capacity building through the development of an enabling learning environment, our work sought to acknowledge and indeed harness the concept of 'situated learning'; that is that learners make meanings from their interactions in their social world; a world that is cultural, linguistic and place-specific. Learning cannot be abstracted from its context and as Freire (1970) reminds us, that context must be made visible to learners to enable critical reflection and action. As learners critically examine their own situated knowledge there is potential for transformative learning to occur, and it is through transformative learning that social change becomes possible (Taylor, Duveskog,

& Friis-Hansen, 2012). Therefore, following Gruenwald (2003) we locate our work as a synthesis of both critical and place-based pedagogy and one that is rooted in what is local—the unique history, environment, culture and economy of a particular place.

We held that when learners from similar contextual backgrounds are facilitated to come together in a collective learning exchange what can emerge is a dynamic and potentially empowering ‘community of practice’ (Lave & Wenger, 1991) in which shared and new knowledges can be surfaced. Although the concept of ‘community of practice’ has primarily been applied to organizational contexts, we saw it as highly relevant to this group of women smallholder leaders. If our course was successful in beginning a ‘community of practice’, we believed that the leaders would be able to continue their development, beyond the life of our project through peer and action learning, rather than be reliant on external guidance and direction.

Crafting the approach to training

As we see learning from an holistic organic metaphor rather than the individualist and behaviourist machine metaphor (Davis, Sumara, & Luce-Kapler, 2000), our training activities focused on designing opportunities for facilitating dialogues that would enable a co-construction of meanings across the smallholders as a group and between the facilitators and the group. This approach is complementary to participatory learning and action (Chambers, 1997) through its focus on facilitation not direction and in the constructivist approach to the building of knowledge together, from inside and outside as well as within and across the learning group. Through the creation of a mutually enabling learning environment and a situated approach to learning, we held that a more credible and effective course would result if it was built from the knowledge and contextual insights of the PNG women smallholder leaders.

‘Train the trainer’ is a well-known approach in both developed and developing countries. In developing countries, it is typically known by the acronym ToT. In PNG, as well as its use in the agriculture sector to deliver information about farming technologies (crop production, propagation, post-harvest management and soil improvement), it has also been used extensively in areas such as health (maternal and child health, HIV/AIDs, disease prevention, nutrition and reproductive health) and for environmental issues (water, hygiene and environmental protection). ToT focuses effort on training local trainers who can deliver the training package as part of their paid work (for example, as agricultural extension officers) or as part of their community work (for example, church group leaders). The perceived benefit of providing ToT to local trainers is their access to target communities as well as their credibility with local communities.

The typical process for developing ToT courses exemplifies the machine metaphor of learning. It first involves the identification of key knowledge to be transferred—for example, the need for soil enrichment, the processes that can be used, the materials needed and how to assess the resultant soil quality. Drawing on provincial- and regional-level data, local factors are then identified and added to the training package—for example, local soil profiles and the like. At this point, there will be a design phase where handouts, visual materials and the other learning materials are developed and a ToT manual produced. The

training materials and ToT course itself are typically piloted before broader roll-out. Hence, the approach is a top-down ‘expert’ designed training curriculum and process, ready-made for delivery by the team of local trainers who will receive the ToT before going on to train others.

There is, however, growing data emerging that suggests that externally designed ToT is significantly limited in many development settings, and especially for women smallholders. In their major review of international training projects and the literature on the training challenges that women smallholders face in enterprise development, Collett and Gale (2009) argue that to be fully effective training must use a decentralized structure that focuses on local needs first and that uses processes that bring communities together through the training process. Our own assessment of a number of reports on PNG agricultural projects that included training also found that most had recommendations to better involve women (and youth) to ensure that the diversity of local smallholders’ needs was addressed.

In contrast, as we sought to develop the leadership of PNG WiA in a sustainable way, we believed that capacity building and the development of a ‘community of practice’ must underpin our process. Hence, our co-construction methodology deliberately sought to engage the trainers with the identification of the key issues, designing the course itself and collaboratively designing the activities and their evaluation. We believed that the important need was to fully develop the capacity of trainers as learning facilitators, rather than just as people who deliver a pre-packaged course. We wanted to create a curriculum that was built up from the local trainers’ understanding of local participants’ typical knowledge base and practices, and from their own observations and practices, as women smallholders themselves. Building on our asset-based community development philosophy that seeks to make visible and build on community assets rather than focusing on community deficits and needs (Green & Haines, 2012), our work was underpinned by a strengths-based orientation. It aligns closely with Lauzon’s (2013, p. 262) ‘intimate epistemology’

that recognizes and values both farmer knowledge and their self-identified needs; it respects farmers as active constructors of context-specific knowledge within the parameters of an intimate epistemology.

Overall, this strengths-based process was designed to provide an enabling environment in which local trainers would understand how they were experts on their own local community, as well as supporting them to use the insights from adult-learning principles to design training that would maximize the learning style preferences of local people. The trainers in this program had primarily experienced an information transfer and a ‘banking model’ of adult education (Freire, 1970). In contrast, in our approach, we sought to enhance their capacity to design learning activities that were culturally appropriate and potentially more effective than the dominant didactic approaches. The supposition was through experiencing the full curriculum development process and being co-constructors of this course, the WiA trainers would become agile trainers who could respond confidently to different learning challenges and they would be better prepared to design and facilitate other courses as they saw other learning needs arise.

Co-constructing the training course

The training was held over four days and was led by the first author and a staff member from NARI. Eleven women and one man were nominated by the PNG WiA President. Only two trainers were in full-time paid employment (the man who lead a provincial agricultural unit and his women's agricultural officer) one woman ran a small family business and three of the women had occasional paid employment. The trainers' farming activities were predominantly growing food crops and some floriculture. Only the male produced cash crops, although one woman had developed a cooperative to sell on vegetables. The education levels were quite varied (university 4, college 1, technical training 4 and high school 3) and none of the participants had received any training about being a trainer. All participants spoke English and Tok Pisin; however, in the group activities, it was clear that the majority were more comfortable speaking Tok Pisin. Whilst there was no cost for the workshop, participants agreed to work in a peer group of two or three to run one training module for village members in their own selected location. Participants also agreed to bring feedback to the follow-up trainers' workshop to be held three months later.

Prior to the course, worksheet handouts were prepared based on the key components of all, albeit Western, training courses: planning, design, implementation, evaluation and reporting (Tovey & Lawlor, 2011). Each worksheet was a double-sided sheet. On the front was an explanation of the main points of the topic, with room for each person to add their own notes as the topic was outlined, discussed and/or modelled. For example, for the topic 'designing session aims', there was an explanation of different types of aims (knowledge, attitudes and skills) and an example that related to business acumen development for each one. On the second side there was space for the trainers to record what they had learnt about this area when they ran their own training and to note any insights or questions for sharing in the follow-up trainers' workshop.

The subsequent process over the four days sequentially introduced each of the core training components using the handouts one by one. After a short explanation of the handout topic, that covered the principles and place of each training component, the trainers' team then workshopped that component together as it related to a course on developing the business acumen of women smallholders. For example, to understand how to write a learning aim, each person wrote an aim relating to 'learning how to budget' which they shared with a peer, then two pairs shared and so on until we had a group list.

The group next worked together to sequence the topics and to identify what we named as the Level 1 'building block' information and skills (budget, money management, marketing and annual planning). These building blocks then informed the modules that were needed in the first-level training for women smallholders as well as providing the scaffolding for further training once the basic building block skills and knowledge had been developed. The group agreed that Level 2 (developing business skills, finding sources of funds and business management) and Level 3 (new business proposals and ongoing business plans) provided topics for the design of future training courses for those women smallholders who already had the building block skills and knowledge. Together we had assessed it was appropriate to use our shared knowledge (PNG WiA smallholder leaders and the Australian researcher's background research)

to design the introductory Level 1 modules, and we acknowledged that the higher level modules would require further external input and may be more effective if run in collaboration with bodies such as the Microfinance Expansion Project (2013). It was agreed that our trial training modules should focus on Level 1 as that was the greatest need in the leaders' communities and was one that they felt they had the experience and knowledge to deliver.

At this point the trainers were introduced to a range of ways to engage people in learning, including creative activities such as role plays, stories, photographs and posters as well as more standard approaches of giving a talk, preparing handouts and using guest speakers. This process involved the facilitator modelling the activity using an 'outsider' (Australian) example, then inviting the group to work together to create local PNG contextually relevant activities or learning materials.

The trainers then self selected into teams of 3 or 4 to design a training module on one of the Level 1 building block topics. Based on collaborative discussions, trialling of learning activities, peer feedback and reciprocal sharing, we had built up to a co-constructed course that could address local priority areas and that would begin to build the business skills of women smallholders. By the final day, the group had developed a proud identity calling themselves the Women in Agriculture Training (WiAT) Team with the slogan 'Meri Kirapim Femili, Meri Kirapim Komuniti: Courses by PNG women, for PNG women'.

Delivering a module

The WiAT team divided into teams to design and deliver one training module in a community of their choice. The modules ranged from one four-hour session to two full days of activities and targeted a local church group, invited village members or members of local women's cooperatives. All of the modules focused on aspects of financial literacy, especially budgeting and/or saving. One of the women charged a small amount to attend the training to defray her costs whilst another asked people attending to contribute food for a shared lunch.

Co-evaluating the module delivery

The trainers had agreed to return in three months for a follow-up WiAT team evaluation workshop; however, due to their family obligations and farming priorities, (summer harvest, Christmas, new school year and an early Easter) the group could not re-convene for five months. Although four of the group could not attend this second workshop, the evaluation feedback from the remaining participants did indicate that, at a general level, the training had been successful (direct quotes from the evaluation *in italics*).

Whilst a report template was given to the trainers, in order to continue the collaborative and situated learning approach a storying process was used for feedback on the training delivery. Storying has been shown to be a strong and valued cultural process in PNG and has been validated as an effective and congruent method for participatory projects (see for example, Sigsgaard, 2002), and for evaluations (see for example, Dart & Davies, 2003). In our process, the trainers were asked to bring one story about successful business thinking they heard during the training and one that showed a key business challenge faced by

women. Similarly, in order to reflect on their experience as a trainer, each was asked to bring a story about what worked well and another that reflected a major challenge. These were shared, discussed and analysed for their key components by the group. Whilst only six of the trainers were able to run their module, they were rightly proud of their achievement and returned with many ideas for improving the content and the process. By using the story process to create and interrogate key experiences, those that had not actually conducted training were still able to meaningfully contribute by drawing on their stories of attending and reflecting on training, both as women and as smallholders, and in this way be part of the peer reflection—*We have revised what we have learned and it gives a bigger picture.*

Following the storying evaluation, the group identified the need for further development of specific training skills, including the use of computer technology, sourcing funds and writing reports. Finally, to complete the co-construction process and model the final stages of ‘evaluating and reporting on training’, our last day was spent evaluating the training issues and collaboratively deciding how it might be possible to move forward from that point.

Most of the trainers valued the personal skill development (*For me as a government officer I have learned what I have not learned in my 20 years of service*) and the affirmation of skills (*I would now say my achievements are visible*). The benefits of the dialogue across the group and the collaborative learning environment were also articulated by the participants, for example, in the comment, *feedbacks gave a whole picture of what is happening in PNG and what needs we have*. However, the pervasiveness of the more authoritative training model can be seen in the comment of one woman in her recommendations for improving the course; she wrote [*add*] *a short exam/ testing to see whether we understood what we were learning*. In contrast another woman was able to clearly name the implications of this capacity-building approach for the organization, writing: *WiA is not a banking organisation: you don't get money from us but you get skills*.

The challenges of developing a co-constructed learning space

We began this project from a position that closely aligns with Lauzon's argument (2013, pp. 263–264) that

through participation and intimacy we enter into relationships with others and construct a temporally and spatially bounded shared reality where we can begin to act collectively; to act together in the pursuit of collectively identified developmental value.

At many points we did indeed co-create a mutually enriching learning environment. The worksheets incrementally gave the group confidence in integrating their situated knowledge and the mutually enriching process of co-construction became evident. For example, in the previously noted worksheet on ‘how to develop a learning aim’, although knowledge and skill aims were easily agreed, there was much needed discussion on the aims for ‘attitudes’. This resulted in considerable sharing about attitudes of different age and gender groups and

between our countries—for example, the women spoke a lot about PNG as having a ‘spending not a saving’ culture and together we explored the many ramifications of this for women, men and families. The training group especially valued the role-plays and creative activities that made business ‘mistakes’ made by women more readily apparent in a non-threatening way. In these activities, in particular, as was also found by Taylor and colleagues (2012, p. 740) in their work with farmer field schools, there were indications of ‘transformative learning’ which ‘sometimes happens in a momentary event, through “Aha” experiences, often in connection to visual/oral expressions, such as stories [and] theatre ..., rather than through a deep-thinking process’. Indeed, ‘Aha’ moments happened as much for the facilitator, especially as the women played out family dynamics. Whilst we are persuaded by Newman’s (2012) critique of the often inflated claims for transformative learning, our experiences were an example of how both the ‘learner’ and the ‘teacher’ can begin to be changed when there is engagement in an empathic relationship.

The end products produced by the group could stand up against any other training modules for village members. There was strong ownership of the ‘curriculum’ we had co-created. The women adapted many of the training strategies that they had experienced in the course and enriched them with their own place-based knowledge and processes. For example, most of the groups began their training day by inviting a local male leader to open the session with a welcome speech. Whilst this can be seen as a simple cultural protocol, the women stressed that this assured local women of the validity of the training and secondly meant that the leader would support the training into the future. However, whilst we strove to create an engaging and rewarding space for dialogue and mutual learning and development, the challenges that emerged are salutary.

Building a community of practice: the challenges for women smallholders

Although our co-constructed learning space did sow the seeds of a community of practice, the reality of family and farming demands on the women in the course significantly impacted on its subsequent development. This was evident when four of the original group could not attend the second workshop series due to family reasons such as childcare. Hence, although the philosophy of the training process had been to develop a community of practice and foster sustainable peer learning, one-third of the group was lost. For similar family reasons, only six of the trainers were able to pilot their module; for example, one woman had four young children not yet at school and one older woman spent those months organizing *braid prais*⁴ for her son. On a positive note, two women who could not attend the second workshop had gained paid work as the first course had raised their confidence and both had used the first training as evidence of specific skill development.

The other major reason for not conducting training in her community related to the fact that each of the women was a smallholder herself. Because there was no funding to pay the trainers for their time in delivering their module, the trainers had to balance out the time lost from their own garden work with their commitment to WiAT. There had been a productive session on ‘where to gain funding’ but most of the trainers were not even able to spare time for this activity. This barrier for community-based trainers is significant. As PNG

women typically do not have control over the family finances (Banthia, Tyroler, Schoeffel, & Saho, 2013), the issues of financing the ongoing development of women as trainers or in any other voluntary role cannot be ignored. To significantly and sustainably build communities of practice, we must not overlook the social and structural barriers to ongoing capacity building. These barriers impact on the ability of women to undertake training and to train others as well as on the organization's ability to retain trained trainers. These are important issues for the sustainability of training programmes in developing countries but do not detract from the efficacy of the training methodology itself.

Building learning from the inside out: the challenges of an asset-based approach

Our asset-based community development concept of 'building learning from the inside out' hinged on the development of a dialogic learning space that would enable different knowledges to emerge with the ultimate aim of co-constructing a locally meaningful set of training modules. However, the collaborative and exploratory learning environment proved particularly challenging as participants had only experienced didactic formal learning environments and were initially confused and concerned about the more dialogic approach.

On reflection, it is clear that the Australian facilitator had naively assumed that a dialogic approach would be understood and embraced by an oral culture such as PNG's. However, despite the early explanations about the validity of a collaborative learning environment that privileged participants' knowledge and would provide reciprocal benefits, this only served to set apart the facilitator from other trainers and perhaps the different language may have exacerbated the power dynamics that are inevitably present in development and training activities. As Sabourin (2013) reminds us, there are complex learning dynamics and relationships inherent in adult education and although relationships may be reciprocal, such reciprocity may indeed be asymmetrical. Hence, 'we have to identify the asymmetries through the roles, status and positions of each one and verify if they are reversible, in order to allow balanced reciprocity' (Sabourin, 2013, p. 315). Indeed, as the relationship began to further develop there was a move towards greater symmetry.

The development of trust was key to the process of a mutually beneficial capacity development relationship. There needed to be careful scaffolding of initial learning experiences so that the participants could achieve some immediate outcomes and thus develop some trust in the process. Initially, the women showed anxiety and a lack of confidence about creating their own curriculum topics that would contribute to the improvement of the business skills of women smallholders. The local knowledge of each of the trainers as smallholders themselves and as leaders in the agricultural sector gave them a strong background from which they could draw, however to begin with what seemed to be a totally blank slate was quite daunting.

In fact the slate was blank for just one session where we started the grounded information building process. This began with a brainstorm process in which people used 'sticky notes' to list any and all possible 'business' topic areas that women smallholders might need. Each person then placed her notes on the wall and together we began a sorting process. Just as in any curriculum building

process, the sorting was messy at first, but after a number of iterations, the group identified many topics that are found in farming business courses and in this way validated the place of those topics in the local PNG course (for example, how to price agricultural produce; understanding profit and loss; the importance of a saving plan; and understanding banking processes). Their local contextual knowledge did lead to an important design feature; that is, the need for the integration of 'business' topics with local everyday life. In particular, the WiAT Team noted that financial literacy courses often fail as they are not linked to daily family needs and farming activities. Consequently, the WIAT module designs featured financial literacy learning examples that directly linked to enhancing the profitability of food crop smallholdings. Through this curriculum development process the place of different knowledges emerged, and most importantly the participants became more confident as they assessed and put each knowledge area in its place.

From the facilitator's perspective, throughout the process of relationship building, the group was at once generously tolerant as well as sceptical. The scepticism was evident in the concern about technologies of training. There was an overt concern by participants about the lack of a 'proper' training manual — the handouts did eventually form a manual but were sequentially given out and were designed for dialogue and mutual consideration rather than being directive. Through evaluative discussions, it emerged that in PNG people often undertake training to at least gain the written materials, which they then can share through their extended family or wantok⁵ system. From the first day, it was clear that there would not be an authoritative package of knowledge, which was seen by participants to be a benefit from even the most poorly delivered training.

There was also the criticism that the facilitator was not using appropriate professional technology, in particular Powerpoint (PPT). As all the training activities that were used in this trainers' course were designed to be able to be replicated at the village level, materials such as prepared posters, flip charts and graphics-based handouts were the basis of all of the course activities. Trainers would be running their workshop in villages without power and where there was limited literacy, therefore it was important that the trainers explored how effective training can be without high technology. Despite this explanation, there were ongoing comments from participants that they wanted to learn PPT. Given the negotiated curriculum philosophy, an extra session 'how to design and use Powerpoint' was added on the last day.

It was only from the feedback on this session that the deeper issue became clear. Even though the women did not have access to the equipment needed for PPT, they had seen its use in other training and they too wanted to be skilled and articulate about its use. For them, to know about PPT was a hallmark of a fully trained and up-to-date trainer. However, by linking the use of PPT back to the cultural- and adult-learning principles we had explored across the course, the group agreed that using PPT as the main form of delivery did not meet most of our agreed learning principles. Together we experienced how low technology training can be appropriate and professional.

One important point that was emphasized was that the facilitators were not 'dumbing down the curriculum' and we stressed that in Australia we use the same readily available low-tech materials for training community educators and

indeed for our own teaching of university students. The way the group persisted in ongoing requests for PPT training illustrated a confidence in challenging the power of the outside facilitator and showed how that the WiAT Team had begun to move from trainees to trainers with agendas that they wanted and indeed demanded. Equally the outsider facilitator had been challenged to listen more deeply to what really was being asked and to trust the group in their expression of needs.

Although we were committed to a 'building learning from the inside out' in a mutually beneficial way and had designed a sequential process of iterative and collaborative course development, the process demanded significant ongoing reflection on the learning exchange. We are reminded of the warning by Braun and colleagues (2006, p. 18) that

the differences among learning-based approaches has to do essentially with who controls and manages the process, whose interests are taken into account, and the ways in which relationships are structured and processes unfold ... When applied in 'recipe' fashion, participatory approaches that rely on co-generation of knowledge through shared learning become untrustworthy and can discourage further stakeholder involvement in co-learning processes.

From our process of collaboratively co-constructing a training course with PNG women farmer leaders, a particular design continuum emerged: that is *surfacing* knowledge → *distilling* knowledge → *clarifying* knowledge → *consolidating* knowledge. From this consolidated knowledge together we were able to design locally valid and locally relevant modules. As the trainers went out to trial their training, they were then engaging in *sharing* knowledge and *reviewing* that knowledge which then lead to our collective ability to *improve* knowledge that will enhance future training in this area. We trust that this collaborative design continuum provides a transferable approach that will help others wanting to move beyond simple knowledge transfer.

Conclusion

Our project enabled both Australian and PNG women to explore how to build the capacity of one group of PNG women smallholders as trainers. This initial training project has in part informed a new ACIAR project⁶ which is further exploring and developing ways to collaboratively build the training capacity of women smallholders in three different regions of PNG. The three-year action phase of this project is providing an important opportunity to now explore other ways to enhance the learning experience of women smallholders.

In PNG significant learning arises from traditional wisdom and place-based situated knowledge. Traditionally, informal community knowledge has been passed down from adult to adult through the family and wantok systems. This oral knowledge is the fabric of social cohesion. Sustainable social change is not possible if this knowledge is not acknowledged, valued by the trainers themselves and built into training alongside the needed technical information. In PNG,

much of women's knowledge waits to be harnessed. Surfacing and valuing this knowledge through non-formal community-based adult-learning projects should be seen as a national investment. As our WiAT team noted, building women's capacity builds families and communities, which in turn becomes the building block for a learning society.

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Notes

1. The definition of a smallholder farmer differs by country, however, in the PNG areas of this study a smallholders' garden (the local term for cultivated land) typically ranges from half a hectare to two hectares.
2. See, for example, the work of the PNG Sustainable Development Program <http://www.pngsdp.com/index.php/what-is-csip>.
3. funded by the Australian Centre for International Agricultural Research (ACIAR) <http://aciarc.gov.au/publication/fr2012-23>.
4. Bride price is a significant family expense in which the family of the husband must pay cash, pigs and other valuable resources to the family of the new wife.
5. widely used Tok Pisin term that means 'one talk'. The wantok system can be loosely defined as the system of relationships (or set of obligations) between individuals characterized by some or all of the following: (1) common language, (2) common kinship group, (3) common geographical area of origin and (4) common social associations or religious groups' (Asian Development Bank [ADB], 2012, p. 90).
6. see <http://aciarc.gov.au/project/ASEM/2010/052> and <http://pngwomen.estem-uc.edu.au/>.

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