

# PACIFIC EXAMPLES OF GOOD EXTENSION PRACTICE

## Pacific Islands Extension Strategy Consultancy Report to SPC

### 1. Summary:

The purpose of this report is to identify strengths, weaknesses and best practice from Pacific experiences with extension. Extension itself has transformed over the decades in the Pacific, from traditionally being an add on to research where extension agents transferred knowledge 'down' to farmers, to the involvement of multi-stakeholders where both research and extension are integrated during the planning stages of projects. Key drivers include food security, sustainability, participatory development, integrated pest management, globalisation and food quality. Although the need for multi-stakeholder approaches is recognised, Rural Extension and Advisory Services remain a low priority service of government in most PICs. To address this, two primary areas are being focused upon, namely capacity building of staff and institutions to be able to deliver services using new multi-stakeholder approaches, and the development of public-private partnerships to ensure required resources (i.e. funding, technology, training) are met when delivering these new approaches. With a move from public extension to more pluralistic models of extension that includes a variety of service providers and the application of a variety of models depending on the type of problem being addressed and the context in which the problem sits; it is important to understand that it is unlikely that there is one single optimal model or best model.

### 2. Purpose and scope

This report was prepared as part of the Pacific Islands Extension Consultancy for SPC, as part of the Pacific Agriculture Policy Project. The specific consultancy aims are to:

1. Evaluate Extension and Rural Advisory Services (RAS) in the Pacific Island Countries and Territories, and identify priority challenges and capacity strengthening needs that can be supported through regional intervention
2. Identify best practices and AAS models suited to different contexts and needs
3. Develop a regional extension strategy

This report focusses on extension practices in the Pacific region, identifying strengths, weaknesses and best practices. In conjunction with this report, *International examples of good extension practice* will be used to inform the development of a Pacific Islands Regional Extension Strategy.

### 3. Methods

To develop this report, we:

- Reviewed Pacific strategies and project reports using the key search terms 'extension', 'agriculture', 'market' and regional, sub-regional and country specific terms such as 'Pacific', 'Polynesia' and 'Tonga';
- Conducted interviews (both formal and informal; online and face-to-face) with different stakeholders during the development of the Pacific Islands Extension Strategy;
- Reviewed major development program managed or funded by FAO, IFAD, IFPRI, ACIAR, CIRAD and others; and
- Incorporated our own experiences (Pacific) and that of colleagues

Our review is also supplemented by reviews of research by leading extension academics, and our own international experiences.

The remainder of this report is as follows. First, we provide an overview of challenges to extension, using national examples. Within each of these, we focus on the government's approach to extension, and what (if any) role the non-government sector have had. Second, we focus on sub-regional lessons. Third, we review best practice in terms of: policies and institutional support; capacity building; and extension models. Extension models include farmer field schools, plant health clinics, participatory methods and participatory rural appraisal, and farmer associations, cooperatives and partnerships. Other considerations including ICTs and knowledge management, and vulnerable groups are included briefly. We understand that there are other models – but these have been selected to provide a wide cross section and a means to draw out some commonalities in terms of best practice extension so as to think about what a best practice or rather a 'best fit' approach to extension might look like, discussed in the final section.

## 4. Analysis and key lessons

### EXTENSION IN THE PACIFIC ISLANDS

Like many countries, in the 1960's extension was an add on to research within Departments or Ministries of Agriculture, and extension strategies were mainly transfer of technology based where extension agents transferred knowledge, predominantly about export commodities, for crops (e.g. banana, cocoa, coffee). In the 1970s, recognition for the need to diversify came to the fore, with models being introduced such as training and visit systems and farming systems research and extension, etc. There was also a strong donor/aid push to address rural poverty through community/rural development projects, as well as improving market access for some commodities. In the 1990s, realising that farmers needed more ownership over their own development, a range of bottom up approaches came into use in the Pacific. These approaches have specific agendas of increasing the capacity of farmers to make their own decisions and solve their own problems, using approaches such as farmer fields schools. By 2000, with continued recognition that transfer of technology was only enabling appropriate outcomes for fairly simple agricultural problems, and purely bottom up approaches were not encompassing of environmental agendas and other stakeholder needs, it was seen that more pluralistic approaches to extension were necessary to address the complexities inherent in agriculture and resource management. By mid 2000s, there was interest in multi-stakeholder approaches, decentralised approaches and approaches that integrated both research and extension during the planning stages of projects. Also important were new ways of overcoming market challenges and approaches that addressed whole supply chain issues. Drivers included food security, sustainability, integrated pest management, globalisation and food quality.

In November 2005, Tonga hosted the Pacific Extension Summit, Bringing about change – promoting participatory agricultural extension in the Pacific. The Summit was organised by the Land Resources Division (LRD) of SPC, with funding from CTA, EU, ACIAR, FAO and SPC GTZ Forestry. The summit sought to strengthen support for Participatory Agricultural Extension (PAE) in the Pacific through promoting participatory approaches to identify problems and needs within the agricultural sector and to sensitise senior policy and decision makers to PAE. On the final day of the summit, national country working groups and a regional working group were formed to develop action plans for promoting PAE across the Pacific.

One of the key priorities that emerged from the Summit was the need to build the capacity of extension staff and associated institutions (eg. NGO's, government agencies, USP) about participatory research and extension (PARE). The same findings emerged from the Second Regional Conference of Heads of Agriculture and Forestry Services in 2006 and Third Regional Conference of Heads of Agriculture and Forestry Services in 2008. Both of these forums indicated gaps in the delivery of effective and efficient

services of extension and outreach, and acknowledged the need to build the capacity of the staff of extension services and other associated institutions regionally. This priority was highlighted, not only by the regional working group at the Extension Summit, but also the national country working groups (including Fiji Islands, Samoa, Vanuatu, Solomon Islands, Cook Islands, French Polynesia, Wallis and Futuna, FSM/Palau/Marshall Islands/Nauru, PNG, and Tonga). However, it was put forward that meeting this priority required a capacity building needs assessment to be conducted across a range of Pacific island territories and different institutions, to account for differences in context (eg. social and cultural differences, previous institutional experiences, farmers' needs) and differences in institutional roles (eg. of tertiary institutions, NGO networking agencies, government extension and research staff).

In 2007 and 2008 a Pacific wide needs assessment was carried out through the ACIAR project 'Participatory needs assessment for capacity building in extension (Pacific Islands)'. This project showed that there were very diverse capacity building needs of individual extension officers among the countries. Regionally among the 12 participating countries, 50 different areas of capacity building were identified. The study highlighted that farming communities are now required to operate in a more open and free market structure, placing more diverse requirements on extension personnel. Although marketing structures created opportunity for alliances, lack of capacity was a major contributor to extension personnel not capitalising on these opportunities. Consequently, the capacity building needs in areas such as communication skills, networking and participatory approaches were ranked highly by participants that took part in the needs assessment project. Three main categories emerged in the study including (a) Livelihood, or the context for participatory RD&E, which covers issues relating to climate change and environment, crop and livestock production, processing and marketing, (b) Management of Participatory RDE, which covers issues related to project management, reporting, administration, finance and governance, and (c) Participatory RD&E Skills, which consisted of the particular skills, knowledge and attitudes needed to deliver effective and efficient extension, research and development services to the clients of government agencies, NGO's and other institutions.

Further capacity building needs have been identified by specific countries since this study, but in general, the findings are similar. For example, in a review of extension undertaken in Vanuatu, capacity building needs identified included upskilling of staff in a variety of technical and extension areas, as well as improving skills in gender equity approaches. Other issues identified included weak institutions and governance at all levels, lack of clear policy and strategy, poor office support, and the inability of staff to complete work plans. These are common concerns for all PICs as traditionally extension services in the Pacific have had low priority status. This, combined with a poor image of service delivery has led to limited budgets and limited staff being allocated to extension programs. Today, in most Pacific Island Countries and Territories, Rural Extension and Advisory Services are still a low priority service of government.

## FACTORS INFLUENCING EXTENSION IN THE PACIFIC

In PICs, RAS are a low priority service resulting in limited budgets and staff being allocated to extension services. Disasters such as cyclones and drought further affect the availability of funds for non-core government functions. Fiscal pressures and capacity constraints on governments have led to a shift from primarily public sector rural service delivery to a mix of public, private and NGO based service delivery. Private sector service providers often have poor legal and regulatory frameworks and NGOs work very much in isolation with the majority of their funds being spent on grass roots projects and not information sharing or networking. All three sectors have been poor at building partnerships. On average, one extension officer serves 10,000 farmers with a budget allocation of less than 0.5% of the national budget for most countries.

Urbanisation has led to land degradation of upper watersheds, destructions of forests (particularly in Fiji) and pollution of marine habitats. Agriculture is primarily small-scale subsistence farming except in Fiji, however this is changing with the entry of private sector service providers encouraging commercially based farming systems and the development of export markets. This is also being encouraged by the public sector, however little resources have led to limited support. Fisheries, for people in the Atolls and outer islands, and forestry, for people in Melanesia particularly, is a major income source. However, the benefits for farmers or fisherman are small, they only receive a small proportion of the cost of final product, and these resource bases are being exploited with 'rogue' international companies having little regulations.

Despite large variations in geographic and cultural context across the Pacific, one common challenge is the requirement for effective communication between stakeholders. Although there are pockets of effective communication, it has been identified that communication between Universities and Government, researchers and extension agents, and public and private extension providers needs improvement. How farmer associations and cooperatives are viewed within these traditional relationships also needs to be considered. This has been identified at the regional and country specific levels in a range of policy documents and strategies.

While a combination of local, regional and international Universities can support both local and regional development needs, a lack of effective co-ordination and priority setting can lead to duplication of expertise and efforts, increase competition and reduce information sharing. International research (e.g. ACIAR) adds an additional level of complexity, given the lack of incentives for co-ordination and integration with existing local research, and extension services.

Experience shows that extension services working in rural areas (e.g. through field centres, administered through subnational agencies, are better placed than central government to deliver advisory services that are more responsive to the needs of communities, and can be delivered at lower costs. The ability to realise economic benefits associated with this type of service provision is constrained by capacity concerns, staffing concerns, financial resources and inadequate coordination. One way to address this is to enhance networks between semi-formalised groups (e.g. Federated Farmers) and decentralised local government institutions, where the role of extension agents is equally about facilitation and knowledge and network brokering as it is information provision.

Increasing recognition of the potential complementarities between public- and private-sector roles in research and market-driven agricultural development can support agricultural value adding through growing supply chains and provide appropriate entry points for the formation of public/private partnerships. However, such partnerships can be management intensive. This can also enable pooling of resources to deliver better quality services. Synergistic benefits could also be derived from such partnerships through alignment with and targeting of specific donor interests, e.g. climate adaptation funding and Tonga's agricultural development strategy. The potential to draw from financial inflow into the Pacific through remittances also exists, particularly Micronesia and Polynesia. For example, it is estimated that about 20% of the GDP of Tonga is from cash remittances.

Being able to choose from a plethora of extension models, both new and old, is an approach that is increasingly recognised as the future for agricultural development. New models move beyond the traditional transfer of technology model to involve farmers, NGOs and the private sector in a variety of formal and informal partnerships, information dissemination and feedback mechanisms. To benefit from these alternative approaches, the development of a pluralistic institutional structure is important, with universities, the private sector, farmer representatives and NGOs as partners. This will require a change in the ways in which researchers and extension agents engage with one another.

Another challenge in the Pacific is the lack of research on Extension. Extension research refers to the process of planning, conducting and evaluating research on extension itself, whether it is research carried out on extension policy, capacity building in extension, or extension approaches, methodologies and methods. As with any profession, carrying out research to improve the profession is essential. However, in the Pacific, extension is often embedded within research and the evidence base for effective extension practice, born through analysis across case studies and stemming from discussions such as the Apia meeting in 2015 are largely missing. Greater attention is needed for extension research to build the evidence base for extension that addresses long-term success for uptake of past research, ensuring adequate consideration of the range of new public-private extension models that are currently in play, and addressing educational challenges of future generations, including engagement of vulnerable groups, food security in marginalised and climate affected areas, and ongoing soil degradation.

As is occurring internationally, the engagement of youth (16-25 year olds) in the agricultural sector is declining in the Pacific. For many young people, career pathways, including the nature of work of advisory services in agriculture, are not obvious – many simply think of it as physical work. Attracting youth to agriculture, and exposing them to the skills that will help them to develop the sector beyond the small-holder subsistence emphasis is therefore important. For example, while youth are invited to added field centres in Samoa, an alternative could be to invite them to a regional centre to discuss and develop ICTs. This recognizes that youth are well placed to address future generation needs of agriculture and innovate with technology they have grown up with. It also helps to create a youth identity for agriculture, while strengthening knowledge sharing across generations, and therefore plays an important role in the continued cultural resilience of PICT peoples.

The role of women in agricultural development is also changing. In some cases, women are taking a stronger leadership role in improving community health through growing and using traditional foods and improving nutrition standards, and in developing and running agribusinesses. Even though more women are engaged in agriculture there are very few female extension staff. For example, one report stated that for two decades, Samoa had no female extension staff, but this is now changing. Addressing issues of engaging youth and women (as well as other vulnerable groups) will require consideration of the linkages between education and agriculture, at primary and secondary school levels as well as tertiary education levels. Addressing the educational needs of women and the roles they can play to support this will also be critical.

## SUB REGIONAL ANALYSES

### Melanesia

Melanesia (Fiji, PNG, Solomon Islands and Vanuatu) comprise over 98% of the land area and 92% of the population of all PICs. All but Fiji have low per capita incomes, high population growth and declining social indicators (e.g. health), despite large and diverse land resources. Fiji in contrast is one of the wealthiest PIC countries although inequality is high (pockets of poor in urban and rural areas) and there are serious land tenure issues, particularly for cultural minorities. All countries are politically unstable, with a history of intense conflict including civil war in some places. Melanesia has rich volcanic soils and large mineral deposits. Forestry is being exploited by large international companies, however efforts to promote sustainable forest management are increasing. The traditional roles of women also affect their capacity to engage in and perceived need as recipients of extension services. In combination, land tenure security, distrust and conflict, rurality and gendered development emphasis mean financial and human resources that could support a shift from smallholding to export based agriculture, through improved extension services, difficult.

## Micronesia

Micronesia (Federated States of Micronesia, Kiribati, Marshall Islands, Nauru and Palau) consists of a large series of Atolls and islands which are vastly spread with high populations putting pressure on limited land resources. The Atolls are also remote from domestic and international markets and are more vulnerable than Melanesia and Polynesia to economic forces and climatic events. Micronesia has medium level per capita incomes although there are big differences between people on urbanised islands and outer islands. With limited land resources, only 3% of the GDP is from agriculture as soils are unsuitable for agriculture and experience harsh climatic conditions, although marine resources are abundant. Anticipated climate impacts are of particular concern for much of Micronesia. Against this backdrop, extension services are challenged by (i) meeting the needs of atolls in comparison to more elevated islands, (ii) food security concerns, (iii) the challenge of remoteness which includes exorbitant travel costs, (iv) fragmentation of information related to disparate engagement in both USA and Pacific political-economic processes.

## Polynesia

Polynesia (Cook Islands, Niue, Samoa, Tonga and Tuvalu) has mostly small populations, but fairly high population densities and like Micronesia, the outer islands in Polynesia lack services. These cultures are very cohesive and social indicators are quite high compared with other PICs. Remittances are a large part of this sub region's economy coming in from family members in New Zealand and Australia. Agriculture provides 40% GDP in Samoa. Like Melanesia, Polynesia also has rich volcanic soils, but it lacks minerals.

Remittance payments and a strong emphasis on education (e.g. in Tonga) mean that youth are more inclined to leave rural communities to be in cities, rather than living and learning in traditional family structure in more remote areas. Polynesian socio-cultural structures are naturally conducive to co-operative based models of extension provision. In some cases (e.g. Samoa Federated Farmers), farmers are already contributing membership fees to gain access to associated networks and information. However, the same socio-cultural structures emphasise obligations that can be in contrast to the time-limited production demands that are required to meet export contracts.

## BEST PRACTICE EXTENSION

Our analysis is divided into three main areas of best practice that sit under Extension Governance, namely policies and institutional support, capacity building and extension models. Best practice extension requires best practice at all of these three levels. It also embraces the move from extension services to extension systems.

### Best Practice: Policies and Institutional Support

Pacific Island Countries are generally associated with weak institutions and governance, as well as poor policy development. This is currently changing with countries in the Pacific making substantial efforts to develop coherent policy guidelines, as well as a recognition that sub-regional and country specific policy needs to align with regional policy. Tonga has a good agriculture development policy but international aid donors are struggling to develop extension strategies that are manageable within government finances. In May 2015, Vanuatu published its Agricultural Sector Policy and its Guiding Principles provide a Best Practice model for Policy Development and Institutional support. One of their key policy objectives is also focused on institutional setup and compliance. Key Principles include effective collaboration with other sectoral policies and implementing agencies; stakeholder participation and commitment at all levels in the implementation of policy; and an integrative, holistic and generative approach to agriculture which also includes effective and sustainable management of resources. Cook Islands has also established a good agricultural policy but it lacks an in-depth extension component. Overall, while strategy is being developed the focus of donor agencies on outputs (eg. policies) negates the fact that there are few resources to implement them – so while it appears that there is a lot of activity the reality is often different. One of the

realities of extension is that outputs are slow to occur and outcomes are often indirect and these two aspects are less attractive to donors.

#### Best Practice: Capacity Building

In 2005, one of the key priorities emerging from the Pacific Extension Summit hosted by Tonga was the need to build the capacity of extension staff and associated institutions to undertake participatory research and extension (PARE). In support of this process, a participatory needs assessment was carried out across a range of Pacific islands and different institutions, to account for variations in context (e.g. social and cultural differences, previous institutional experiences, farmers' needs) and differences in institutional roles (e.g. of tertiary institutions, NGO networking agencies, government extension and research staff). These needs were categorised as individual, organisational and institutional. At an individual level, one of the major constraints facing any change for improvement was that Government and NGO staff in many of the countries faced serious issues with motivation to change. The provision of formal qualifications was one motivating factor raised by many staff, in terms of raising their capacity. However, this change must itself be linked to promotional opportunities or due rewards within the organisation for any behavioural change to result. Hence, the individual, organisational and the institutional needs for capacity building are intertwined. Institutional needs for capacity building are illustrated by factors like the need for systems of accountability; organisational needs are those such as for developing a culture of accountability; and individual needs for training may be learning to use the tools to provide accountability.

Unless these needs are met in a broad package that addresses all levels of need, the individual investments are all too often wasted. Other needs identified were related to technical knowledge and knowledge and skills about extension methodologies and methods. Even though a number of countries have carried out their own needs assessments since this project, the issues remain the same (eg. Vanuatu identified difficulties in staff completing annual workloads, upskilling of staff, and lack of skills and time to ensure gender equitable outcomes in their extension review in 2007). One thing common to all of the reviews is that they all provide long wish lists where capacity building is required in almost all aspects of contemporary extension practice (eg. Extension as facilitation of stakeholders, different multi-stakeholder and partnership models, systemic change).

In contrast to these skills, it seems however, that there is still a large emphasis on extension staff being skilled up on the technical knowledge given to them by researchers, so they can 'transfer it down' to farmers in a linear fashion. In addition, because researchers are working in very specialised ways, there is still an expectation that extension is TOT from research institutions, and this limits institutional support for researchers to engage with extension staff in diverse ways. Capacity building has to have active engagement of people beyond the extension arena, particularly the research domain. There is a lack of understanding in the research domain that if you develop the process, the transfer of technical knowledge will happen from researchers (and experimentation with technology will also happen). In terms of best practice capacity building, there is limited experiences on which to draw conclusions. From our own experiences, best practice would include building the capacity of extension staff to critically think about the array of different extension models and be able to adapt and apply (ie. facilitate) these to different problem areas as they arise. That is, they would need to understand the array of models, matching models to certain situations, and then facilitating the partnerships and processes required. These could be done at 'centres of excellence' that could take a number of forms, but would be local, so that they were easily accessible, predominantly by farming communities, but also other stakeholders who will need to be engaged in the process.

## Best Practice: Models

### FARMER FIELD SCHOOLS

Farmer Field Schools (FFS) emerged in Indonesia in the 1980s to address a lack of understanding about the relationship between insect pests and beneficial insects, particularly in rice fields (after the effects of over pesticide use were acknowledged from the Green Revolution). After farmers had graduated from FFS they started to realise that the process could be used for a whole range of rural livelihood issues and started to form similar processes for organisational, and not just technological issues. The FFS are carried out in farmers' fields and run over the duration of a cropping season. Using action learning, each week the farmers meet and conduct an agro-ecosystem analysis (between IPM and non IPM plots). FFS included between 20 and 30 farmers and work together in small groups of around 5. The process of action learning combined with analysis assumed that farmers would be empowered to do their own analysis, organise their own activities and make their own decisions in the future.

Farmer Field School entered the Pacific in Samoa at Alafua Campus (USP) in the mid-1990s to address taro genetic erosion and improvement. At the time Samoan farmers had taken up one particular variety of taro that was very marketable, but the monoculture spread across Samoa and leaf blight spread like 'wildfire' across the country. Interestingly the FFS process was run with students (University Breeders Club) and farmers (Taro Improvement Project). The FFS process worked well for both farmers and students and their were plans to introduce a FFS-type curriculum to train FFS farmers to scale up the approach but this did not get off the ground. FFS however, have since been used in Samoa for other agricultural crops such as Coconut (to control the rhinoceros beetle) and Brassicas. A modified FFS process has also been carried out in PNG and Fiji to manage Taro beetle and in PNG, Fiji, Samoa, Solomon Islands and Tonga to address root and tuber crop pests in general. Most of the FFS projects in the Pacific have been funded by ACIAR.

#### *Key lessons:*

- Farmer Field Schools seem to work well if they are well funded as each FFS needs to have a full time expert trainer meeting farmers once a week
- A critical mass of farmers are needed for FFS so they work well in highly populated areas. Where they have been implemented in the Pacific with lower population density it has been very difficult to have significant numbers of farmers
- There is also a regular (each week) and long term commitment required over the course of a cropping season. In the Pacific, this has been a challenge (and there has been more success with Plant Health Clinics, where farmers can attend each month.
- FFS are effective in the Pacific if the training is complete. This has not happened in all applications of FFS
- The benefits of FFS is that diagnosis is carried out in farmers' fields (in context) and knowledge sharing is an important emphasis in the process.

### Plant Health Clinics

Plant health clinics (PHCs) are clinics that are set up periodically at local markets that are staffed by people that have been trained in diagnosing plant diseases and deficiencies. PHC are marketed as providing healthcare to crops, fruit and vegetables, however, there are other secondary benefits that often occur such as knowledge sharing between farmers, as well as the capacity to build a database of local issues. In this way, PHC are considered bottom-up, in that they respond directly to farmers' needs. PHC also train farmers on field diagnosis of pests and diseases and open up a range of options for addressing these such as IPM, safe use of pesticides, and managing pesticide resistance using the latest information or innovation. Training of 'plant doctors' includes diagnosis techniques, symptom description, record keeping, sample



preparation, and how to facilitate PHCs. If the trainers are unsure of a diagnosis then they use networks to help them and diagnosis is often provided the next time the PHC is operating.

In the Pacific, ACIAR funded a project in 2012 to trial Plant Health Clinics in the Solomon Islands, Fiji, Samoa and Tonga. A major goal of this project was to fund alternative approaches to pesticide use. One of the key roles of the clinics has been to test extension information and continually refine this information, based on farmer feedback. When farmers return to the clinics the following month, extension staff can ask questions about the usefulness of their previous diagnosis. Also, plant health clinics help with the surveillance and monitoring of new pest and disease outbreaks and as databases are developed over time, information becomes more context specific to local needs. One problem in terms of extension service delivery that PHC do address is poorly resourced and low numbers of extension staff. A Plant Health Clinic may be a table and umbrella at a local market once a month requiring two extension staff. Farmers attend when they need assistance.

#### *Key lessons:*

- Plant Health Clinics seem to work well in less populated areas (compared with Farmer Field Schools) and farmers get direct feedback on the problems they have
- They provide decentralised access to extension staff and researchers, and information that is collected is generated under local conditions
- As diagnosis of a disease is a 'relatively' simple problem, then extension staff (trainees) gain 'wins' frequently encouraging them to be more and more involved in the process – and increases in staff motivation have been noticed
- The process itself provides a knowledge management system where data can be collected at different regional, sub-regional and country specific locations, and this in itself can be analysed in relation to other factors and trends
- PHC do not address 'complex problems' or 'systems problems' and don't bring in wider environmental agendas
- It has been found that unless PHC are institutionalised they don't really work – that is, PHC must be written into the strategy plans or implementation plans for that specific year otherwise they are low on the priority list
- Experiences from the Solomon Islands suggest that PHCs must be institutionalised, have an allocated coordinator (ie. country coordinator) to organise the clinics, motivate staff, and coordinate other key actors. The clinics are reaching women and training female staff, and staff have good rapport with farmers. Also found was that diagnosis was generally accurate but there was plenty of room for improvement in trainee knowledge. It is difficult to know if PHC will work in Micronesia.

#### PARTICIPATORY METHODS AND PARTICIPATORY RURAL APPRAISAL (PRA)

Participatory methods have been used in the Pacific since the early 1990 in response to the inadequacies identified with top-down approaches. In the 1990s the Pacific Regional Agricultural Program (PRAP) supported participatory Learning and Action (PLA) developing a participatory methods toolkit that was distributed by SPC in Fiji. PRAP I and PRAP II led to participatory methods being applied in Vanuatu. By the mid-1990s participatory methods were being used in most other countries by a whole range of stakeholders including DTF with assistance from FAO, NGOs and non-state providers. However, conducting participatory methods have been seen as quite time consuming and expensive, particularly when being used in the outer islands or in less populated areas. This has led to a greater focus on Participatory Rural Appraisal (PRA) conducted over a short time frame (half-day) to gain an understanding of farmers' needs, constraints and problems, that can then help design extension and research activities. In Samoa, for

example, PRA was implemented by the crop advisory section of MAFFM. PRA days are carried out and once problems are identified, extension agents hold training days in problem areas looking at solutions for problem issues. Samoan extension agents had a goal of running six PRA session and 15 farmer training sessions per year.

#### *Key lessons:*

- Widespread use of participatory methods is questionable as the use of these methods requires quite experienced facilitation skills if the process is to be effective
- The process is also seen as time consuming and expensive when used in remote areas (eg. outer islands) and in lower populated areas
- The process often leads to a large list of community needs and plans of action that are highly dependent on government assistance resulting in unrealistic expectations of farmers and disappointment if plans of action cannot be achieved
- Participatory methods have not worked very well at all in Micronesia. Underlying participatory methods if the willingness of farmers to share information and this is difficult in Melanesia
- According to the advisory officers, the main advantage of the PRA approach compared with other extension methods is the major contribution made by the farmers themselves.
- The strength of PRA lies in the fact that every farmer is able to participate, regardless of group dynamics or gender. Advisory officers also give equal consideration to the feedback received from each farmer. This is different from other approaches, in which only a few farmers dominate discussions, and the rest just observe
- Interestingly, PRA has been weak in involving more 'established' farmers who have larger landholding. These farmers generally do not want to share their knowledge and also grow crop for cash

#### FARMER ASSOCIATIONS, COOPERATIVES AND PARTNERSHIPS

Farmer associations and cooperatives enable farmers to represent their interests, as well as mobilise and work together to access certain services. There are generally three types of cooperatives. Supply cooperatives enable farmers to access supplies such as seeds and fertilisers, and machinery (including fuel). Marketing cooperatives allow farmers to transport, package, distribute and market their products more easily. Credit cooperatives enable farmers to access both working capital and investments, and pay these off at much lower rates than if they were to take out individual loans with money lending institutions.

In the Pacific, farmer associations have been formed for an extensive number of fruit, vegetable, seafood and forestry products. Some associations have fairly simple structures and small agendas while others are quite complex, very active, have sustainability or organic agendas, and therefore require a high level of support. Some require access to initial capital credit and/or short term revolving credit each cropping season to access fertilisers for example. There are also associations that have more social agendas. The Tonga Young Farmers Association has developed a 'Future Farmers of Tonga' programme which involves young female and male farmers promoting young people's involvement in agriculture to school leavers. Training is in areas such as small business management and marketing, local food security, leadership, and healthy lifestyles. The feasibility of programs on careers in extension could be explored. 30% of the participants in the program so far have been women. The program has similarities with Vanuatu's VRDCTA network that has been underway for almost 20 years.

During the Apia workshop in August 2015, a session was run with participants to explore the strengths and weaknesses of a variety of partnership models in the Pacific. Participants also ranked the models in terms of their suitability/success in the Pacific. A summary of the key points raised seen below.

Model	Good aspects	Less good aspects	Rank
Donor provides funds to a co-operative who provide services to farmers in exchange for money	Management/co-ordination and marketing by farmer group (works well in pacific) Co-operative takes risk More leverage to capture downstream profits	Needs a council to oversee the process Well educated can take advantage of less educated The risk should end at quarantine	8
Funder provides money (e.g. vouchers) to the farmer who uses them with their preferred service provider	Money goes straight to farmer The government's task is to look for funding Private sector finds needs Good collaboration between farmers and service providers	Farmer use of money has to be well monitored Need a feedback mechanism to ensure the providers know the priorities of the farmers No linkages between the government and the service providers The farmers are not the owners of the process	5
A well connected service provider (e.g. co-operative) provides services to farmers in exchange for a fee of some type	Ownership (farmers are part of and manage the co-operative) Farmers have to perform to be able to pay for services Groups have power An annual dividend can be paid to farmers The group has power and leverage to capture downstream profits Ownership builds over time	Co-ops provide a fixed price to farmer produce – they can't bargain for the price Co-operatives are open to abuse by their own members – there needs to be close monitoring Good intentions can be in conflict with each other Need money to get started	8 (Polynesia) 5 (Melanesia)
Private input suppliers provide a product and information to farmers in exchange for money	Improved product supply to farmers Provider could be a co-operative Opportunities for services/products in advance	Service provider controls the rice There is no linkage with others – tension could be created Supplier could bring in other goods Conflict of interest (e.g. head of NGO so benefits men)	7.5 (no money to begin) 8.5 (some starting money)
Funder provides money to a service provider (public, private, NGO) who provides extension services to a client	Consistency in advice (although this is not always the case) Government/donor organise Provides diverse information Works if the extension model is good (feedback of farmers and their existing knowledge in technology development)	Government/donor priorities change Relies upon good system management so that extension agents have clear goals Expensive, particularly around administration	5 – 8 depending on model
Public sector provides extension to farmers in exchange for a fee	Get what you want if applied to a certain service	Have to pay Expensive in south pacific Farmers need up front capacity to pay, requiring finance	9 for commercial 1 for small farmers

### Key lessons:

- Supporting producer associations places high demands on the time and resources of the extension service and complementary activities are required to mobilise other resources to strengthen this process, such as greater involvement of the private sector.
- Usually it is only a private sector operator who has the wherewithal and funding to be able to purchase the product upfront and deliver it to market
- A new 'subsistence' model could be explored where a farmer provides funds to a co-operative who then gains services from a provider. This was suggested during discussions about the last model in the above table above. That is, adapting the model to enable subsistence farmers to access private providers.
- The success of cooperatives is also based on social and cultural norms, and existing relationships. Cooperatives were noted as not working too well in Melanesia, however, there were a number of reasons mentioned why the Polynesian culture is very supportive of cooperative structures.

Sharing of knowledge is often a motivational factor for people to be involved in cooperatives, however some cultures are more amenable to sharing knowledge about their farming than others.

## OTHER CONSIDERATION

### ICTs and knowledge management

Internet communications technologies (ICT), particularly mobile phones, are commonly considered a means of improving small holder agricultural development. In PIC countries access to ICTs varies considerably from country to country. For example, the access and use of ICTs in Fiji are exceptional compared to other PIC countries, however other countries are catching up (eg. Samoa). The main issue in terms of access is cost but this changes quickly in the market. Of course, access to ICTs is more restricted if not absent on outer islands.

### Vulnerable groups

As with our research of international extension practice, vulnerable groups are still significantly disadvantaged in extension in the Pacific. Two main vulnerabilities are gender and tenure insecurity. In terms of extension, recent changes in drivers have seen women being involved more heavily in farming however these changes have not been represented by changes in extension services to cater for women's needs. For example, the number of women extension agents is extremely low, but this is changing. Land tenure systems can lead to inequitable access to land, very fertile lands not being used for agriculture and non-fertile lands trying to support agriculture, as well as agricultural lands not being cultivated for years when land owner-operators work overseas.

### Key lessons

- ICT development needs to account for geographical and cultural context but is showing promise with both extension agents and farmers in some countries. ICTs hold promise in providing youth with an identity in terms of their connection to agriculture and extension as a future career.
- Attention needs to be given to rural community demographics to ensure advisory services are adapted to changes in gender, age, ethnicity and migration, and to take advantage of remittances.

## 5. A VISION FOR BEST PRACTICE EXTENSION BASED ON OUR FINDINGS

With a move from public extension to more pluralistic models of extension that includes a variety of service providers and the application of a variety of models depending on the type of problem being addressed and the context in which the problem sits; it is important to understand that it is unlikely that there is one single optimal model or best model. There are always different options available and new and emerging methods and tools to try, and choosing between these different models is always influenced by political, cultural, geographical feasibility. The role of the extension agent who will facilitate new models of partnerships to provide service delivery to farming communities will have to discern between the varieties of models available, look at trade-offs in terms of things like policy environments, farming systems and market access, governance structures, capacity of stakeholders and staff, and technology access. This is perhaps the starting point for the development of centres of excellence in the Pacific. That is, providing extension agents with these skills and then building locally-based contextualised multi-stakeholder platforms (facilitated by extension staff) that can provide service delivery at the local level, enabling a large database of knowledge to be collected on location specific needs and trends – a platform where all stakeholders form an identity in terms of their role in enhancing food security and community resilience. Institutional support is required right from the beginning, providing guidance and feedback to these centres of

excellence. Best practice extension will then assume best practice in three areas: institutional support, capacity building, and model development, and effective, efficient and efficacy-based monitoring and evaluation processes can be developed accordingly at these different levels.

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