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Chapter 16

Professionalizing the "resilience" sector in the Pacific Islands Region: Formal education for capacity building

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Abstract: Increasingly practitioners and policy makers working across the globe are recognising the importance of bringing together disaster risk management (DRM) and climate change adaptation (CCA). This broader Pacific understanding of climate change as a slow-acting disaster has been adopted by the European Union Pacific Technical Vocational Education and Training on Sustainable Energy and Climate Change Adaptation Project (EU PacTVET) project in introducing innovative initiatives to address wide ranging needs.
A key barrier to improving national resilience to disaster risk and climate change impacts has been identified as a lack of capacity and expertise at all levels resulting from the absence of sustainable accredited and quality assured formal training programmes in the DRM and CCA sectors.
A key issue is providing an accreditation and quality assurance mechanism for formal training shared across the region through the national delivery of regionally quality assured qualifications in Resilience (CCA and DRM).
TVET training modules and tools developed under the EU PacTVET project will be reviewed by industry and the scientific community through the Pacific Regional Federation of Resilience Practitioners. This professional association alongside the development of regional qualifications is ground breaking and providing global leadership and will ensure the sustainability of the project's outcomes.

16.1 Introduction
Climate change and a changing environment can be seen as the Pacific region's greatest contemporary challenge. They are now having impacts on Pacific societies and cultures which are far reaching and rapid. Geographic remoteness, ecological fragility, rapid human population growth, waste disposal needs, limited land resources, depleted marine resources, exposure to natural disasters, and global fluctuations in climate; all contribute to the increasing vulnerability of small island developing states in Pacific islands and territories region (Woods et al., 2006). The Pacific Island Countries (PICs) have come to represent the 'front-line' or the 'canary in the coalmine' in raising awareness globally regarding the potential negative consequences of climate change and impacts on environmental security (Smith and Hemstock, 2011). A recent UNDP

(2013) study established that most Pacific island populations lack climate change awareness and knowledge of appropriate adaptation strategies, leaving them powerless to make informed choices about adaptation to climate change impacts affecting their livelihoods and resources – both now and in the future. Furthermore, the lack of formal training programmes with competent staff and well-resourced and equipped training institutions is a key barrier to improving PICs energy security status and resilience to climate change impacts (Buliruarua et al., 2015). Most global policy frameworks dealing with CCA and DRM, for example, the 2015 Sendai Framework on Disaster Risk Reduction, identify the central role of training and capacity development and critical for meeting sustainable development (Hemstock et al., 2016).

In the PIR many young people continue to acquire workplace skills by informal means and non-formal training.[1] This is still the case in spite of the multitude of policy dialogues and agreements on the requirement of education per se to improve resilience to climate change and disasters. Although the role of "local level" action is recognised in policy dialogue (e.g. the Framework for Resilient Development in the Pacific), there are no relevant formal qualifications accessible at this level. The vast majority of offerings in this sector are at postgraduate level, which is not appropriate for the majority of stakeholders—including communities. In that regard, regional Technical and Vocational Education and Training (TVET) qualifications aligned with the Pacific Qualifications Framework (PQF) levels 1 to 4 would be most appropriate. Since most of the current regional training delivery is carried out on a project basis, usually by short-term consultants, it is unsustainable in terms of national capacity to deliver. Ad-hoc training and lack of national capacity to deliver training sustainably also means that many projects fail if those trained on project activities leave the community (Woods et al., 2006). These issues lead to the conclusion that national capacity for the delivery of quality assured regional qualifications in CCA and DRM/disaster risk reduction (DRR) should be a more sustainable approach.

Recognition and validation of learning outcomes from non-formal and informal learning (i.e. recognition of current competencies) assist in making visible the knowledge, skills and competences acquired within the informal sector to promote decent employment and labour mobility (UNESCO Institute for Lifelong Learning, 2015). In this regard it is also noted that a lack of formal qualifications, certification or professional recognition of an individual's skills makes workers vulnerable and fosters social inequality (Asian Development Bank and International Labour Organisation, 2015). The lack of an "accredited" skills recognition process for informally acquired skills in the Pacific region also compounds the "poverty of opportunity" that is deemed to exist in the Pacific small island developing states (PSIDS) (Te Kakeega II, 2005). Mobility of the labor force in the Pacific region has long been a focus for the Pacific Leaders. Thus, an education and training system – which incorporates recognition and validation of

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[1] The definitions of formal and non-formal learning adopted by this chapter are as outlined by the UNESCO Institute for Lifelong Learning (2015): formal learning takes place in education and training institutions, is recognized by relevant national authorities, and leads to qualifications; non-formal learning is learning that has been acquired in addition or alternatively to formal learning. It usually takes place in community-based settings, the workplace and through the activities of civil society organizations.

competences across the region – will contribute to this regional objective. It is also contended that, when enforced migration due to climate change becomes a wider reality, people should be allowed to "migrate with dignity" – whereby they should have the means to participate successfully in the job-market of the place where they migrate to. One way to achieve this is by having mutually recognised, accredited qualifications.

Findings from Buliruarua et al. (2015) indicate that formal educational pathways and the professionalization of CCA and DRM/DRR sectors need to be established as a matter of urgency since the region currently has little capacity to absorb the funding for climate change related activities entering the region. The UNFCCC COP21 Paris Agreement promises a minimum of $100bn a year in climate finance for all developing countries by 2020. Adapting to climate change is central to major development efforts for Pacific – African, Caribbean Pacific (P-ACP). Financial resources for adaptation have already been flowing into the P-ACPs, adding up to US$ 2148 million in 2013, almost half of it (48%) being funded by Australia (www.oecd.org), and over 70% of these aid flows can be linked to climate change and DRR/DRM activities.

An analysis of the situation in Tuvalu provides a good illustration of why local capacity in CCA and DRM/DRR is desperately needed to take full advantage of aid flows into the region. In 2008, Tuvalu's GDP was US$32 million, 50% of this was in the form of development aid – approximately US$4 million was spent on external technical assistance (Smith and Hemstock, 2011). Due to a lack of in-country capacity, a staggering 12% of Tuvalu's GDP is spent on external experts from consulting companies and multilateral organisations. These results support comparable conclusions reached in a study of the water sector in Kiribati (Storey and Hunter, 2010).

Professionalization of the Resilience (climate change and disaster risk management, see discussion below) sector requires accredited qualifications and on the job training. Currently formal education in DRR/DRM is only offered in the region at the Postgraduate level (level 8 from 10 on the PQF). This is because most adaptation efforts to date have largely been 'top-down' in their process and approach, so limited attention has been given to integrating community experiences of climate change into adaptation actions, including the knowledge and views of community members on how to cope and adapt to localised changing environmental conditions (McNamara et al., 2012; Reid et al., 2009). However, capacity building workshops are often offered as components of CCA or DRM projects but they are ad-hoc and non-formal.

As a response to the national, Pacific regional, and global policy frameworks the European Union Pacific Technical and Vocational Educational and Training in Sustainable Energy (SE) and Climate Change Adaptation (CCA) project (EU PacTVET) was devised to overcome the lack of local formal training programmes and qualified staff in the P-ACP country grouping. EU PacTVET is the third component of the larger European Union 10th European Development Fund (EDF) programme: Adapting to Climate Change and Sustainable Energy. EU PacTVET is a €6.1 million project currently being implemented by The Pacific Community (SPC) and The University of the South Pacific (USP). The wider programme aims to enhance sustainable livelihoods, strengthen countries' capabilities to adapt to the adverse effects of climate change and enhance their energy security at the national, provincial and local/community levels in all fifteen P-ACPs;

namely, the Cook Islands, the Federated States of Micronesia (FSM), Fiji, Kiribati, Nauru, Niue, Palau, Papua New Guinea (PNG), the Republic of the Marshall Islands (RMI), Samoa, Solomon Islands, Timor Leste (East Timor), Tonga, Tuvalu, and Vanuatu (See Map 1). The purpose of EU PacTVET is to enhance and/or create P-ACPs' regional and national capacity and technical expertise to respond to climate change adaptation (CCA) and sustainable energy (SE) challenges.

This chapter presents the EU PacTVET initiatives that support global, regional and national frameworks and policies which prioritise building resilience to climate change and natural hazards through human resource development facilitated by accredited qualifications. It also outlines the recommendations guiding future policy formation that EU PacTVET activities have initiated. Responsive and accredited regional qualifications that integrate local knowledge should ensure that the interventions managed by those having these qualifications are really supporting sustainable development, thereby: limiting the impacts of climate change and natural hazards; empowering locals to become actively involved actors in their own development; and limiting maladaptation and generation of new risks.

16.2 History of EU PacTVET and Methodology

EU PacTVET activities were guided by an initial Training Needs and Gaps Analysis (TNGA). In trying to maximize the effectiveness of the needs and gap analysis, and to ensure it captured opinions of many stakeholders and relevant existing information, a mixed methods approach was employed including literature survey, policy analysis and in-country missions for all 15 P-ACPs. Prior to in-country missions, questionnaires were forwarded to government ministries for energy, climate change and education, energy utilities and TVET training institutes. This ensured that stakeholders and existing national formal qualifications and non-formal trainings were identified. With regard to stakeholder consultation, determining which methodology to apply depended on various factors ranging from availability, geographical location and sector. The following are some of the methods employed to capture the required data during the in-country mission: Consultative workshop - a consultation with stakeholders in a venue where the agendum for discussion or consultation is done for all at once. This was the methodology employed for the first two days during most in-country missions; One-to-one consultations (interviews) - with key stakeholders who could not attend consultative gatherings, due to other commitments. This was also employed for a number of stakeholders who could not attend the consultative workshop. Workshops and interviews were carried out from February-September 2015.

Methodologies are outlined in the detail by Buliruarua et al. (2015) and Hemstock et al. (2017). Additionally, Buliruarua et al. (2015) lists participating stakeholders in all 15 P-ACPs (government and international agencies, ministries, NGOs, education providers, development partners, private sector organisations, community and interest groups, etc.). Research in all 15 P-ACPs revealed that: formal qualifications were required for professionalization in the areas of SE and CCA; particular emphases should be placed on the recognition of "Resilience" (climate change adaptation and disaster risk management) as an important employment sector for the region– especially for small island developing states such as Tuvalu, where the government is the nation's largest employer; and that the professionalization of the Resilience Sector was urgently required (Buliruarua et al., 2015).

The PQF benchmarks qualifications delivered in the Pacific against international standards, "thus allowing Pacific Islanders to benefit from the opportunities of globalisation and actively engage in all forms of productive livelihood activities" (EQAP, 2011). The PQF has 10 levels, where level 1 is equivalent to a school leaver's certificate (e.g. Tonga School Certificate) and level 10 is equivalent to a Doctorate (PhD). Education associated with acquiring knowledge and skills to perform a specific job is known as vocational education/training, and usually relates to levels 1 to 5 on the PQF (Sanerivi et al., 2016; Hemstock et al., 2017).

EU PacTVET has worked with stakeholders from all 15 P-ACPs via a partnership with the Fiji Higher Education Commission to develop qualifications at Certificate Levels 1 to 4 on the PQF in "Resilience (CCA and DRM)" and "Sustainable Energy". There is no other example of a regional approach to TVET educational qualification development and accreditation. The regional frameworks, in particular the Framework for Pacific Regionalism and the size of the Pacific region facilitate a position which can provide global leadership in the area of regionally accredited qualifications. Additionally, the EU PacTVET initiative is the first ever development of TVET qualifications in the subject areas of Resilience.

16.3 Resilience in the Pacific context

Pacific Island Countries face many different challenges (Kelman et al., 2015), natural hazards and climate change being considered the most important of them. When assessing the issues of climate change and natural hazards, some countries concluded that: most of the natural hazards they were exposed to were either hydro-meteorological or climatic hazards and would be likely influenced by climate change (IPCC, 2013); there was duplication in the data collected and some solutions developed for communities under climate change adaptation and disaster risk reduction projects or programmes; there was a link between development, risk management and climate change adaptation; and countries had limited resources to implement climate change adaptation and disaster risk reduction programmes in parallel.

As a result, Pacific Island Countries started to develop joint National Action Plans (JNAP) to integrate these issues and mainstream them into their development plans. Following these developments at national level, the regional frameworks for climate change (Pacific Island Framework for Actions on Climate Change 2006-2015, PIFACC) and for disaster risk management (Regional Framework for Actions 2005-2015, RFA) were merged by the Pacific Community's member countries and territories in 2016 into an integrated framework: the Framework for Resilient Development in the Pacific 2017-2030 (FRDP, Pacific Community et al., 2016).

When developing the FRDP, it was realized that to use 'integrated CCA and DRM was too long and complex. A new term was then discussed that was neutral, not too climate change or disaster oriented, and relevant for both communities of practice. Resilient development was selected with the following definition:

> *Development processes and actions that address the risks and impacts of disasters and climate change while progressing to stronger and resilient communities* (Pacific Community et al., 2016).

In the context of the FRDP, resilient development corresponds to development processes and actions that address the risks and impacts of disasters and climate change while progressing to stronger and resilient communities (Pacific Community et al., 2016). The rationale for integrating DRR and CCA in the PICs is based on several similarities:
•   DRR and CCA aim for the same goal (making communities or countries more resilient).
•   DRR and CCA use comparable approaches (risk assessment, vulnerability assessment, and ecosystem-based actions).
•   DRR and CCA both support development activities.
•   The most frequent disasters in the PICs are caused by hydro-meteorological hazards (cyclones, floods and droughts).
•   The projected impacts of climate change include more intense and/or frequent extreme weather events.

It is important to note that the definition chosen for resilient development does include the concept of progress, as opposed to the definition of resilience adaptation from Pelling that implies a return to the status quo (Pelling, 2011). Although it is not explicitly mentioned in the FRDP, nor in the TVET qualification, adaptation in the Pacific context is a combination of ex-ante and ex-post adaptation (Tanner & Mitchell, 2008) and corresponds to the reformist adaptation defined by Basset and Fogelman (2013) in the sense that it considers not only the physical and natural aspect of risk but also vulnerability based on socio-economic conditions but aims to work within the existing system, adjusting its rules whenever necessary (Pelling, 2011). For example, in the EU PacTVET context, building resilience will focus on reducing the exposure of communities where possible and address the local drivers of vulnerability such as monocrop culture, limited diversification of household incomes. However, global drivers of vulnerability such as market driven production, negative impact of globalisation will not be addressed.

The TVET qualifications on resilience were developed to support the implementation of the FRDP, as well as global frameworks like the Sendai Framework for Disaster Risk Reduction, the Paris Agreement on Climate Change and the SDGs in the 15 ACP countries. The overall aim of integrating CCA and DRM with emphasis on DRR is to improve the resilience of Pacific communities to climate change and disaster impacts via the effective, appropriate and integrated methods of risk and vulnerability assessment, planning, adaptation activities and monitoring. This integration, in the context of the qualifications developed under the EU PacTVET project, includes participatory processes to identify with the affected community the most relevant Resilience building strategies, based on 'Western science'-based methods but also on the experience and traditional knowledge of community members. Other aspects are also covered in the qualification such as natural resource management, ecosystem services, socio-economic drivers of vulnerability and pollution. For a successful integrated approach it clearly needs to deliver input into human capacity building via training for key stakeholder groups that have a crucial role in addressing the impacts of climate change and disasters in the Pacific region. Key stakeholders for training have

been identified as Governments (national and local), the private sector, civil society organisations, rural communities, regional organisations and disaster management officers (Hemstock et al., 2017). This approach through local TVET providers, including rural organisations is expected to lead to the integration of the views of different stakeholders and to facilitate the inclusion in the qualifications of traditional knowledge and skills, for example for food production and preservation. CCA and DRR skills are already integrated into the Resilience Qualifications since these skill sets are very similar.

Once the content of the qualifications was finalised, there was a need to decide their title. To be completely aligned with the FRDP, resilient development could have been chosen. However, this was considered problematic for two reasons. First, the sustainable development in the FRDP includes low carbon development and this aspect is not covered under the Resilience qualifications but under the Sustainable Energy ones also developed under the EU PacTVET project. Second there is often confusion between development and economic growth (Cannon & Müller-Mahn, 2010) and there was a risk that people would think the TVET qualifications would include skills to support economic growth. As a result, Resilience was chosen, using the UNISDR definition:

> *"The ability of a system, community or society exposed to hazards, and/or climate change, to resist, absorb, accommodate and recover from the consequences of a hazard event or of climate change in a timely and efficient manner. This includes through the preservation and restoration of its essential basic structures and functions."* (UNISDR 2009).

However, as for the FRDP, in the context of the TVET Resilience qualifications, resilience is not only seen as the return to previous situation after a crisis or a disaster but also include changes and adjustments, in particular to address the socio-economic drivers of vulnerability, to be better prepared for the next one.

16.4 Local policy context and EU PacTVET response

To a large extent, the process by which inclusion of CCA and DRR as a sub-set of DRM has occurred regionally across the Pacific is via integrating climate change into regional and national development policy (Hemstock et al., 2017). Mainstreaming has culminated in the development and support of the regional Framework for Resilient Development in the Pacific (FRDP, 2016) which is a set of voluntary guidelines for the Pacific region.

An analysis of various national guiding policy documents from the 15 P-ACP countries indicated a strong shift towards the integration of CCA and DRM with emphasis on DRR into one policy since 2010 when Tonga led the region in the development of its Joint National Action Plan for CCA and DRR (SPREP, 2013). In addition, as outlined in Table 16.1, all countries used national policy to highlight the need to strengthen capacities in-country, and at all levels to address CCA and DRR issues. However, as identified in the TNGA, the implementation of these policies to build capacity in CCA, DRM and Sustainable Energy is limited. For example, Fiji, in its Climate Change policy 2012, highlights the need to "integrate climate change (CC) in school curricula, tertiary courses, and vocational, non-formal education and training programs", while Palau, in its

Climate Change Policy for Climate and Disaster Resilient Low Emissions Development 2015 highlights the need for formal and informal disaster risk management education programs to be offered through different training providers.

Table 16.1 Key national policies on CCA and DRM/DRR and an examination of their requirement for related learning

All countries indicated a lack of capacity and the need to strengthen existing capacity to provide early warning systems for slow and fast hazards, and most highlighted the need for some level of project management skills i.e. proposal development, reporting, administration/management, monitoring and evaluation. Most countries also identified sector-specific type training needs, for example, Nauru highlighted fisheries and aquaculture expansion training; Timor Leste identified capacity building and training in agroforestry and sustainable forest management systems to improve capacity and knowledge on forests.

An EU PacTVET stakeholder and Regional Industry Standards Advisory Meeting in October 2016 confirmed that competencies covering aspects of DRM should also be integrated into the qualifications in Resilience (CCA/DRM) at levels 1-4 on the PQF. However, the skills and competencies needed in DRM (e.g. logistics, emergency management) differ from those needed in DRR and CCA and will be integrated into the Resilience qualifications at a later stage (see 16.4 below).

The call for formal qualifications and "professionalization" was loud and clear from stakeholders in all 15 P-ACP. An illustration of why this was the case is given here by Vanuatu and Tuvalu, who were hit by Tropical Cyclone Pam just before their national stakeholder meeting occurred. Both countries recommended that DRM should be integrated with CCA into competencies and qualifications at certificate levels 1-4 on the PQF. One stakeholder, a former government official and community resident from Tuvalu commented that "If people in communities were equipped with recognised post disaster assessment skills already we wouldn't have to wait for assessors to visit communities post disaster and disaster responses could be faster". Some community members in Tuvalu had received non-formal training on post disaster assessment, but their assessments were not considered relevant by relief agencies in the aftermath of Cyclone Pam, delaying relief efforts by up to a week. Tuvalu stakeholders therefore determined that recognised and accredited qualifications in CCA and DRR would provide a professional aspect to the training offered. It was concluded that all training should be aligned toward the overall "professionalization" of DRR and DRM, including identifiable career paths with sequential learning stages. (The "professionalization" aspect of this finding is in agreement with the findings of Analysis of Disaster Response Training in the Pacific Island Region Provisional Version September 2012, United Nations Office for the Coordination of Humanitarian Affairs, Regional Office for the Pacific, September 2012). (Buliruarua et al., 2015; Hemstock et al., 2017).

From Table 16.1 we can see that there is a policy call for professionalization via formal education. However, the problem is that these policy calls are not being implemented. At the recent Third

Regional Meeting of Pacific Ministers for Energy and Transport (Nuku'alofa, Tonga, 24–28 April 2017) (SPC, 2017) ministers recommended the following: the region's capacity building and training on sustainable energy to be based on formal accredited TVET qualifications and support to continuing research and development in the area of sustainable energy; while encouraging a national approach, we also support a regional approach to accreditation of sustainable energy competency-based qualifications and skill sets in the vocational educational sector – including a system for incorporating quality assurance/ accreditation/ recognition of formal and informal learning (project-based training) and recognition of prior learning; and support an industry-driven demand based TVET system for sustainable energy through national and regional professional industry associations;

The EU PacTVET project is a sequential project, whereby activities are based on stakeholder consultations, the training needs and gap analysis, regional steering group endorsement, policy recommendations, and ministerial directives. From this basis, the project opted for regionally devised and accredited qualifications to ensure that adaptation measures limit the impacts of climate change and natural hazards; empower locals to become actors in their own development; and limit maladaptation and the generation of new risks. Additionally, for EU PacTVET to ensure applicability across all stakeholder groups, from grassroots community members to government and private sector managers, qualifications were constructed around a "competency" and "skill-set" approach. A menu of competencies and skill sets are available within the qualifications (e.g. how to perform or interpret a cost benefit analysis). Completing a range of skill-sets will build into a full qualification. Countries can deliver different aspects of the qualifications according to their identified capacity needs. National providers (e.g. Tuvalu Maritime Institute) have been identified who will deliver different skill sets and where necessary staff are being trained so that they have appropriate training qualifications to allow delivery of the qualifications. Since the qualifications are to be accredited regionally, skill-sets will be mutually recognized and can be built upon by completing competencies/skill-sets at more than one educational provider. The competencies and skill-set approach allows the development of a range of teaching resources which are location-specific. While learning outcomes remain the same across the region, learning resources are specifically developed for each country, in local languages and with local examples.

For example, one unit of the competencies has, as a learning outcome, the skill to conduct a vulnerability assessment. Some countries have developed their own vulnerability assessment such as the Reimaanlok in the Marshall Islands (Reimaan National Planning Team, 2008), while in Fiji, a new integrated vulnerability assessment is in development. Students enrolled in this unit in both countries will have the skills to conduct a vulnerability assessment but will be trained to use different ones.

16.5 Sustainability- The Pacific Regional Federation of Resilience Practitioners

Based on policy calls and previous projects the EU PacTVET project is instigating a number of initiatives to "professionalise" the CCA/DRR/DRM sector which include the establishment of the Pacific Regional Federation for Resilience Professionals (PRFRP) to encompass practitioners and provide business models which promotes sustainability (Hemstock, et al., 2016) to advance the

recognition and professionalization of this employment sector in the Pacific region. The establishment and functions of the PRFRP were proposed and agreed by all countries at a high level meeting in May 2016. It will be a stand-alone organisation that will continue maintaining, updating and providing industry recognition for the delivery of the qualifications after the EU PacTVET project cycle ends in June 2021. It will certify practitioners based on current competency, prior learning and be a united and diverse Pacific regional industry association for resilience and will achieve sustainable outcomes in skills development, education, training and employment for the CCA and DRM/DRR sectors. As seen from section 16.3 above, the PRFRP will align closely with regional and national needs and priorities via national policy and the FRDP with the intention of enhancing the professionalism of practitioners in the diverse fields of CCA/DRR/DRM.

This will be achieved through several approaches. Transition from ad-hoc and non-formal training provision on CCA/DRR/DRM will be facilitated a by promoting formal provision of relevant PRFRP recognised qualifications via EQAP or nationally validated training providers. An "Industry Certification Scheme" for practitioners that sets the benchmark of quality for the "Resilience Sector" will be based on qualifications, experience and will also include recognition of current competencies and prior learning. Since all previous education and trainings in this sector have been on an informal ad-hoc project basis, it is important to develop and implement an appropriate system of recognition of previous learning as a valid and quality assured process for certification. A register of certified professional resilience practitioners will be maintained and a code of ethics for resilience practitioners to abide by will be developped. The Resilience Industry Skills Advisory Committee (RISAC) will be administered to facilitate reviews and updates of education and training curriculum and practices in resilience, approximately every 3 years. The EU PacTVET qualifications in "Resilience" were developed by the RISAC. This was facilitated by the Fiji Higher Education Commission. The RISAC consists of sector stakeholders, professional associations, licensing agencies, educational institutions and Government representatives. The EU PacTVET qualifications will be maintained by the RISAC, thus ensuring that they continue to meet industry requirements. Standards and environmentally sound practices for sustainable CCA/DRR/DRM products and services - including the use of appropriate strategies, technologies and resources will be adopted and promoted. This will be achieved by integrating current best practices into the qualifications when they are updated. A collective, collaborative and effective representation of the "Resilience Sector" in industry and government affairs is expected to occur, to promote relationships with relevant stakeholders (including multi-lateral and bilateral donors), international agencies and government ministries and departments to promote the use of best practices in CCA/DRR/DRM.

There are currently around 100 members of the PRFRP. Membership is anticipated to include, but is not limited to NGOs and community groups; education and training institutes; universities; private sector green and sustainable environment focused businesses; industry associations; utilities; government departments; multi-lateral and bi-lateral donors; international agencies; and, individuals (practitioners).

16.6 Developing Resilience Qualifications

Based on the results of the TNGA, it was clear that all countries wanted capacity development at the TVET levels 1-4 to cover climate change adaptation and disaster risk management (Buliruarua et al., 2015). Two options were available: have one qualification on climate change adaptation and another one on disaster risk management or integrate both into a new topic.

Following the policy developments at national and regional level, and in particular the endorsement of the Framework for Resilient Development in the Pacific 2017-2030 (FRDP, The Pacific Community et al., 2016) and in alignment with the above conclusions at both national and regional levels, P-ACP countries decided to develop one set of qualifications, integrating climate change and disaster risk management. Because climate change and disaster risk management make for a very long and unpractical title, the term "Resilience" was chosen by P-ACP country representatives, as detailed in section 16.2.

16.6.1 Phase 1: Climate Change Adaptation (CCA) & Disaster Risk Reduction (DRR)

The EU PacTVET project partnered the Fiji Higher Education Commission (FHEC) to establish an Industry Standards Advisory Committee (ISAC) for Resilience. The FHEC was host to the qualification development process to ensure quality assurance and alignment with Pacific regional frameworks. The ISAC for Resilience has representation from the region's private industry, government, education and training sectors, NGO's, regional agencies and community stakeholders. Given the breadth of CCA and DRM this group included persons representing agriculture, energy, forestry, fisheries, agriculture, tourism, health, marine resources and water. Through extensive discussions in ISAC meetings, which included potential employers of the future TVET graduates, the field of Resilience was organized in eight streams covering specific sectors of importance for the P-ACP countries at levels 3 and 4 while levels 1 and 2 are generic as shown in Figure 1 below.

The ISAC agreed to integrate Climate Change Adaptation (CCA) and Disaster Risk Reduction (DRR) skills because they are very similar, the main difference being the information on the risks the communities are facing: based on historical record of previous disasters for DRR and future climate projections for CCA. In the context of the P-ACP countries, the common skills for CCA and DRR were identified to be: risk assessment skills (including vulnerability assessment); identification of resilience building action through participatory process; resilience building implementation skills; communication skills; and project management skills.

16.6.2 Phase 2: Inclusion of Disaster Response and Recovery

During the discussions with the RISAC, it was very clear that although CCA and DRR skills were very similar, the skills required for the other phases of the disaster cycle, namely disaster response and recovery were very different. They were thus added to the resilience qualification in a second phase.

The discussion included two main questions: Since the skills are different, is it needed to create a specific unit for disaster response, or even a specific qualification? What are the skills that need to be included in the qualification?

To have a specific qualification for Disaster Response, also called sometimes Disaster or Emergency Management would defeat the goal of integration and create more separation between the stakeholders focusing on DRR and those focusing on DM. This inclination to work in silos was identified and ways to address this issue have been discussed during the World Humanitarian Summit in the resilience section (United Nations, 2016). The inclusion of a new unit would have the consequence of significantly affecting the distribution of credits over the qualifications and of affecting the balance between core units and elective units.

As a result, a new set of skills was added into the relevant existing units to cover the specific skills required for disaster response.

16.7 Concluding remarks

Capacity development is a foundational aspect of successful overseas development assistance and effectiveness in meeting long-term development and CCA goals.

The EU PacTVET project has built on previous and existing regional CCA and DRM initiatives such as the USP and SPC European Union Global Climate Change Alliance projects, in order to develop a framework to create a set of region-wide qualifications for vocational training in CCA and DRM. Importantly while setting regional minimum standards, validation and accreditation processes there is room for sufficient flexibility within this educational regime to allow national providers to access the skill-sets or competencies' that are most appropriate for their territories' needs and priorities.

The project has developed the competencies for certificate level qualifications from levels 1 to 4 on the PQF. Broad regional stakeholder engagement has been important in this development so that the core competencies of qualifications can be accepted as having common applicability across the region, while the elective competencies can provide the necessary bespoke characteristics/ strands that are most appropriate and effective within each island state. This flexibility will facilitate meeting a wide range of national and regional needs simultaneously. Some countries are intending this training to be delivered predominantly, although not exclusively, at the community college level with a view to the qualifications gained being a potential precursor to degree level education. An innovative aspect of this project is that the material and qualifications can be utilised equally by other stakeholders, such as government departments, who may wish to use this for capacity building staff development.

Creating regional frameworks that also maintain national level variability has been a long-standing challenge for donor agencies. The education sector provides a useful model to work on best practice which ensures quality through a rigorous validation, accreditation and monitoring process.

Having a regionally accredited set of qualifications enhances employability mobility, although the intention is that the capacity built via this training (in particular at the Certificate 1 and 2 levels) will primarily benefit communities within which the training has taken place. In order to do this it

is recognised that employment opportunities will need to be available for those taking these qualification to make the most of their enhanced capacity. With this in mind engagement with the private sector and aligning with relevant industry standards has also been an integral part of the design and delivery of this project.

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Table 16.1
Key national policies on CCA and DRM/DRR and an examination of their requirements for related learning

Country	Key Policy	CCA	DRM/DRR	Non-formal training	Strengthen capacity (general)	Education (formal assumed)
Cook Island	Cook Islands Joint National Action Plan for DRM & CCA	✓	✓		✓	
Fiji	Fiji National CC Policy 2012 & National DRM Plan 1995, National Disaster Management Act 1998; Climate Change Adaptation and Disaster Risk Reduction Strategies 2013.	✓	✓	✓	✓	✓
FSM	Joint State Action Plan for CC & DRM and 2nd National Communications report to the UNFCCC	✓	✓		✓	✓
Kiribati	Kiribati Joint Implementation Plan for CC and DRM 2014 -2023	✓	✓		✓	✓

Nauru	Republic of Nauru Framework for Climate Change Adaptation and Disaster Risk Reduction 2015	✓	✓		✓	✓
Niue	Niue's Joint Action Plan for DRM & CCA	✓	✓		✓	✓
Palau	Palau Climate Change Policy: For Climate & Disaster Resilient Low Emissions Development 2015	✓	✓		✓	✓
PNG	The National Development Strategic Plan (DSP) (2010-2030)	✓	✓		✓	✓
RMI	RMI Joint Action Plan for CCA & DRM; Vision 2018 (2003-2018); National Climate Change Policy Framework 2011; Ministry of Education Strategic Plan (2013-2016)	✓	✓		✓	✓
Samoa	Samoa National Action Plan for DRM 2011-2016	✓	✓	✓	✓	✓
Solomon Islands	National Development Strategy 2011-2020; Solomon Islands Climate Change Policy (2012); Solomon Islands National Disaster Risk Reduction Policy (NDRRP, 2010)	✓	✓	✓	✓	✓
Timor Leste	National Adaptation Programme of Action (NAPA, 2010) on Climate Change Adaptation National Disaster Risk Management Policy 2008	✓	✓	✓	✓	
Tonga	Tonga National Climate Change Policy and Joint National Action Plan for CCA & DRM 2010-2015	✓	✓		✓	✓
Tuvalu	Tuvalu National Strategic Action Plan for CCA & DRM 2012 -2016	✓	✓	✓	✓	✓
Vanuatu	Vanuatu Climate Change and Disaster Risk Reduction Policy 2016 - 2030	✓	✓	✓	✓	