

Capacity Development and TVET: Accredited Qualifications for improving resilience of coastal communities – a Vanuatu case study

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Abstract

For countries like Vanuatu, climate change is the most significant single threat to sustainable development, in particular due to the large proportion of the population living in coastal communities. Additionally Vanuatu is the world's most at-risk country for natural hazards mainly affecting coastal communities (Birkmann & Welle, 2015). One of the key barriers to improving Pacific Island Countries' resilience to climate change impacts is the lack of local and regional capacity and expertise resulting from the absence of sustainable accredited and quality assured formal training programs in climate change adaptation (CCA) and disaster risk management (DRM) (Jordon, Huitema, Van Asselt, Rayner, & Berkhout, 2010; Martin, Hemstock, Jacot Des Combes, Buliruarua, Kua, & Satiki, 2015). The European Union funded PacTVET project has partnered with The Pacific Community (SPC) and the German aid agency (GIZ) Coping with Climate Change in the Pacific Region (CCCPIR) programme to support the delivery of the first accredited TVET certificate in Climate Change and Disaster Risk Reduction (CCDRR) in the Pacific Islands region. This TVET qualification provides outcomes based learning specifically focused on coastal communities through practical activities and field work involving vulnerable coastal areas throughout the provinces of Vanuatu. The delivery of the CCDRR course is being led by the Vanuatu government through the Vanuatu Institute of Technology and is leading regional and global developments in formal accredited TVET training for Climate Change and Disaster Risk Reduction.

Key words

Resilience, Climate Change, Disaster Risk Reduction, Accredited qualifications, TVET

Introduction

The small island states of the South Pacific have been described as a "global front line" in the struggle of developing countries to adapt to the adverse impacts of climate change (Ferris, Cernea, & Petz, 2011). Without addressing climate change, sustainable development cannot be achieved. At the international level, the Sendai Framework for Disaster Risk Reduction 2015-2030 (UNISDR, 2015) is a 15-year non-binding agreement which "recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders. The Sustainable Development Goals (SDGs) (United Nations, 2016) and the Paris Agreement (United Nations, 2015), are two other seminal landmark agreements that call for "capacity building in disaster risk reduction, sustainable development, and climate change adaptation and mitigation".

Education and capacity building have roles to play in achieving the alignment and delivering the outputs of these three global initiatives (the Sendai Framework, SDGs and the Paris Agreement). Findings from the needs and gap analyses of all 15 Pacific –African, Caribbean and Pacific (P-ACP) countries indicate that formal qualifications which account for local contexts are required to build national capacity to: accurately monitor and assess impacts of climate change and natural hazards; identify solutions to reduce these risks; and plan, manage and implement risk reduction projects to reduce damage and losses (Martin, Hemstock, Jacot Des Combes, Buliruarua, Kua, & Satiki, 2015).

Responsive and accredited qualifications provide quality assurance and trust that in turn ensures interventions managed by those having qualifications in Resilience are really supporting sustainable development, thereby: limiting the impacts of climate change and natural hazards; empowering locals to become involved actors in their own development; and limiting maladaptation and generation of new risks.

The significance of capacity building for climate change adaptation to the sustainable development of the Pacific Island countries and territories was seen in the endorsement by the Forum Leaders of the Pacific Islands Framework for Resilient Development (UNISDR, 2015) which replaces the Pacific Islands Framework for Action on Disaster Risk Reduction and Disaster Management.

The Vanuatu government supports the global and regional direction in its national policy on Climate Change and Disaster Risk Reduction (2016-2030). A key priority for the Vanuatu government is stated as 'achieving sustainable and resilient development across all levels and sectors in the small island nation, by addressing the risks faced from climate change and disaster impacts' (Government of the Republic of Vanuatu, 2015).

With support from the EU PacTVET project, The Pacific Community (SPC) and the German aid agency (GIZ) Coping with Climate Change in the Pacific Region (CCPIR) programme Vanuatu is currently delivering the first nationally accredited TVET qualification in Climate Change and Disaster Risk Reduction (CCDRR) in the region (and world). This paper presents this initiative in Vanuatu focused on coastal communities and also makes the case for using accredited regional and national TVET qualifications to support capacity development. Capacity development through TVET qualifications is a process of empowerment that comes with an understanding that practical skills can directly impact livelihoods, cultures and the environment. Capacity development is a foundational aspect of successful overseas development assistance and effectiveness in meeting long-term sustainable development goals. The current delivery of a Certificate 1 in CCDRR in Vanuatu is leading developments addressing the development of effective climate change adaptation strategies for coastal communities.

TVET and Development

Increasingly practitioners and policy makers working across the globe are recognising the importance of bringing together disaster risk reduction and climate change adaptation. From studies across 15 Pacific nations, a key barrier to improving national resilience to disaster risks and climate change impacts has been identified as a lack of capacity and expertise resulting from the absence of sustainable accredited and quality assured formal training programmes in the disaster risk reduction and climate change adaptation sectors. In the 2016 UNISDR Science and Technology Conference on the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030, it was raised that most of the training material available are not reviewed either through a peer-to-peer mechanism or by the scientific community and are, thus, not following quality assurance standards. In response to these identified barriers, there has been a call for accredited formal qualifications for capacity development.

Education and training are at the heart of the post-2015 sustainable development agenda and are considered essential for the success of all sustainable development goals. A consensus exists around the world that qualification frameworks based on learning outcomes are appropriate tools for the reform and expansion of educational and training provision in ways that will raise skills levels, improve labour market productivity and contribute to sustainable development (UNESCO Institute for Lifelong Learning, 2015). Qualifications are developed and delivered, assessed through formal structured quality assured mechanisms that enhance outcomes including opportunities for graduates.

Qualification Frameworks

The need for national and regional qualifications frameworks was raised at the regional level more than three decades ago and was highlighted by Bartam (2004). A Pacific Qualifications Framework (PQF) and a Pacific Register of Qualifications and Standards (PQRS) are now in place. The main purpose of the PQRS is to facilitate the benchmarking of nationally offered Pacific qualifications against international standards. Pacific Island Countries (PICs) are encouraged to develop national qualification frameworks and quality assurance systems and to link these to the Pacific regional qualification framework to enhance the quality standing of their national systems of education and training. To date four Pacific Island Countries¹ have developed and aligned national qualifications frameworks with the PQF. Subsequently the national qualifications accredited in these countries are listed on the PQRS (EQAP, 2011).

Qualifications and Quality Assurance

In the Pacific region although there has been substantial ad hoc informal training in resilience over the past decade there is a recognized absence of formal vocational training in this field (Martin, Hemstock, Jacot Des Combes, Buliruarua, Kua, & Satiki, 2015). This absence combined with the increasing demand for such expertise has created a skills shortage. TVET qualifications establish the all-important links between the world of work and the world of education; they create a common language which is understood by employers, learners and all stakeholders. Qualifications signal that a person possesses certain knowledge, skills and attributes and, thus enable employers to make use of approved, recognized and thus quality assured qualifications. Additionally regionally-acknowledged qualifications enhance labour mobility, although the intention of the EU PacTVET project is that the capacity built via

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quality assured 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 graduates in order to make the most of their enhanced capacity. With this in mind engagement with the private sector and aligning with relevant industry standards has been an integral part of the design and delivery of this project.

The Pacific Regional Federation for Resilience Professionals (PRFRP)

The EU PacTVET project has established the first global and regional industry body for Resilience, the Pacific Regional Federation for Resilience Professionals (PRFRP). The PRFRP will raise the profile of climate change adaptation and disaster risk management and their linkages to development. Membership is open to organisations, training institutions, private sector green and sustainable environment focused businesses, industry associations, utilities, government departments, multi-lateral and bi-lateral development partners, international agencies; and individuals.

The PRFRP will support the work of the EU PacTVET project in monitoring and reviewing the initial qualifications and developing further quality assured regional qualifications and processes. It will also promote and facilitate an enabling environment for sustainable community climate change adaptation, disaster risk reduction and management, and the maintenance of ecosystem services in coastal communities.

EU PacTVET Project

One of the key barriers to improving Pacific Island Countries' resilience to climate change impacts is the lack of local and regional capacity and expertise (Jordon, Huitema, Van Asselt, Rayner, & Berkhout, 2010; Martin, Hemstock, Jacot Des Combes, Buliruarua, Kua, & Satiki, 2015). Although there has been substantial ad hoc training led by development partners over the past two decades, the lack of expertise is the result of the absence of relevant curriculum, trained personnel and well-resourced and equipped training institutions to deliver on the required formal training programme. Limited availability of appropriate training related to climate change adaptation and disaster risk reduction has led to: lack of locally trained people to implement and monitor projects; use of donor funds to support foreign experts; unsuccessful projects causing maladaptation or vulnerability and risk.

Findings from a regional needs and gap analysis (Martin, Hemstock, Jacot Des Combes, Buliruarua, Kua, & Satiki, 2015) that formal qualifications which account for local contexts are required to build national capacity to: accurately monitor and assess impacts of climate change and natural hazards; identify solutions to reduce these risks; and plan, manage and implement risk reduction projects to reduce damage and losses.

The EU PacTVET project (2014-2019) was designed specifically to address this gap. The project aims to enhance Pacific – African, Caribbean and Pacific's (P-ACPs) regional and national capacity and technical expertise to respond to climate change adaptation (CCA) and sustainable energy (SE). The EU PacTVET project partnered with the Fiji Higher Education Commission (FHEC) to facilitate the establishment of regional Certificates 1 to 4 in Resilience to ensure quality assurance and alignment with Pacific regional frameworks. The accreditation of regional qualifications is a process managed by the Education Quality Assessment Program (an arm of The Pacific Community) to confirm compliance with PQF levels and the Pacific Quality Assurance Framework (PQAF).

The EU PacTVET project is using TVET as a vehicle to support regional and national developments addressing the increasing vulnerability in the Pacific Islands region to climate change impacts and natural hazards. At the same time the project is enhancing national and regional developments for TVET within the education and workforce development sectors.

Context

Vanuatu's society, environment and economy are highly vulnerable to climate change and disaster risks. A 2012 United Nations report assessed Vanuatu as one of the most highly exposed countries in the world to disaster risks. The devastating consequences of category 5 tropical cyclone Pam in March 2015 and the recent strongest ever out-of-season cyclone to hit the Southern Hemisphere (May 2017) highlight the country's risk from natural hazards. Predicted increases in extreme weather from climate change means the country will face even greater impacts.

Though a tiny country by global standards, among South Pacific nations Vanuatu is relatively large, comprising a double chain of about 40 islands, and 40 islets and rocks of volcanic and coral origin (approximately 65 inhabited). The total land area of nearly 13,000 square kilometres includes more than 2,500km of coastline (see Figure 1). Over 65% of the nation's people rely on subsistence agriculture, while the remainder rely on a few key industries, of which the most valuable is tourism (ADB, 2009). According to the World Bank in 2016, the total population of Vanuatu numbered more than 270,000, of which approximately 25% lived in urban areas in and around the capital Port Vila, and Luganville. The majority of rural Ni-Vanuatu are subsistence farmers and fishermen. Given the extensive coastal area in Vanuatu where the majority of the population live, coastal communities are the country's focus for economic activity. Best estimates of long term, systematic changes associated with climate change indicate that by 2050, sea level is likely to have increased by 20 cm thus increasing the challenges for the many people living in these vulnerable coastal communities of Vanuatu.

Figure 1: Map of Vanuatu

(Source:http://www.lonelyplanet.com/maps/pacific/vanuatu/map_of_vanuatu.jpg)



The EU PacTVET project has partnered with the SPC and GIZ² funded Coping with Climate Change in the Pacific Island Region (CCCPIR 2009-2018) programme which aims to ensure that the skills and capabilities of the local population, national governmental authorities and regional organisations are enhanced in order to cope with the effects of climate change and combat its causes. The CCCPIR also spans over the fifteen P-ACPs. These two projects (EU PacTVET and CCCPIR) have combined resources in Vanuatu and worked collaboratively with the government of Vanuatu to support the delivery of the first TVET accredited training in Climate Change and DRR in the Pacific Islands region. Delivery of accredited TVET training in this subject area is a global first and will provide a local graduate cohort skilled to contribute to effective climate change adaptation in coastal communities of Vanuatu.. This remainder of this paper presents the progress to date with this initiative.

Certificate 1 in Climate Change and Disaster Risk Reduction – Overview

The development of the Climate Change and Disaster Risk Reduction (CCDRR) course commenced in April 2014 with a request from the Vanuatu Rural Development Training Centres Association (VRDCTA) to The Secretariat of the Pacific Community and GIZ to revise an existing regional training manual on Climate Change and Disaster Risk Management to suit the national and local context and further developed to suit specific industry needs (e.g. agriculture). Due to the large proportion of the population living in coastal communities in Vanuatu the field work component in the CCDRR course focuses on

² Deutsche Gesellschaft für Internationale Zusammenarbeit (German government aid agency)

coastal regions. Funds to develop curriculum and resources were provided and managed by SPC/GIZ. A long-time teacher at the Vanuatu Institute of Teacher Education was recruited to develop the skills package in collaboration with the GIZ project team. Initial consultations were conducted over a four-week period with key industry, government, NGO, education and community personnel based in Port Vila. The course was planned and designed at certificate levels 1 and 2 on the Vanuatu Qualifications Framework (VQF) which is equivalent to the Pacific Qualifications Framework (PQF) (SPC, Pacific Qualifications Framework, 2011; Vanuatu Qualifications Authority, 2015). These levels provide the skills and knowledge a graduate would be expected to have on the successful completion of all learning. The resulting skills package comprised seven units of competency, with a Learner's Guide; Learner Workbook and Trainer/Facilitator Guide for each of the units. These resources were designed to also support the course as a 'Training of Trainers'. All resources were developed in both English and French. The units collectively provide a graduate profile for employment and/or community support. For example a graduate of the CCDRR course could be a key contact for overseas development partners seeking local input to project/programme design, an environment/conservation officer, lead community/provincial person advising government and NGOs on local climate change issues and/or a local advisor for research activities and government policy planning. An important aspect of the course was the recognition of traditional knowledge as a critical component in all areas for planning and implementing effective adaptation strategies. Another key feature was the focus on learner interaction and communication with, and support for local communities, in particular local coastal communities.

The delivery of this course first piloted in May 2015 at the Fisher Young Rural Training Centre (RTC) on Vanua Lava in the Banks Islands, Torba Province. This delivery targeted student learning at a certificate 1 level. 14 secondary school aged students attended (9 male and 5 female). These students were also enrolled in vocational courses at the RTC such as carpentry, business and tourism. The learning in the CCDRR course provided these students with skills and knowledge integrated with other industry sectors.

A second pilot training course was held in Luganville, Santo Island in September 2015 for trainers working at Rural Training Centres throughout Vanuatu. The focus of this ten-day training course was to 'Train the Trainers'. The 33 participants (23 male, 10 female) were predominantly RTC trainers from the 6 provinces in Vanuatu. 3 RTC managers and 3 VRDTCA staff attended along with development partner participants.

The learning focused on gaining an understanding through experimentation and practical activities. For example participants studied the impacts of increased concentrations of greenhouse gases on sea levels and ocean pH values by conducting experiments such as; the effect of heating on the water level in a sealed plastic bottle and the effect of immersing a shell in an acidic solution (white vinegar). Field trips were conducted in coastal communities as these are considered the most vulnerable sites to the impacts of climate change and natural hazards in Vanuatu. The delivery was presented by the same consultant who had designed the curriculum and who is fluent in the three main languages of Vanuatu: English, French and Bislama. The learning resources provided to the RTC trainers included soft and hard copies of learning guides for all seven units of the CCDRR course, the set of 16 pictures from "Learning about climate change the Pacific Way: A visual guide" (SPC-GIZ), the Teacher's Guide for these pictures, and the video-clip "Klaod Nasara". Students' diagrams on traditional fishing and food preservation techniques developed through these pilot courses were subsequently included in the revised guides.

In late 2016 the consultant worked with the Vanuatu Qualifications Authority (VQA) to support a submission for national accreditation of the CCDRR course. The VQA process of

accreditation determines the appropriate certificate level. The submission for the national accreditation was completed by the Vanuatu Institute of Technology in late 2016. At the same time the regional certificates 1 and 2 in Resilience (developed by the EU PacTVET project) were mapped to the outcomes in the CCDRR course to facilitate subsequent submissions for the national accreditation and recognition of these regional qualifications in Resilience (Martin, Sanerivi, Prasad, Jacot Des Combes, & Hemstock, 2016). Both the CCDRR and the Certificates 1 and 2 in Resilience provide pathways to further study in Resilience (Certificates 3 and 4) which have eight elective strands including ‘Coastal Management’³.

CCDRR: A Mechanism to Address Climate Change Impacts for Coastal Communities in Vanuatu

The CCDRR course is currently being delivered to 29 students from the six provinces of Vanuatu. The course was advertised in December 2016 and a total of 95 applications were received. Selection of students was based on the criteria of island and location of residence, level of education, previous experience in the fields of disaster risk reduction and climate change, and opportunities to advance awareness of climate change and disaster issues in their local communities. There are 19 male and 10 female students participating in this course. Further details are provided in Table 1.

Table1: CCDRR student details

Age		Province		Highest level of education achieved	
18 – 20 yrs	7	TORBA	2	Year 10 secondary schooling	1
21 – 24 yrs	11	SANMA	6	Rural Training Centre (CCDRR trial course)	1
25 – 30 yrs	8	MALAMPA	3	Year 12 secondary schooling	2
31 – 40 yrs	3	PENAMA	2	Year 13/Foundation (university entrance)	11
40 yrs +	0	SHEFA	15	Certificate or Diploma in Agriculture	3
		TAFEA	1	Undergraduate university courses completed (1 st and 2 nd year)	9

The delivery of the CCDRR course is being led by the same consultant who developed the curriculum and delivered the pilot training courses. He is being supported by a full-time VIT local trainer and administratively by VIT. There are periodic meetings with the VIT management team to report on all matters and facilitate capacity building and sustainable development for this course and subsequent ones of the same nature. The development partners (SPC-GIZ and EU PacTVET) agreed to a combined budget supporting a full scholarship for all students who would be based in Port Vila for a period of five months for the full-time course in the first half of 2017. Students from provinces and locations outside Port Vila are accommodated at the VIT student hostel boarding facilities with all costs met by the scholarship.

The students in this current course are gaining first-hand experience working with vulnerable coastal communities through extensive field work. Specific examples are visits to produce hazard risk maps for five peri-urban villages around Port Vila, visits to investigate

³ Agriculture, Coastal Management, Energy & Infrastructure, Fisheries, Forestry, Health, Tourism, Water Resources

how people in five villages along the coast of north-west Efate are contributing to greenhouse gas emissions through their daily activities, and visits to the offshore island of Pele to study various mitigation and adaptation measures in use. Further field studies are planned to investigate vulnerability to hazards at community and individual level, and assisting the coastal village communities to plan and implement adaptation strategies.

At the opening of the course on 27th February, 2017, the Director General of Education stated how proud the government was that the Vanuatu Institute of Technology will deliver the first-ever certificate course in Climate Change and Disaster Risk Reduction and additionally, the first ever such course in the Pacific region. The delivery of the CCDRR course in Vanuatu and the pending national accreditation at a Certificate 1 level is leading regional and global developments in formal accredited TVET training for Climate Change and Disaster Risk Reduction which will provide skilled local personnel to lead the development of effective coastal community adaptation strategies.

Vanuatu Quality Assurance Framework (VQAF)

Trust in training and qualifications plays a crucial role for all stakeholders. The accreditation and certification process becomes particularly important in this context, and quality-assurance mechanisms are essential to ensure that processes effectively generate credibility and trust at local, national and regional levels.

Vanuatu has a Quality Assurance Framework (VQAF). This was developed by the Vanuatu Qualifications Authority (VQA) established in 2014, formerly the Vanuatu National Training Council, to ensure credibility and transparency in the services of training providers throughout Vanuatu. VQA is legally responsible for the development and maintenance of the National Qualifications Framework (NQF) through standards and qualifications setting, quality assurance, accreditation, equivalency of qualifications and assessment including the recognition of prior learning.

The NQF underpins the VQA quality assurance processes by enabling consistent alignment of nationally recognized competency standards and courses to relevant qualification levels. It supports the identification of pathways that enable people to move between different education and training sectors and levels. The National QF enables alignment of Vanuatu qualifications to regional and international qualifications systems. The standards for provider registration and course accreditation embrace the assessment of training provider capabilities, and in particular, whether the providers effectively offer training and assessment services up to clients' expectations. The Vanuatu Institute of Technology as a registered national provider was successful in its application to VQA to deliver the CCDRR course in 2017.

The rigour and diligence applied by the VQA processes ensure quality assurance of national qualifications which in turn enhance mutual recognition and pathways with regional qualifications and other PICs nationally quality assured qualifications.

The EU PacTVET model for accreditation of regional qualifications requires potential training providers to submit applications to deliver complete or partial regional qualifications to the relevant National Qualification Authorities (NQA) in the Pacific Island country of delivery. The NQAs apply their own national approval processes. The NQAs subsequently take on a major role in monitoring the delivery, assessment and issuing of awards (certification) for the regional qualifications. Given that Vanuatu is one of only four countries with a national quality assurance framework aligned with the PQAF, and it is responsive to innovative developments to support capacity building and sustainable development, it is ideally situated to be the first of the Pacific Island countries to offer a dual qualification; nationally accredited Certificate 1 in CCDRR and regionally accredited Certificate 1 in

Resilience. This work is currently in progress through a collaboration between the VQA, VIT and EU PacTVET.

CONCLUSION

The delivery of a nationally accredited Certificate 1 in Climate Change and Disaster Risk Reduction (CCDRR) in Vanuatu is providing participants with skills and knowledge to assist coastal communities to address the impacts of climate change and natural hazards through effective adaptation strategies. Trust in the capabilities of these trained personnel/graduates is enhanced through the quality assured certification of the training. The focus of the learning in this CCDRR course is on coastal communities (field trips and activities) which enables local personnel to contribute to real sustainable developments through the much needed capacity development for coastal communities. Thus this nationally accredited certificate is a tool which is promoting skills development that directly impacts livelihoods, cultures and the environment.

The regional Certificates 1 to 4 in Resilience developed by the EU PacTVET project also benefit communities within which the training has taken place enabling and empowering them to build resilience and proactively respond to the impacts of climate change and natural hazards. At the same time the EU PacTVET initiatives are supporting regional and national developments focused on developing and enhancing quality assured TVET qualifications.

TVET is being used as a vehicle to advance the aims of global, regional and national policies to enhance sustainable livelihoods and strengthen countries' capabilities to adapt to the adverse effects of climate change at national, provincial and local/community levels. Responsive and accredited regional qualifications should ensure that the interventions managed by those having accredited qualifications are really supporting sustainable development, thereby: limiting the impacts of climate change and natural hazards; empowering locals to become involved actors in their own development; and limiting maladaptation and generation of new risks. Vanuatu has provided the lead in using TVET qualifications to address the need to develop effective climate change adaptation for coastal communities.

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